رؤية VISION 2030
المملكة العربية السعودية
KINGDOM OF SAUDI ARABIA

العمارة السعودية
SAUDI ARCHITECTURE

Al Ahsa Oasis

Architectural Design Guidelines

وزارة البلديات والإسكان
Ministry of Municipalities and Housing

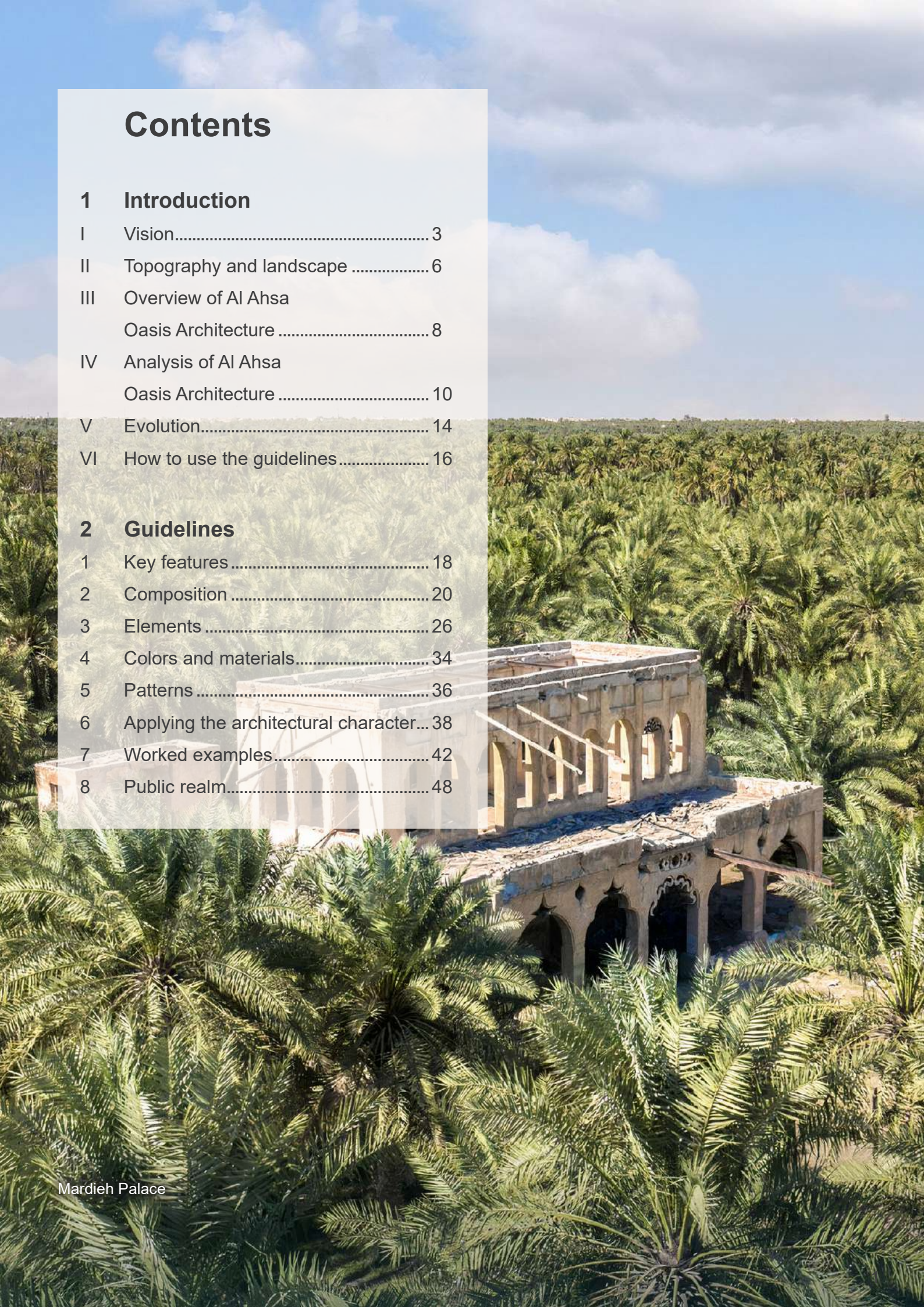
مركز دعم هيئات التطوير
DEVELOPMENT AUTHORITIES SUPPORT CENTER

برنامج جودة الحياة
QUALITY OF LIFE PROGRAM

VERSION 1.0

FIG.1 **AL AHSA OASIS ARCHITECTURAL CHARACTER AREA**

Contents



Mardieh Palace

FIG.2 **ARCHITECTURAL CHARACTERS MAP OF KSA**

INTRODUCTION

I Vision

Celebrate and preserve Saudi Arabia's rich architectural legacy inspired by culture, heritage and nature.

I.1 Guidelines philosophy

The Architectural Design Guidelines (hence referred to as ADG) aim to foster progressive contemporary design that is rooted in the diverse geographic and cultural contexts of the Kingdom.

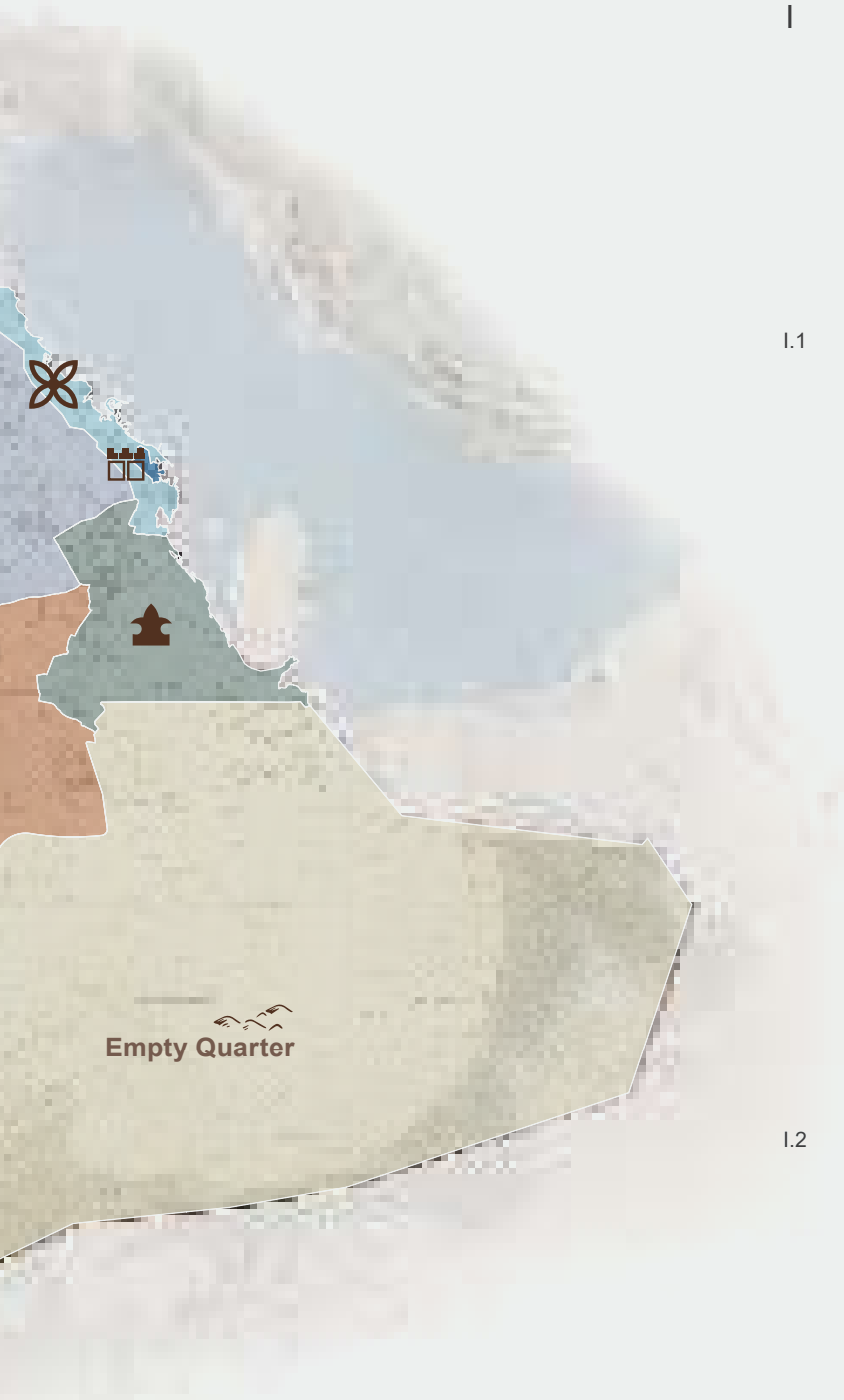
Its propositions are based on the study of historical precedent, taking inspiration from vernacular forms and the embedded knowledge shaped by generations of practice and experience.

The guidelines are forward-looking, intended for a wide range of contemporary development and suited for different levels of prescription. They aim to be succinct, well organized and useful: a positive resource for designers and easy to implement by planning authorities.

I.2 National context

This volume belongs to a suite of 19 documents, each exploring a different geographic context and describing a distinct architectural character within the Kingdom. Together they form a comprehensive portrait of the architectural heritage of the country.

Though application boundaries for the architectural character have been defined (fig. 2), influences may extend across boundaries. Designers are advised to consult adjacent architectural guidelines documents and confirm the status of their building context with facts on the ground.



Najran | Al Ahsa Oasis | Al Qatif Oasis | East Coast | Eastern Najdi | Special Zones

I.3 Al Ahsa Oasis

The focus of this publication is Al Ahsa Oasis area, located on the Arabian Gulf coastline and intersects with the southernmost section of the Eastern Region province.

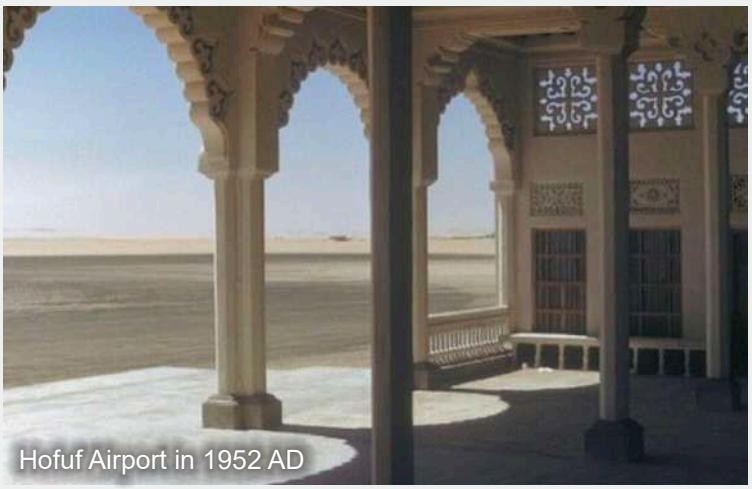
The region includes the four main settlements of Al Hofuf, Al Oyun, Al Mubarraz, and Al Umran in addition to numerous smaller villages. Classified as a UNESCO World Heritage Site, Al Ahsa is the largest oasis settlement not only in Saudi Arabia, but in the world. Lush landscapes of date palms, richness in deep water pools, and suitability for agriculture shaped the region's natural landscape and historical built trajectory. Buildings with lotus blooms on their arch-shaped cusps blend well with the natural environment.

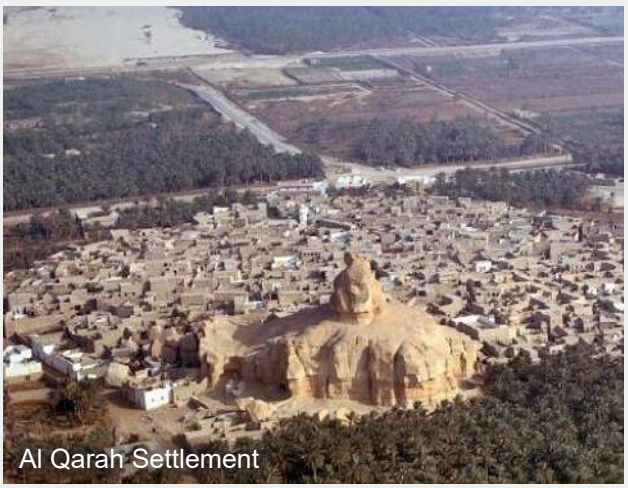
There is no clear-cut architectural vernacular style for the region; a mixture of many styles reflects the vibrant synthesis of the many cultures brought to Al Ahsa throughout history given its regional role in trade. Landmarks such as the Al Qaysariya Souq stand not only as a testimony of the region's historical continuity, but also its social and cultural vibrancy.


Jawatha Mosque in Al Hofuf


Overview of the date palms in Al Ahsa Oasis


Al Qaisariya Souq (entrance gate ornamentation) in Al Hofuf


Hofuf Airport in 1952 AD


Al Qarah Settlement


Al Ahsa Oasis


Al Qara Hill

FIG.3 **AL AHSA OASIS**

II Topography and landscape

Observations on the links between landscape, climate, culture and the architectural character of Al Ahsa Oasis.

II.1 Landscape

The rocky As Summan plateau that stretches about 120 kilometers wide drops in elevation from around 400 meters in the west to about 240 meters at the East to then meet the Arabian Gulf at the East Coast region. The coastline itself is somewhat irregular, blending sand plains, marshes, and salt flats with the sea almost invisibly. It is on the southern section of this coastal surface that the Al Ahsa Oasis area is located, intersecting with the Al Jafurah sand desert that reaches the Arabian Gulf around the city of Dhahran. Several prominent deep pools that characterize Al Ahsa are continuously refilled by artesian springs due to underground water aquifers from the Jabal Tuwaiq's eastern watershed, consequently enabling considerable irrigation in the oases. To the northeast of Al Hofuf, we find a sizable agricultural drainage basin surrounded by wetlands, known as Al Asfar Lake.

II.2 Climate

The Arabian Gulf shore's proximity to the sea helps with cooling the desert climate. Only on rare occasions do temperatures go beyond 38° Celsius. However, relative humidity is routinely higher than 85% and can even reach 100% for extended periods of time. This mixture results in a warm fog at night, and a heated mist during the day. Coastal locations become tolerable in the summer, and even pleasant in the winter when northerly winds are present. When there is a southerly wind, there is always an increase in warmth and humidity. A strong north-westerly wind blows in late spring and early summer and lasts for almost three months, causing dust and sandstorms capable of reducing visibility to a few meters.

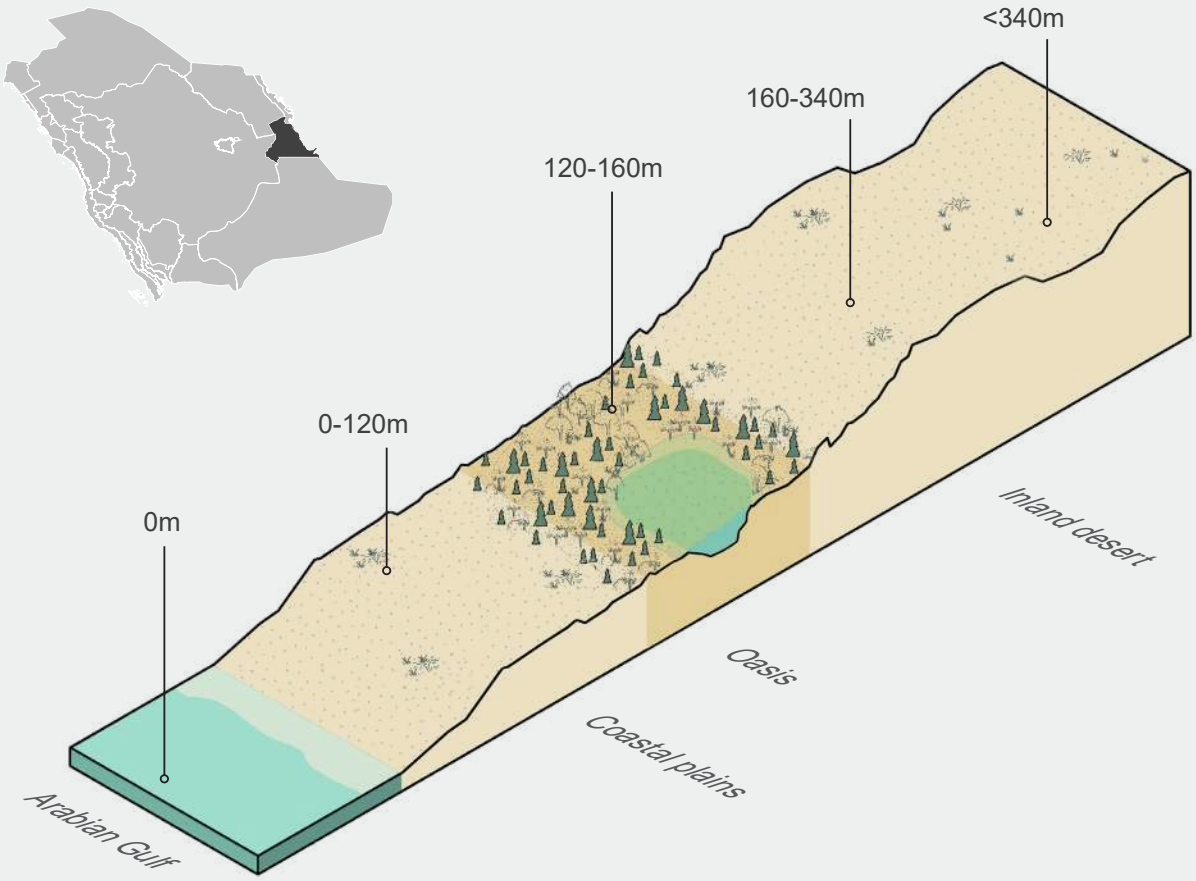
II.3 Culture

Surrounded by desert land, Al Ahsa Oasis is the largest oasis in the Kingdom of Saudi Arabia. The region encompasses two oases, the other being the neighboring Al Hofuf. Historically, the population of Al Ahsa relied mainly on agriculture as a source of livelihood, making the oasis a significant agricultural area for the entire eastern region of the Kingdom. A total of 180 km^2 of palm trees and oasis gardens make up the farmed area. The oasis's total area under cultivation is over 80 km^2, and date palms take up 92% of that space.

The mobile sands that encircle the oasis have been encroaching on cultivated land. This sand movement has been jeopardizing the oasis for many years, as the strategies of dune confinement and tree planting have been used to combat it.

II.4 Architectural influence

The region's topography and landscape influenced its architecture in terms of building design and materials used. As a response to climatic factors, buildings include partially shaded courtyards to generate ventilation amid the heat. Vernacular façades also include small recessed openings designed in a way to ensure the movement of air and indirect light. Moreover, the usual north-south orientation of buildings is a response to the warm weather. In terms of materials, local tamarisk wood was used for ceilings since it is resistant to cracking as it expands and contracts with variations in temperature.



