



Bisha Desert

Architectural Design Guidelines





FIG.1 BISHA DESERT ARCHITECTURAL CHARACTER AREA

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

INTRODUCTION

Vision

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

I.1 Guideline 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.

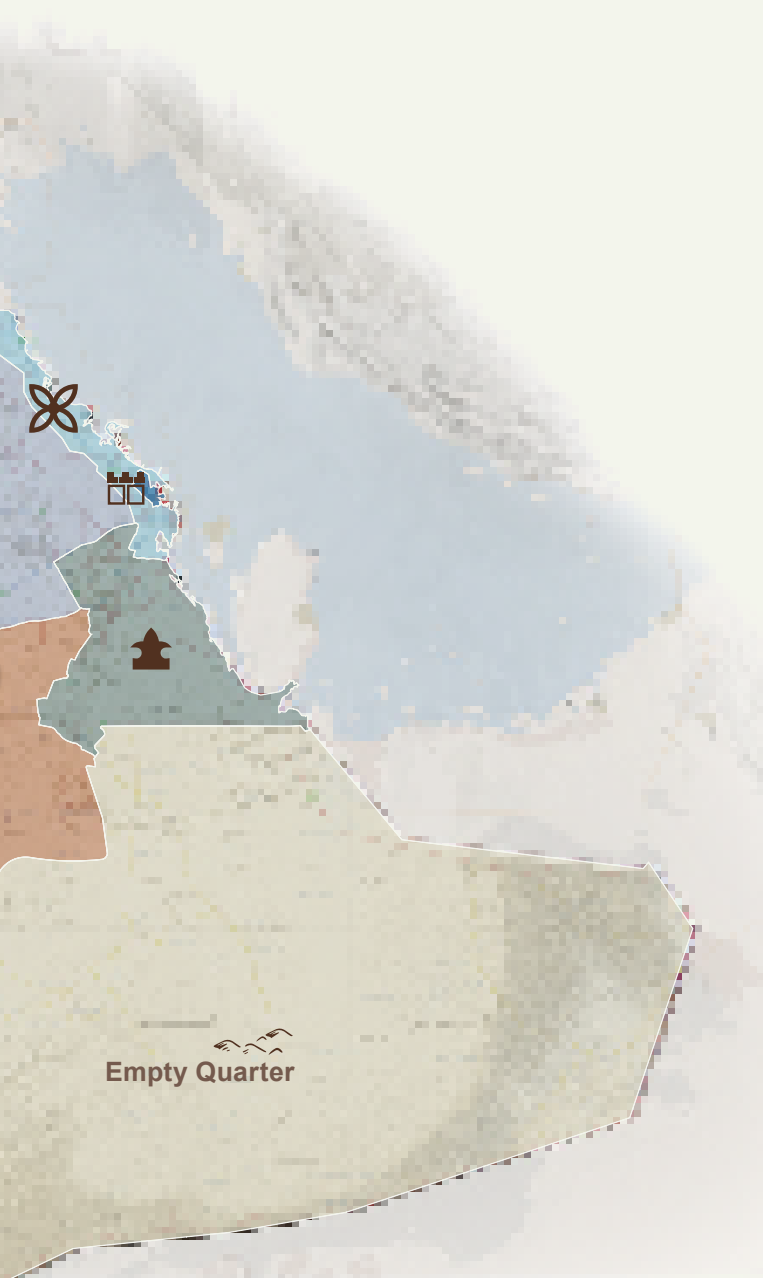
Its propositions are based on the study of historical precedent, taking inspiration from vernacular forms and the embedded knowledge shaped by generations of practice and experience.

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.



I.3 **Bisha Desert**

The Bisha Desert character area is the inland desert region in Aseer where the Sarawat Mountain descends steeply towards the east. This area has a semi-desert climate, low rainfall, and is filled with magnificent rock formations. Among the numerous villages in this character area, Bisha and Tathleeth are the prominent ones.

The primary vision of Bisha Desert ADG is to help raise the overall architectural design quality of the built environment, especially in expressing the regional character of the Bisha Desert area. This improvement applies to both architecture and public realm design. Based on a regional character study that identifies key heritage sites, natural environments, and typical cultural landscapes, the guidelines are founded on an understanding of the traditions and heritage that form the character area's sense of style.

Most importantly, the guidelines seek to promote the creation of new and contextually inspired architecture for the Bisha Desert, respecting and fostering the character of the place.

They are also intended to encourage excellence in landscape design and urban planning, promoting the development of an attractive, representative, and inviting public realm with a generous and lush landscape environment.

The guidelines are developed with the following main goals:

- 1 **Celebrate Bisha Desert's natural and cultural landscapes, a foundation of unique architecture for the character zone and its people.**
- 2 **Preserve open space and topography remarkable settings.**
- 3 **Safeguard the architectural heritage interrelated with the cultural landscape and enhance their relationship.**
- 4 **Create lasting connections between people and places with new development that respects and fosters the special character and heritage of the Bisha Desert.**
- 5 **Inspire the production of a more contextually rooted new architecture for the area.**



Mud bricks and plastered walls



Large openings on ground floor and pointed parapets



Typical vernacular architecture in Tathleeth



Mud brick construction technique



Art work present in the Bisha Desert



Facade articulated with parapet and colonnades



Colonnades for shading



Bisha Desert landscape

FIG.3 BISHA DESERT

II Topography and landscape

Observations on the links between landscape, climate, culture and the architectural character of Bisha Desert.

II.1 Key information

The Bisha Desert is located to the east of the high mountains, from where it gradually declines toward the east. This characteristic results in a warmer summer and cooler winter than the adjacent mountains. The vegetation consists of Al-Talah, Tamarisk, and Acacia trees, reflecting the moderate desert climate with low-density sporadic vegetation, where micro-climates or periodic water facilitate establishment.

II.2 Landscape

The northeastern areas are covered with rocky hills and few sporadic sand sheets to the east. Narrow wadi corridors cut through the hills creating micro-climates. Sporadic and sparse settlements can be seen in the lowlands, situated along road corridors. Towards southeast, the desert flat plains, feature yellow and sand colored sand dunes, some rocky hills and narrow wadi corridors that support sporadic arid vegetation.

A vast area in the coral area of the region is the predominant landscape character and features a complex matrix of gently eastward sloping land covered in geological formations that appear yellow and red brown in color, with gypseous and deep soil pediplains, and sporadic rock formations are scattered throughout that range in height from a few to 20m above the general sloping surface. Typically, these formations consist of rocky granite, rocky outcrops, or sandstone and soil is either white sand or granite sand. The primary wadi

corridors and tributaries appear shallow and support arid vegetation. Wadi farming and rural settlements are scattered along wadi corridors, whilst clusters of industrial areas are evident and modern development tends to follow road corridors.

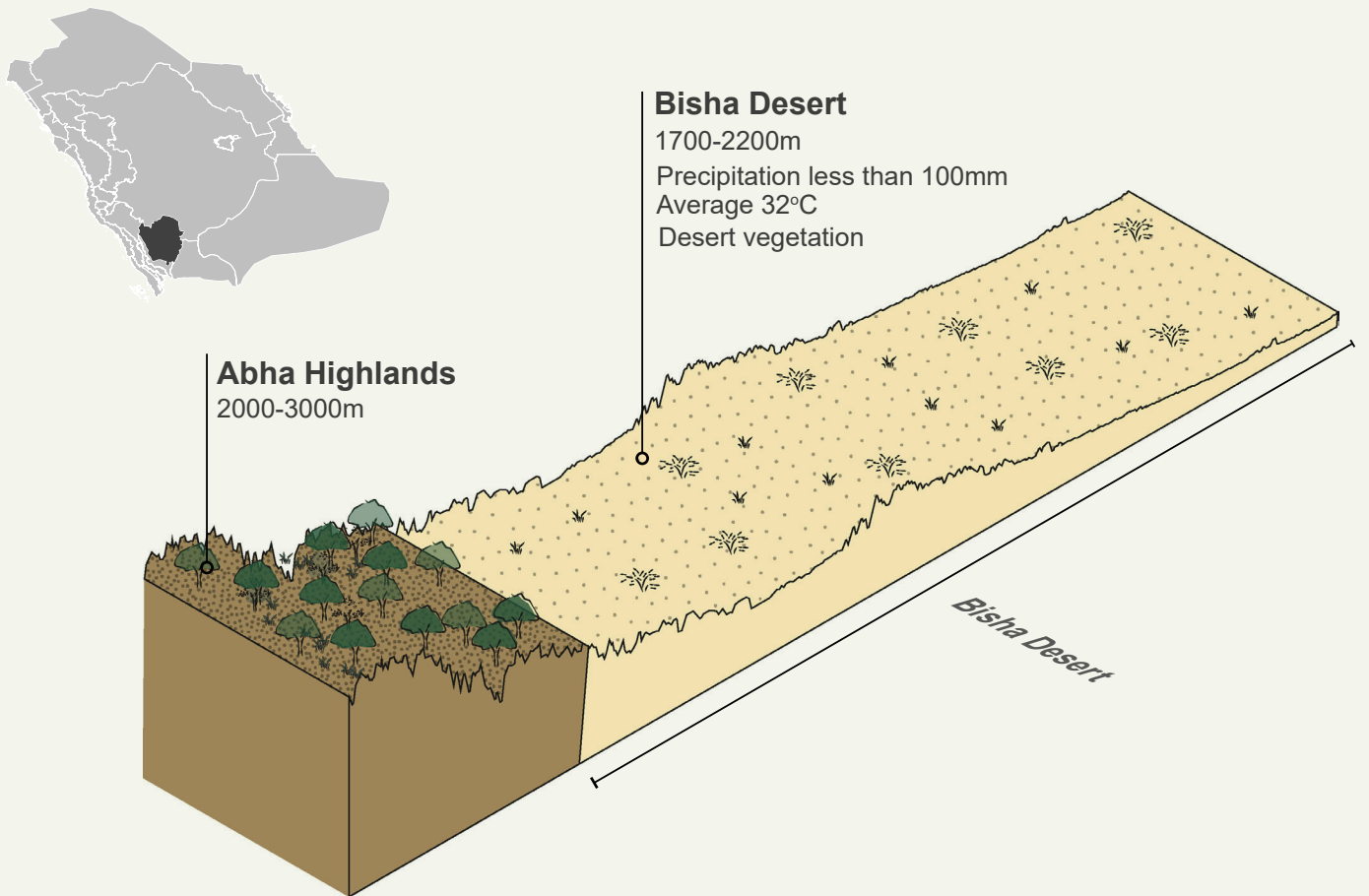
While the whole western area holds the same character, toward northwest, the plains are featured slightly different, covered with rocky hills and few sporadic sand sheets to the east. Narrow wadi corridors cut through the hills creating micro-climates. Sporadic and sparse settlements can be seen in the lowlands, situated along road corridors.

Wadi corridors feature extensive wadi farming and pass through several urban districts and rural settlements. Wadi tributaries appear in a more natural condition with arid edges and an organic wadi bed where natural hydrological functions, water flow and sedimentation are facilitated. Soils are typically white sand soil and support arid landscape vegetation communities.

Generally, summers are long, sweltering, arid and can reach 41°Celsius, whilst winters are short and dry with a drop down to 9°Celsius. Five months per year are mostly cloudy from May to October with high precipitation reaching 30mm in April. Wind speed varies significantly during the year from 13 to 18 km per hour, with the highest speed in July.

II.3 Architectural influence

The traditional architecture was very much influenced by predominantly the hot and dry climatic conditions. The architecture features the use of mainly mud as a building material that is readily available locally as sun-dried mud bricks and as mud plaster. Houses are compactly built around courtyards to regulate the interior climate.



Natural color palette

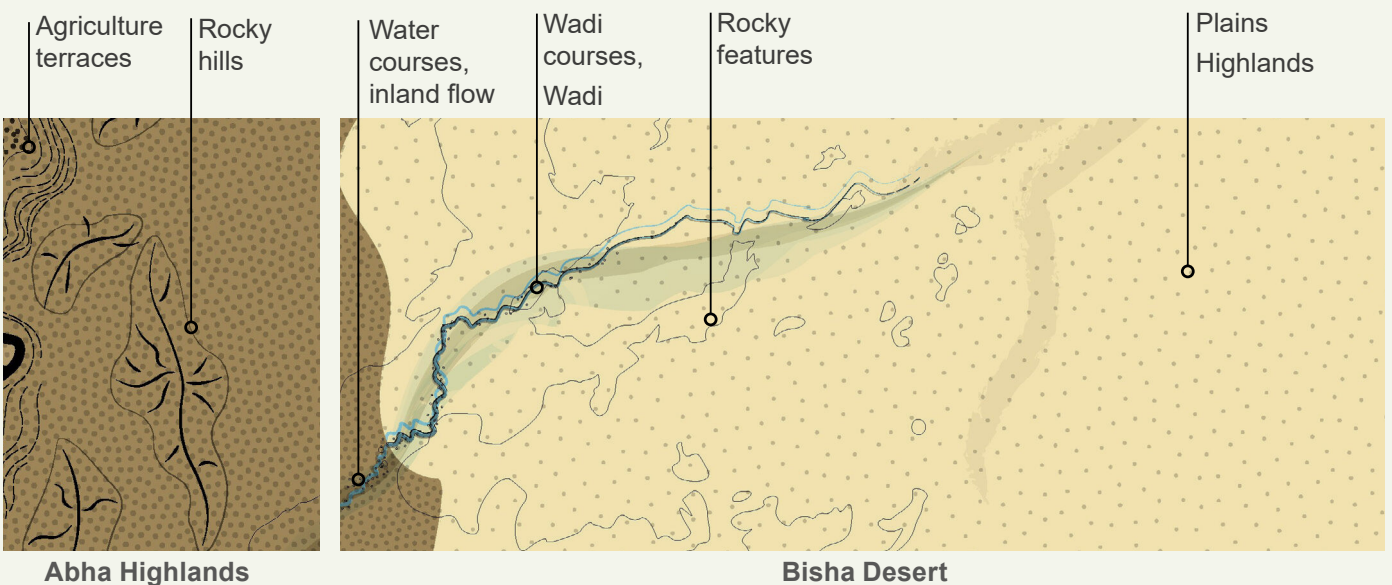


FIG.4 **BISHA DESERT LANDSCAPE FEATURES AND TOPOGRAPHY**

III Overview of Bisha Desert Architecture

A summary of the existing character of traditional architecture and settlements in the Bisha Desert.

III.1 Settlement character

The Bisha Desert is characterized by its distinctive landscape, defined by desert plains, monumental and rocky boulder features and low mountain ridges.

The traditional architecture within this area is influenced by the landscape, climate, the surrounding desert plains and Najd plateau styles.



FIG.5 Traditional settlement in Bisha Desert

The settlements have compact form with narrow, zigzagged alleys and hierarchy of open spaces. Clear street hierarchy from public, to semi-public, to private.