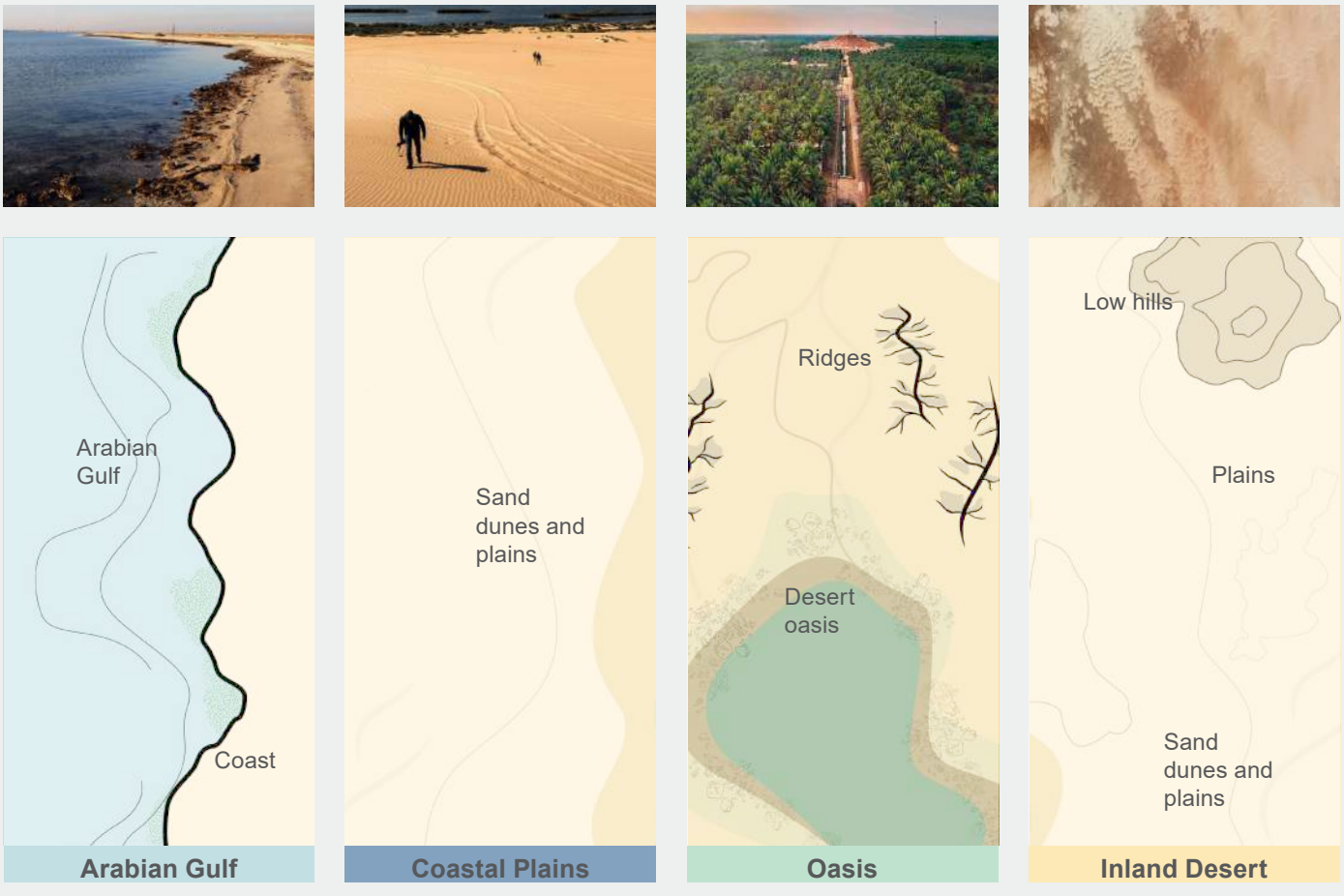


FIG.4 **AL AHSA OASIS TOPOGRAPHY**

III Overview of Al Ahsa Oasis Architecture

A summary of the existing character of traditional architecture and settlements in Al Ahsa Oasis.

III.1 Architectural character

Al Ahsa vernacular architecture entailed the use of earth, as well as palm trunks and fronds. Other materials include solid stone, used in the construction of pillars. Large blocks were used in order to provide more height in the spaces inside the buildings. In addition to palm wood, tamarisk wood was used to build ceilings most frequently due to its length and its ability to expand and contract in response to variations in temperature, rendering it resistant to cracking. The vernacular architecture of Al Ahsa also includes diverse types of arches. Many of the houses consisted of one floor with a space at the entrance, half of which was roofed, and the other half was left open. The floor of this space was covered in palm fronds and used as a summer seating area.

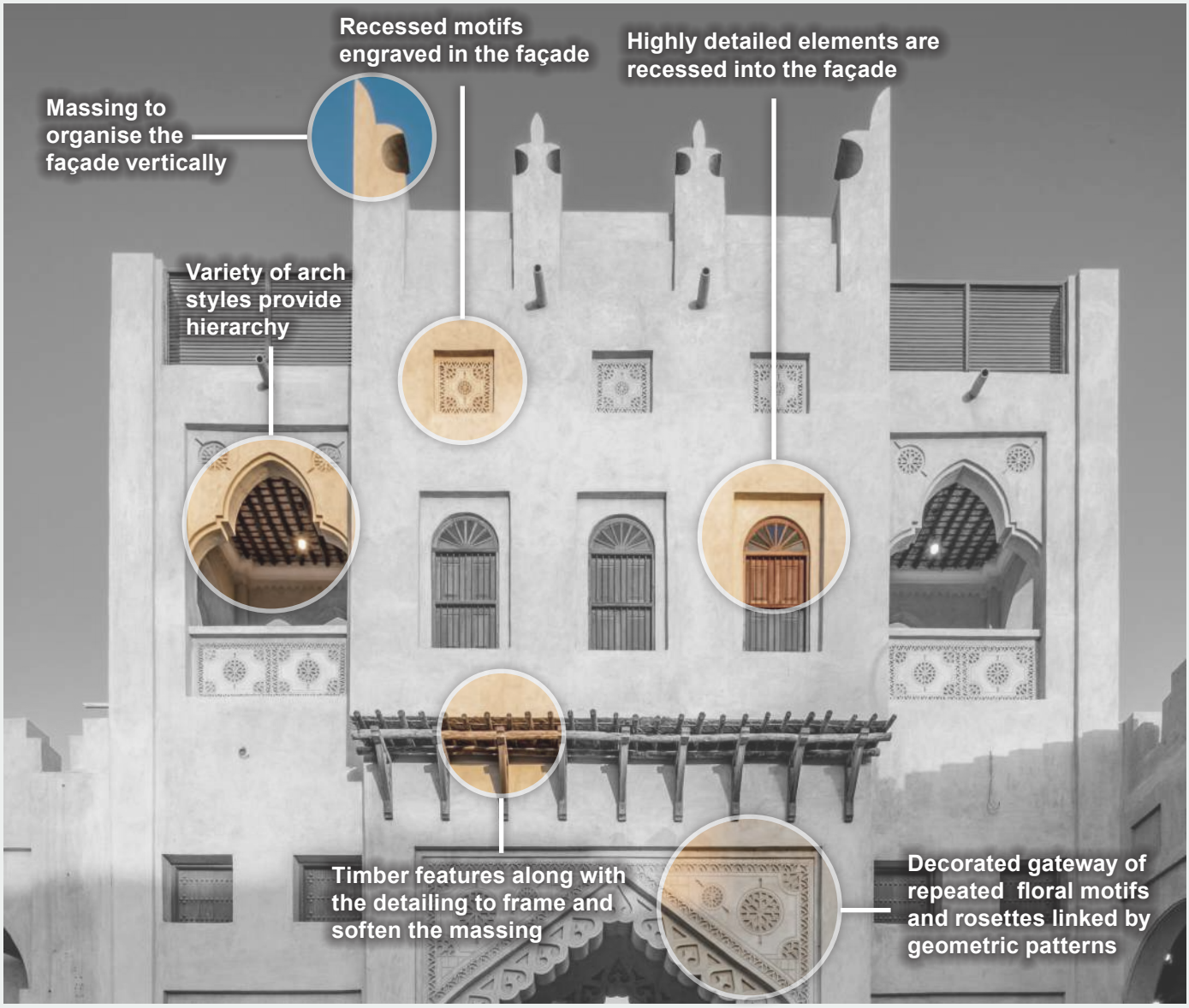


FIG.5 TYPICAL BUILDING FORM, AL QAYSARIA MARKET, AL HOFUF

Al Ahsa vernacular structures place rooms around a courtyard as it provides ventilation and reduces exposure to the sun.

III.2 Settlement character

The traditional city was divided into socio-urban clusters called ‘fareejs’ (akin to a neighbourhood). A fareej generally comprises a group of dwellings, a mosque, and a school. Usually, each of these clusters would be owned by a single family.

In the urban pattern of Al Ahsa, buildings are dense and compact to protect against the sun by casting shadows across streets and buildings. The walkways of the urban fabric are oriented east-west, on the edge of which buildings are directly situated. The walkways in this area are narrow, totally shaded during the daytime.

In addition, a bigger open space is created when walkways intersect, helping air move along walkways. The street space in front of the property was utilized as an extension of the dwelling and was locally called ‘fina’ (a front patio). Another physical element aiming at expanding a property was the sabat (a roofing structure with a street underneath), which is a room built as a bridge between two buildings above the street.

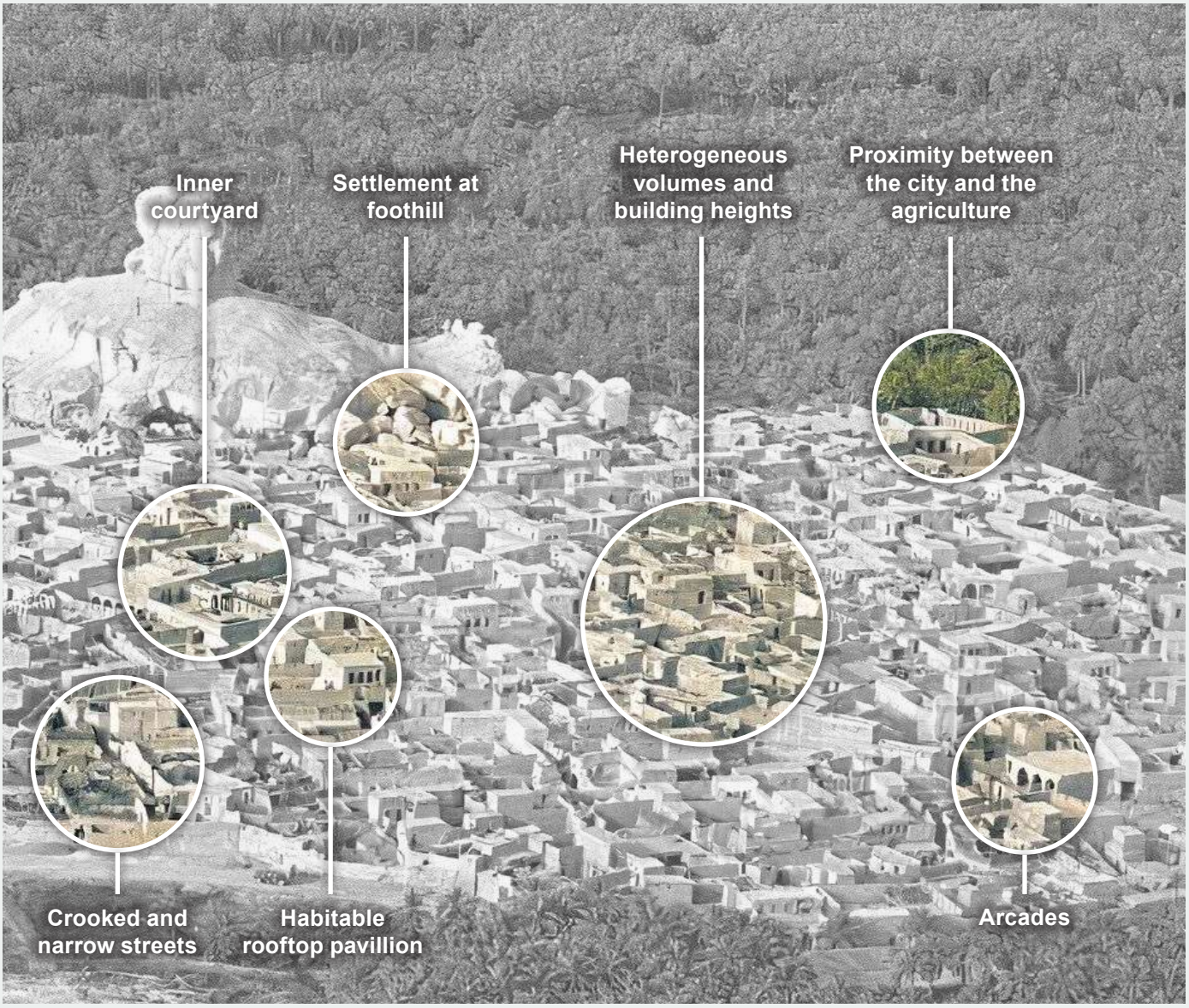


FIG.6 **SETTLEMENT FORM, AL QARAH**

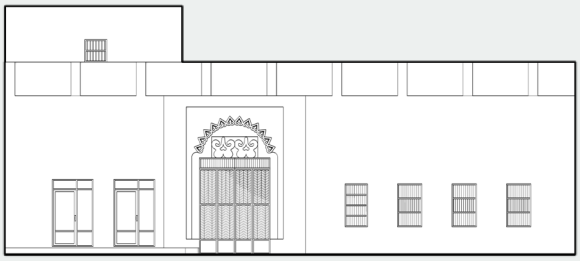
IV Analysis of Al Ahsa Oasis Architecture

The evidence and formal analysis upon which the guidelines are based.

IV.1 General typology

Traditional buildings in Al Ahsa Oasis are characterized by the use of plastered walls, as well as timber and mud construction. Building façades are generally heavily decorated.

Locations



Al Ahsa Building 1

IV.2 Aspect ratio

In Al Hofuf, buildings are marked by strong horizontal proportions, indicated by a width-to-height ratio of 2.2:1.In Al Qaysariya Souq, typical buildings are horizontal in proportions with width-to-height ratios ranging between 1.3:1 and 2:1. The souq's entrance gate has more vertical proportions, indicated by a width-to-height ratio of 1:1.1.

Width to Height Ratio

2.2:1

IV.3 Solid-to-void ratio

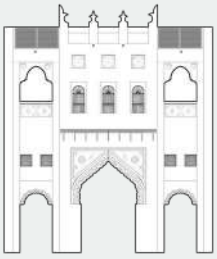
The mass-to-void ratio of a buildings in Al Ahsa leans towards larger openings. Solid surfaces include ornamentation, decorative elements, and window shutters, while open surfaces include glass, windows, and façade openings.

Façade analysis

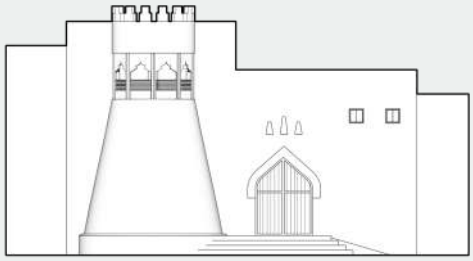
Façade area – 85 sqm
25% void

Vernacular façade studies

Al Qaysaria Souq 01

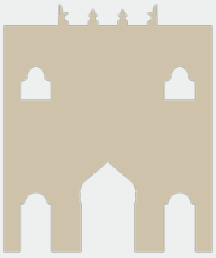


Al Qaysaria Souq 02



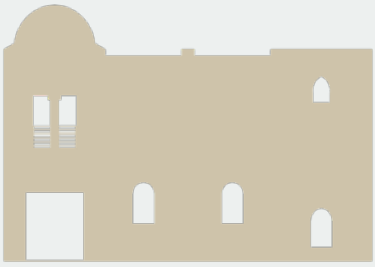
Al Qaysaria Souq 03

1.3:1

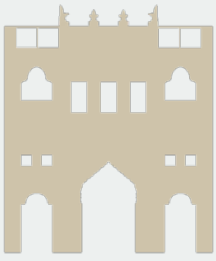


1:1.1

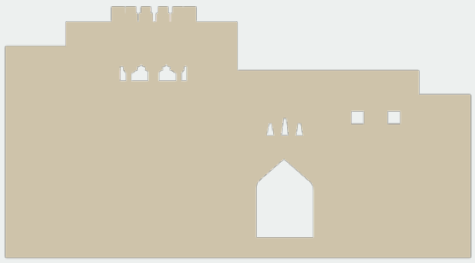
2:1



Façade area – 188 sqm
27% void



Façade area – 278 sqm
29% void



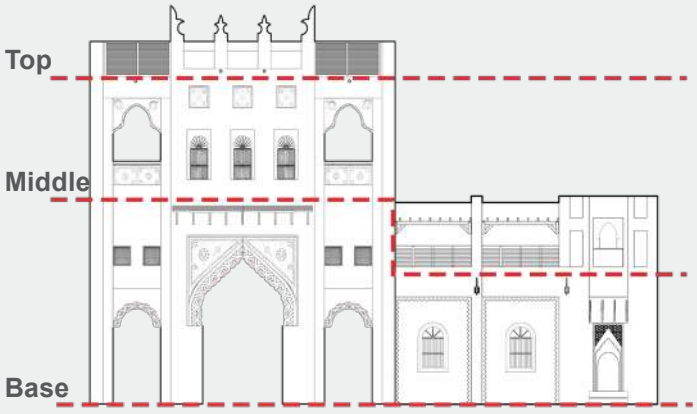
Façade area – 280 sqm
6% void

IV.4

Tripartite articulation

Tripartite articulation is a typical feature of Al Ahsa's buildings. Façades are typically split into three separate tiers with their own distinct character:

- base - main entrance, arcades.
- middle - windows and projecting elements.
- top - crenelation, vent holes and roofscape.



Tripartite articulation

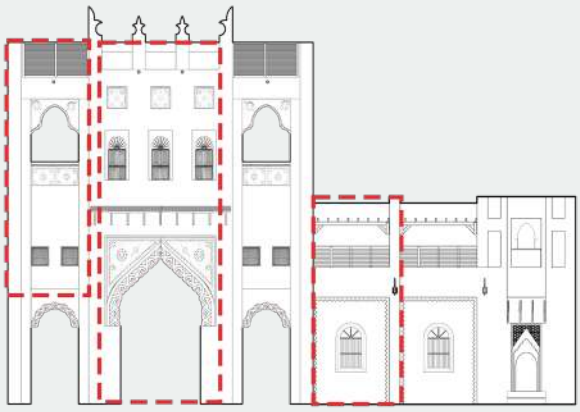
Façades are typically split into three separate tiers base, middle, and top.

IV.5

Vertical bays

Façades are usually split into planes that have different depths.

Typical façades are characterized by repeating and alternating elements. This approach constitutes legible vertical bays, which give the façade its rhythm.



Legible vertical bays

Most façades have repeating and alternating elements.

IV.6

Arches

Arches are the most predominant architectural element used in Al Ahsa façades. The simultaneous use of different types of arched elements on doors and windows gives the façade its unique character.

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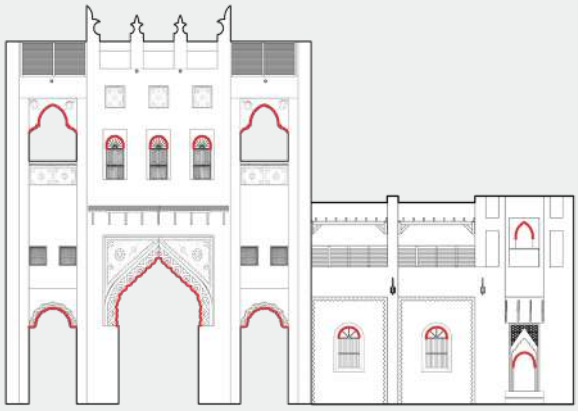


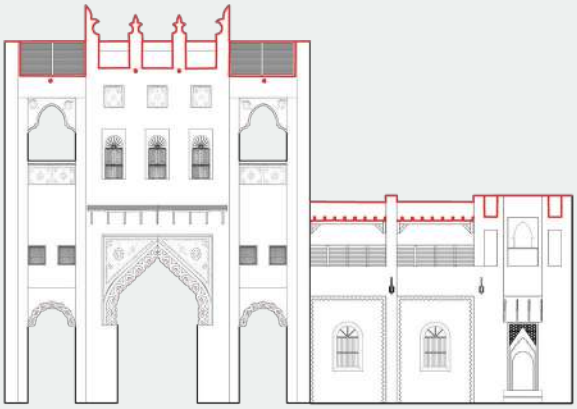
Preponderance of arches

Most façades have repeating arched elements to windows and doors.

IV.7

Roofscape

The traditional roofscape of the Al Ahsa Oasis is stepped. It may feature a habitable section, and include crenellations. Fenestrations are also employed as a decorative element.



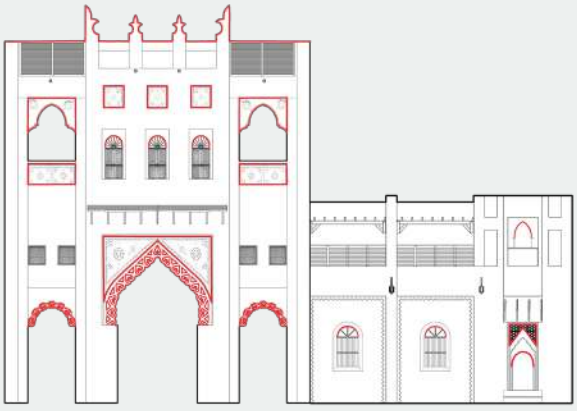
Roofscape

Larger opening ratio compared to other regions.