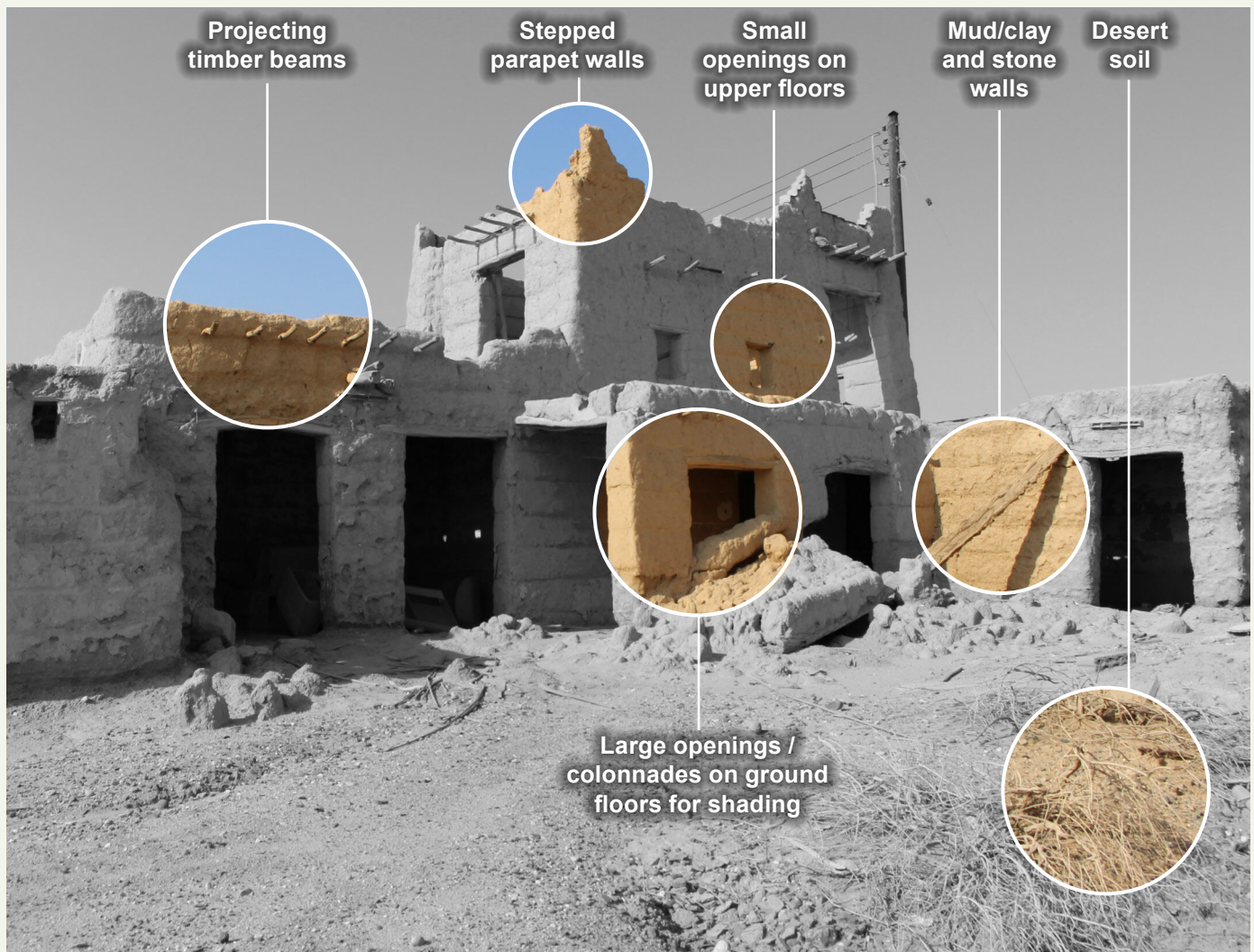


FIG.6 **TRADITIONAL SETTLEMENT IN BISHA DESERT**

Villages mostly consists of small sized hamlets while dwellings are often clustered so closely that they present a nearly continuous facade with predominant horizontal volumes.

House design is compact with shared side walls (up to three sides) shading one another. Massing is interspersed with internal courtyards for thermal comfort. The layout of building is distributed around one or more courtyards.

Outer facades protected from direct sunlight by external shading provided by narrow lanes and alleys.

III.2

Architectural character

Houses were usually one to two stories high and expanded horizontally due to the flat topography of the region.

Use of internal courtyard spaces create different levels of privacy.

Houses were built from clay, which was extracted from the soil, giving them a desert like appearance.

Openings were small and high positioned, primarily for thermal comfort with colonnades on the ground floor for shading.

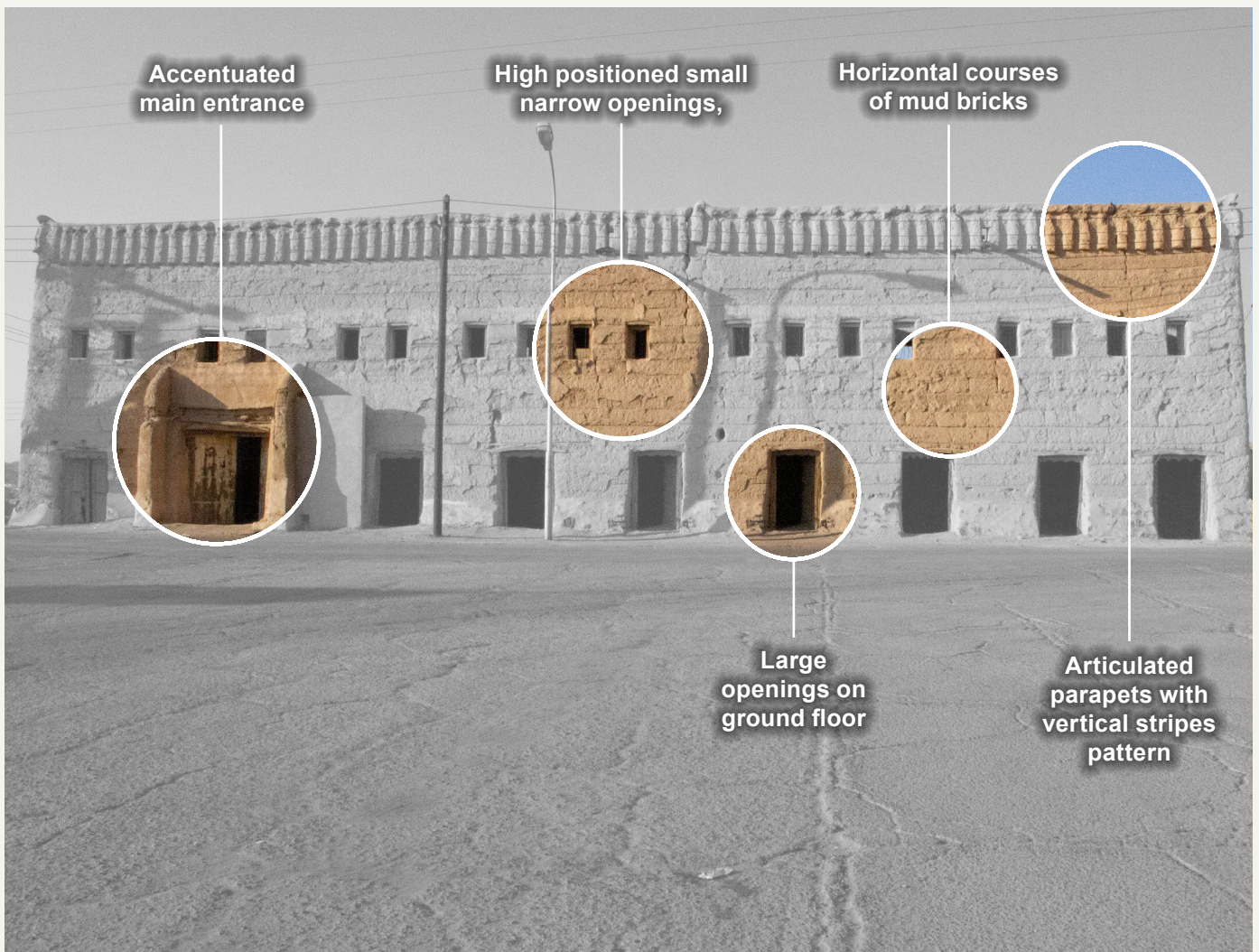


FIG.7 TRADITIONAL SETTLEMENT IN TATHLEETH

IV Analysis of Bisha Desert Architecture

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

To find objective characterizations of the vernacular architecture in Bisha Desert, elevation studies were conducted to assess overall building proportions and the solid-to-opening ratio of building facades. A sample of representative buildings, including a range of different use types were selected to arrive at meaningful ranges for each statistic.

IV.1 General typologies

Vernacular buildings typically comprise simple geometries with building ranging primarily from 1 to 3 stories high. Inclined walls with max. 3° on upper part of the massing.

IV.2 Horizontality

Generally, strong horizontal proportions, indicated by a width-to-height ratio between 1:0.25 to 1:0.94, are characteristic of the vernacular architecture in the area.

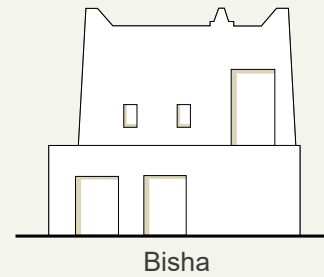
IV.3 Solid to opening ratio

The facades are plain, sober with high positioned small window openings and large openings on ground floor, the 6-16% opening percentage substantiate this observation.

Sober facades with large openings/ colonnades at base and articulated parapets are few of the features of the Bisha Desert character area.

Balanced massing with informal composition

Locations



Width- to-height Ratio



Facade Analysis

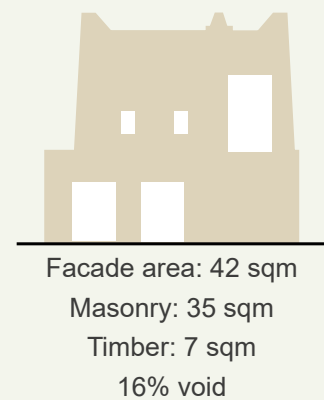
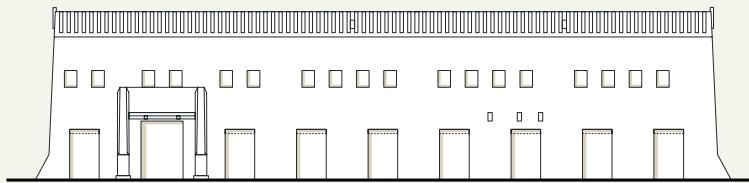
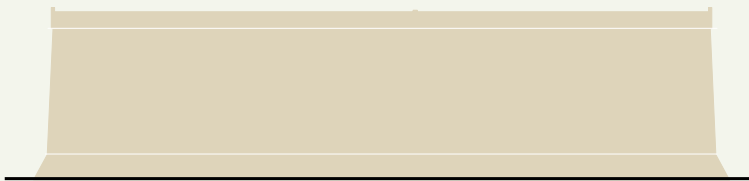


FIG.8 VERNACULAR FACADE STUDIES

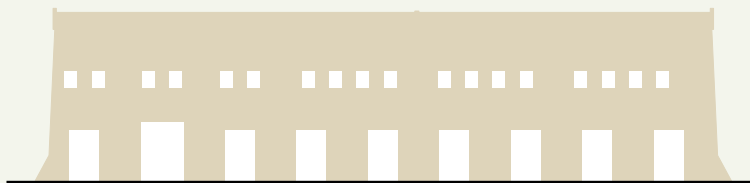
Horizontally Continuous



Tathleeth

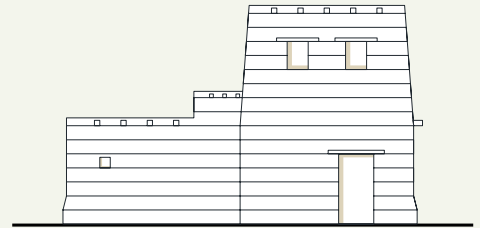


1:0.25
Max. 3° wall inclination
angle on upper part

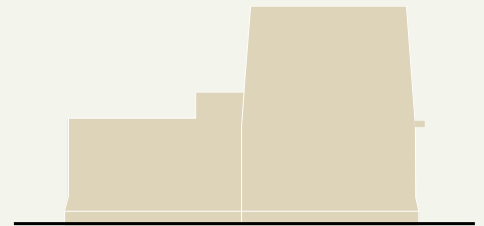


Facade area: 253.35 sqm
Masonry: 212 sqm
Timber: 41.35 sqm
16.45% void

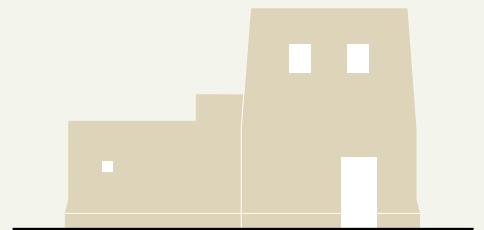
Vertically Balanced



Bisha



1:0.61
Max. 3° wall inclination
angle on upper part



Facade area: 46 sqm
Masonry: 43 sqm
Timber: 3 sqm
6.63 % void

IV.4 **Building grouping patterns**

Buildings were of smaller to substantial size and mass composed of large planar wall surfaces.

Soft and simple but articulated, sculptural building forms with alternation of solid masses and openings and with thick load bearing walls with flat roofs.

Buildings generally feature courtyard for climatic comfort.

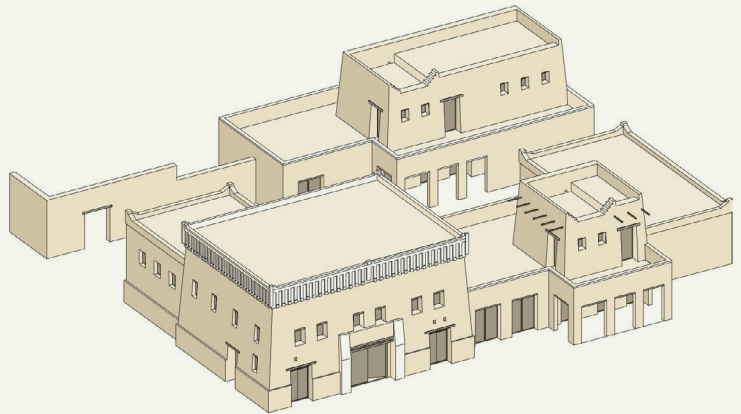


FIG. 9 Building grouping patterns

IV.5 **Horizontal emphasis**

A general development of one to three stories high, with massing broken into horizontal and vertical volumes.

Gently tapered walls on the upper part, with an inclination angle between 1.5° and 3° .

Facades breaks provided usually with massing/heights.

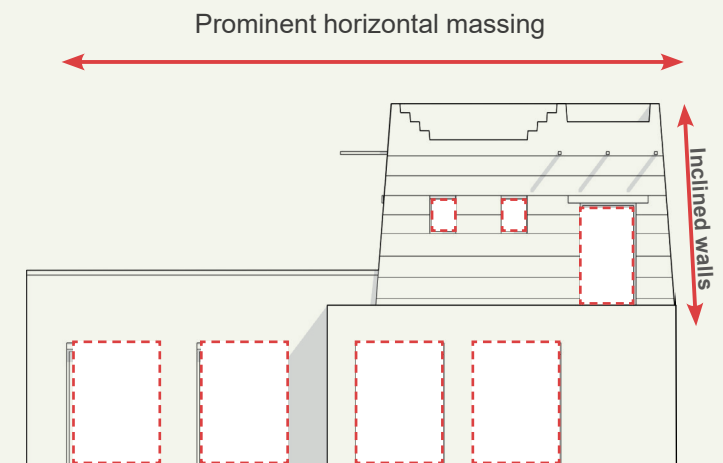


FIG. 10 Horizontal massing

Small windows -with/without placement pattern. Small number and narrow openings higher on external facade with doors highlighted with decorative elements.

IV.6 **Varied symmetries**

Analysis indicates a varied palette of opening types. Common openings include rectangular and square shapes.

Windows are distributed on the facade and in varied sizes based on the function.

Material used is generally similar throughout the facade.

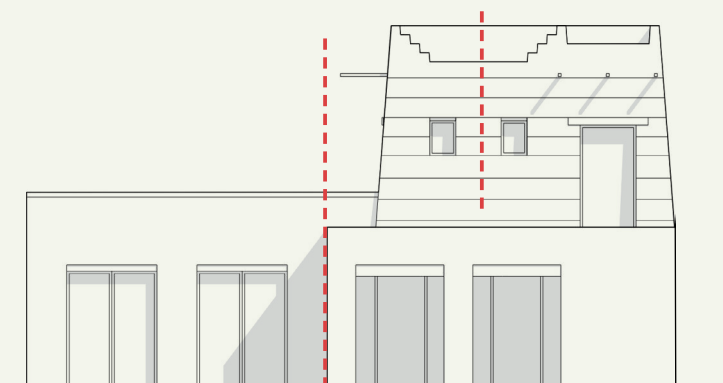


FIG. 11 Varied symmetries

IV.7 **Recesses and projections**

Ground floor colonnades are often projected to provide shaded entrances and passageways.

Windows are generally punched openings for ventilation.

Projected timber beams over upper floor openings used as shading devices.

IV.8

Tripartite articulation

Facades are articulated with a clear base, middle and top. This distinction between base and middle is expressed most clearly through opening sizes and articulation.

Top: flat roofs with articulated parapets with stepped or pointed parapet walls.

Middle: walls are generally inclined with horizontal lines of mud brick courses articulation the walls.

Limited small and high positioned openings primarily for thermal comfort.

Occasional highlight bands of white to accentuate the openings.

Base: ground floor features large openings, colonnades are frequently used for shading purposes.

Base is also often distinguished with use of stone layering.

Structural buttress are occasionally used to accentuate the main access.

Walls are generally made of mud brick or rammed earth with occasional combination of materials of clay, stone and construction techniques used for variation in facade.