IV.8

Ornamentation

Types of architectural or decorative details elevate the building, some of the common elements in Al Ahsa include delicate ornamentation around openings, decorative shading, fenestrations, or crenelations on the top portion of the façade.



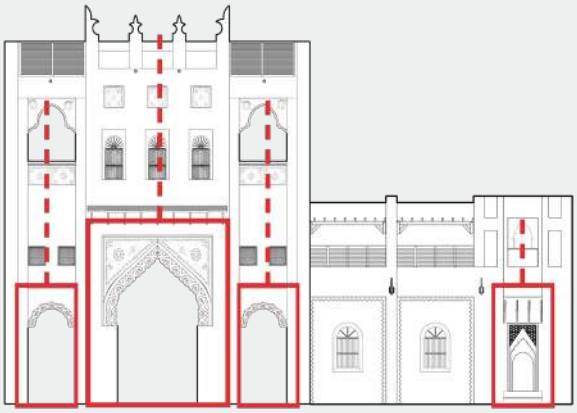
Ornamentation

Most façades have repeating and alternating elements.

IV.9

Entrances

Entrances are strongly defined through higher, more prominent, and distinctively shaped arches embellished with finely detailed ornaments. The main entrance is distinguished by its prominent position, distinct arch shape, larger scale, and more intricate ornamentation.



Finely detailed entrances

Most façades have a central, finely detailed ornamented entrance.

V Evolution

The connection of contemporary design with traditional forms to strengthen the architectural character of a place.

V.1 Connecting past to future

The guidelines aim to provide architectural roots for contemporary buildings so that they connect to their historical context, draw upon their local culture and reflect the spirit of a place.

At the same time, a balance between continuity and innovation is needed. Advances in construction technology, material science, patterns of development and specifications for new building uses require buildings that can accommodate these changes while preserving the essence of local architecture.

V.2 Connecting environment to form

The guidelines also aspire to connect buildings to their geography. Physical context has traditionally influenced the materials available, the patterns of development and the climate response required from architecture.

These environmental constraints have created a matrix of related, regional building typologies. The guidelines aim to provide a layer of stylistic influence to accentuate these regional building types into distinct characters that can be gathered into a diverse yet related national ‘family portrait’ of architectural character across the Kingdom.

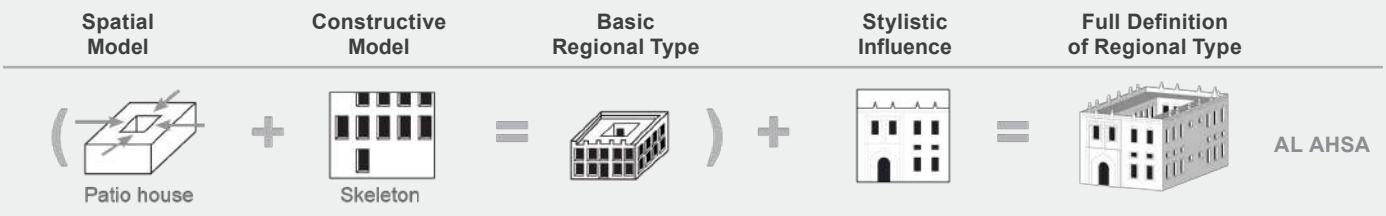
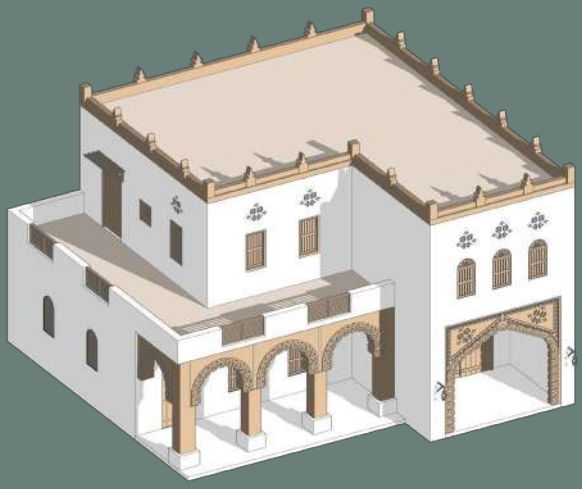


FIG. 7 Character equation for Al Ahsa Oasis

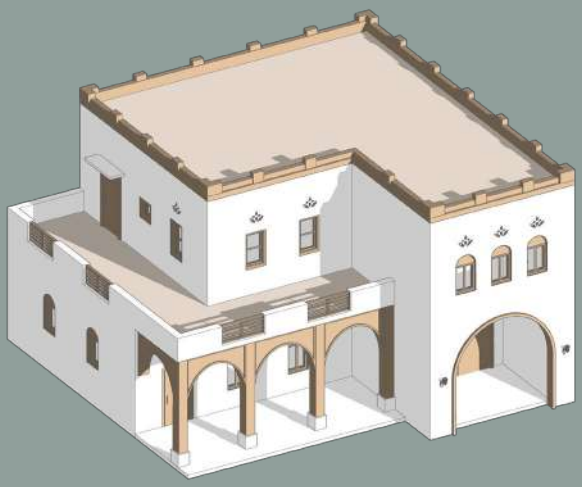


Traditional Style

TRADITIONAL

Thick earth walls and façades with repeated and alternated elements. Rooftops with detailed crenelations.

Shaded arched colonnades with small openings, and traditional ornamentations and fenestrations.

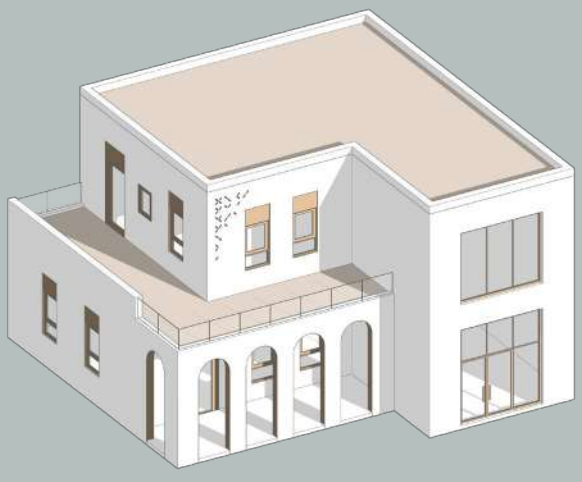


Transitional Style

TRANSITIONAL

Smooth planes in earth tones, small integral windows, openings, and more abstract ornamentation. Crenelations are less ornamental.

Reinterpretation of arched colonnades with increased openings.



Contemporary Style

CONTEMPORARY

Abstraction of geometric planes and forms. Arched elements are less ornamented. Adapting to a range of building types with increased daylighting.

Setbacks are created for shade. Rooftops do not feature crenelations.

VI How to use the guidelines

The guidelines have been organized to present the rules of architectural character in a clear, efficient and useful way.

VI.1 Chapter organization

The first chapters sort the guidelines into different dimensions that help define architectural character:

1. **Key features -** The most essential characteristics for the architectural character.
2. **Composition -** The rules by which buildings are shaped and elements are related to one another.
3. **Elements -** The individual parts that are the building blocks of the architectural character.
4. **Material and color -** The prevalent materials used and color range found within the architectural character.
5. **Pattern -** Common motifs and patterns used in the traditional craftsmanship and material culture of the local character.

These chapters are followed by two sections focused on guideline implementation:

6. **Applying the architectural character -** Guidance for the proper interpretation and use of architectural style in new buildings.
7. **Worked examples -** Design studies that illustrate the use of architectural character at different scales and strengths.

The document concludes with:

8. **Public Realm -** An overview of public realm character in Al Ahsa Oasis.

VI.2 Guideline formatting

Individual guidelines are formatted graphically to make them more useful:

1. **Chapter number and heading -** Guidelines are gathered into major categories for ease of reference.
2. **Guideline number and heading -** Guidelines are given a unique 2-digit decimal number and heading for ease of reference and to provide precision in enforcement.
3. **General description -** Descriptive text to introduce the guideline topic.
4. **Guideline actions -** Instructions clearly identifying the actions to be taken by designers. Each action is numbered for ease of reference and to provide precision in enforcement.
5. **Rationale -** Set in colored text and highlighted by a side bar are the objectives and reasons for the guideline. This gives the applicant an opportunity to propose designs that meet the rationale through alternative ways. Alternatives require the approval of the relevant local authority.
6. **Illustrations -** Illustrations, photos and diagrams that help explain the guidelines. They are examples only: where contradictions arise between illustrations and guideline text, the text shall overrule the illustration.

The items above correspond to the figure on the facing page.

Link to the Contents page

1 Chapter number and heading

2 Guideline number and heading

3 General description

4 Guideline actions

5 Rationale

6 Illustrations

2 **Composition**

The rules by which buildings are shaped and elements are related to one another.

The aesthetic rhythm of a building is guided by the relationship between its different design elements. These can be calibrated by implementing the following guidelines.

2.1 **Local symmetry of the façade**

Symmetry is a key feature of the design in buildings across Al Ahsa, thus:

1 Buildings should follow local symmetry.

2 Windows and arcades should be highly symmetrical on each façade.

To ensure that the façade corresponds and is in dialogue with the architectural traditions of the area.

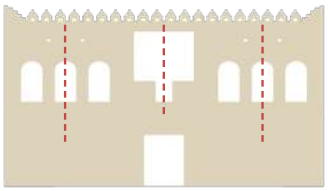


FIG. 12 Local symmetry of façade

2.2 **Grouping of elements**

Grouping sections of openings together to clearly delineate the differences along the facade is characteristic of Al Ahsa.

1 Grouping should be formed by windows on the upper levels and arcades on the base levels (specific to street facades).

2 A grouping of semi-circular windows with niches on top should be formed in the middle section.

To sustain the consistency of the visual banding style across traditional and contemporary development.

FIG. 13 Legible group of elements

FIG. 8 Typical guideline structure

GUIDELINES

1 Key features

The most important attributes essential for conveying the architectural character of Al Ahsa Oasis.

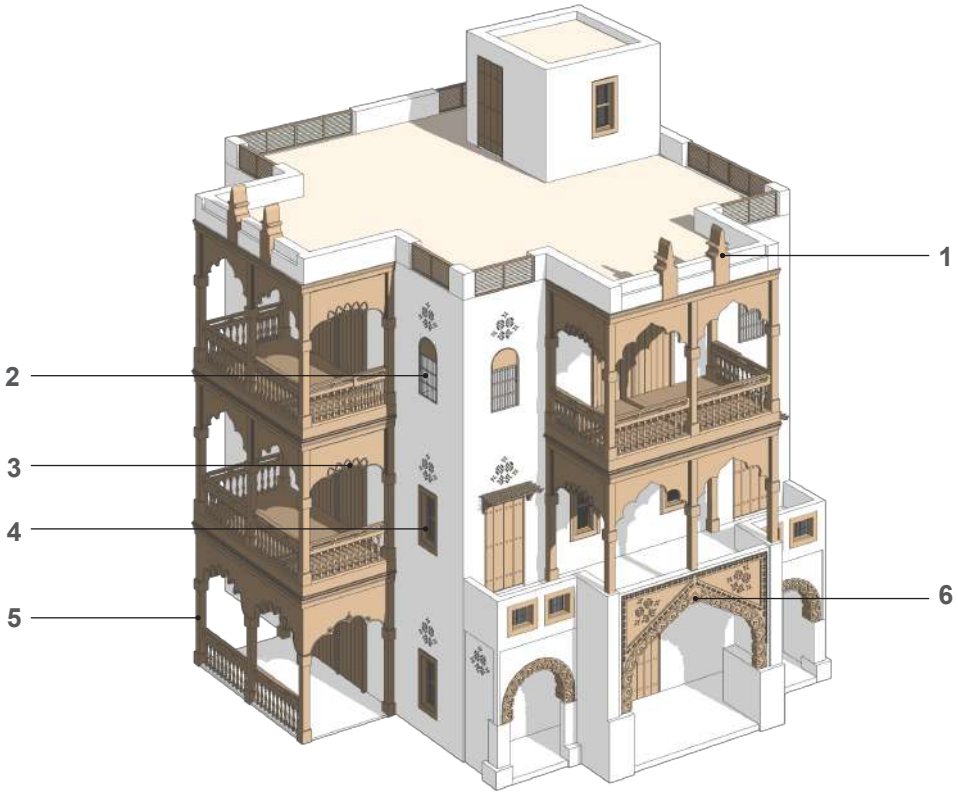


FIG. 9 Al Ahsa Oasis key features

Key features:

1 Crenelations: Houses usually have high parapet walls with crenellations in its existing wall. Serving a protective feature, they usually have a spade and crown-like design feature

2 Screens: are generally larger than those found in Al Qatif and frequently built into the walls to facilitate the airflow between the exterior and the dwelling.

3 Arches: A wide variety of arches exist across the region. The most characteristic style is the lotus blossom on cusp arches which have further variations, from heart-shaped cusps to lotus shaped voussoirs, or tendril pendules. The piers are molded with narrow columns, and support a wide flat entablature above the capitals.

4 Windows: usually are plain and rectangular on the ground floor or semi-circular for the majlis area. Windows and fenestrations generally are more abundant in the upper levels, providing privacy and crowned with semicircular or pointed arches.

5 Arcades: usually consist of semi-circular or cusp arches, and include elaborate plaster sculptures depicting lotus buds which frame the internal courtyards.

6 High portal-type doorways: found in many of Al Ahsa's mansions, they embodied details from other cultures and frequently consisted of pointed or cusp arches of lotus voussoirs.

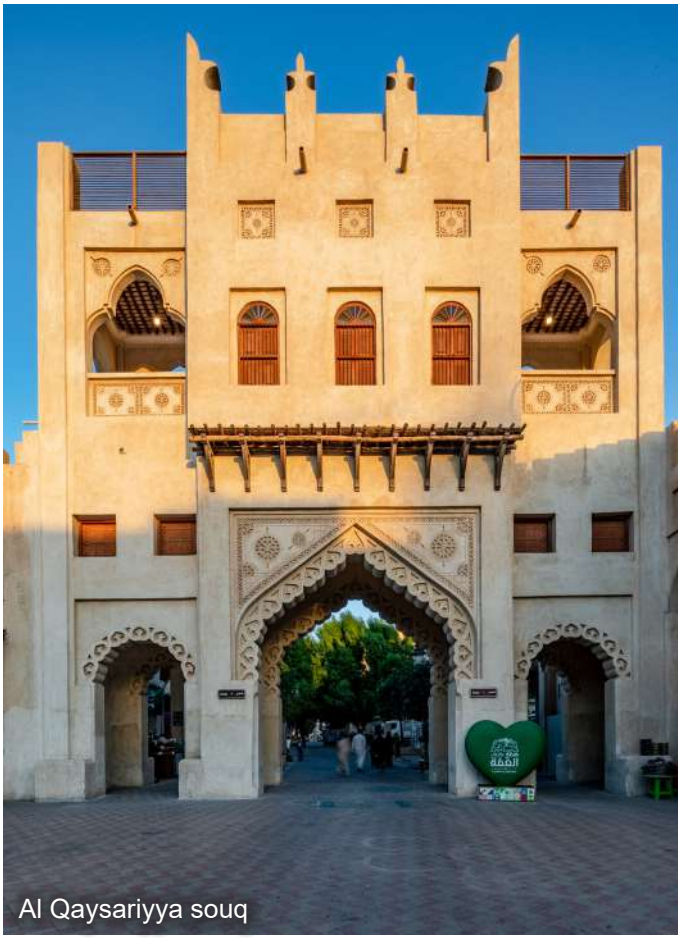


FIG. 10 Example of Al Ahsa architecture

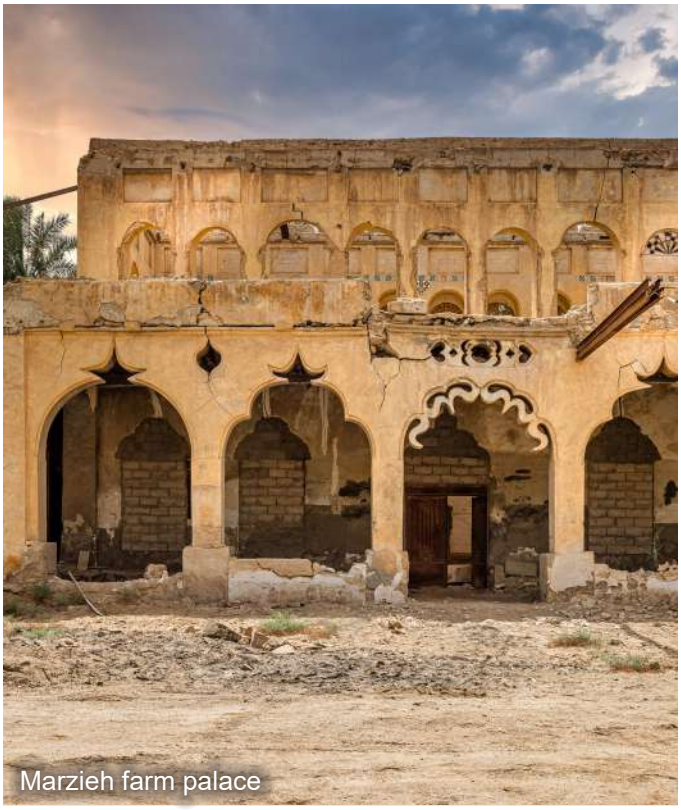


FIG. 11 Example of Al Ahsa architecture

1.1

Character summary

Al Ahsa is home to one of the world's oldest settlements built around an oasis. It comprises four main settlements, Al Hofuf, Al Mubarraz, Al Oyun, and Al Umran, as well as many smaller villages. The vernacular style in Al Ahsa does not have an isolated, rustic and self-generated style, but rather represents a vibrant synthesis of many cultures brought to Al Ahsa's history given its importance as a trade route in the region. Influences from the wider Gulf basin region are noticeable in the arch styles and typologies used, as well as in the ornamentation patterns and building methods such as the use of carved plaster.

The Ibrahim Mosque was built keeping true to its imperial style. As an example, the central-dome mosque mixed with locally flavored forms such as the tapered minaret. Another example is semi-circular arched windows found in the upper levels of buildings as a result of influences from other surrounding regions within the same continent.

Similarly to the vernacular styles of the Eastern Region, the two-season climate shapes the architecture of buildings. As a general strategy, the long axis of the building is oriented north-south for minimum solar radiation and maximum exposure to wind & cross ventilation.

Following the discovery of oil, and the subsequent urban expansion, materials such as concrete came to be favored over traditional construction technologies, along with gridded settlement patterns.

2 Composition

The rules by which buildings are shaped and elements are related to one another.

The aesthetic rhythm of a building is guided by the relationship between its different design elements. These can be calibrated by implementing the following guidelines.

2.1 Local symmetry of the façade

Symmetry is a key feature of the design in buildings across Al Ahsa, thus:

1 Buildings should follow local symmetry.

2 Windows and arcades should be highly symmetrical on each façade.

To ensure that the façade corresponds and is in dialogue with the architectural traditions of the area.

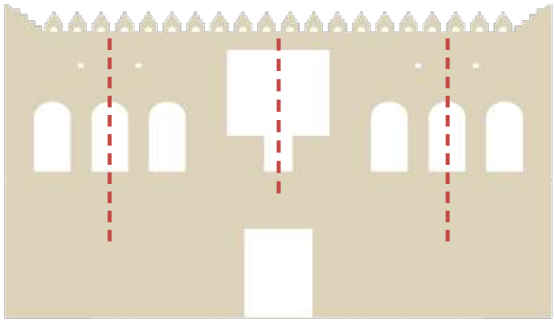


FIG. 12 Local symmetry of façade

2.2 Grouping of elements

Grouping sections of openings together to clearly delineate the differences along the facade is characteristic of Al Ahsa.

1 Grouping should be formed by windows on the upper levels and arcades on the base levels (specific to street facades).

2 A grouping of semi-circular windows with niches on top should be formed in the middle section.

To sustain the consistency of the visual banding style across traditional and contemporary development.

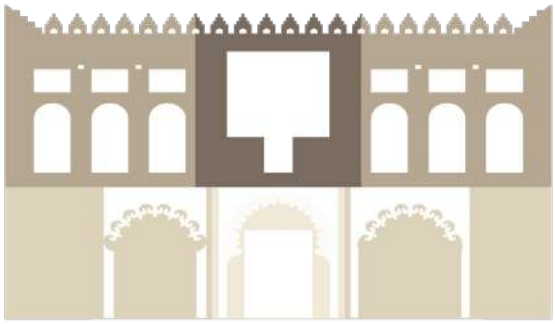


FIG. 13 Legible group of elements

2.3 Entrances and articulation

Main entrances are typically differentiated by some element. All entrances should:

1 Entrances should be strongly defined through arches that are higher, more prominent, distinctively shaped, and decorated with finely detailed ornaments.

2 Main entrances should be distinguished through their prominent position and arches that are large-scale.

3 Main entrances should have distinct arch shapes, and are decorated with more complex ornamentations.

To build transitional spaces between private and public spheres.

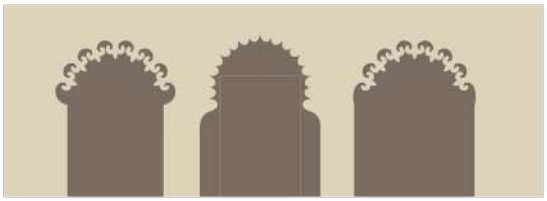


FIG. 14 Arched entrances

2.4 Width-to-height ratio

Employ the prescribed proportions to maintain a cohesive understanding of traditional structures.

1 The overall proportion of the building should be wider than it is high.

2 The width-to-height ratio of the whole building should range between 1.3:1 to 2.2:1.

3 The proportions of the secondary groups can be followed to assemble the final width-to-height ratio of the overall structure.

To ensure that the symmetry and proportions of the building embody the essence of traditional sources.

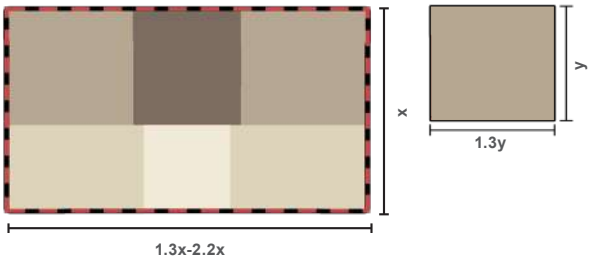


FIG. 15 Width to height ratio of whole structure is 1.3:1 to 2.2:1

2.5 Ornamentation

Use regional specific ornamentation. Avoid distorting the typical character of Al Ahsa buildings, as this could undermine their local architecture.

1 Ornamentation such as floral ornamentation, lotus-shaped voussoirs or tendril pendules, should be an integral part of the building's design.

2 The main entrance should be heavily ornamented with intricate details.

3 Delicate ornamentation is preferred around the openings' frames in upper floors.

4 Decorative shading and fenestrations can be adopted.

5 Different types and forms of arched elements should be used on doors and windows.

To ensure that the ornamentations reflect the style of Al Ahsa architecture.

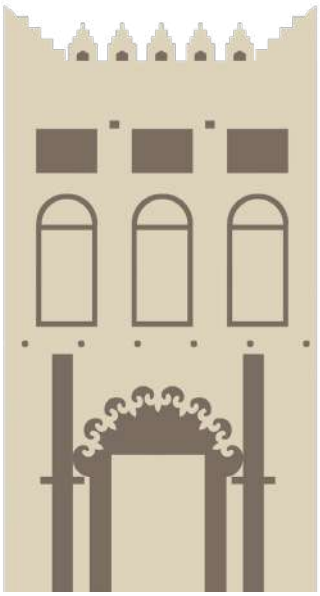


FIG. 16 Highly ornamented façade with floral motifs

2.6 Roofscape and rooftop elements

The roofscape, including crenelations, form a distinctive component in Al Ahsa. The design of new buildings should:

1 Crenelations should be a part of the roofscape.

2 Five-stepped triangulated crenelations with a void in the centre of each should be followed and finished with white plaster.

To ensure that roofscape and skyline follow historically-sensitive designs.

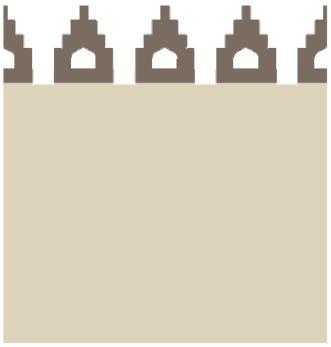


FIG. 17 Rooftop is decorated with crenelations

2.7 Geometry of the components

Organize side facades, openings, and decorations with cohesive use of various geometric shapes.

1 The geometry of doors should be orthogonal.

2 Entrances (particularly main ones) and windows should be arched, to express their unique character.

3 Windows on the top band should follow an arched design with semi-circular or pointed arches.

4 All arches should have embellished cusp arches as well as variations of the heart-shaped cusps.

To ensure that the scale and proportions of the opening show solid façades which harmonize with the character of the area.

FIG. 18 Wall articulations

2.8 Solid façades

Per traditional architecture, facades feature more openings, proportionally less to the wall.

1 The walls should be punctuated with openings and fenestrations of varied sizes.

2 Large windows should be adopted to facilitate airflow between the spaces.

3 Approximately 35% of the façade should be allotted for openings.

4 Incorporate screen shadings over select openings.

To design the openings of façades building upon the region's traditional architecture.

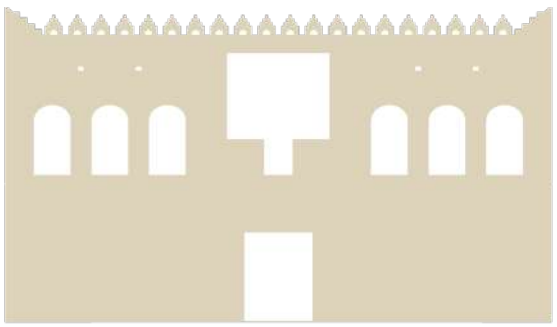


FIG. 19 65% solid

2.9 Secondary frontage

With protected openings, all facades should ensure to maintain privacy.

1 The openings should not make private, interior spaces visible.

2 Small fenestrations should be used for controlled and indirect lighting.

To design for domestic privacy following a traditional architectural approach.

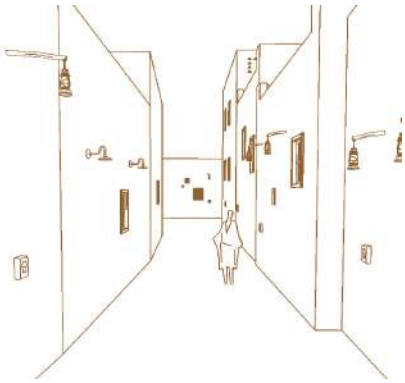


FIG. 20 Secondary frontage

2.10 Narrow streets

Clustering buildings together in accordance with traditional building habits is important to maintain the organic integrity of the neighbourhood.

1 Buildings should be planned in groups and provide narrow streets to delineate between private and public spaces.

2 The streets play an important role to connect the agricultural resources of the oasis to the built context and beyond.

3 A wider open space should be included at the intersection of two or more walkways.

To design a city grid which builds upon historical urban traditions.

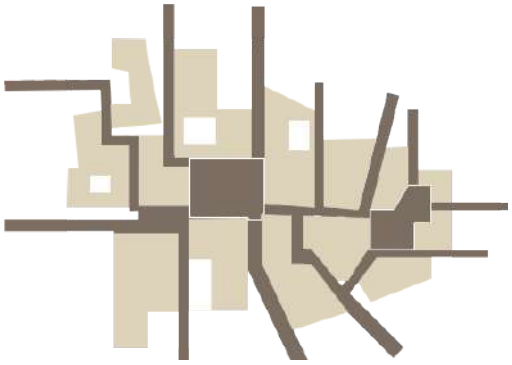


FIG. 21 Narrow streets

2.11 Building cluster and courtyards

While maintaining areas for privacy, sharing a courtyard between new buildings facilitates interconnectedness and socialization.

1 The typology of buildings should feature an introverted layout centred around courtyards and shared walls between neighboring buildings.

2 Courtyards should be designed to delineation between private/public use and to respond to the environment.

To distinguish clearly between private and public spaces by observing existing spatial arrangements.

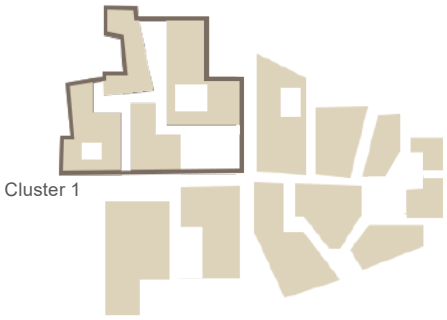


FIG. 22 Building cluster

FIG. 23 Public courtyards

3 Elements

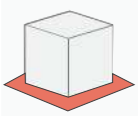
The individual parts that are the building blocks of Al Ahsa Oasis architecture.

TAB. 1 Al Ahsa Oasis architectural elements

GENERAL ELEMENTS

	**Key characteristics**	Refer to “1 Key features” on page 18
	**Façade proportion**	Al Ahsa buildings should include marked horizontal proportions indicated by a width-to-height ratio between 1.3:1 to 2.2:1. These proportions reflect the horizontal hierarchy and procession between public to private spaces that characterize traditional buildings when it comes to low-rise, mid-rise residential and mixed-use buildings.
	**Window-to-wall %**	Some buildings should be highly opaque with a 6% opening ratio, while others (more contemporary) should have more open façades with up to 29% of the façade’s surface consisting of windows or doors. The apertures on the ground floor should generally be limited and narrow compared to the ones on the upper floors.
	**Opening proportions**	The façade’s composition should be asymmetrical without a clear vertical order. Openings should generally be vertical with width-to-height ratios ranging between 1:2 to 1:5 for doors, 1:1.5 to 1:2 for windows, and a horizontal proportion between 1:1 to 2:1 for attic windows.
	**Composition**	Tripartite articulation is a typical feature of Al Ahsa buildings. The base should be the link to the street, the middle should be the main body of the building, and the top portion should be where the building meets the sky through the use of decorative parapets, banding, crenelations, or other architectural elements.

BASE ELEMENTS

	**Entrances**	Main entrances should be distinguished by the prominent position of the main door which should be framed by traditional cusp-arched colonnades and topped with intricate ornamentations. See expanded guidelines “3.2 Doorways and entrances” on page 31
	**Shop fronts**	Retail or commercial façades should typically be located at the ground level and should not comprise of any external surface-mounted and unhoused rolling shutters. Architecturally integrated and concealed rolling shutters should be permitted.
	**Arcades**	Colonnades and arcades can run along the ground floor and upper levels. They should usually consist of semicircular arches with heart-shaped cusps or similar shapes, and should sit on square columns, and they may vary from one level to the other.
	**Curtilage**	Urban furniture, lighting, green areas, and water features should be integrated into the surrounding areas of the building. These elements should emphasize the Al Ahsa style by using locally sourced materials, ornamental patterns, native plants, or locally-inspired architectural features and details that merge into the main façade.

MIDDLE ELEMENTS

 **Wall articulation**	Tripartite articulation should be adopted while showing different styles for the base, middle, and top tiers. Fenestration bands can be used to identify the separation line between levels. See expanded guidelines “3.1 Tripartite articulation” on page 30
 **Windows and openings**	See expanded guideline “3.3 Windows and openings” on page 32.
 **Projecting elements**	The entrance bays and arcades can project in front of the main façade and arcades, so long as they maintain within the plot boundary. It is important this should not adversely affect circulation or safety in the public realm.
 **Recessed elements**	Recessed entrances, arcades, or overhangs should be set inwards from the building façade, extending the access or perception of the public realm inside the plot boundary.
 **Shutters and shading**	Shutters should follow the vernacular language as illustrated within this section which are generally larger than those found in Al Qatif. Frequently, in the region they are built into the walls to facilitate the airflow between the exterior and the dwelling.
 **Corner features**	On narrow or busy street intersections, corners should be chamfered and rounded at the junction of two exterior walls at the base to improve pedestrian flow.

TOP ELEMENTS

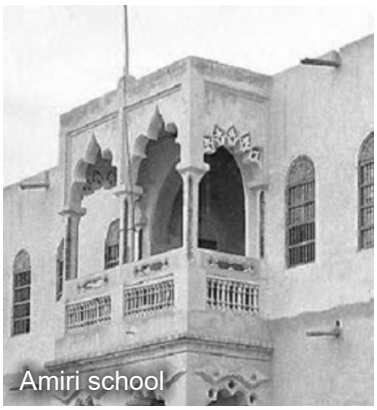
 **Roofscape**	All rooftops should generally be flat and, unlike some Najdi regions, they should not be accessible nor used as an amenity space. See expanded guidelines “3.4 Roofscape perimeter & parapet detail” on page 33
 **Rooftop Elements**	Rooftop pavilions should not usually be found in Al Ahsa.
 **Parapets**	They should be decorated as crenelated or flat and become an extension of the external walls above the roof level, usually covered with white gypsum plaster.

OTHER ELEMENTS AND ORNAMENTATION

 **Materiality**	See expanded guideline “4 Colors and materials” on page 34.
 **Color**	See expanded guideline “4 Colors and materials” on page 34.
 **Pattern**	See expanded guideline “5 Patterns” on page 36.

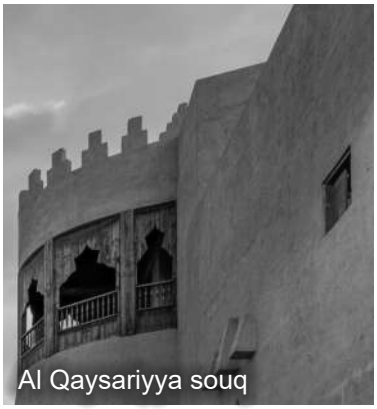
Top

Ornamented parapet



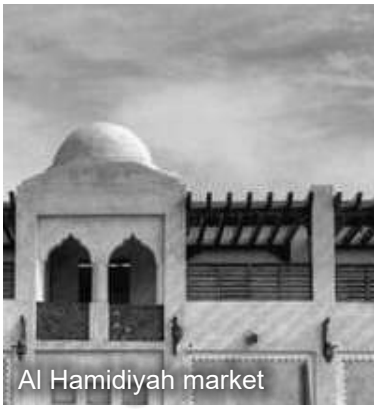
Decorated arches

Un-decorated parapet



Traditional rooftop elements

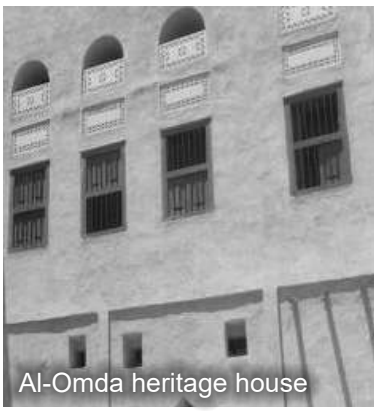
Traditional rooftop elements



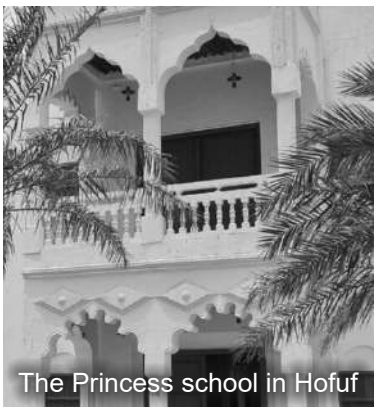
Traditional rooftop elements

Middle

Simple window openings

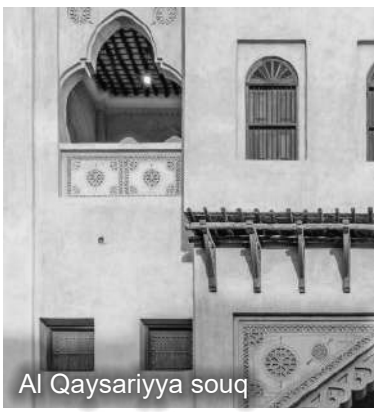


Simple fenestrations



Cusped arch opening

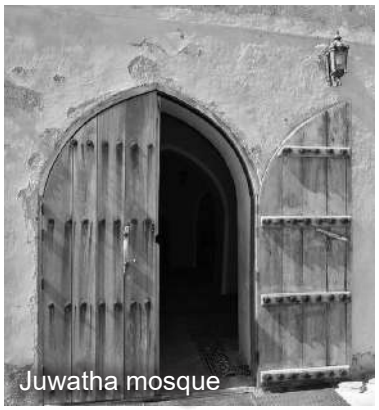
Simple window openings



Ornamented fenestrations

Ornamented fenestrations

Base

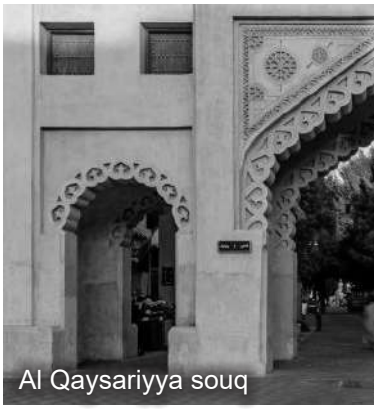


Arched doorway

Simple rectilinear entrance

Decorated entrance

Traditional arch details

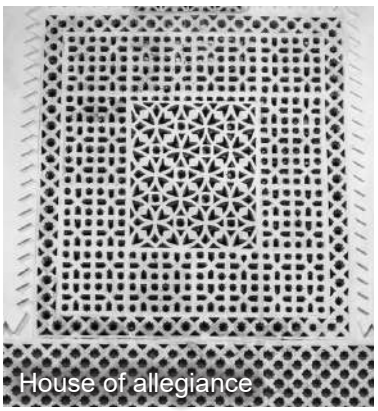


Ornamented arch way

Ornamented arch way

Ornaments and other elements

Ornamented arch way



Ornamented fretwork

Door or window shutter detail

Ornamented arch way

Traditional shading element

Door or window shutter detail

3.1 Tripartite articulation

Tripartite articulation is a typical feature of Al Ahsa buildings that highlights the hierarchical elements of a building's elevation; façades are typically split into three separate tiers of the base, middle, and top, each having its own distinct character.

1 Openings should be articulated with minimal change in materiality and/or color from the main façade.

2 The surrounding area of the opening may be recessed or projected from the main façade to increase both compositional layering and the play of light on the façade.

3 A small lattice opening should be usually added at the top of arched doorways to provide natural ventilation.

4 Openings should be symmetrical and/or aligned. Windows on different floors should use axial alignments (i.e. attic windows as well as smaller openings centered above larger ones) to create larger orders and levels of hierarchy in the façade.

5 Middle openings (screens/shadings) should be smaller in scale in comparison to the rest of the façade and should often pair with base elements.

6 External façades should consist of a uniform rhythm of colonnades embellished with details in order to establish hierarchy.

Elements depicted here should be a starting point for interpretation rather than direct duplication.

To evoke the traditional character found in Al Ahsa Oasis landmarks across the rest of the region.