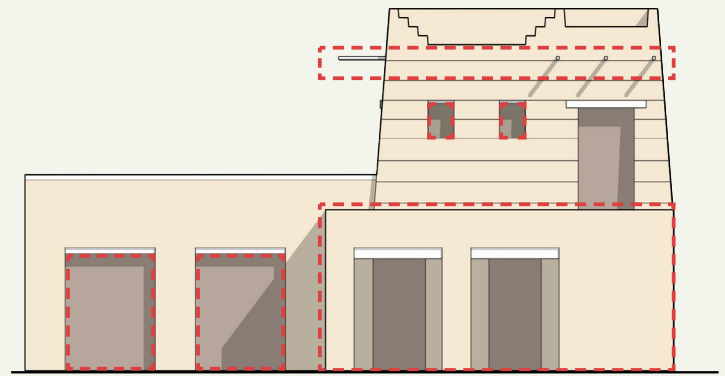


FIG. 12 Projecting and recessed elements
Projecting elements comprise of the various shading elements of the building.

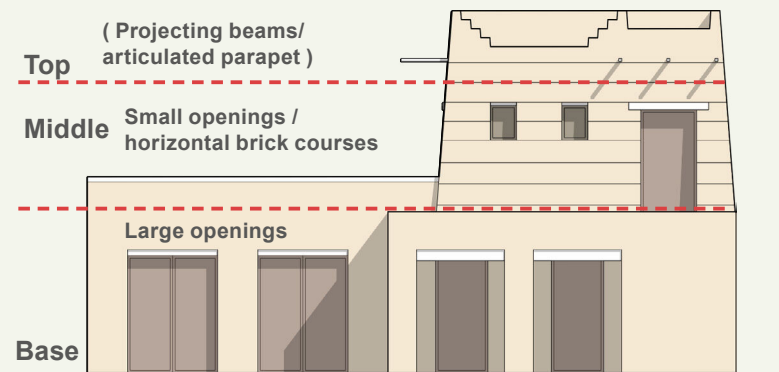


FIG. 13 Tripartite articulation
Facades are typically split into 3 separate tiers with same material, different articulation: base, middle, and top.

IV.9

Roof character

Flat roofs with flat parapets or parapets articulated with pointed corners.

Articulation also in form vertical strips.

Roofing material is palm trunk. Roof / top part of the building also features projecting palm trunks providing shade to the openings.

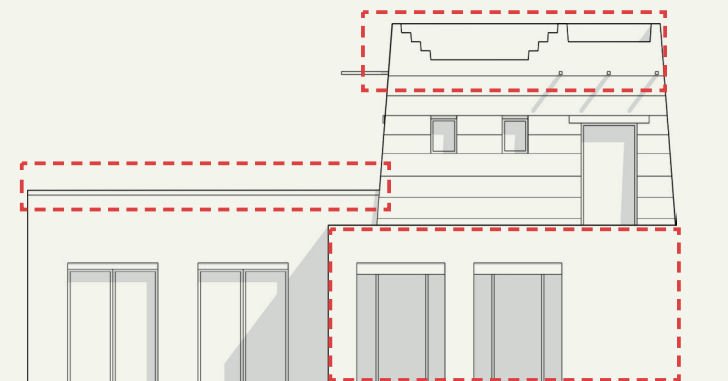


FIG. 14 Flat roofs
Flat roof with articulated parapets.

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.

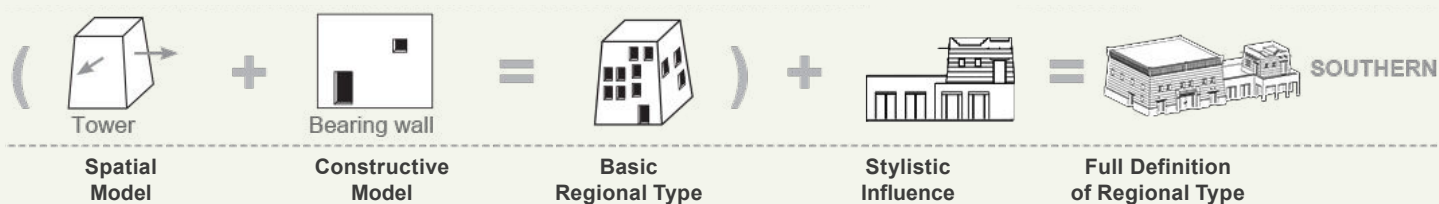
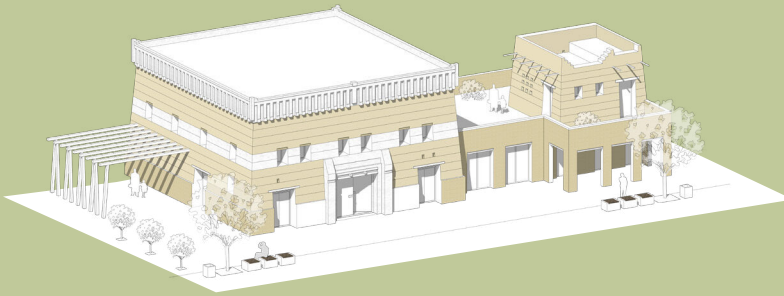


FIG. 15 Character equation for the Bisha Desert (after Ishteeaque & Al-Said 2008)



Traditional building

TRADITIONAL

The massing and design of the new building should foster the architectural character by adopting in a sensible way the traditional forms and patterns, elements and decorations, materials and colors.

Walls with tapering geometric profile, distinct top middle and base, large openings/colonnades on ground floor, small openings in middle, horizontal layering of bricks, articulated parapets at top, and locally specific materials like earth walls, and adobe texture.



Transitional building

TRANSITIONAL

The form and style to be adopted for transitional style should distill the most essential qualities and character giving architectural elements, such as the use of appropriate material and color palette and interpretation of dominant architecture features.

Materials and colors sympathetic to traditional style, integral windows. Interpretation of horizontals, large openings, traditional patterns and rhythms of architectural elements, balance of volumes.



Contemporary building

CONTEMPORARY

The form and style of contemporary style should distill the essential qualities and values of vernacular architecture in a new and ever contemporary expression.

Abstraction of geometric planes, forms, and solid to void ratio, while adapting to a range of building types and increased daylighting. Balance of volumes, interpretive use of patterns, screens and setbacks for shade.

FIG. 16 Evolution of styles

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 qualities 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 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 character 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 Bisha Desert.

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

≡ Bisha Desert Architectural Design Guidelines

1 Chapter number
and heading

2 Composition

In contemporary parameters, the different compositional elements of layout, open space, massing, design, and facades described in chapter 1 should translate into the following provisions.

2 Guideline
number and
heading

2.1 Townscape groupings

Guidance for layout aims to achieve and contribute to factors like site context, figure ground qualities, uses, and public realm.

3 General
description

- 1 Human-scale, socio-cultural and family values, with different levels of privacy should be fostered in the design.
- 2 Spatial enclosures should be promoted to achieve a sense of place with a clear hierarchical variety of open spaces. Courtyard typologies should be encouraged for climate comfort.
- 3 Walkable and non-car dominated environments with attractive public realm should be prioritized.
- 4 Land use should promote a mix of uses.
- 5 Large blocks (>100m in any direction) should in general be avoided, or provide mid-block passages for walkability.

A permeable block structure with mix of uses is essential to create a walkable and vibrant urban space.

4 Guideline
actions

2.2 Relationship to landscape

- 1 Conservation and enhancement of environmental and cultural resources on site should be prioritized.
- 2 Development should be sensitively designed so as not to impact the flat, open and vast visual character of the desert plains.
- 3 In general, usable open space should be provided within the plot oriented towards the public frontage.

To respect and respond to the natural landscape context, climate and environment.

5 Rationale



FIG. 20 Permeable fabric with hierarchy of open spaces, mixed uses, and continuous pedestrian network should be encouraged

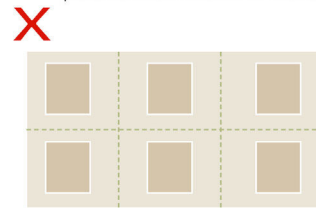


FIG. 21 Large blocks / consolidated blocks without pedestrian permeability should be discouraged

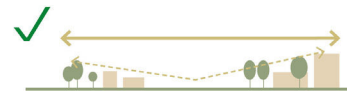


FIG. 22 Respecting the natural vastness of plains and open views to the landscape

6 Illustrations

20 GUIDELINES

FIG. 17 Typical guideline structure

GUIDELINES

1 Key features

The form and style of contemporary architecture in Bisha Desert should distill the essential qualities, key features and the values of vernacular architecture.



FIG. 18 Bisha Desert key features

Key features:

- 1 Buildings of smaller to substantial size and mass composed of large planar wall surfaces.
- 2 Large openings on the ground floor in the form of doors with colonnades for shading.
- 3 Small number and narrow openings on upper floors to protect the interior from thermal transfer inside the building.
- 4 Predominant horizontal massing.
- 5 Horizontal lines of mud brick courses articulate the walls.
- 6 Flat roofs with parapets articulated with pointed corners or vertical stripes.
- 7 Opening ratio of 15-30% of the overall facade.
- 8 Walls are generally gently inclined with an inclination angle between 1.5° and 3° .
- 9 Sober facades with mud, clay and stone as predominant materials.
- 10 Occasional banding using white paint/ articulation to highlight the windows and main doors.

1.1

Character summary

The vernacular architecture design, proportions, patterns and architectural features in Bisha Desert were evolved based on primarily the local climatic conditions, materials available, traditions and culture.

The design of vernacular architecture distinguishes itself from the neighboring styles with base, middle and top elements. Large openings and colonnades on the ground floor, horizontal lines of mud brick courses articulating the walls, small windows in middle and articulated parapets on the top. Facades are plain and sober, generally without the use of colors.

Massing is tapering towards the top with an maximum angle of 3 degrees. Openings are in form of small windows on upper floors and large openings on ground floor, not exceeding more than 30% of the overall facade surface.

Contemporary architecture in Bisha Desert may be achieved by re-interpreting in an innovative way vernacular forms and patterns, architectural elements and decorations, and materials and colors while retaining the values of the local culture.



FIG. 19 Typical vernacular architecture in Bisha

2 Composition

In contemporary parameters, the different compositional elements of layout, open space, massing, design, and facades described in chapter 1 should translate into the following provisions.

2.1 Townscape groupings

Guidance for layout aims to achieve and contribute to factors like site context, figure ground qualities, uses, and public realm.

- 1 Human-scale, socio-cultural and family values, with different levels of privacy should be fostered in the design.
- 2 Spatial enclosures should be promoted to achieve a sense of place with a clear hierarchical variety of open spaces. Courtyard typologies should be encouraged for climate comfort.
- 3 Walkable and non-car dominated environments with attractive public realm should be prioritized.
- 4 Land use should promote a mix of uses.
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A permeable block structure with mix of uses is essential to create a walkable and vibrant urban space.

2.2 Relationship to landscape

- 1 Conservation and enhancement of environmental and cultural resources on site should be prioritized.
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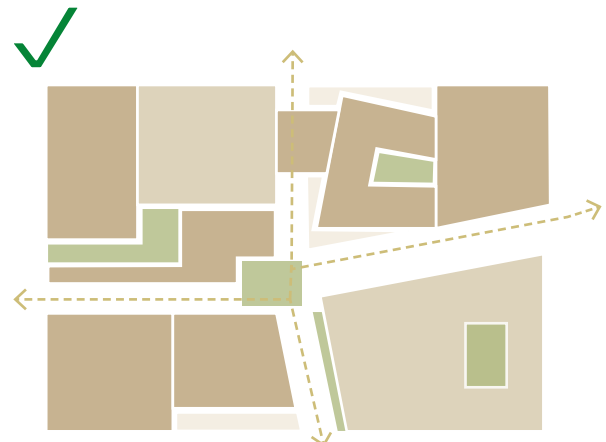


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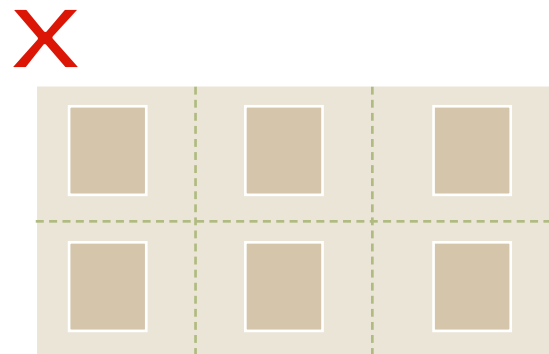


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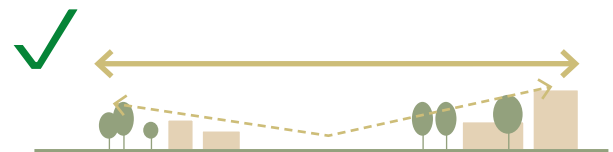


FIG. 22 Respecting the natural vastness of plains and open views to the landscape

2.3 Horizontal building forms

Building form guidelines aim to contribute to the contemporary interpretation of factors like scale of buildings, heights and proportions.

- 1 Generally, building massing should respond to the immediate context and to the history of the place fostering human scale.
- 2 Forms should be compact with strong geometric shapes and flat roofs and provide a well-balanced variety that adds to the skyline.
- 3 Overall massing should be predominantly horizontal, with masses broken into horizontal and vertical volumes, with alternation of solids and openings.
- 4 Large building massing should be avoided; typically, larger facades should be broken by means of full breaks and/or recessed to introduce variation and foster human scale.
- 5 Generally, a typical height of maximum 4 stories should be recommended.

To retain the typical horizontal form of traditional settlements.

2.4 Flat roofs

Roofscape guidelines significantly contribute to the character of the place through contemporary interpretation of roofline, views and skyline.

- 1 Building massing should be designed to have flat roofs. Varied roof line can be created with stepped co-joined units with varying heights, and change of levels with respect to terrain.
- 2 MEP equipment, utilities, delivery, refuse containers, and other types of utilities should always be screened by parapets or located underground / internalized.

To maintain the traditional flat roof forms.



FIG. 23 Predominant horizontal massing, compact forms, flat roofs, well balanced skyline



FIG. 24 Large monolithic building blocks, non contextual roof profiles should be avoided

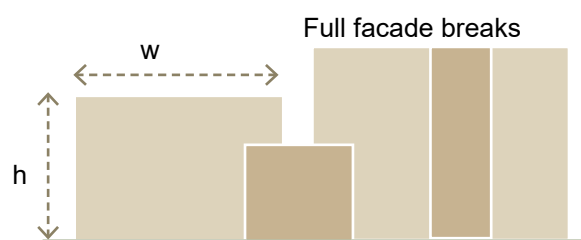


FIG. 25 Flat roofs, width-to-height ratio and facade breaks promoting horizontality

2.5 Asymmetrical frontages

The guidance for elevations and frontages aims to achieve and contribute to the contemporary interpretation of factors like, use of traditional facade elements, ratio of solid and openings/voids, placement patterns, relationship to street, orientation for quality of light and shadow, and privacy requirements.

- 1 Frontages are generally asymmetrical in form and composition. Localized symmetry with occasional variation should be maintained in the placement, size, rhythm and patterns of the openings, interpreting the general asymmetry of houses from the vernacular architecture.
- 2 Facade design should be integral to all public sides (i.e. with the same level of design quality and a consistent treatment).
- 3 Facade design should always ensure privacy of neighboring residential buildings.
- 4 Large-scale symmetry should be reserved for only the most important of civic and religious buildings.
- 5 Materials should be generally uniform in use for all the facade surfaces.

To observe simple asymmetry defining the traditional architecture.

2.6 Simple openings

- 1 Generally, openings should consist of medium sized windows of simple geometry. Small ventilation windows may be used as pattern or for articulation.
- 2 Windows should be relatively square / rectangle with relatively balanced proportions.
- 3 Windows and doorways may be highlighted using color banding.

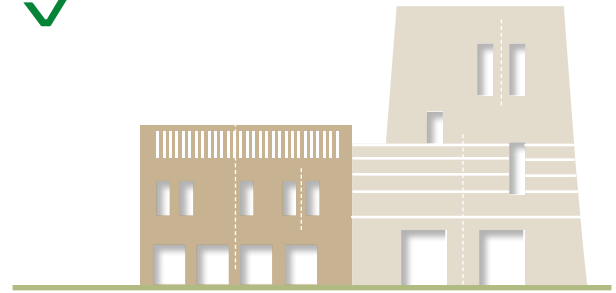


FIG. 26 Medium opening percentages with localized symmetry should be encouraged.