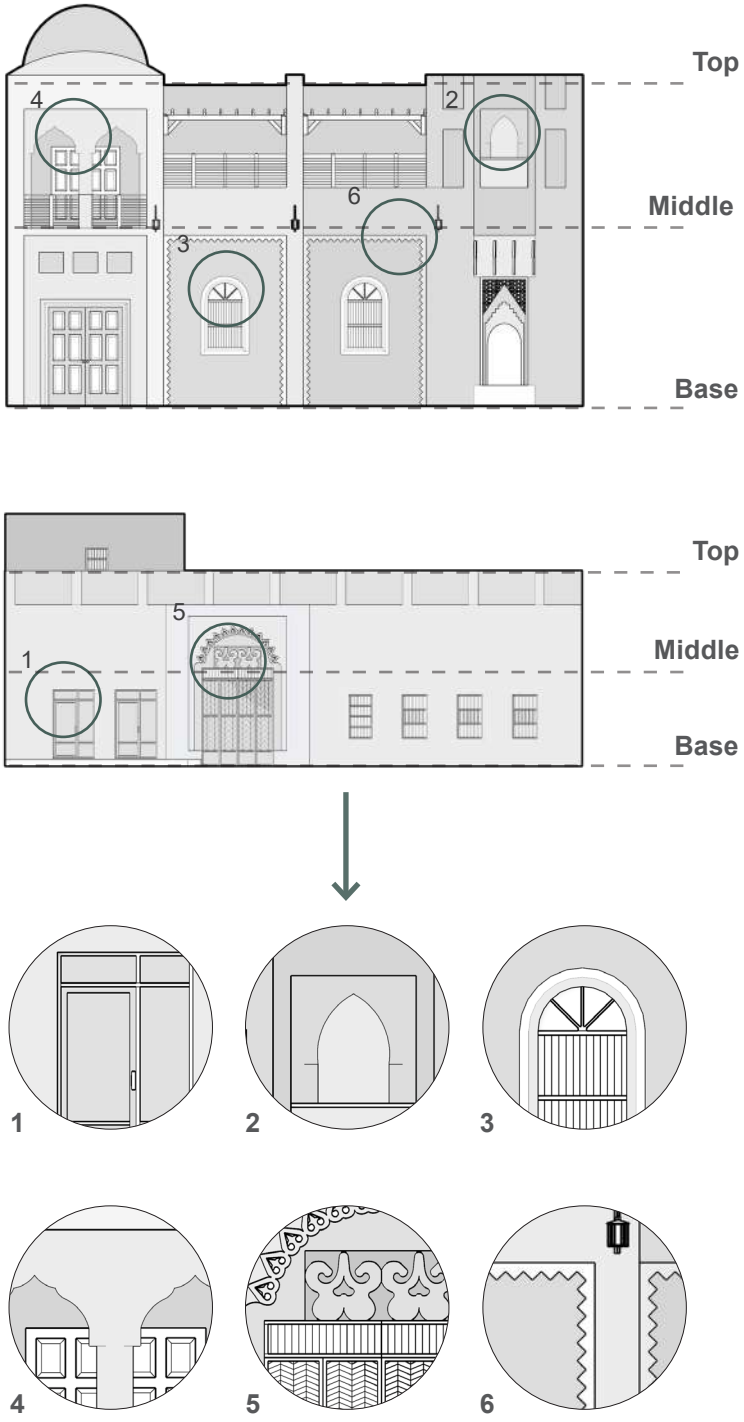


FIG. 24 Tripartite articulation elevations

3.2 Doorways and entrances

The traditional architecture of Al Ahsa is influenced by the craftsmanship of other neighboring cultures introduced towards the end of the 19th century. This legacy of craftsmanship manifests in the doors of traditional buildings.

Characteristics include the following:

1 Doors that face public streets should provide minimum vantage of the private interior.

2 Doors should have a vertical symmetrical composition, follow an orthogonal geometry, and include a flat or arched top.

3 Doors should be characterized by:

- The use of local palm timber as material.
- Their flush positioning in relation to the rest of the façade.
- High portal-type doorways that are singularly decorated and consist of pointed or semicircular arches supported by vertical piers.

4 Doors should employ decorative over-panels.

5 Doors should be of a width-to-height proportion in which width ranges from 1:2 to 1:5.

Elements depicted here should be a starting point for interpretation rather than direct duplication.

To continue the craftsmanship in traditional doors for future generations.

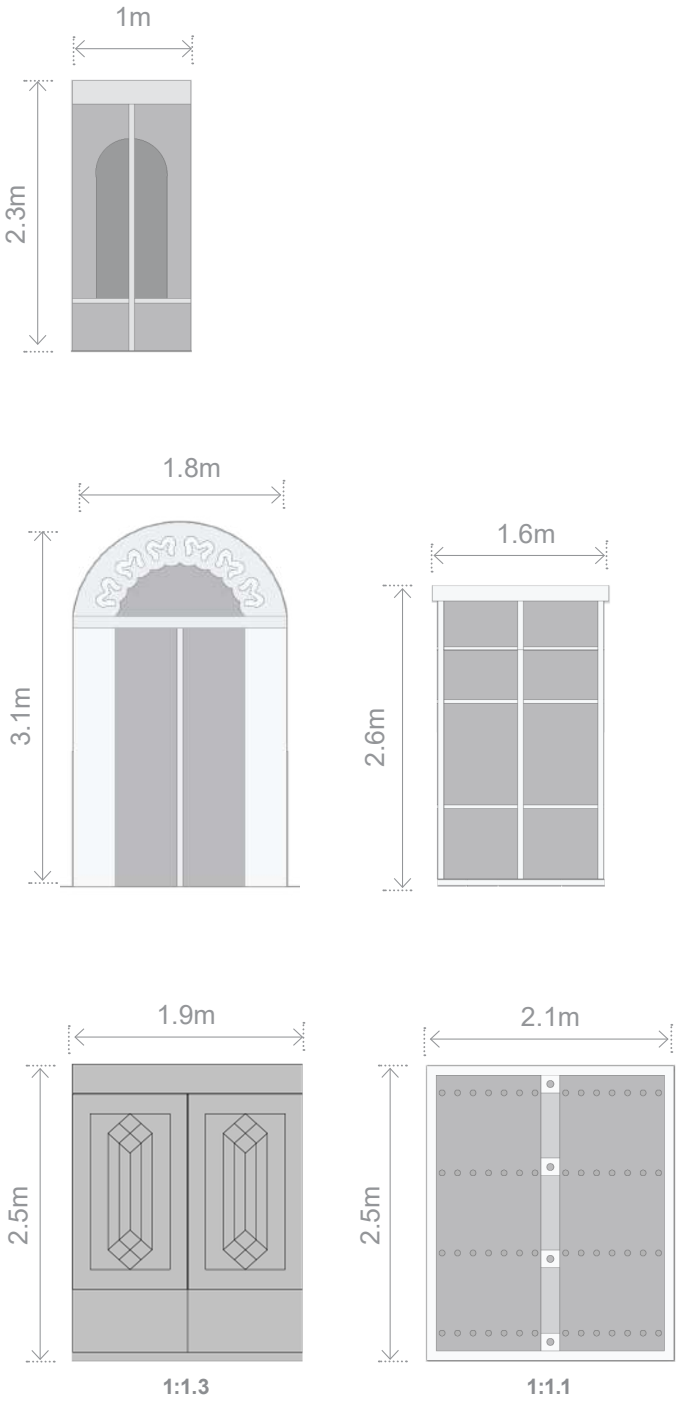


FIG. 25 Traditional door elements

3.3 Windows and openings

Elements illustrated here should be used as a starting point for interpretation rather than simply duplicated. Characteristics include the following:

1 Informal groupings should be adopted and openings respond to functionality rather than composition.

2 Windows should have a vertical symmetrical composition.

3 Windows should be characterized by:

- The use of local palm timber as material.
- Their flush positioning in relation to façades.

4 Highly detailed elements should be recessed into the façade.

5 Screens should be built into the walls to facilitate the airflow between the exterior and the courtyard; they are larger and entail simpler plasterwork than the screens found in Al Qatif.

6 Upper floors should generally include semicircular pointed arches.

7 Middle-floor openings should be generous in scale allowing dwellers to look into the street. Screens allow for control over amount of light entering.

8 Ground floor openings should be plain and rectangular.

9 Vertical windows should generally have a ratio ranging from 1:1.5 to 1:2, and attic windows, which sit horizontally, a more suitable proportion of around 1:1 or 2:1.

To evoke historical window formation and use of materials of Al Ahsa Oasis throughout the region.

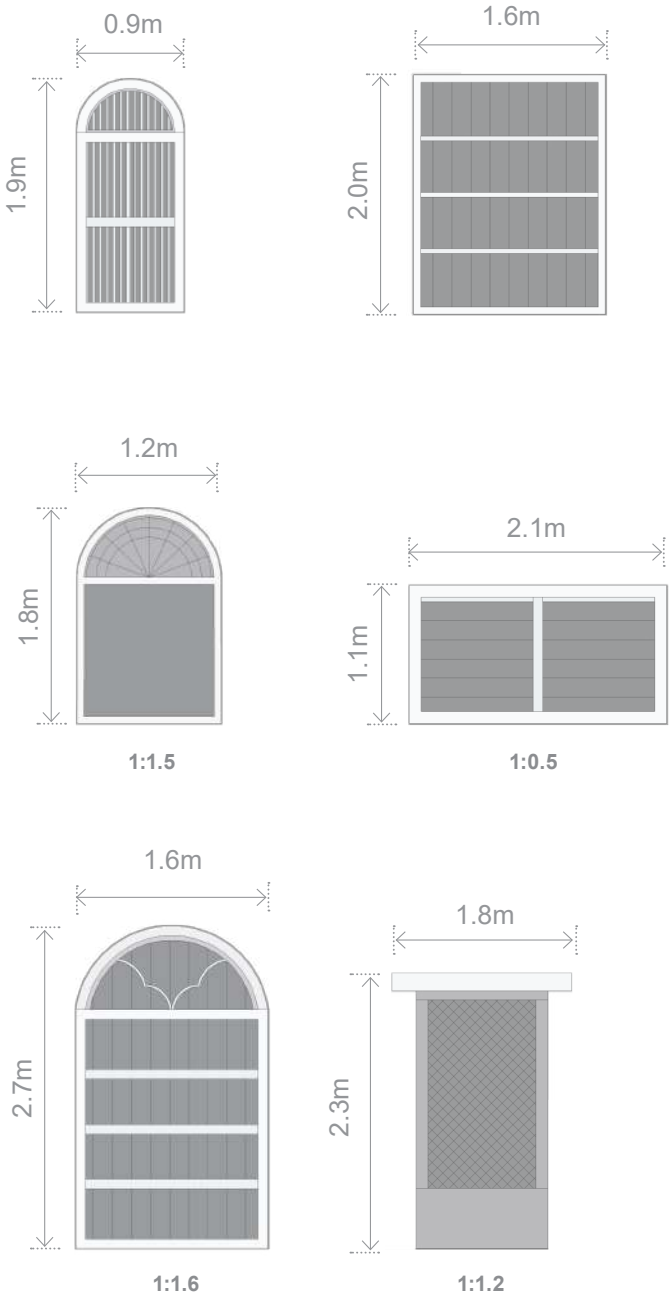


FIG. 26 Traditional window elements

3.4 Roofscape perimeter & parapet detail

The traditional roofscape of Al Ahsa is characterized by non-stepping rooflines. Different parapet types are adopted depending on the building typology and its relevance in the built environment.

Roofscapes are characterized by the following:

1 Screened parapets, to facilitate the airflow between the exterior and the terrace space, should be larger and entail simpler plasterwork than those in Al Qatif.

2 Parapets should entail minimal outlines.

3 Double-stepped crenelations with a squared fenestration in the center should be adopted.

4 Vegetal-inspired merlons with a wide gap between each element should be adopted.

To create functional inhabitable roof spaces screened from both each other and neighboring buildings.

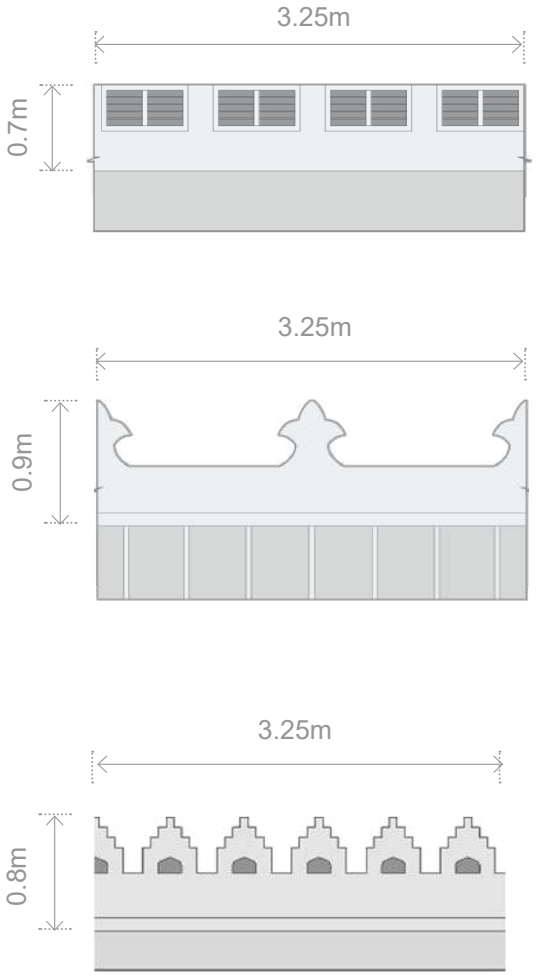


FIG. 27 Traditional parapet elements

3.5 Other Elements

Prominent architectural features include intricate ornamentation around openings, decorative shading elements, fenestrations, and crenellations along the upper façade. Many façades exhibit a pattern of repeating and alternating design elements, enhancing visual rhythm and continuity.

To incorporate additional elements that are commonly integral to the overall composition of buildings.

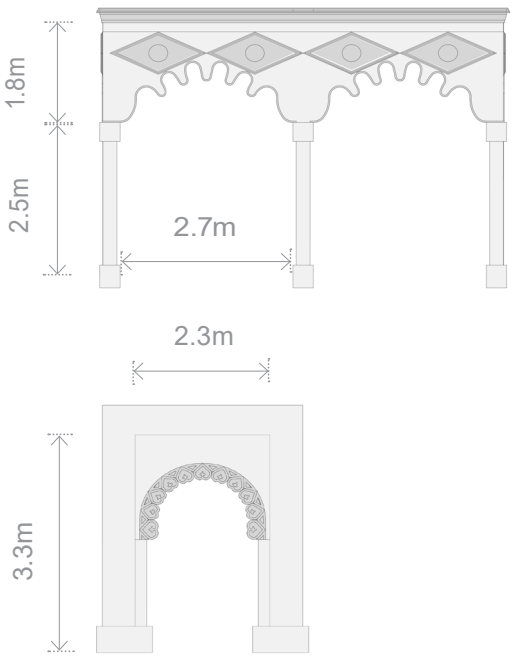


FIG. 28 Other elements

4 Colors and materials

The prevalent materials used and color range found within the architecture of Al Ahsa Oasis.

Utilizing a unified material and color scheme strengthens the architectural character and contributes to a harmonious and unique urban aesthetic. The following recommendations should be applied in Al Ahsa Oasis architectural character:

1 Align the chromatic scale of buildings with the surrounding landscape by matching the hues of different natural elements and materials within the immediate environment.

2 Use earth tones as primary colors for the building's palette and layer with assorted lighter or darker colors as secondary or accent colors.

3 Base colors are used on walls, and should be chosen in correlation with the hues of sand and stones specific to each site. Color examples include cream, gray-white, and brown beige.

4 Use gradients of the base hues as secondary colors on recessed sections of the building. Include accent colors by using lighter or darker tones contrasting with neutrals to highlight particular architectural elements. Color examples include white, yellow-gray, orange-brown, pastel blue, and jet black.

5 Prioritize the use of natural and locally sourced materials such as clay, stone, tamarisk wood, and palm materials.

To integrate the building in its geographical and cultural context through unifying and strengthening the local architectural character.

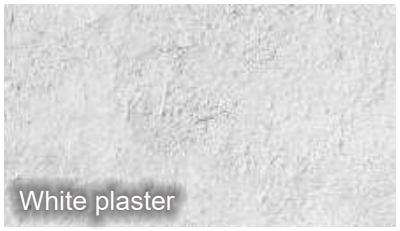
RAL codes are part of a universal color-matching system used to provide consistency in architectural finishes. It is recommended that teams verify colours with a physical fan deck. For more information visit www.ral-farben.de/en/


Textured sedimentary rocks


Adobe parapet


Plaster wall

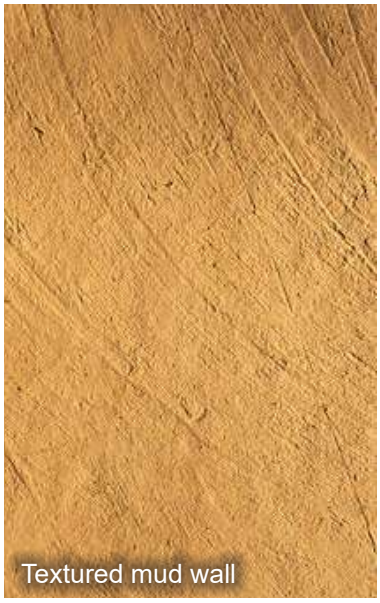

Adobe wall


White plaster


Wooden door panels


Textured mud wall


Mud wall


Textured mud wall


Painted exterior finish


Stone flooring

FIG.29 **COLORS AND MATERIALS**

5 Patterns

Common motifs and patterns used in the traditional craftsmanship and material culture of Al Ahsa Oasis.

The cultural heritage of Al Ahsa Oasis is rich in traditional patterns. Each element has a specific meaning, resulting in a unique symbol. Most patterns in the architecture of the Arabian Peninsula symbolize plantlife, the sun, celestial bodies and geometric patterns in line with Islamic traditions of non-figural art. For example, Arabesques represent plantlife such as ivy, palms, or rose and are repeated across a surface or facade.

1 Original traditional geometric patterns should be consulted as they are composed of multiple adjacent and patched layers of geometric motifs.

2 Individual traditional motifs should be extracted and abstracted from their traditional patterns to form elementary geometric motifs that can be harmoniously repeated.

3 Each motif should be reinterpreted in a first instance by repeating it, thus forming a new geometric pattern.

4 The newly created patterns should then be further reinterpreted in a second instance by abstracting it, rendering it a simpler version yet still inspired by its predecessor.

5 Reinterpreted patterns should be used in the façades of new buildings, whether in fenestrations or crenelations.

Patterns illustrated here should be used as starting points for interpretation and not simply duplicated from existing styles.

To create spaces that embody continuity with patterns of traditional buildings, whether through the aesthetics of the façades in the exterior or the lighting effect they create in the interior.