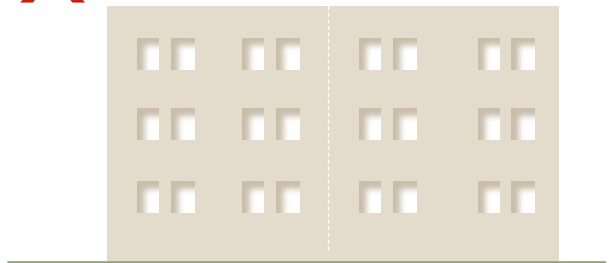


FIG. 27 Long monotonous facades, large scale symmetry without facade breaks should be avoided

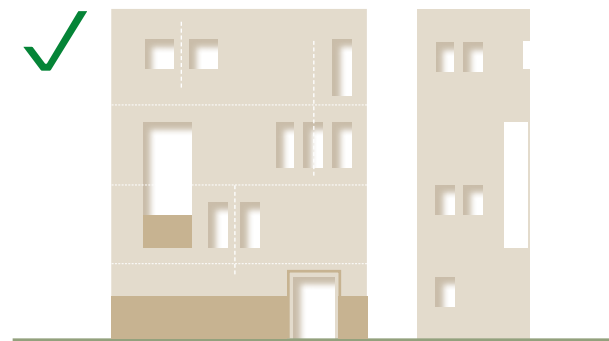


FIG. 28 Openings with simple geometries. Max. 30-50% openings. Loggias incorporated in facade design. Privacy for neighboring plots

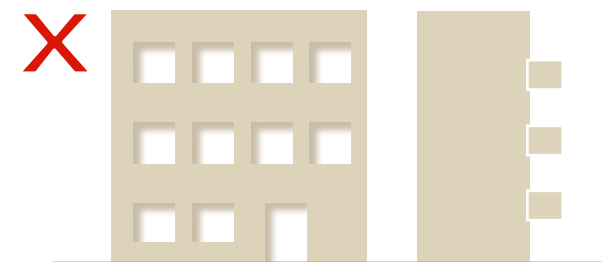


FIG. 29 Large openings, arranged in grid patterns, projected loggias should be discouraged

- 4 Openings should have a maximum share of 30 to 50% of the overall façade surface, according to their solar and wind exposure.
- 5 Distinct definition of base, middle and top of the building showcasing tripartite banding with the size of openings and articulation should be encouraged.
- 6 Loggias may be incorporated in frontages and should be preferred over abutting balconies.

To observe the defensive yet aesthetic character and detail of Bisha Desert.

2.7 Solid facades and active ground floor

- 1 Generally, facades should express external solid walls that are grounded to the street level.
- 2 Colonnades may be projected to provide shading for shopfronts.
- 3 Ground floor facade treatment should foster a high-quality interface between the building and the street, with active frontages.
- 4 Facade materials should be hard-wearing and robust.

To express the architectural intent, character of Bisha Desert at street level.

2.8 Sober facades and articulated parapets

- 1 Parapets should be articulated using interpretations of vernacular parapet patterns like vertical stripes and stepped parapets.
- 2 Facades in Bisha desert should be plain, sober with minimal articulation. Horizontal layering of mud bricks may be interpreted to articulate the facade.

To highlight the plain and sober character of Bisha Desert while creating attractive facades.



FIG. 30 Facades divided in three parts - top, middle and base. Solid base with large openings, colonnades, small openings in middle and articulated parapets at top

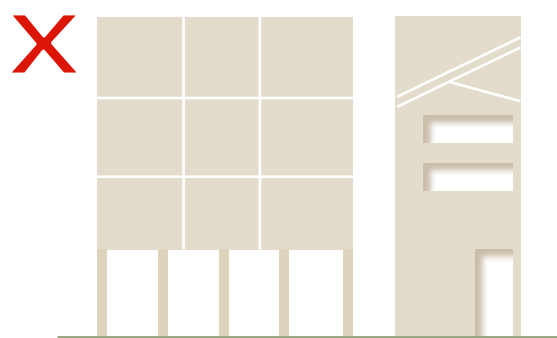


FIG. 31 Very large openings with this columns, non-integral facades, facades not respecting privacy, should be avoided

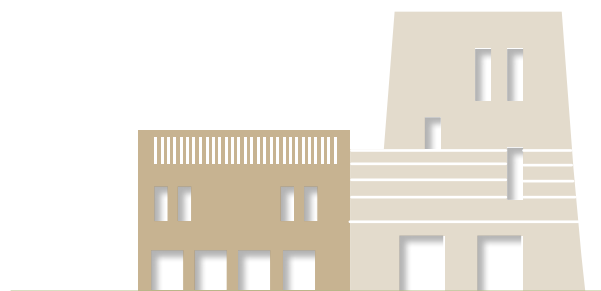
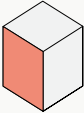
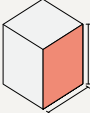
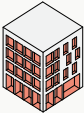
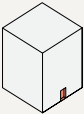
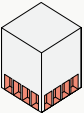
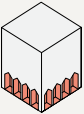
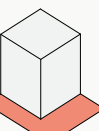


FIG. 32 Sober facades with horizontal articulation, articulated parapets

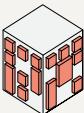
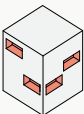
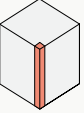
3 Elements

The individual parts that are the building blocks of the Bisha Desert architecture.

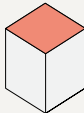
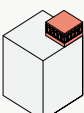
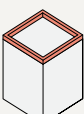
TAB. 1 Bisha Desert architectural elements

GENERAL ELEMENTS		
	Key characteristics	Sober and plain facades, horizontal volumes, active ground floors, gently tapered walls mostly on the upper part, with an inclination angle between 1.5° and 3°. Refer to Guidelines section 1, page 18 for key features.
	Facade proportion	Human scale massing and design of the new building that responds to context and history, have a compact form, strong geometries and predominantly horizontal but with a balance of vertical volumes.
	Window-to-wall %	Openings should generally not exceed 30-50% of the overall facade surface and propose a similar window-to-wall % to the heritage site, if located adjacent to it.
	Opening proportions	Opening proportions should interpret the traditional character of openings in the region / heritage site, intended use as well as the environment. Refer to expanded guideline “3.3 Windows and openings” on page 29.
	Composition	Depending on overall building size, the base may be characterized by as much as the first 1 - 2 stories of the building above ground. For taller buildings, stepping the massing at lower floors may help establish a sense of horizontality at street level.
BASE ELEMENTS		
	Entrances	Entries should be recessed from the building facade and well proportioned for a pedestrian scale. They should be well defined, clearly visible, and universally accessible from the sidewalk. Vehicular entrances should be placed at the back of the building. Refer to expanded guideline “3.2 Doors and entrances” on page 28.
	Shop fronts	Active frontages between ground floor and main street should be emphasized. Solid base with simple geometry openings is encouraged with use of colonnades and large openings.
	Arcades	Arches should not be permitted. Colonnades should be encouraged for active frontages.
	Curtilage	Curtilage: small court or yard. Buildings’ exterior ground floors, particularly arcades’ covered exterior area, should strive for material and design integration with the surrounding public realm. The transition from the public domain to the curtilage should be universally accessible, with no abrupt changes in level, single steps, or other trip hazards. By optimizing the micro climate around buildings, it is possible to ensure a favorable pedestrian experience.

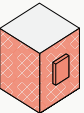
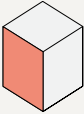
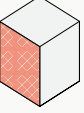
MIDDLE ELEMENTS

	Wall articulation	Facades should exhibit a clear three-part composition with a defined base, middle, and top. Horizontal articulation, achieved through the layering of mud bricks, is encouraged. While simplicity is generally desirable, facades should avoid being overly plain. Regular breaks (generally at maximum 30 meters intervals) along building facade are recommended. Wall breaks should be a minimum of 1.5 meters deep and 3 meters in length and extend to at least 70% of the facade vertically.
	Windows and openings	Openings should follow a pattern and rhythm contributing to the character of the place, as well as designed for human comfort. Window and opening design are subject to a large number of compositional guidelines. See expanded guideline “3.3 Windows and openings” on page 29
	Projecting elements	Projecting features should reference historic examples, if used, being appropriately sized for the rooms they serve. For Bisha Desert, projecting elements such as balconies should be generally discouraged, or should be well integrated within the massing.
	Recessed elements	Recessed elements are set inwards from the building facade; they extend access or perception of the public realm inside the plot boundary. This may include: recessed entrances, colonnades, overhangs and chamfered corners.
	Shutters and shading	Shading may be achieved by recessing openings from the facade, or providing perforated or latticed screens. Should adapt to the vernacular language. Complementary color palette may be used to highlight shutters as special feature, based on the vernacular language.
	Corner features	Building corners should be well defined and positively contribute to the public realm and help pedestrian movement.

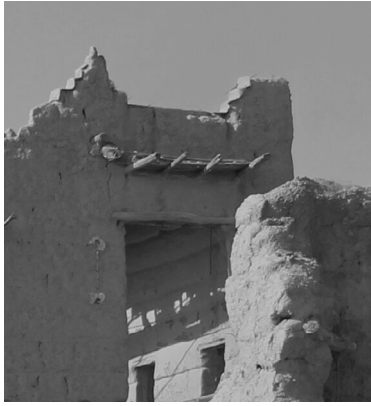
TOP ELEMENTS

	Roofscape	Active, accessible roofscape is encouraged. Roofscapes should be used as amenity space and to incorporate sustainability and green roof measures is encouraged.
	Rooftop elements	Rooftop rooms should be set back from the parapet/building facade and be of a lighter expression of construction (i.e. materiality or color). Temporary fabric shading also permitted. Rooftop elements usually, should not extend more than 33% of the frontage.
	Parapets	Parapets should be horizontal, and typically low in height. Parapets may be articulated, not necessarily duplicated based on the vernacular style, or feature as extension of external walls.

OTHER ELEMENTS AND ORNAMENTATION

	Materiality	Materials should match the local character area zone and reference the near-by heritage; be consistent in nature, minimum 50% of facade should feature one material. Excessive layering of multiple materials and generally, use of low quality materials is discouraged. See expanded guideline “4 Colors and materials” on page 30.”
	Colors	Generally, approximately 70% of facade should be in one light earth tone color. Complementary colors, integrated in design composition may be used to highlight features, generally up to 30% of total facade surface. See expanded guideline “4 Colors and materials” on page 30.”
	Patterns	Local art and patterns should be integrated in design composition, generally between 10-20% of total facade surface. See expanded guideline “5 Patterns” on page 34.

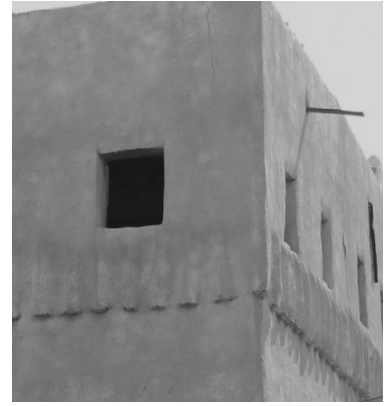
Top



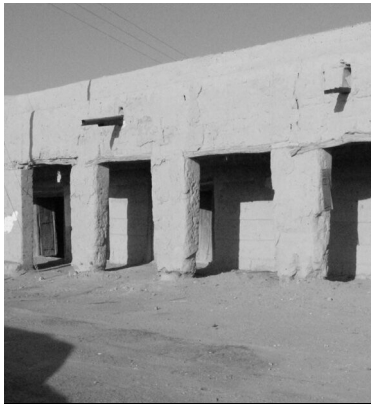
Parapets with stepped articulation



Articulation with vertical extrusion



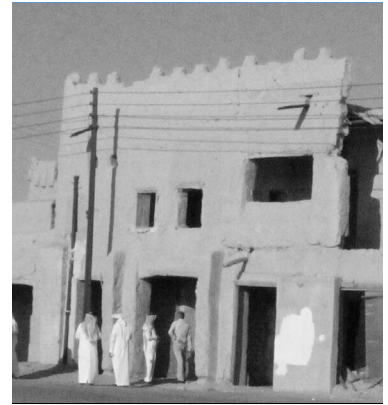
Distinct parapets with the use of massing & voids placement



Flat roofs



Projecting structure elements



Articulated parapets

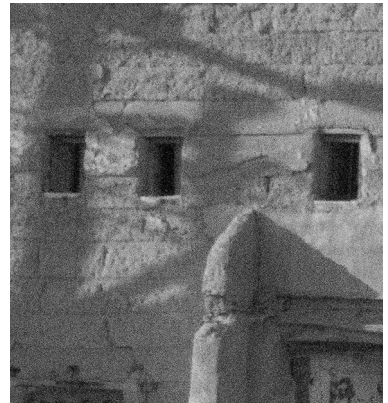
Middle



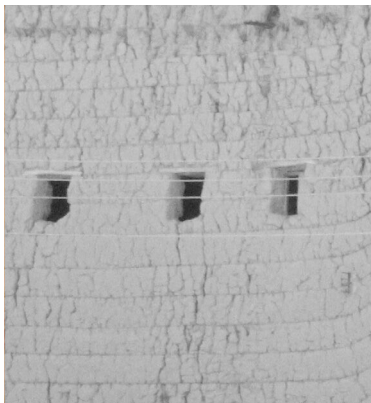
Horizontal banding of mud brick courses



Ornamented balconies' parapet and rhythmic small openings



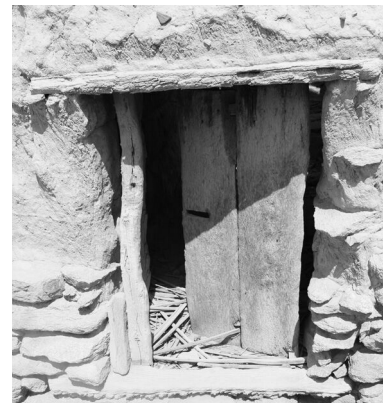
Simple openings of regular geometries



Punched openings



Small ventilation openings



Windows with timber jambs, heads and shutters

FIG. 33 Examples for top, middle, base, ornamentation and other elements

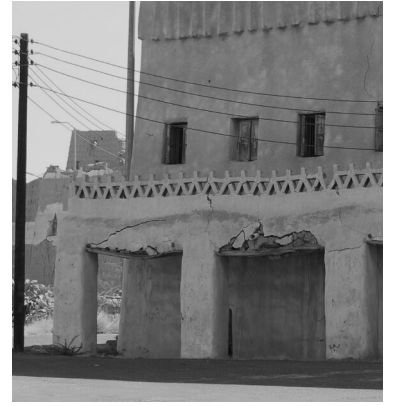
Base



Doors of simple geometries



Ornamented entrance with buttress



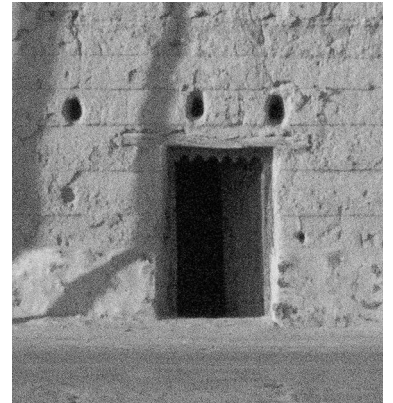
Projected colonnade on ground floor



Recessed shading structure on ground floor



Stone base



Ventilation openings on door top

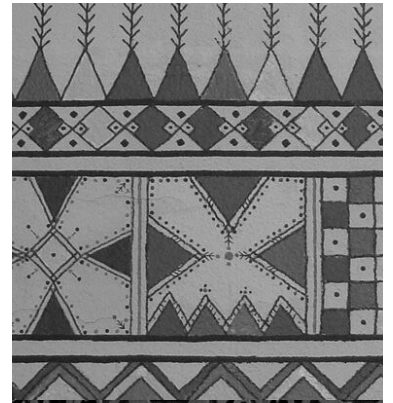
Ornaments and other elements



Rammed earth pattern



Art work present in Bisha desert



Patterns used in local art of Aseer region



Horizontal pattern



Stone pattern



Adobe texture

3.1 General details and considerations

Details and construction techniques guidance provides standards and guidelines for use of traditional elements, provisions to translate these details to contemporary parameters, types and percentage of elements on the facade, protection and enhancement of traditional building features. Elements depicted should be used as starting points for interpretation rather than direct copying.

- 1 In general, architectural elements like the rooftop elements, openings, entrances, and construction techniques should express a plain, simple and elegant style.
- 2 A vocabulary of architectural details should celebrate or re-interpret the traditional architectural elements, as per identified in Section 1.
- 3 Traditional architectural elements should be combined with contemporary and new technologies in an innovative way.
- 4 Contemporary architectural elements and construction techniques should be appropriately selected to respond to climatic conditions as per identified in Section 1 (i.e. shading strategy and use of non-reflective surfaces, wind directions, rain harvesting, green roofs).
- 5 Contemporary adaptation of traditional building techniques and materials, should be proposed (i.e. limestone, mud colored plaster, beige metal/ high-pressure laminate HPL cladding).

Architectural elements are the unique details and component parts that working together with specific construction techniques form the architectural style of buildings.

3.2 Doors and entrances

- 1 Generally, doors and entrances should consist of medium to large openings of simple geometry.
- 2 Door width-to-height proportion are 1:1.25 - 1:2.

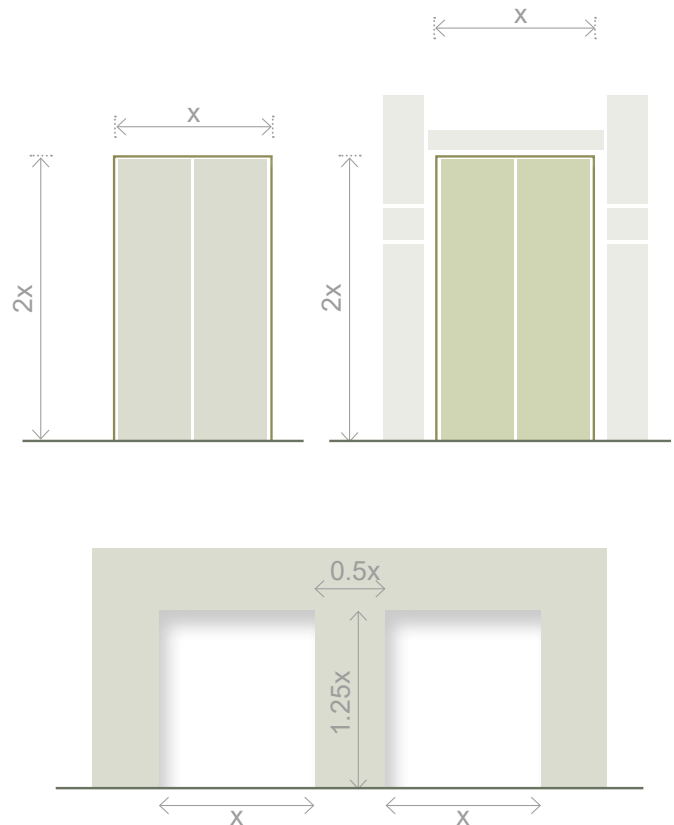


FIG. 34 Traditional door and entrance element proportions

3.3 Windows and openings

- 1 Openings should be well shaded, articulated with change in materiality and/or color, occasionally as white bands.
- 2 Opening should be recessed to increase compositional layering and the play of light on the facade.
- 3 Generally, openings should consist of small to medium windows of simple geometry.
- 4 Generally, traditional windows have the proportion of 1:1.3 - 1:2.
- 5 Informal groupings; alignments related to interior room layouts rather than external facade composition.
- 6 Locally symmetric and aligned openings are preferred. To generate bigger orders and levels of hierarchy on the facade, windows on different floors should adopt axial alignments.

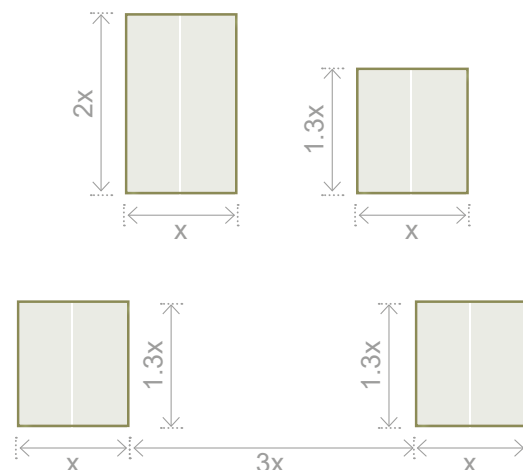


FIG. 35 Traditional window elements proportions

3.4 Roofscape

The traditional roofscape of the Bisha Desert is characterized by the use of articulated parapets.

- 1 The traditional parapets are generally pointed or with stepped articulation with the proportion of 1:1 to 1:2 as shown in figure.
- 2 Articulation with vertical stripes pattern is also typical of the area.
- 3 Contemporary use of parapets should retain the values of vernacular architecture such as privacy, while interpreting to create screening for utilities and articulation creating interesting skyline.

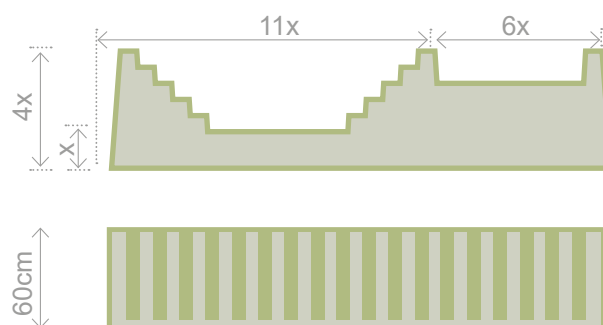


FIG. 36 Traditional parapet elements

Contemporary interpretation of architecture through factors like ratio of solid and openings/voids, proportion and size of openings maintain the traditional architectural source of the Bisha Desert.

4 Colors and materials

The skillful interpretation, application and interplay of light, shadows and colors, so characteristic of Bisha Desert traditional architecture, can convey additional meaning and contribute to providing a rich and contextual experience of the space.

In contemporary parameters the use of colors for new buildings should focus on:

- 1 A limited spectrum of natural colors and materials to be preferred.
- 2 Limited use of complementary colors may also be used for public realm, hardscape and softscape elements.
- 3 For all public frontages, typically, 70% to 90% range of the project's colors palette to be composed of light gradations of earth tones, with a maximum of 10% to 30% of the total composition reserved for stronger gradations and complementary colors.
- 4 Intensified and/or contrasting colors to be reserved for accentuating important elements, such as entries, arcades, openings, etc. The range for intensified and/or contrasting colors should be maximum 5% of the total composition.
- 5 Changes of exterior color, texture or material may be used to reinforce the architectural formal idea and are best accompanied by changes in plane or occur at an inside corner (i.e. at vertical recesses, or horizontal step-backs), or accommodated via architectural detailing, such as gaps, or other changes in plane.

Appropriate colors derived from the local landscape and heritage vernacular palette should be used to contribute to an esthetically pleasing, and distinctive while more uniform urban environment.

RAL Color codes

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



FIG. 37 Bisha Desert color palette



FIG. 38 Bisha Desert colors and materials mood board

In contemporary parameters the use of construction materials and finishes should focus on:

- 1 Generally, materials finishes and colors treatment should be integral to all sides of the building and particularly along public frontages.
- 2 Solid materials and clear shaped geometries should be preferred.
- 3 Use of locally available traditional materials should be preferred.
- 4 Materials should convey a sense of quality and durability and that are able to retain their appearance over time.
- 5 High-quality durable materials should be used particularly for public facades. Since the lower part of a building, typically the first 4 levels, has the greatest visibility at ground level and while driving, its materials should be of enhanced quality and durability.
- 6 Changes of exterior color, texture or material may be used to reinforce the architectural formal idea and are best accompanied by changes in plane or occur at an inside corner (i.e. at vertical recesses, or horizontal step-backs), or accommodated via architectural detailing, such as gaps, or other changes in plane.
- 7 Generally, the use of min. 50% of facade treatment with one consistent material should be required.
- 8 Generally, the use of metal cladding and curtain walls should be limited to max. 20% of the total facade area.

Material and finishes should aim to achieve and contribute to the Bisha Desert architecture through factors like quality of new materials, hierarchy, proportion and palette of materials responding to the local context.

Recommended materials

Recommended materials are those durable and quality materials that give the building a sense of authenticity, weight, texture, and mass, such as:

- Local stone / natural stone.
- Colored concrete.
- Terra cotta.
- Mud brick (full or face brick).
- Rammed earth.
- Cementitious panel siding.
- Green walls.
- Smooth plaster.
- Terrazzo.
- Robust stone veneer.
- Low reflectivity clear glass.
- Limited use of high-quality metal panels.
- Durable tensile fabric for shading structures.

Discouraged materials

Use of low-quality building materials and elements are discouraged, such as:

- Metal cladding.
- Colored and mirrored glass.
- Plywood siding, T-1-11 plywood siding.
- Vinyl siding.
- Thin layers of stone or unit masonry that appear veneer-like.
- Corrugated plastic sheets.

From the tradition



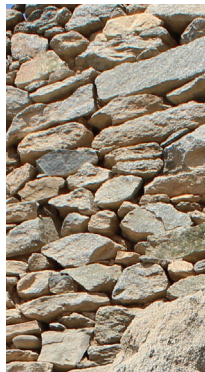
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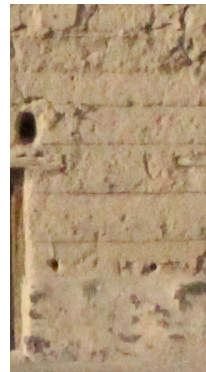
Location: Bisha



Location: Bisha



Local stone

Mud bricks /
Plaster

Rammed earth

Contemporary interpretation



Sandstone



Mud bricks



Basalt



Terrazzo

Earth base



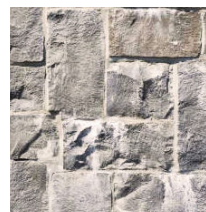
Plaster



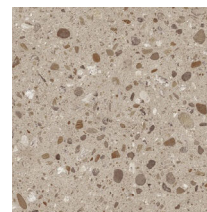
Brickwork



Riyadh limestone



Diorite



Terrazzo



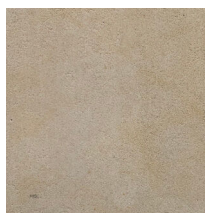
Soapstone



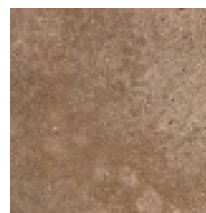
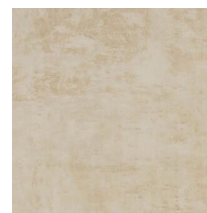
Shell limestone



Shell limestone



Concrete

Pigmented
concretePigmented
concrete

Other materials limited to 10% - 20%



Palm wood



Metal cladding



Tensile fabric



Quartz

FIG.39 BISHA DESERT - RECOMMENDED MATERIALS

5 Patterns

Common motifs and patterns used in the traditional craftsmanship and material culture of the Bisha Desert.

Traditional patterns help to express the architectural character and preserve its socio-cultural values, customs and traditions.

Bisha Desert has minimal use of art. The walls are simple, sober with articulation brought through layering of mud bricks, adobe texture and parapet patterns.

Bold patterns from Al Qatt Al Aseeri pattern of Aseer region are used occasionally for the interiors in the Bisha Desert.

Colorful banding motifs from the art form are commonly used in Al Qatt Al Aseeri art. Use of striped articulation on parapets is also common to the area.

- 1 Al-Qatt Al-Aseeri using the traditional color palette and motifs may be represented through use in facade treatment, public realm and hardscape elements.
- 2 Art pattern should be used to reinforce the architectural formal idea, accentuate openings, entrance areas and for special architectural elements. Art patterns may also be used for enhancing a blank facade. In public plazas and open spaces, local art may be used to theme public realm elements.
- 3 In general, the range for decorative patterns should be between 10%-20% of the total facade area.

Patterns inspired from Aseer's Al-Qatt Al-Aseeri traditional paintings are used in ornamentations in interior of the house in the Bisha Desert.

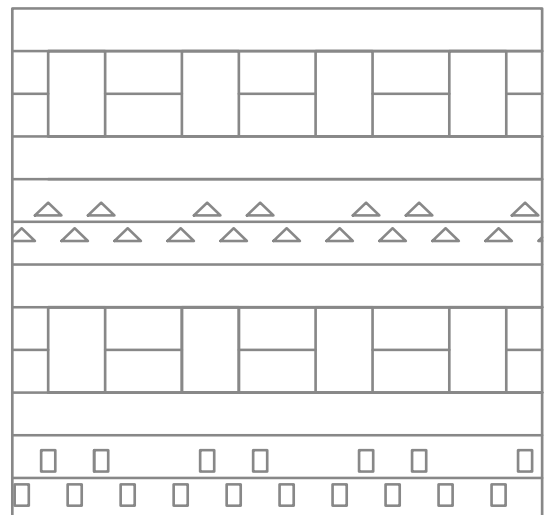
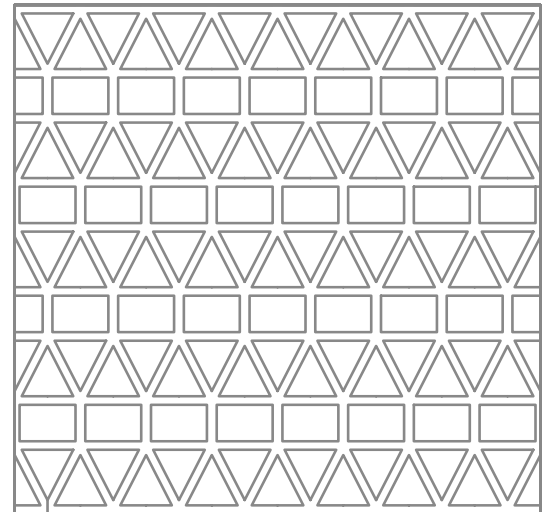
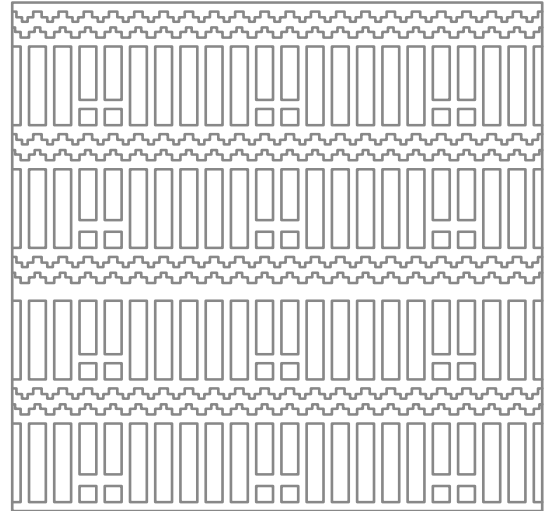


FIG. 40 Example of abstraction of decorative patterns and motifs

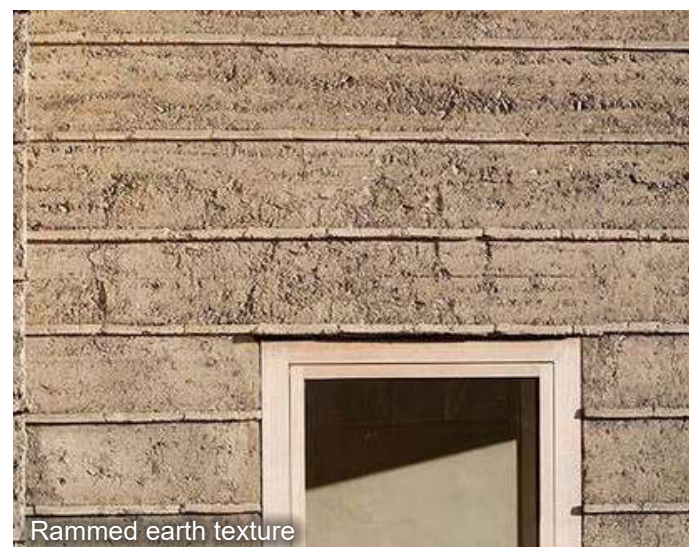
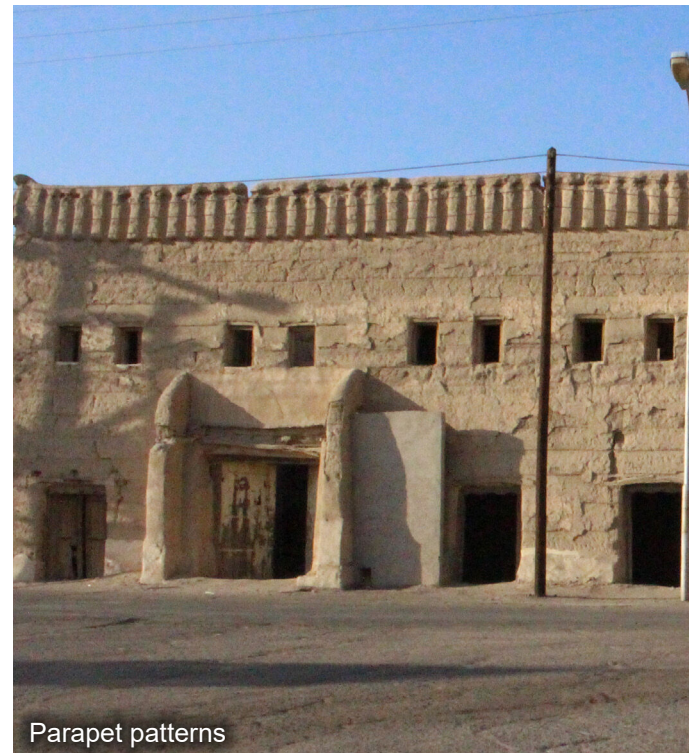


FIG. 41 Traditional patterns present in Bisha Desert

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 architecture in new yet familiar ways.