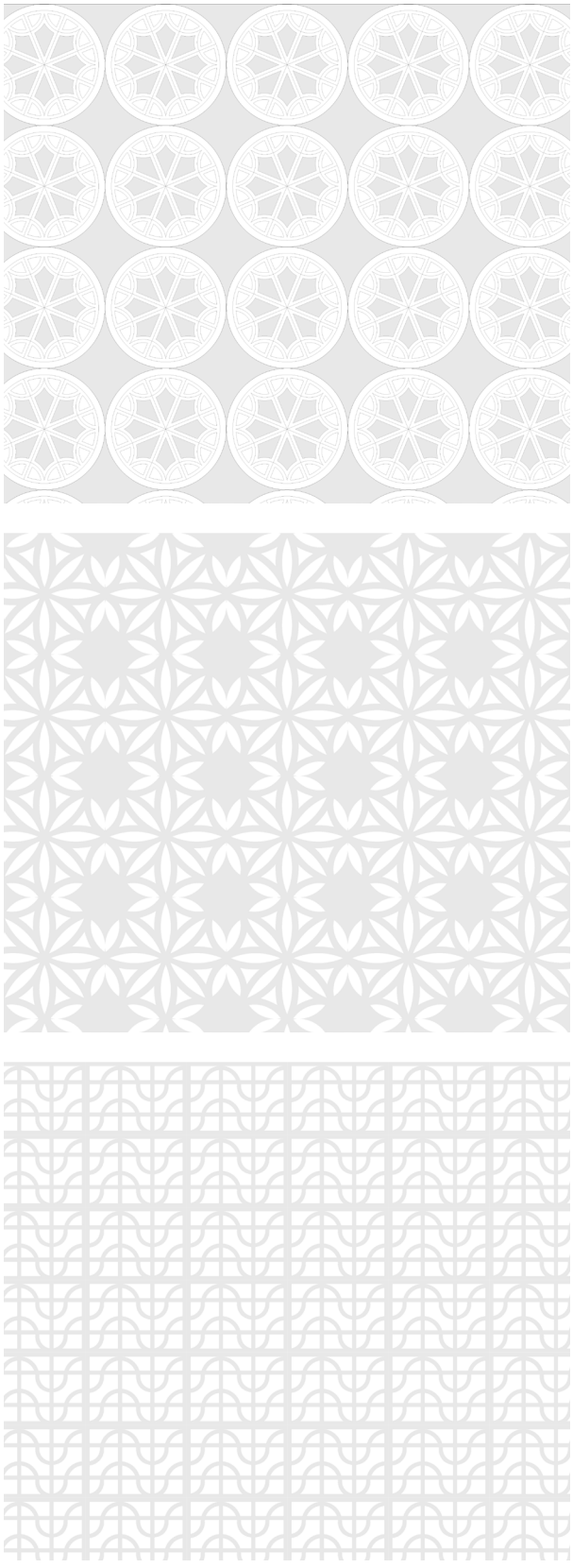
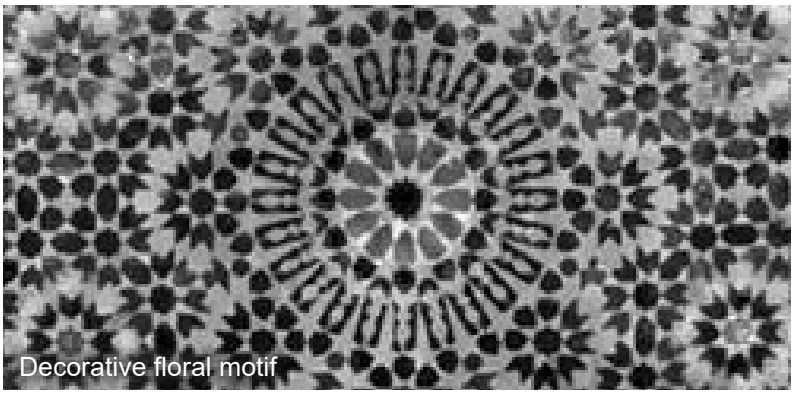
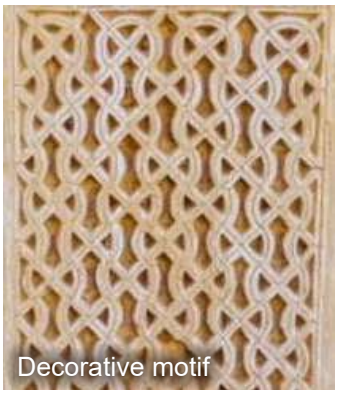


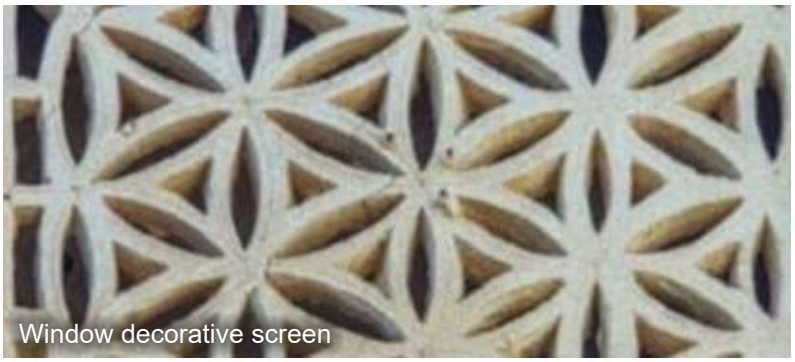
FIG. 30 Patterns abstraction


Decorative arch with motif


Decorative floral motif


Decorative floral motif


Decorative motif


Window decorative screen

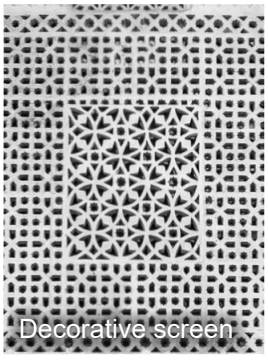

Decorative motif

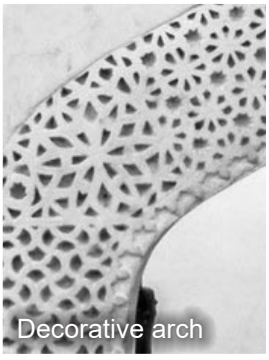

Decorative motif

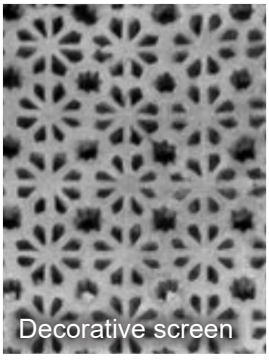

Decorative motif

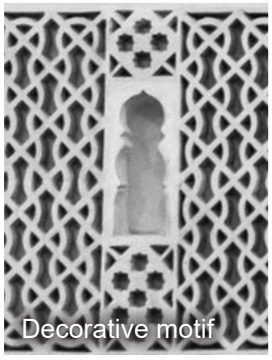

Motif


Decorative motif


Decorative screen


Decorative arch


Decorative screen


Decorative motif

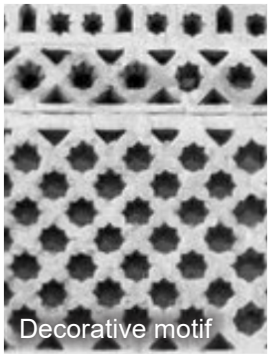

Decorative motif

FIG.31 **PATTERNS**

6 Applying the architectural character

Guidance for the careful interpretation and application of architectural character to contemporary developments.

6.1 Interpretation

Good application of architectural character does not mean direct copying of historical examples. Their contemporary use should involve interpretation: a selective emphasis of characteristics to create meaning and beauty in its new context. Designers can selectively use formal characteristics such as:

- Color (hue, tonality, tint).
- Shape (figure, outline, 2-D geometry).
- Form (volume, 3-D geometry).
- Texture (physical surface quality).
- Line (verticals, horizontals, diagonals, zigzags, curves, dashes, etc.).
- Value (lightness to darkness).

Interpreted elements can be further transformed in the way they relate to one another. Designers can play with compositional rules such as:

- Balance (equality or harmony of parts).
- Contrast (difference of parts).
- Emphasis (strengthening of parts).
- Movement (change, directionality).
- Pattern (repetition, symmetry).
- Rhythm (even and uneven spacing).
- Unity/variety (degrees of variation).

Designing with architectural characters is an interpretive art, an effort to express the spirit and essence of the original character in new yet familiar ways.

To encourage contextually sensitive contemporary design.

FIG. 32 Example of building form abstraction*

FIG. 33 Example of window shape abstraction*

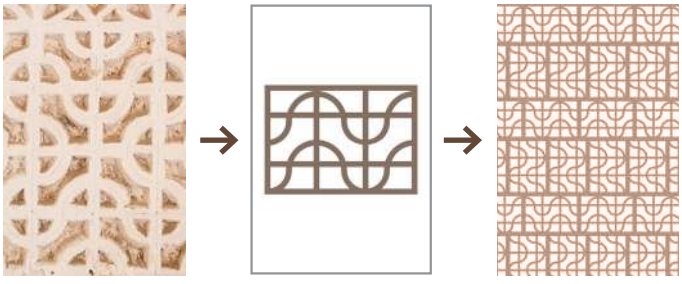


FIG. 34 Example of pattern abstraction*

*Note: Diagrams in this chapter are for explanation of design concepts only. The examples are taken from a variety of sources, and do not form part of the definition of Al Ahsa Oasis architectural character.

6.2 Scaling

Architectural characters often come from historical building types of a particular size. When applied to new developments of a dramatically different size, the original character can become distorted or repeated in a way where their quality and craftsmanship are reduced.

When applying architectural characters to new developments, designers should:

1 Be sensitive to the challenges of large project sizes. Break down building massing into smaller, more diverse and interesting massings that can better fit traditional elements of architectural character.

2 Observe the way elements are related to one another and to interior layouts in the source examples of architectural character.

3 Avoid mechanical repetition of elements without a clear design intention.

4 Respect the proportion, size and construction logic of the original architectural elements.

5 Do not scale and distort small elements into oversized graphic features that ignore the principles behind the use of the original element.

6 Pay special attention to building elements visible from the public realm, especially at the ground floor. The closer the element is to the public, the greater the fidelity and quality it should be. Conversely, elements farther away from public view may be more highly abstracted.

To successfully apply elements of traditional architectural character to large contemporary buildings.

FIG. 35 Break down building massing to better fit traditional elements of architectural character*

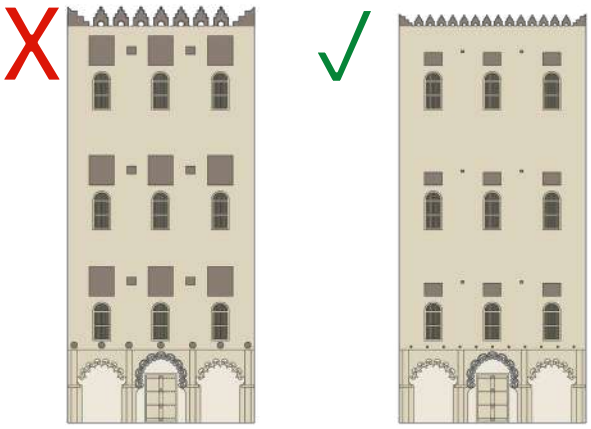


FIG. 36 Do not scale and distort smaller elements into oversized graphic features*

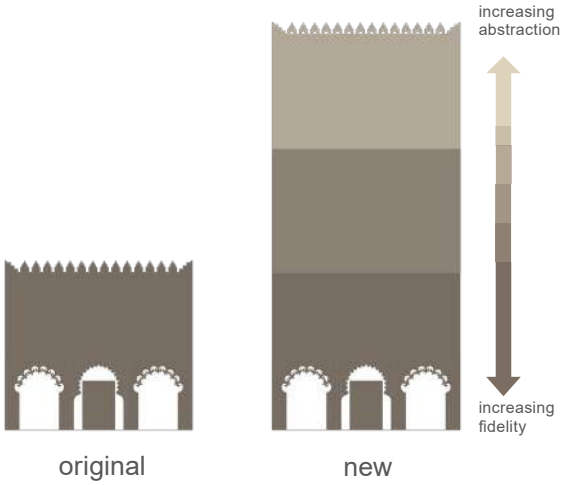


FIG. 37 Pay attention to building elements near the public realm, especially at the ground floor*

6.3 Functionality

Archtiectural elements should perform functionally like their traditional counterparts, and not be applied superficially like graphic signage.

1 Architectural elements should be purposeful, contributing to the climatic or technical performance of a building. (For example: shutters should be operable, providing shading and privacy.)

2 Architectural characters should not be applied superficially – not like wallpaper on an unrelated building form.

3 Architectural elements should not employ material fakery. (For example: the use of one material that pretends to be another.)

4 Ornamental architectural elements are permitted where they strengthen the character and improve the quality of the building.

To maintain the functionality of architectural elements.

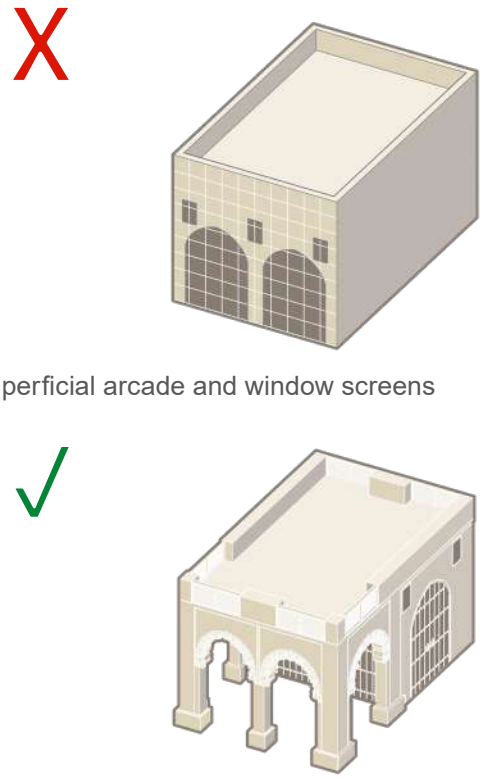


FIG. 38 Example of functional architectural elements*

6.4 Adaptation

The application of traditional architectural styles to new building types requires sensitive adaptation.

1 Precious materials from the original may need to be substituted with suitable replacements.

2 Some architectural elements may need to be adapted for new building systems or methods of construction.

3 Some new building systems may clash with an architectural character, and should be avoided (for example: large space frames, spider-joint glazing, and large areas of curtain wall).

To apply architectural character through contemporary means.

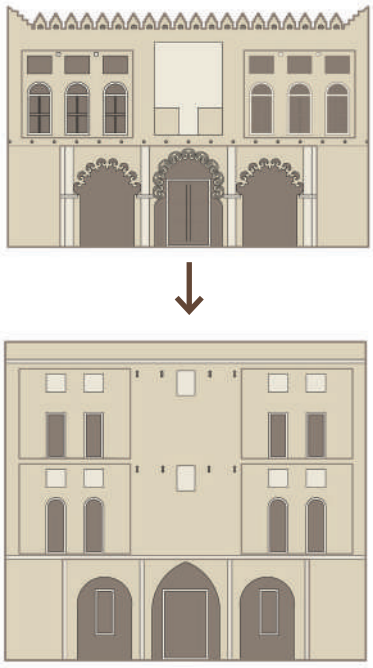


FIG. 39 Adaptation of traditional architectural elements to a contemporary building*

*Note: Diagrams in this chapter are for explanation of design concepts only. The examples are taken from a variety of sources, and do not form part of the definition of the Al Ahsa Oasis architectural character.

6.5 Mixing

Architectural characters are part of living cultures that continually grow and change. The boundaries defining architectural character areas should be understood as provisional, open to influences from all around, rather than as fixed borders. This invites the possibility of styles and character strengths mixing together in large scale projects, particularly in sites located on the edge of two or more characters.

1 In large scale projects, when the project site is located at the edge of two or more characters, the adjacent characters can influence the project by mixing the characters in different buildings, while prioritizing one above the other based on an analysis of the local context.

2 Avoid mixing more than one character within a single building; instead, the mixing should occur across different buildings depending on their location within the project and their functional use.

3 When mixing characters, the permitted style (traditional, transitional, or contemporary) should be taken into consideration based on the specified level.

4 Exercise informed creativity. Do not slavishly copy architectural characters.

To propose a clear method for the mixing and blending of architectural characters in large scale projects.

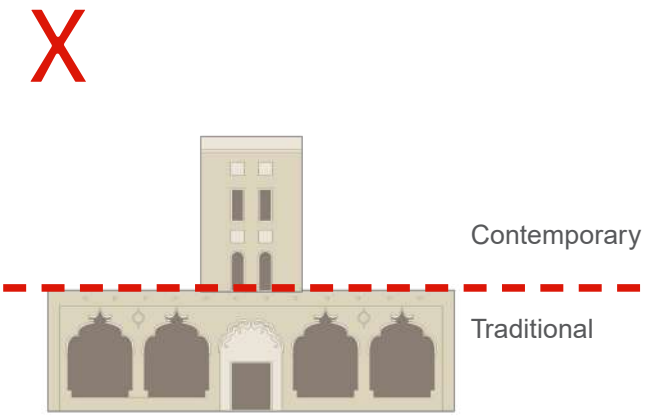


FIG. 40 Do not create hard breaks between mixed sources*

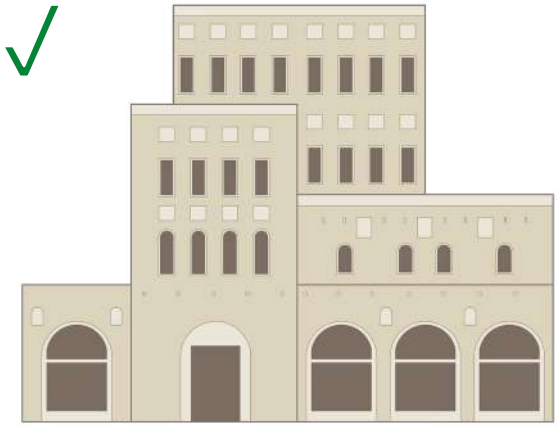


FIG. 41 Create gradual transitions between mixed sources and strengths of character application*

7 Worked examples

A set of design studies illustrating the application of Al Ahsa Oasis architectural character to buildings, at different strengths and scales.

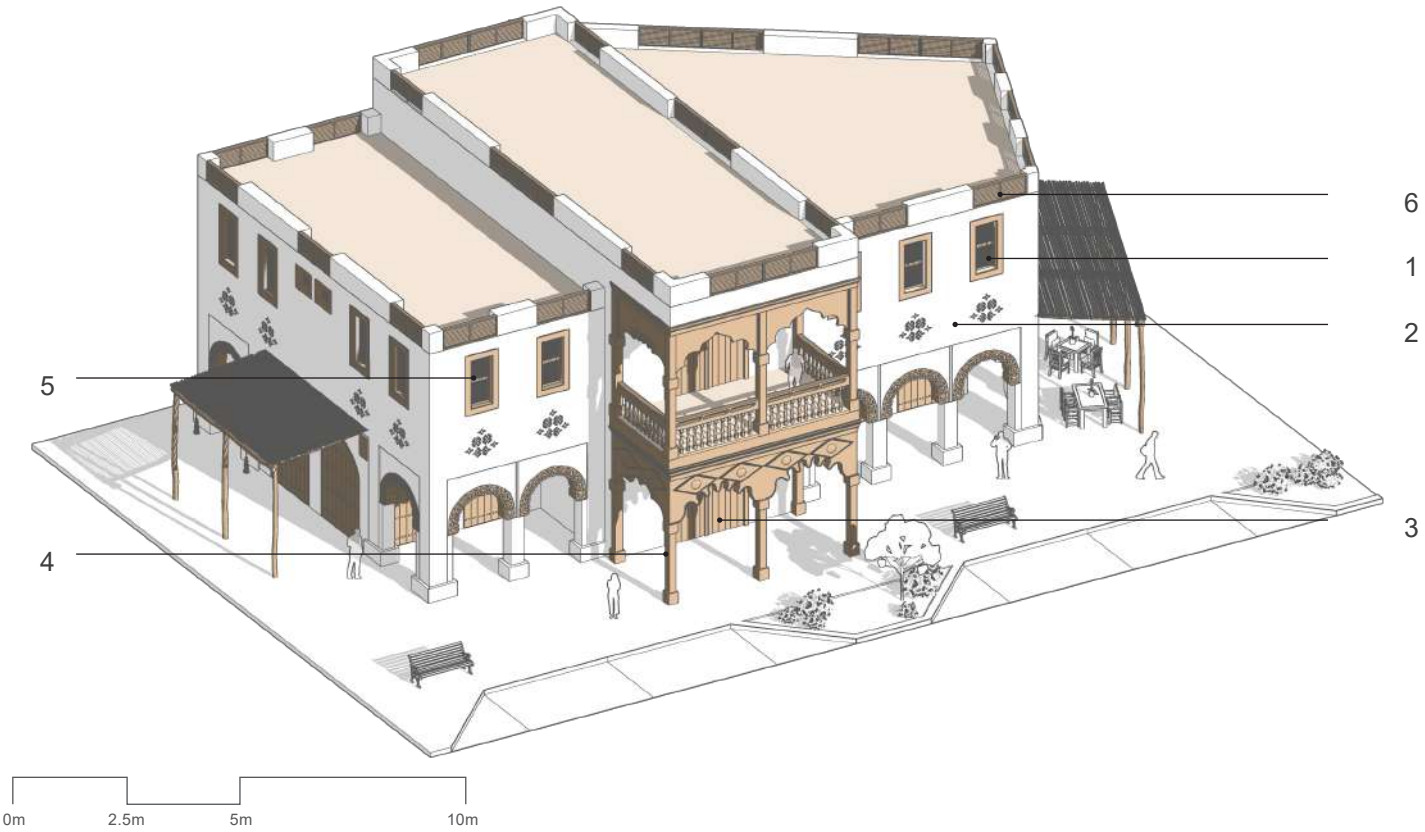


FIG. 42 Small size building

7.1 Traditional

This worked example of the traditional style incorporates a robust and comprehensive application of sections 3-5 of the guidebook. The scenario applies the distinctive characters of traditional Al Ahsa architecture such as the high parapets, vegetal motifs on openings and arches, and building detailing through semicircular and pointed arches.

1 The width-to-height ratio vary between 1:2 and 1:3 for vertical doors, around 1:4 for vertical windows, and 1:1 for small-scale square windows.

2 The composition of the façade is porous at the street level while becoming more opaque on upper sections, with openings aligned at all levels.

3 Entrances is articulated through its hierarchy in the façade comprising

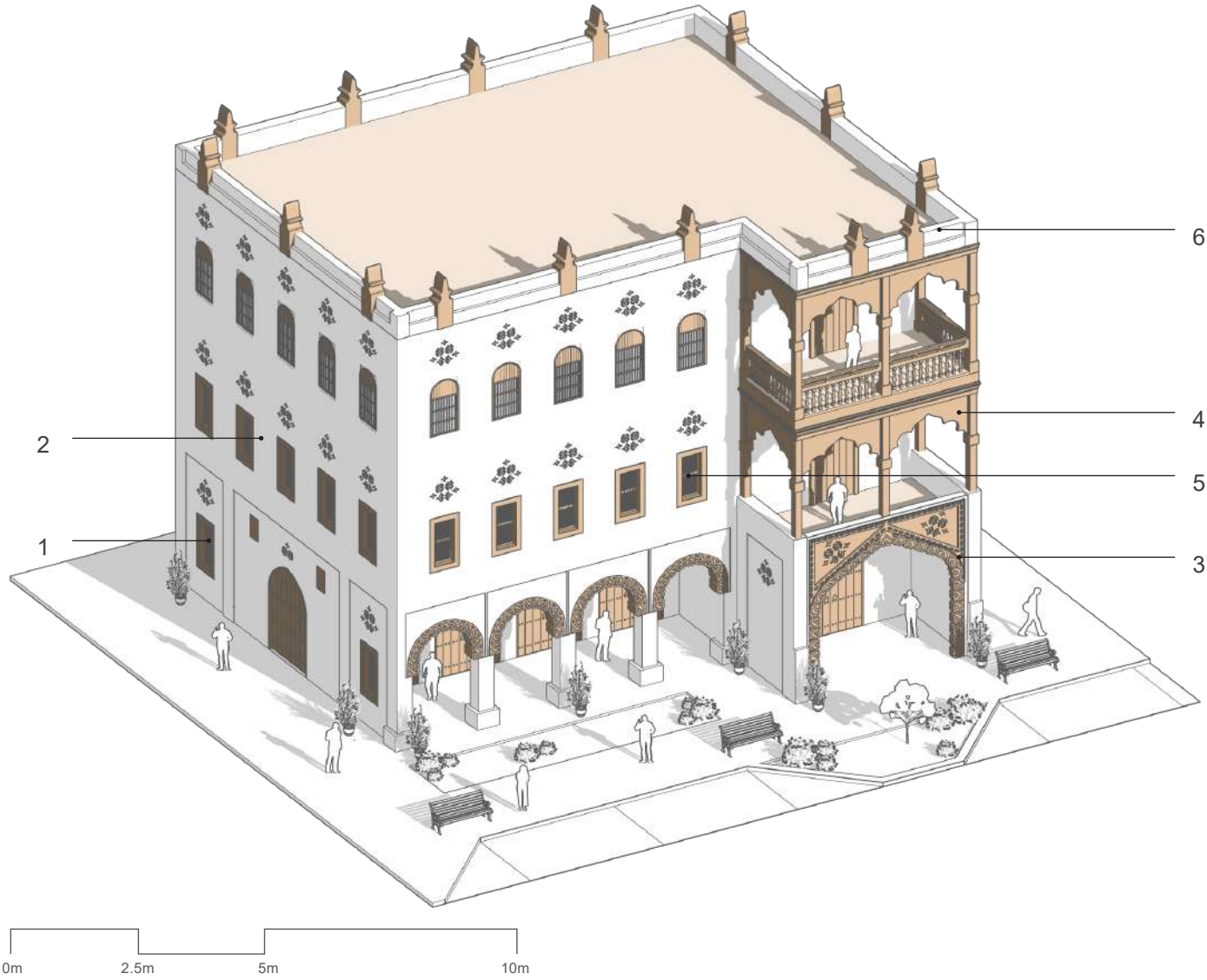


FIG. 43 Large size building

of walls, wooden doors, and detailed patterns. In this design, the semicircular arched wooden door distinguishes it as a central position framed by traditional cusp arches colonnades that are topped with intricate ornamentation.

4 The arcade is detached from the main wall and elevated to the top, meanwhile the remaining arches' cusps and top ornaments vary at different levels.

5 Windows adopt rectangular traditional window style with a gypsum frame around them on the external wall or a semicircular arched frontal on top.

6 For the roof, the use of flat parapets with merlons depicting big-scale vegetal motifs.

To develop adaptations in contemporary contexts which reuse material and built heritage of the region.

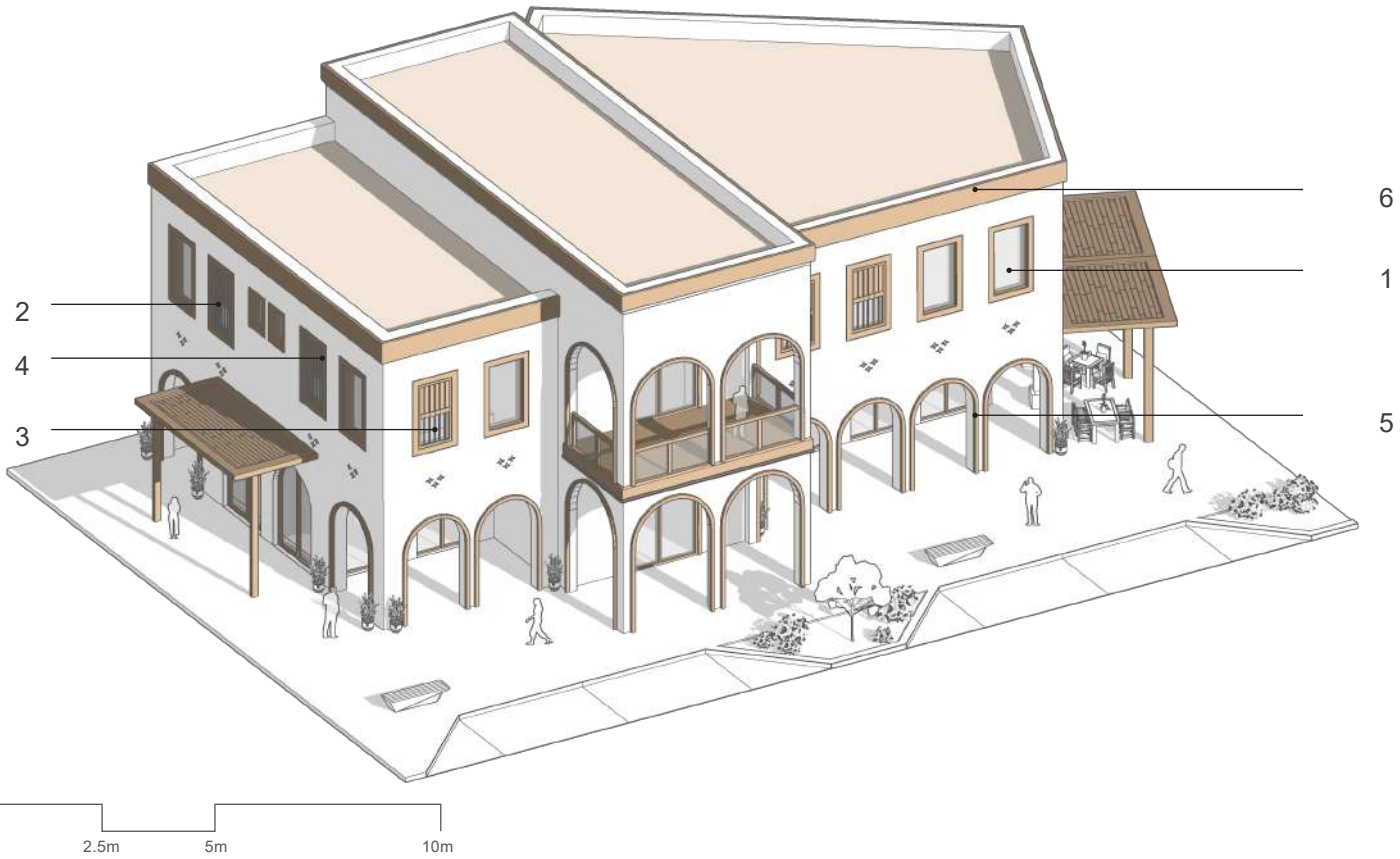


FIG. 44 Small size building

7.2 Transitional

This worked example of the transitional style applies a robust and comprehensive application of sections 3-5 of the guidebook. Expanding on the main design features of the traditional building source, the scenario highlights the use of semiarched openings and frames while keeping a refreshed and more muted interpretation of the patterns, styles and ornamentation available in the region.

1 Proportions of the openings are rectangular with proportions larger than the traditional style.

2 Each façade composition aligns openings symmetrically on all levels.

3 The façade is divided into three tiers – base, middle and top – with middle levels consisting of windows topped with patterned wall engravings.

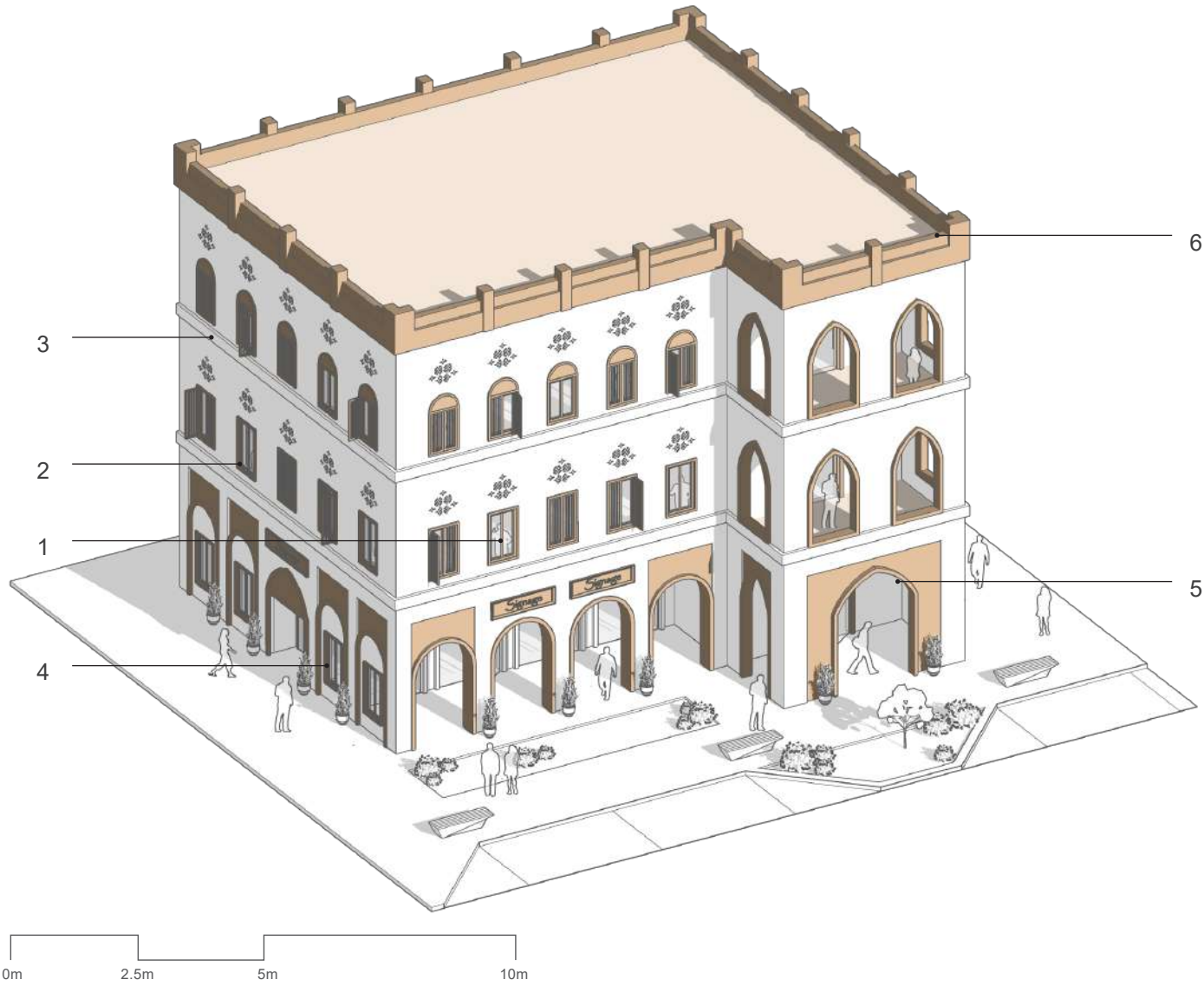


FIG. 45 Large size building

4 Windows and openings are rectangular with a width-to-height ratio of around 1:3 on upper levels. They incorporate minimal wooden louvers, topped by vegetal motifs engraved in the façade, and framed with gypsum on the external walls.

5 On the ground floor, semicircular and pointed arches are surrounded by thin gypsum frames projected on the façade and sit on square columns aligned with the main wall. Balcony arcades can have both pointed arches without ornaments as well as a projecting band running on the base.

6 On the roof, parapets are flat and undecorated.

To embrace modern living through built architecture which connects with traditional sources.

FIG. 46 Small size building

7.3 Contemporary

1 Window-to-wall ratio: should consist of openings around 40 to 60% on the primary façade and openings should include both horizontal curtain walls on the second façade layer and vertical openings with proportions of 1:2.

2 Windows and openings: should adopt glass curtain walls with some carpentry and patterned louvers for the shading of openings.

3 Entrances: should surround the main door with a recessed frame that raises up to the second level and include a flat portal without any ornaments aligned to the main wall.

4 Shop fronts: should have glazed and shaded shop frontages with arcades that run along the ground floor.

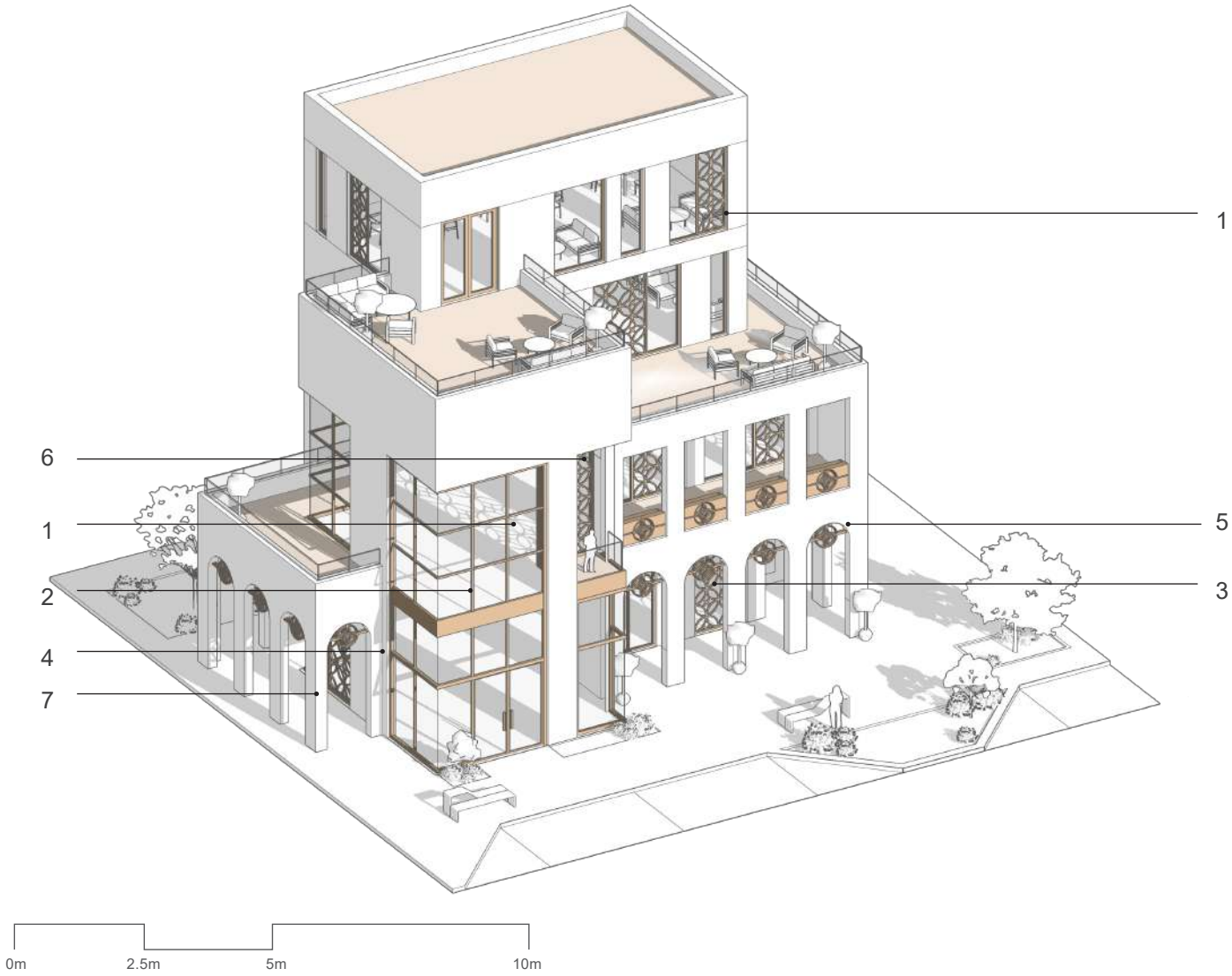


FIG. 47 Large size building

5 Arcades: are used on the ground floor. Semicircular arches should sit on columns that are aligned with the main wall and that do not include any projecting frames or ornaments.

6 Patterns: should abstract geometrical motifs from Al Ahsa region's traditional patterns and be perforated in the first layer of the façade, as well as integrated in metal and wooden details.

7 Wall articulation: layering is created by developing asymmetrical walls under an arcade along multiple facades, and thus opening up the structure.

To develop a unique visual language and innovate new design which enhances on opportunities found in traditional styles.

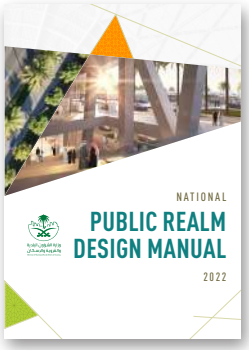
8 Public realm

An overview of public realm character in Al Ahsa Oasis.

8.1 Overview

The focus of the public realm guidelines within this document is to strengthen local character by identifying and enhancing distinct characteristics of public realm in Al Ahsa Oasis. It is meant to provide high-level principles and recommendations to be further developed in masterplans and public realm strategies for the natural and built areas of the region.

These guidelines are not intended to be a comprehensive technical resource. For this the designer should consult the National Public Realm Design Manual prepared by the Ministry of Municipalities and Housing, and support the five key principles identified in it.



1 Human scale

2 Pedestrian mobility

3 Sustainability

4 Culture and heritage

5 Visual appeal

FIG. 48 National Public Realm Design Manual and its five key principles.

This chapter is organized as follows:

- **General character -** a narrative summary and photographic overview of characteristic public realm found in Al Ahsa Oasis.
- **Types of public space -** A selection of spatial types that provide the architecture of the area its distinctive character
- **Materials -** A summary of hardscape character for Al Ahsa Oasis.
- **Planting -** A summary of softscape character for Al Ahsa Oasis.
- **Street furniture -** Suggestions and precedents for suitable street furniture.
- **Lighting -** High-level lighting principles for the enhancement of the public realm.
- **Signage -** High-level signage principles for the enhancement of the public realm.
- **Parking -** High-level parking design principles for enhancement of the public realm.
- **Worked examples -** Visualizations that illustrate the combined intentions of the public realm guidelines.

Together the sections above aim to give a a broad overview of public realm that will reinforce the character of Al Ahsa Oasis.

8.2 General character

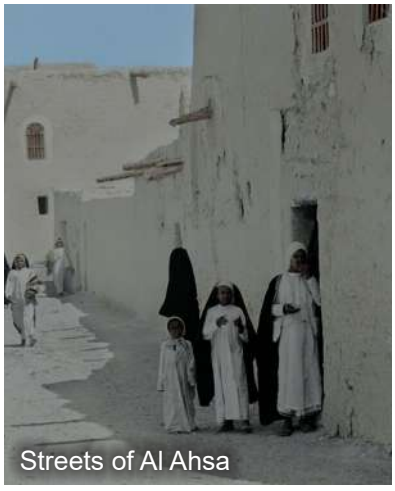
The adjacent photographs summarize the characteristics of public realm and local landscape in Al Ahsa Oasis. As set out in the introduction, the area is characterized by its unique history as an oasis settlement and the many fortresses, mosques, and springs that dot the modern city and the vast palm orchards. Today, it includes morphologies associated with oasis settlements such as gardens, canals, wells, and drainage lake. Its well-known and active Qaysariyah market reveals how the agricultural output of the oasis and its attendant traditional market, continue to play an active role today.