FIG. 42 Example of building material abstraction

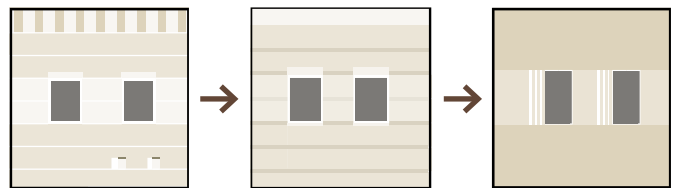


FIG. 43 Example of window shape abstraction

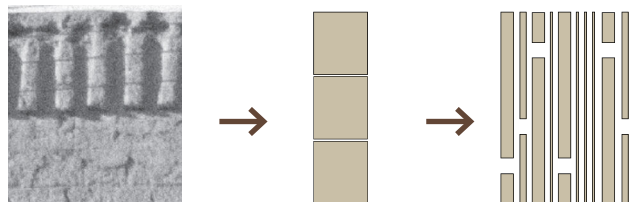


FIG. 44 Example of pattern abstraction

To encourage contextually sensitive contemporary design.

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 massing 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. 45 Break down building massing to better fit traditional architectural elements

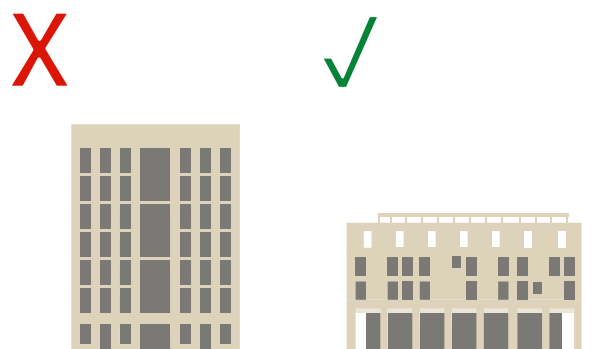


FIG. 46 Do not scale and distort smaller elements into oversized graphic features

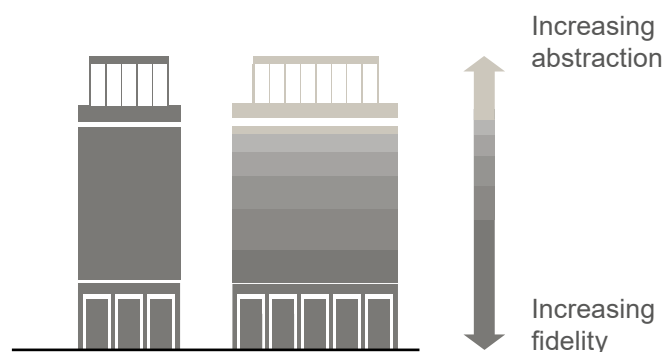


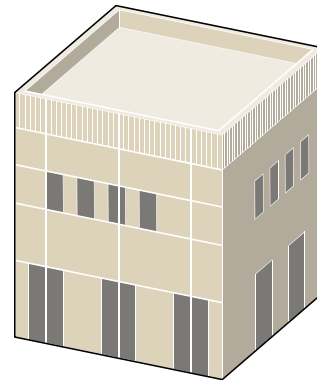
FIG. 47 Pay attention to building elements near the public realm, especially at the ground floor

6.3 Functionality

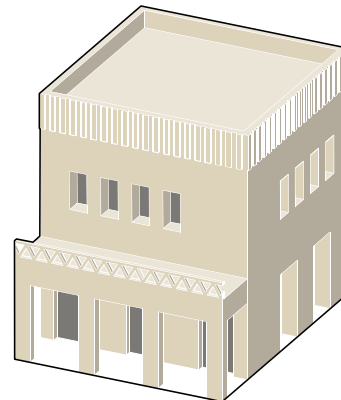
Architectural elements should perform functionally like their traditional counterparts, and not be applied superficially like graphic signage.

- 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 in a superficially 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.



Superficial colonnade and window screens



Functional colonnade and window screens

FIG. 48 Example of functional architectural elements

6.4 Adaptation

The application of traditional architectural characters 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.

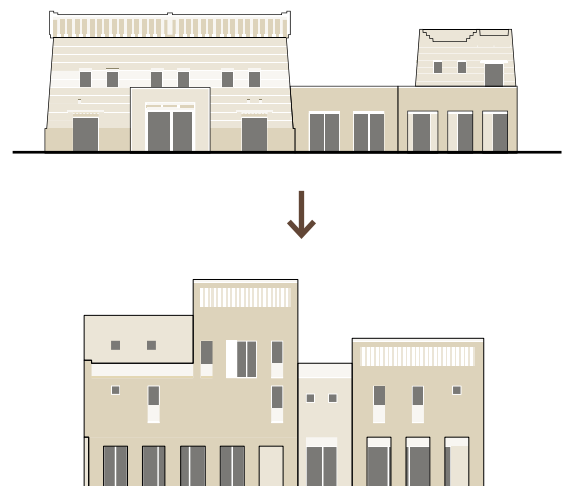


FIG. 49 Adaptation of traditional architectural elements to a contemporary building

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 projects, and particularly in sites located on the edge of two or more character areas.

- 1 In large projects, when the project site is located at the edge of two or more character zones, 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 projects.

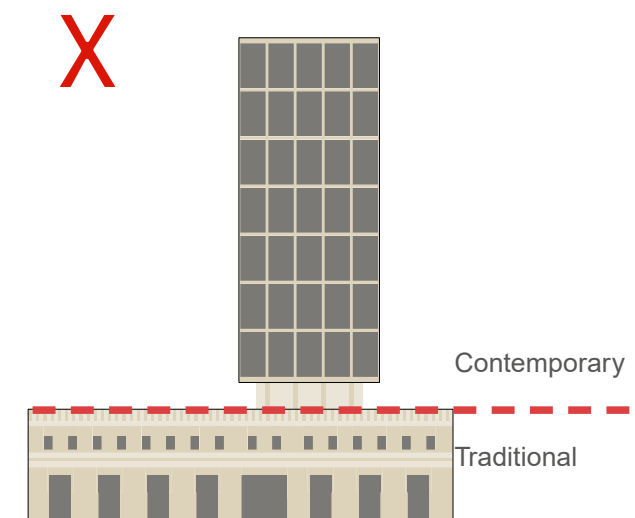


FIG. 50 Do not create hard breaks between mixed sources



FIG. 51 Create gradual transitions between mixed sources and strengths of character application

7 Worked examples

This section provides examples for three styles, ranging from traditional, transitional to contemporary, for Bisha Desert character zone, showcasing application of key compositional elements as described in chapter 1.

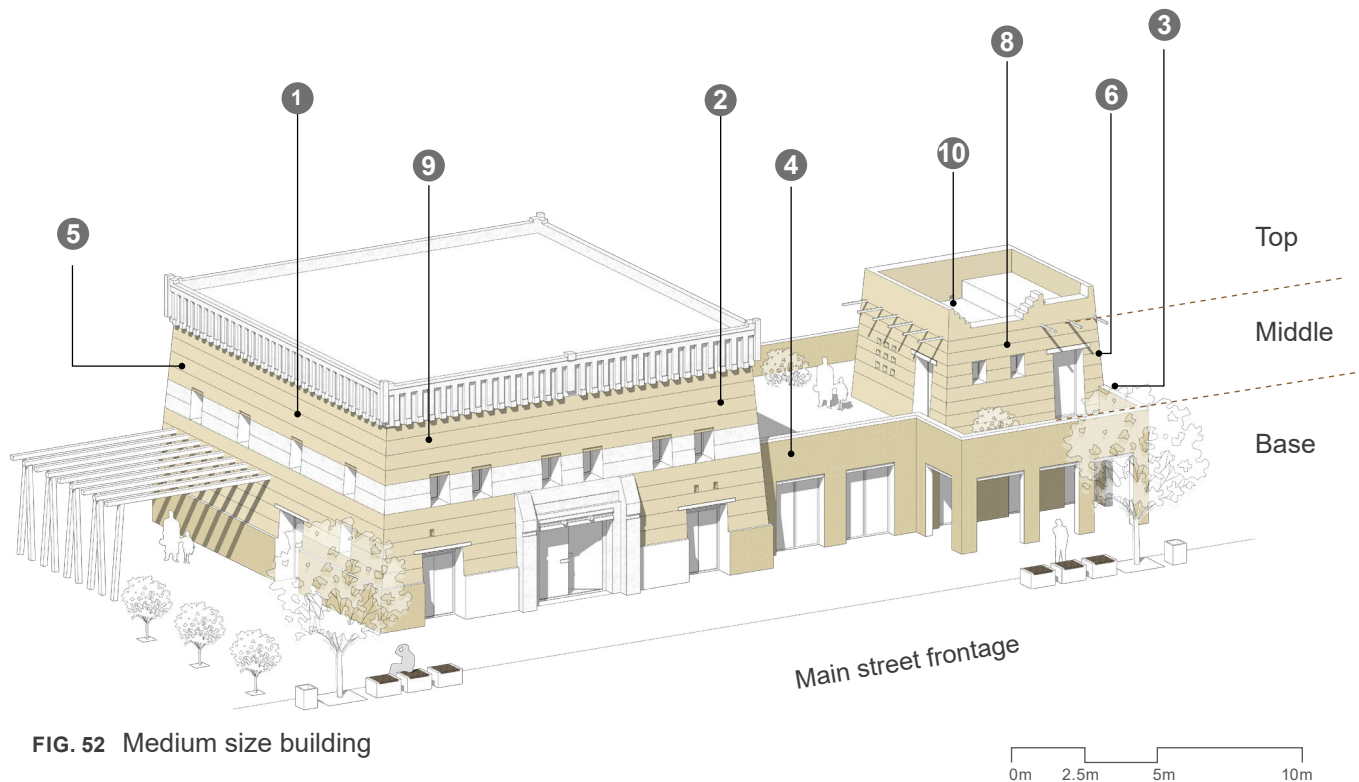


FIG. 52 Medium size building

7.1 Traditional

The massing and design of the traditional-style buildings should foster the heritage character by adopting, in a sensible way, traditional forms and patterns, traditional architectural elements and decorations, and traditional materials and colors.

The form and style of traditional architecture should be sensitive and sympathetic to the existing heritage asset and should help reinforce its local character.

- 1 All key compositional features of traditional architecture should be applied to the traditional style of architecture.
- 2 Compact massing with strong geometric shapes, predominantly horizontal volumes, and a balance of vertical masses.
- 3 Well-ordered, balanced, clear, yet evenly transitioned distinct base, middle, and top parts of the building.
- 4 Grounded base with large openings and colonnades providing shading and active frontages.
- 5 Clear horizontal articulation, achieved through the layering of mud brick courses.

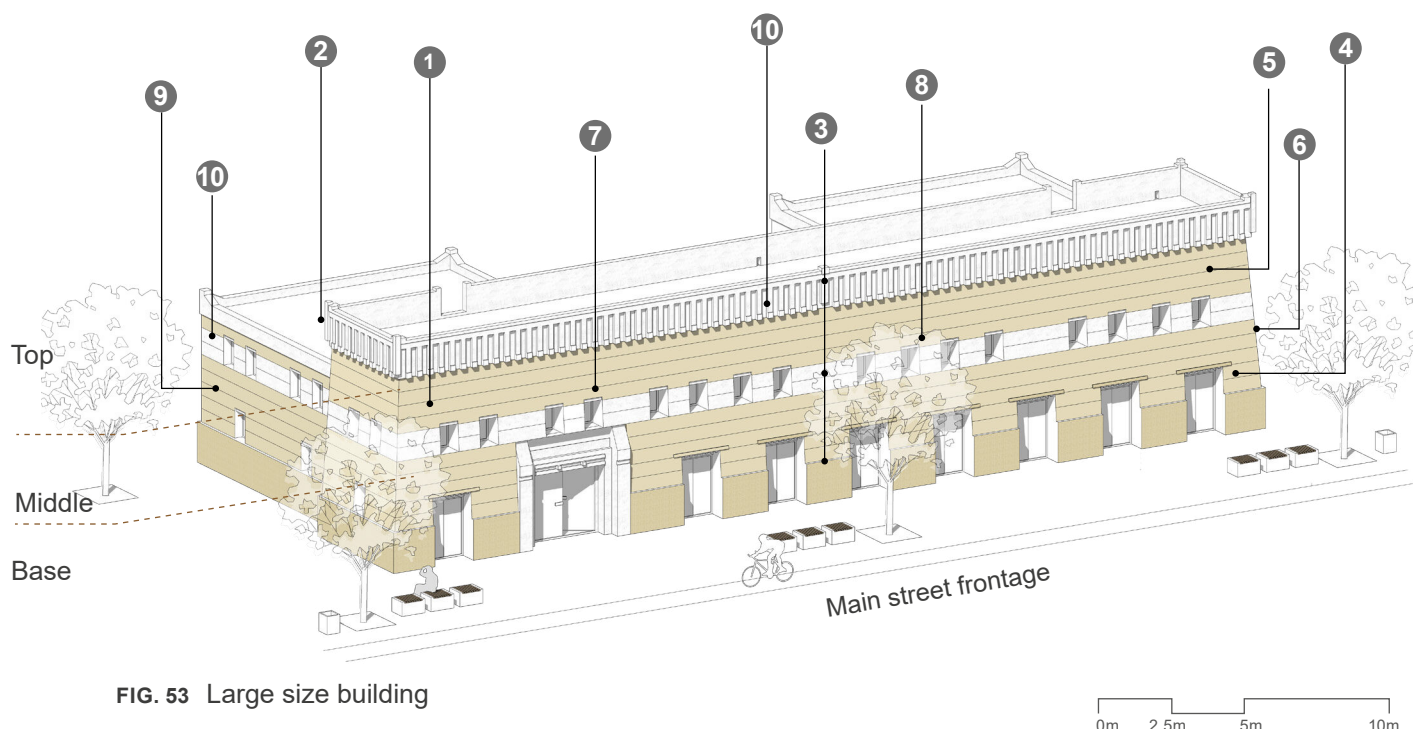


FIG. 53 Large size building

- 6 Walls tapering towards the top with a maximum angle of 3 degrees and flat roofs.
- 7 Low window-to-wall ratio: largely solid areas of wall with small windows in the middle zone of the facade.
- 8 Asymmetrical facades with localized symmetrical composition, using volumes to bring variation through vertical accentuation.
- 9 A general palette of beige, brown, and sand colors using locally available materials.
- 10 Stepped or ornamented parapets to bring articulation to the facades.
- 11 Sober facades with local art patterns used on interior walls.
- 12 Large buildings in the traditional style should not exceed more than 3-4 stories, respecting the traditional typologies.
- 13 Generally, the traditional style should only be used in heritage districts, restoration projects, and buildings of special importance.

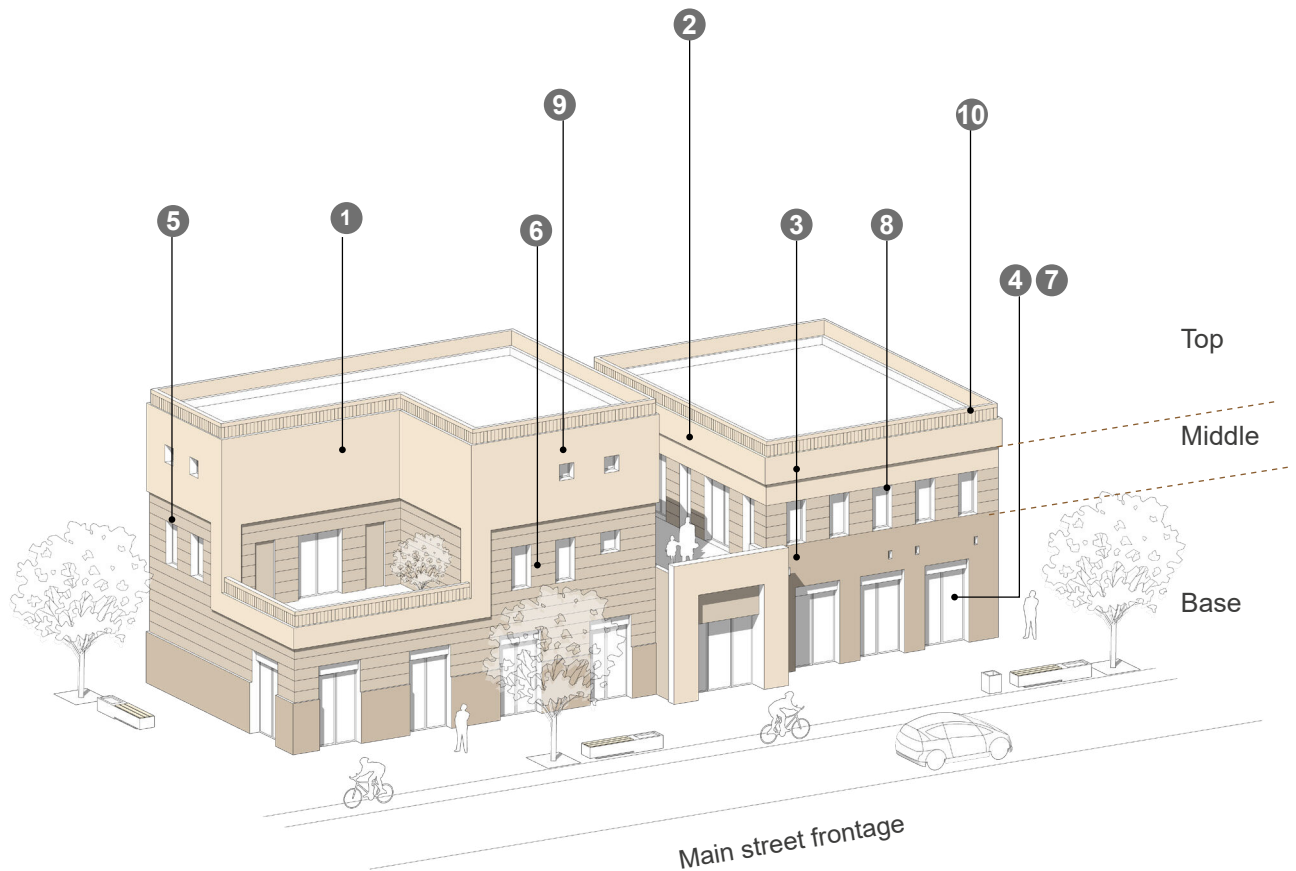


FIG. 54 Medium size building



7.2

Transitional

The form and style of transitional style should distill the essential qualities and values of vernacular architecture addressing the need of new ways of living yet reflect a strong character respecting and celebrating the local character and traditions; providing a sense of belonging.

The form and style to be adopted for transitional style should distill the most essential qualities and character giving architectural elements, such as the dominant features and use of appropriate material and color palette.

- 1 Compact massing with strong geometric shapes and flat roofs.
- 2 Strong horizontal proportions with vertical facade breaks, bringing balance to massing.
- 3 Well-ordered, balanced, clear, yet evenly transitioned distinct base, middle, and top parts of the building.
- 4 Active frontages with large openings and colonnades providing shading.
- 5 Interpretation of horizontal layering of mud bricks and use of new materials.
- 6 Largely solid facades in the middle part with moderate-sized windows and occasional use of integrated loggias.

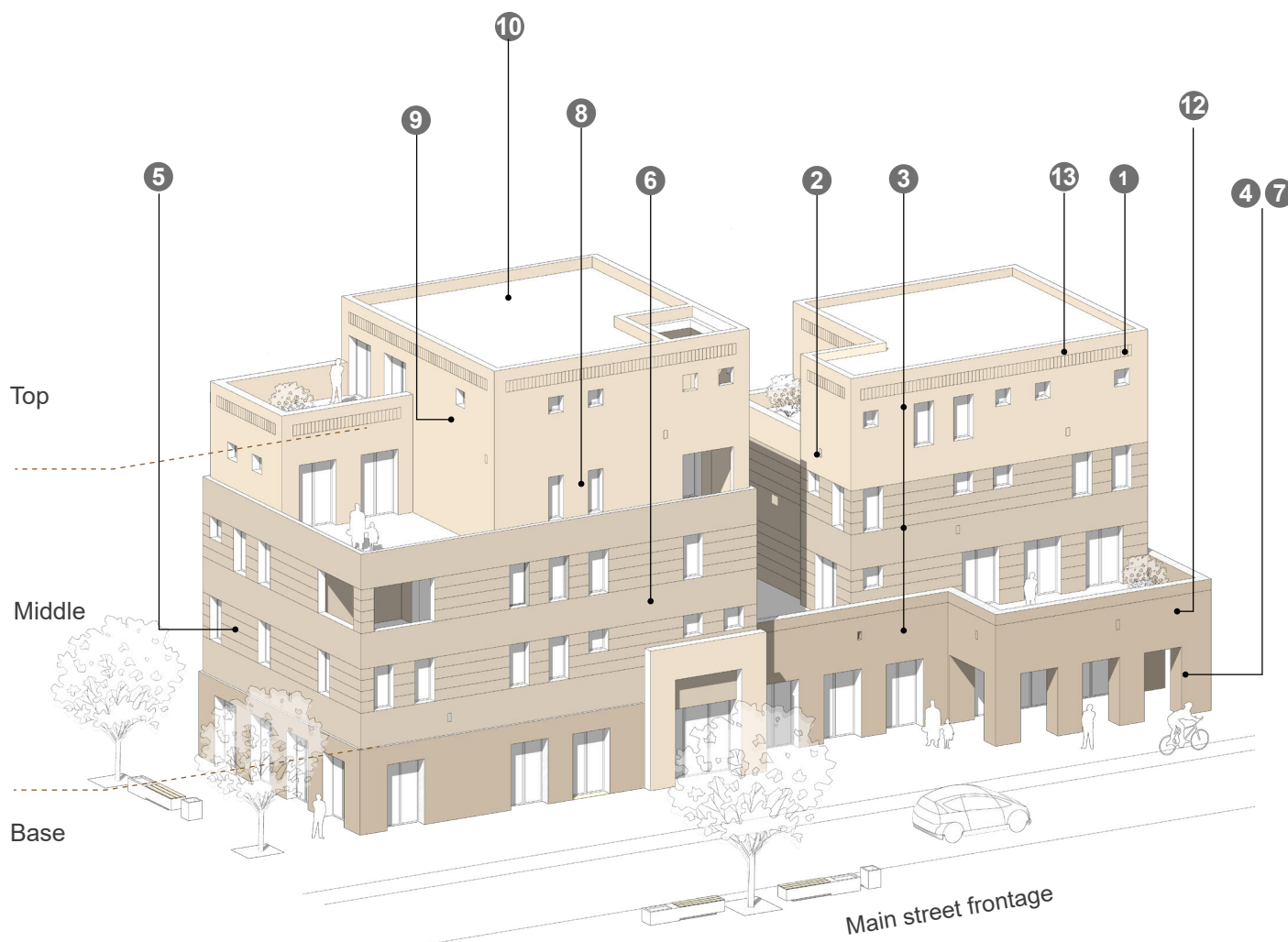


FIG. 55 Large size building

0m 2.5m 5m 10m

Maximum 40% openings of the overall facade surface.

- 7 Integrated shopfronts, shutters, and screens. Perforations and patterning in surfaces.
- 8 Asymmetrical facades with localized symmetrical composition, using volumes to bring variation through vertical accentuation.
- 9 General palette of beige, brown, and sand / off-white, using the recommended materials, colors, and finishes.
- 10 Flat roofs with articulated parapets, supporting privacy requirements and hiding rooftop equipment.
- 11 Towers or buildings larger than 6 stories should be generally avoided. Large buildings should maintain a horizontal character through facade breaks. Towers should be tall, slender structures that enhance the skyline; large, elongated, boxy, or slab-like floor plates should be avoided.
- 12 In tall buildings, the height of the podium should establish the street wall and reinforce the human scale and character of the area.
- 13 Articulation of the top zone should positively contribute to the skyline, and design may be used to create landmarks.

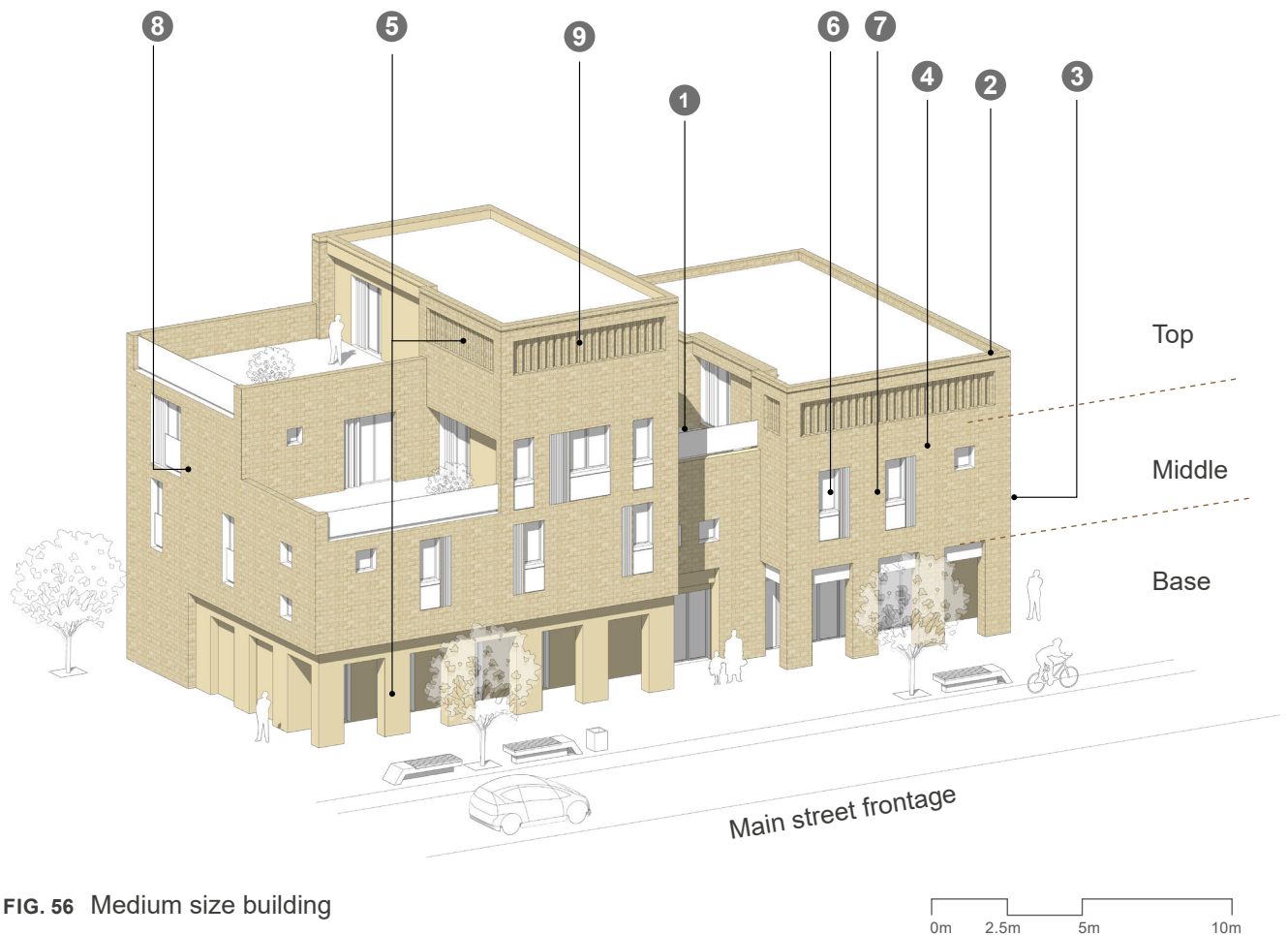


FIG. 56 Medium size building

7.3

Contemporary

The form and style of contemporary style should distill the essential qualities and values of vernacular architecture in a new and ever contemporary expression.

It should address the need of contemporary living yet respect and celebrate the local natural character and traditions; providing a unique character to the built form and a sense of belonging.

Contemporary style may be achieved by re-interpreting in an innovative way traditional forms and patterns, traditional architectural elements and decorations, traditional materials and colors.

- 1 Compact massing with strong geometric shapes and flat roofs.
- 2 Strong horizontal proportions with vertical facade breaks, bringing balance to massing.
- 3 Well-ordered, balanced, clear, yet evenly transitioned distinct base, middle, and top parts of the building.
- 4 Largely solid facades in the middle part with moderate-sized windows and occasional use of integrated loggias. Max. 50% openings of the overall facade surface.
- 5 Generally, the use of a maximum 2 architectural compositional motives for

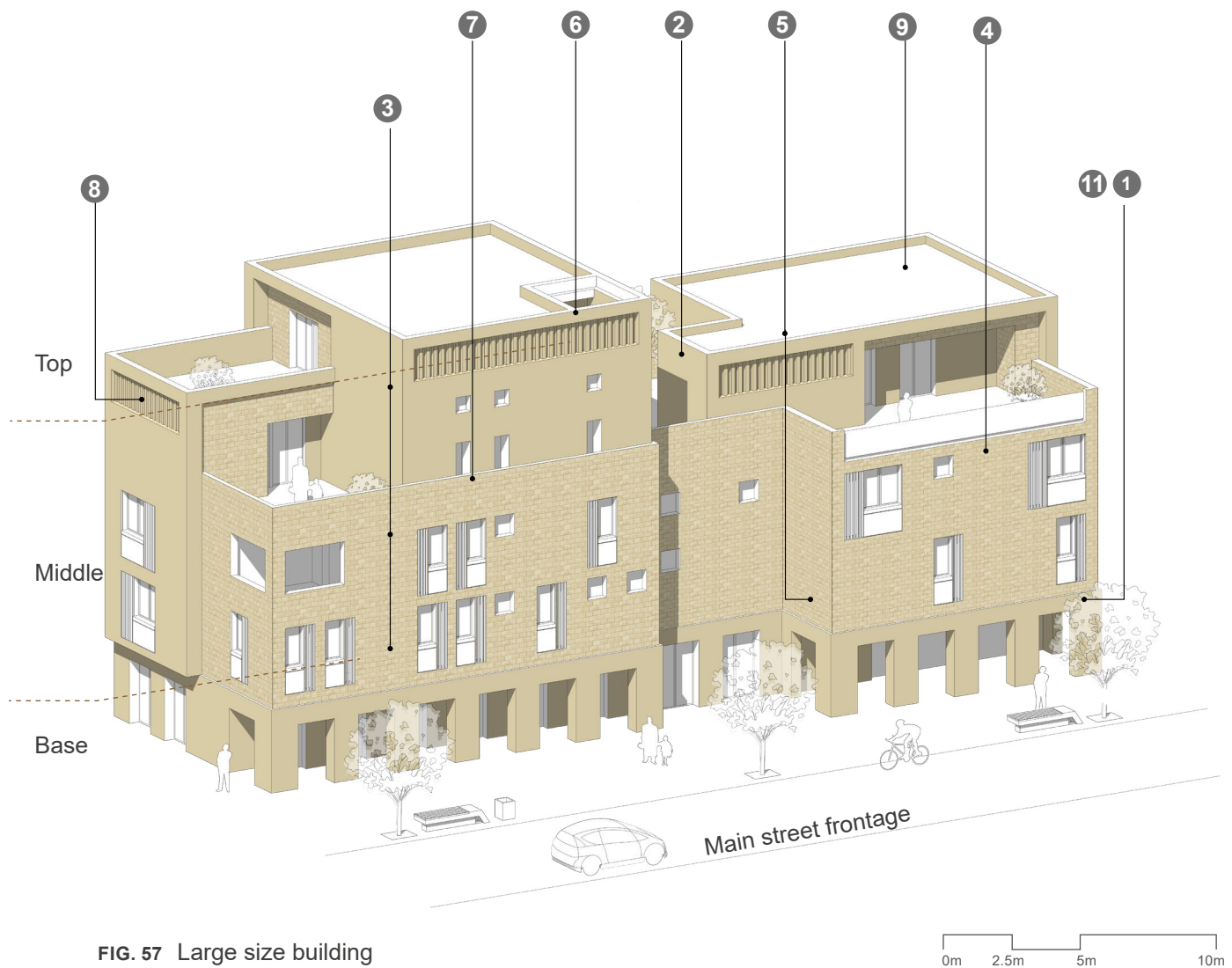


FIG. 57 Large size building

the design, derived from the sources, is recommended.