Al Qurayn settlement


Al Qaisariyya souq


Jawtha park


Local houses of Al Ahsa


Streets of Al Ahsa


Marzieh farm palace


Al Qaisariyya souq

Al Qaisariyya souq

FIG.49 PUBLIC REALM AREAS AND ELEMENTS IN AL AHSA OASIS

8.3 Types of public space

Al Ahsa Oasis public realm is characterized by a hierarchy of typical streets and spaces. These typologies are distinguished by their scale, character, and relationship with predominant land uses.

Together, these spaces create a diverse public realm which caters for residents and visitors alike, and contributes to the distinct architecture of the settlement.

The plan illustrates a typical hierarchy of urban spaces and streets in Al Ahsa Oasis. The following spaces are considered to be the principal typologies:

- Street: Primary routes which define the edges of smaller settlements, mediating between green oasis areas, and buildings.
- Saha: Larger local space which is more likely to include adjacent commercial uses.
- Baraha: Smaller local space, typically with a more residential character.
- Sabat: A room built as a bridge between two buildings above the street element, aiming at expanding a property.
- Zuqaq: Local alleys of varying width and footfall which connect spaces and streets across settlements.

Specific areas might include additional variations in these typologies, reflecting local scale, character and use. Parks and recreation areas should also be provided.

FIG. 50 Typical urban plan

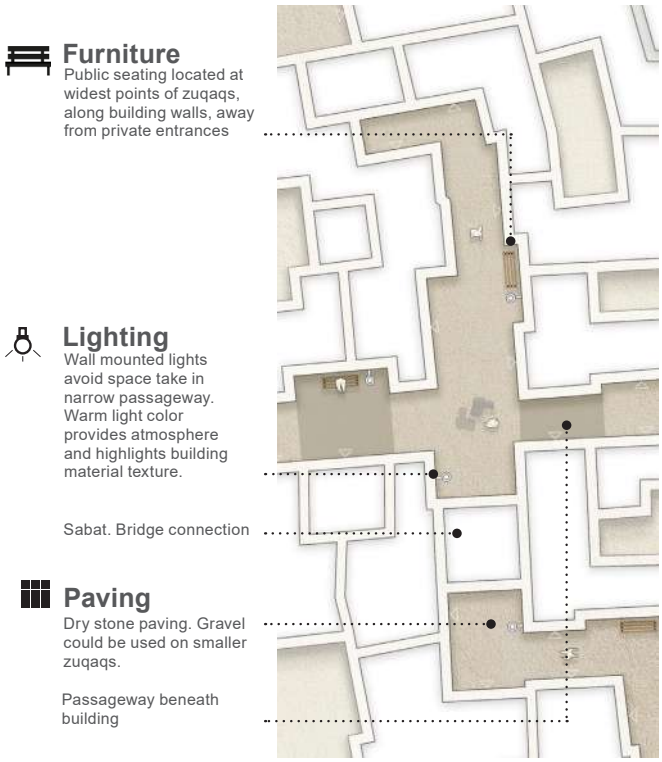


FIG. 51 Zuqaq
No vehicle access

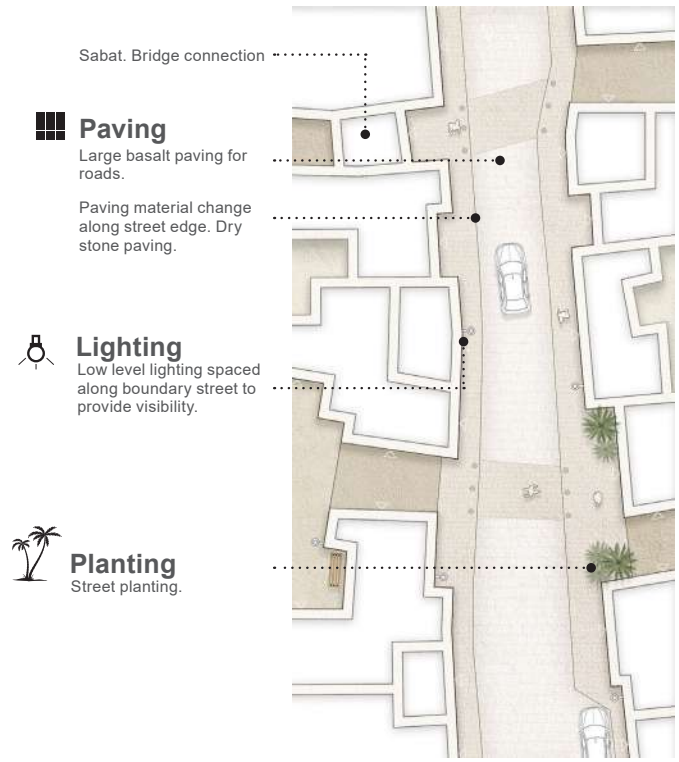


FIG. 52 Street edge
Vehicle access.

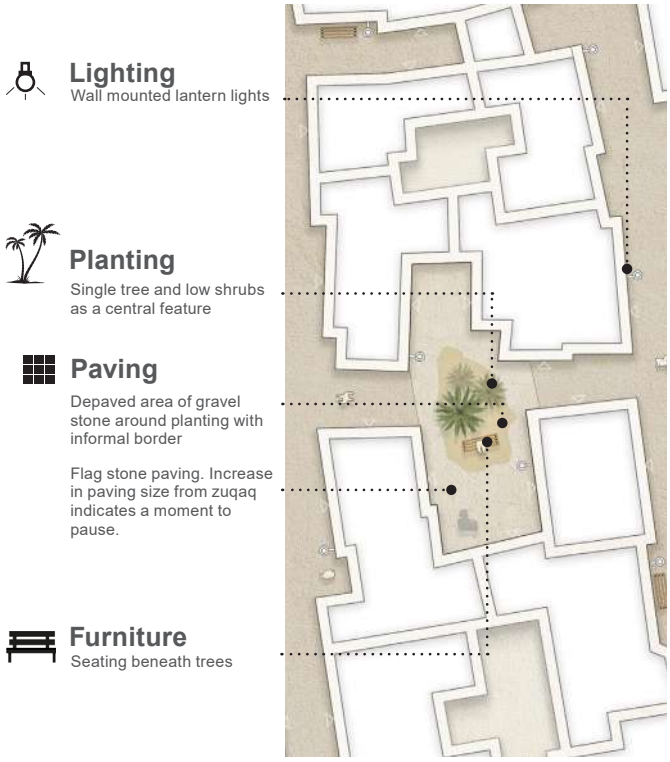


FIG. 53 Baraha
Trees should be used in baraha located close to the oasis. Baraha furthest from the oasis could use a canopy for shade.

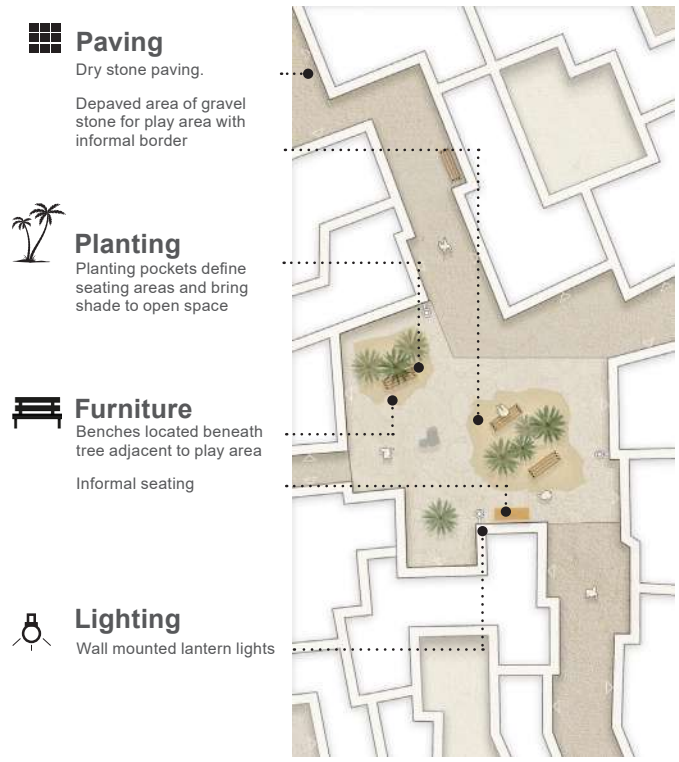


FIG. 54 Saha
Varied seating types/ uses.
Depaved area for play.

8.4 Materials

The suggested palette for materials to be integrated in Al Ahsa Oasis has been conceived to be simple and sensitive to the existing character of the area.

Key considerations

1 Select locally sourced Saudi materials with low embodied carbon, such as palm fronds, and high content of reused or recycling aggregates from ruin sites or community waste.

2 Areas with higher footfall, such as souks and commercial areas or pedestrian walkways, need paving and should have higher specification and materials that are durable, minimizing the need for regular repair and replacement.

3 Select materials that have longevity and that can be easily cleaned, repaired and sourced – so high-quality materials such as granite or basalt and similar igneous rocks.

4 De-pave and rely less on concrete where possible to improve the microclimate and use suitable sands or aggregates in place of paving.

5 Materials should provide varying textures complementing the area's architectural character and color palette.

6 Employ subtle changes to paving to highlight difference between typologies

7 Map and discover existing streetscapes and ensure materials are replaced only when necessary to minimize carbon footprint.

8 Using a larger paving format to emphasize more prominent routes.

9 Consider incorporating special patterns to emphasize important places or spaces.

To design public spaces which complement the material and environmental properties of the region.


Sand:
Landscape and planting areas


Gravel:
Zuqaqs and Baraha


Flag stone:
Flooring


Dry stone:
Flooring


Basalt paving:
Roads

8.5 Planting

Tree planting should compliment the agricultural character of Al Ahsa Oasis, building on existing traditions and fostering future-oriented sustainable practices.

Key considerations

1 The tree landscape character should carefully calibrate and work with existing aquifers, rainwater, irrigation, and canal systems.

2 Rely less on importing new tree species, and source existing drought tolerant and saline water resistant as well as native and locally adapted species.

3 Adopt an informal layout, to avoid overly linear or formal planting for a characterful contribution to the quality of routes and spaces.

4 Be planted where shade can be best utilized or where shade is necessary to encourage using the public realm.

5 Consideration should be given to how a tree is seen and how trees can be used as wayfinding markers.

6 Planting should be relatively limited within the urban area, mainly found in baraha areas.

7 Contribute to maintaining and enhancing oasis areas, using multi-layered planting where appropriate comprising a variety of palm species, fruit trees and fodder grasses and consider additional habitat value such as fruits for birds.

8 Minimize understory and decorative planting should be minimized. If under story planting is necessary, it should be functional e.g. herbs or edible.

To ensure that planting projects work with the existing ecosystem and provide multiple values for the public

Trees


Azadirachta indica (Neem tree)


Albizia lebbeck (Siris)


Acacia ampliceps (Salt Wattle)


Phoenix dactylifera (Date palm)

Shrubs


Plumeria obtusa (Plumeria)


Gazania rigens (Daisy)


Myrtus communis (Myrtle)


Vitex agnus castus (Chasteberry)


Atriplex semibaccata (Saltbush)


Dodonaea

8.6 Street furniture

Street furniture should be selected to provide continuity and co-ordination. Colors and style of furniture should blend into the context rather than stand out as features. In general, the design of street furniture should find opportunities to use local materials, respond to the local landscape and cultural heritage, and celebrate local craft skills.

Key considerations

1 Be distributed evenly across all areas with reference to space types above.

2 Not obstruct pedestrian movement nor clutter public open spaces.

3 Show a color and material consistency.

4 Be minimal in the public realm as traditionally was the case and potentially movable.

5 Feel ephemeral and informal, acknowledging the historic condition of street furniture in the region.

6 Give consideration to accessibility with seating distributed at suitable intervals and heights.

7 Be of high quality, coherent, and rationalized to minimize street clutter.

8 Avoid duplication by rationalizing and combining elements.

9 Be easily maintained and repaired with replaceable components.

10 Be retained and improved where existing furniture has heritage value.

11 Boundary walls should contribute to the landscape character and setting of the oasis.

To provide thoughtful, inviting, and locally-relevant outdoor public furniture

FIG. 55 Seating

FIG. 56 Trash bin

FIG. 57 Shading

FIG. 58 Planter

8.7 Lighting

Lighting fixtures are street furniture elements that enhance visibility and wayfinding at night. However, lighting design can also be utilized to highlight important buildings or parts of buildings.

Key considerations

1 Type, texture, color and design of the lighting fixture must follow the architectural design language of the building.

2 Source and research existing and traditional lighting methods to innovate a modern take that is contextually relevant.

3 Lighting element placed on the floor should be decided carefully so it doesn't obstruct pedestrian mobility on the sidewalk.

4 The type, design, consistency and size of lighting fixtures can either degrade and disrupt a scenic area or rather enhance the architectural and urban setting.

5 The sequence and intensity of lighted areas must not be decided randomly as it guides the journey of pedestrians. Lighted areas draw people's attention and thereby determine the path that users walk.

6 The typical light color is white and yellow shades. Incorporating other colors should have a reasonable justification and used with care to not create visual pollution or degrade the quality of the space or building.

To use lighting elements in enhancing the user experience and perception of building and public space

FIG. 59 Ceiling light

FIG. 60 Wall hanging light

FIG. 61 Free standing light

FIG. 62 Bollard

8.8 Signage

The main purpose of signage is to communicate a specific message to the public. Signage can be promotional to persuade customers into a commercial area and supports the orientation of members of the public in reaching their desired destination.

Key considerations

1 Signage font, material and color should follow and complement the architectural design language of the building.and thus should be straightforward, simple in design, and accurately orient the public to the location.

2 Inconsistent and unregulated sizes, colors, heights and typography distort the character of a place and reduce the architectural value of buildings, contributing to the city´s overall visual pollution. It should be carefully designed to maximize efficiency in conveying the message as well as maintaining the theme and character of the area.

3 The width and alignment of wall signage boards must be consistent across the building as well as across the entire street frontage in the area.

4 Readability of signage depends on the distance it is viewed from. The maximum distance a signage is to be viewed from by a target receiver is from the opposite side of the street.

To create a consistent visual language across the city and be effective for the orientation of members of the public

FIG. 63 Main signage

FIG. 64 Wall hanging signage

FIG. 65 Free standing signage

FIG. 66 Column signage

8.9 Parking

Street front parking is provided for customers of active retail frontages, and for visitors to access building entrances as well as for residents of a building. Undesignated parking spaces disturb the visual appeal of the district, but it also may affect public access.

Key considerations

1 The width of parking lots must always be enough for easy parking for all sizes of anticipated vehicles. For this, parking angles are a necessary consideration. Parallel spaces are also common.

2 Parking spaces for those with limited or hampered mobility should always be prioritized and provide easy access to main areas.

3 Parking must never become a physical obstacle that limits access to spaces. Parking must consider other vehicles such as bicycles and motorcycles as well as the navigation of pedestrians between the parking areas.

4 Parking spaces accompanied by shading structures and vegetation is an advantage as it helps protects vehicles from the climate.

5 Creating a planted buffer between the parking and the pedestrian sidewalk or the bike lanes is encouraged where possible.

To ensure that parking spaces attend to multiple needs and work with their surroundings.

FIG. 67 Parking example

FIG. 68 Road side parking - Type 1

FIG. 69 Road side parking - Type 2

8.10 Public realm worked examples

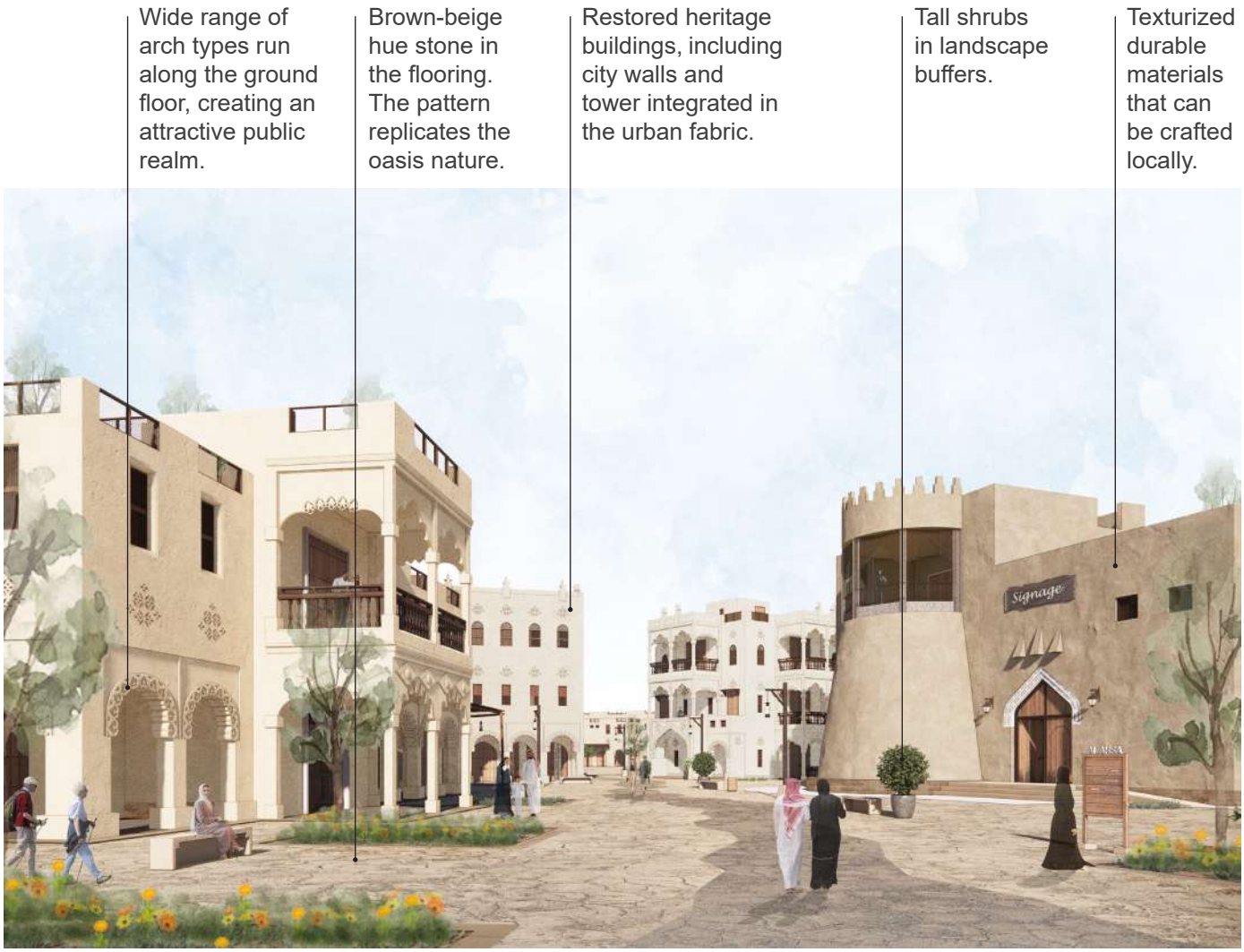


FIG.70 PROPOSED VIEW OF COMMERCIAL PLAZA IN AL AHSA

This worked example incorporates suggestions proposed in this section. It builds on Al Ahsa Oasis's built environment which is marked by strong horizontal proportions as well as the use of arches on lower floors. In this urban scenario, buildings are planned in groups and narrow streets connect public and private spaces.

1 Material selection prioritizes the use of natural and locally sourced materials such as clay, stone, tamarisk wood, and palm materials.

2 The base colors are chosen in correlation with the hues present on the site such as cream, gray-white, and brown beige. Accent colors can be used in small scale urban furniture such as white, yellow-gray and orange-brown.

FIG.71 PROPOSED VIEW OF COMMERCIAL PLAZA AND STREET IN AL AHSA

3 For urban furniture, metal or gypsum-finished benches are made from sustainable durable materials that can be locally crafted.

4 Elements such as hanging lanterns on external walls or minimal street lamps are used as the lighting strategy to help reinforce the built context's sense of character.

5 Large canopy trees can act as shading and tall shrubs used for screening can serve as a landscape buffer; planting areas should be integrated as part of the urban furniture.

To create public realms which connect with the built heritage of the region and express a strong sense of place.

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