- 6 Simplified detailing and accents.
- 7 Asymmetrical facades with localized symmetrical composition, using volumes to bring variation through vertical accentuation.
- 8 General palette of beige, brown, and sand / off-white, using the recommended materials, colors, and finishes described in section 4.
- 9 Flat roofs with articulated parapets, supporting privacy requirements and hiding rooftop equipment.
- 10 Towers or buildings larger than 6 stories

should be generally avoided. Large buildings should maintain a horizontal character through facade breaks. Towers shall be tall, slender structures that enhance the skyline; large, elongated, boxy, or slab-like floor plates should be avoided.

- 11 In tall buildings, the height of the podium should establish the street wall and reinforce the human scale and character of the area.
- 12 Articulation of the top zone should positively contribute to the skyline, and design may be used to create landmarks.

8 Public realm

An overview of public realm character in Bisha Desert.

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 Bisha Desert. It is meant to provide high-level principles and recommendations to be further developed in masterplans and public realm strategies within the Character Area.

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. 58 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 the qualities of public realm found in the character area.
- **Types of public space** - a selection of spatial types that provide the built environment distinctive character.
- **Materials** - a summary of hardscape character for the area.

- **Planting** - a summary of softscape character for the area.
- **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 broad overview of public realm that will reinforce the character of Bisha Desert.

8.2

General character

The adjacent photographs summarize the typical characteristics of public realm and local landscape in Bisha Desert. As set out in the introduction, the area is characterized by being the inland desert area of the Aseer region, south west of the Central Najdi area.



Rocky hills



Vast and low sand lands



Boundary walls



Traditional patterns



Narrow covered zuqaq



Baraha



Colonnades



Narrow zuqaq shaded by tall walls



Palm groves

FIG.59 PUBLIC REALM ELEMENTS

8.3 Types of public space

Bisha Desert's public realm is characterized by the compact settlement patterns with narrow alleyways (Zuqaqs) and corridors with open spaces (Baraha). Many buildings incorporate small courtyards that provide outdoor areas, aiding thermal comfort and additionally uniting the buildings, providing a hierarchy to open spaces. Larger shared community squares (Saha) are used for public gatherings and the buying and selling of produce.

The general character and hierarchy of the public realm are distinguished by their scale and their relationship with the surrounding topography and predominant land uses. Collectively these spaces create a diverse public realm which contributes to the community for both residents and visitors alike and reinforces the distinct architecture of the area.

The following plan illustrates a typical hierarchy of urban spaces and streets in the Bisha Desert.

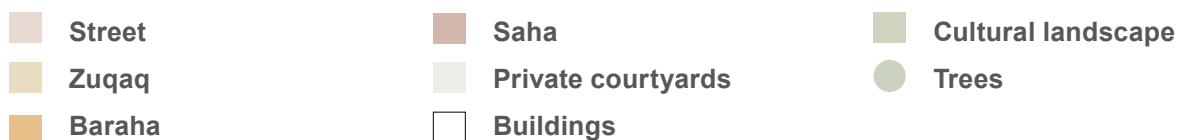
The following categorizations are considered the principal typologies:

- Street- primary routes which define the edges of smaller settlements, mediating between green oasis areas, and buildings.
- Zuqaq- local alleys, generally narrow and of varying width and footfall which connect spaces and streets across settlements.
- Baraha- local public open space, usually found in a residential neighborhood. Often appear as a widening of streets and the confluence of several streets.
- Saha- larger local open space with a public function, such as public gatherings or markets.

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



FIG. 60 Typical settlement pattern



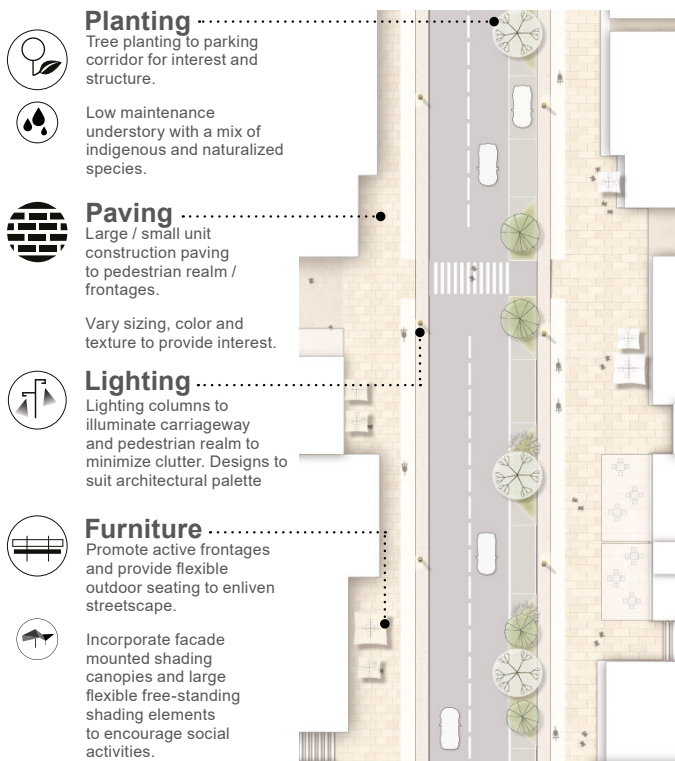


FIG. 61 Street
Vehicle corridor with adjacent pedestrian realm

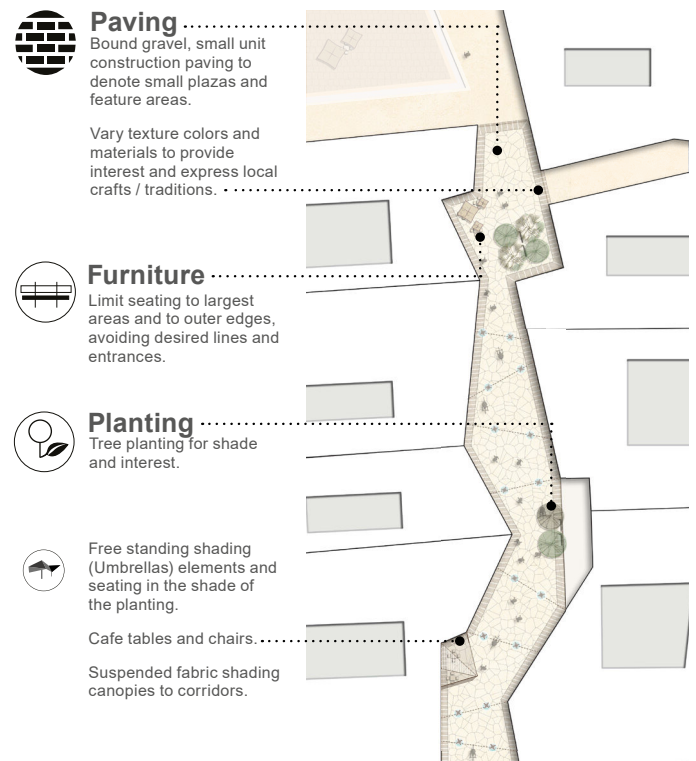


FIG. 62 Zuqaq
Pedestrian realm, no vehicular access or shared access

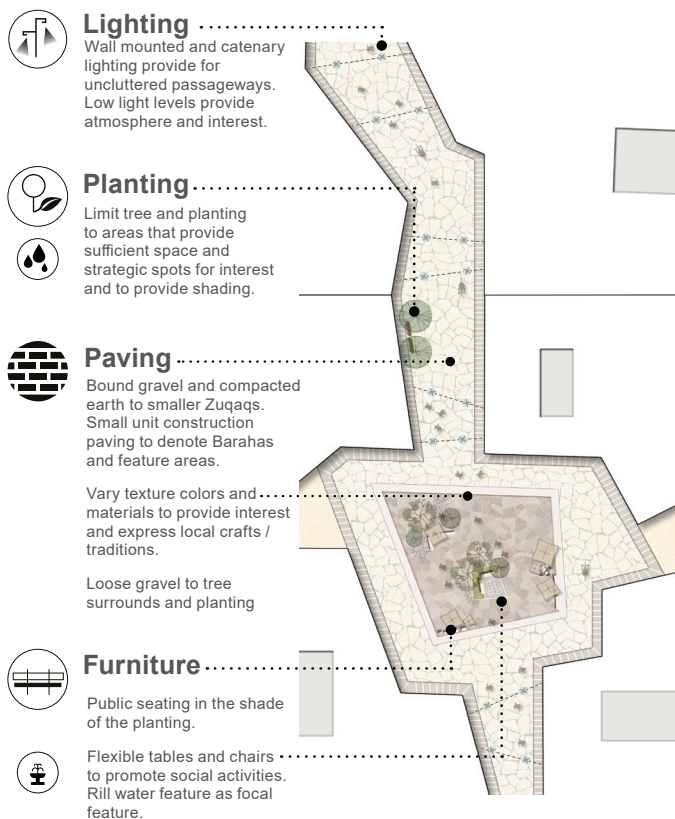


FIG. 63 Baraha
Pedestrian realm, no vehicular access or shared access

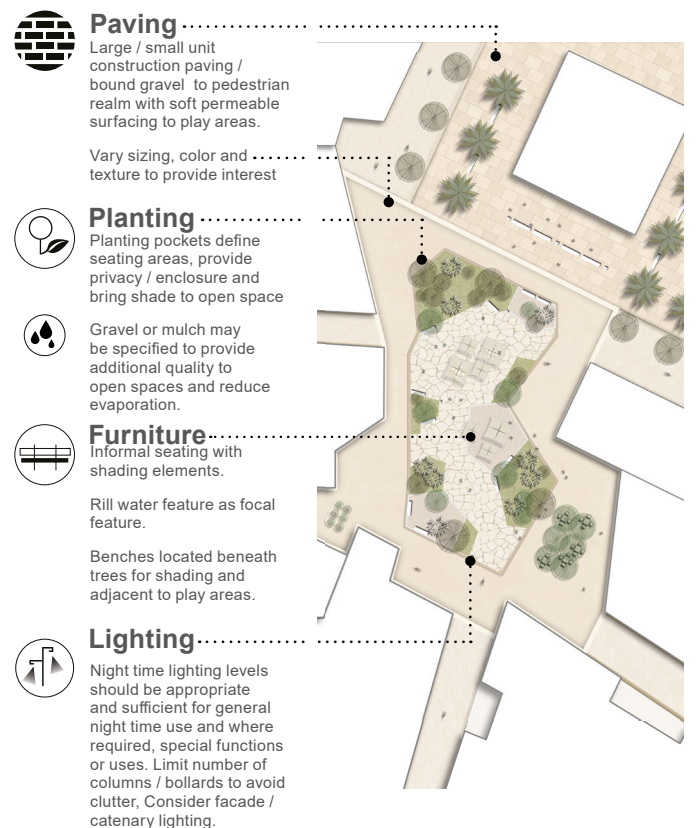


FIG. 64 Saha
Pedestrian realm, no vehicular access or shared access

8.4 Materials

The materials palette for Bisha Desert area has been designed to be simple and sensitive to the existing character of the area.

Key considerations

- 1 Select locally sourced KSA materials with low embodied carbon and high content of reused or recycled aggregates (for non-natural materials).
- 2 Areas with higher footfall demand paving should have a higher specification and durable materials, fit for purpose, minimizing the need for regular repair and replacement.
- 3 Re-use materials where possible formed from waste material.
- 4 Deliver materials to site using sustainable means of transport, where possible.
- 5 Select materials that are robust and have longevity and that can be easily cleaned, repaired, and sourced – so high-quality materials can be replaced like for like. Maintain a nominal extra supply of materials to enable quick replacement of damaged or missing units.
- 6 De-pave where possible to improve the micro-climate and use suitable sands / aggregates or suitable hydro zones in place of non-permeable paving.
- 7 Materials should provide varying textures within a simple color palette to compliment the area's architectural character.
- 8 Employ subtle changes to paving to highlight difference between typologies.
- 9 Make good and renovate existing streetscapes, ensuring materials are replaced only when necessary to minimize carbon footprint.
- 10 Using a larger paving format to emphasize more prominent routes.
- 11 Consider incorporating special patterns or textures to emphasize important places or spaces.



8.5

Planting

Tree and shrub planting should complement the overall character of the Bisha Desert area, helping to define places and enable planting habitats through sustainable methods.

Key considerations

1 Water must:

- Be considered carefully, responding to the local micro-climate and water availability.
- Use drought tolerant species and consider Xeriscapes principles to minimize water consumption.

2 Trees should:

- Adopt, generally, informal arrangements, avoiding overly linear or formal / block type compositions. Semi-arid climate, rock formations and wadi corridors with sporadic stands of Al Talah, Tamarisk and Acacia reflect the natural habitat.
- Only be planted where shade can be best utilized for pedestrian comfort and interest.
- Make a characterful contribution to the quality of routes and spaces. Consideration should be given to how a tree is seen and how trees can be used as wayfinding markers and frame important views and routes.

3 Planting should:

- Be limited to Xeriscape solutions within urban areas, mainly in gathering spaces (Saha / Baraha). Contribute to maintaining and enhancing wadi corridors, using multi-layered, informal planting where appropriate, comprising a variety of indigenous species.
- Minimize ornamental planting outside urban areas.
- Consider additional habitat value such as fruits for birds, etc.
- A varied mix of indigenous and naturalized species will help create an appropriate response to rural or urban applications.

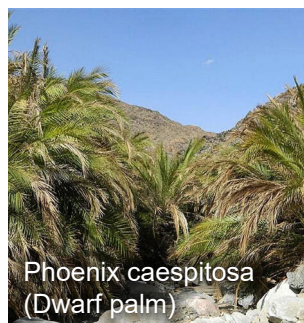
Trees



Acacia ehrenbergiana
(Salam tree)



Salvadora persica
(Miswak)



Phoenix caespitosa
(Dwarf palm)



Ziziphus spina christi
(Sidr tree)

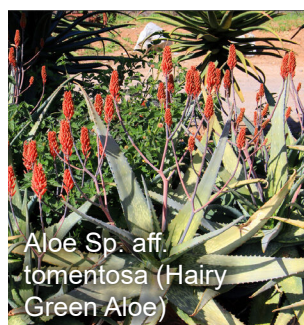
Shrubs



Aloe vacillans (Aloe
vacillans)



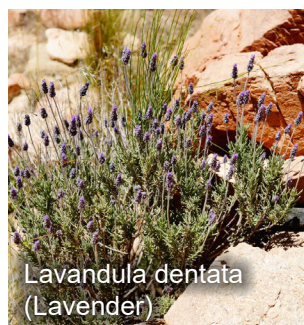
Andropogon distachyus
(Broomsedge)



Aloe Sp. aff.
tomentosa (Hairy
Green Aloe)



Euryops arabicus
(Euryops arabicus)



Lavandula dentata
(Lavender)



Pennisetum setaceum
(Fountain grass)

8.6 Street furniture

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

Key considerations

- 1 Be distributed evenly across all areas with reference to space types above.
- 2 Not obstruct pedestrian movement, cycle paths nor clutter public open spaces.
- 3 Consider color and material consistency.
- 4 Be integrated into the public realm, flexible and movable where required.
- 5 Feel ephemeral and informal, acknowledging the historic condition of street furniture in the region.
- 6 Consider accessibility with seating distributed at suitable intervals and have suitable heights and have backs or armrests.
- 7 Be of high quality, coherent, and rationalized to minimize street clutter.
- 8 Have a co-ordinated appearance, with a consistent materials and color palette to compliment character of the public realm.
- 9 Avoid duplication by rationalizing and combining elements.
- 10 Be easily maintained and repaired with easily available / replaceable components.
- 11 Be retained and renovated / improved where existing furniture has heritage value.
- 12 Boundary walls should contribute to the landscape character and scale and contribute to the character and setting of the space.



FIG. 65 Retaining boundary walls utilizing natural and local materials such as clay and earth. Al Ula, KSA



FIG. 66 Furniture elements in harmony with the context. Riyadh, KSA



FIG. 67 Naturalistic steps and edging designs. Macharef hills garden, Riyadh, KSA



FIG. 68 Fabric canopy utilizing local materials and providing shaded walkways. Al Ula, KSA

8.7 Lighting

A coordinated lighting strategy should create an appropriate and distinctive atmosphere for different areas to reinforce Bisha Desert's architecture. Lighting should not be distracting, the focus should always be on the setting, mood or character and quality of the space and buildings.

Key considerations

- 1 Light levels should be kept as low as possible to minimize light pollution and adverse effects on ecology and habitats.
- 2 Utilize lighting to increase overall safety and enjoyment at night.
- 3 Provide lighting and light levels that are appropriate to patterns of use, character, and context.
- 4 Utilize lighting temperature to reinforce difference between routes and to define contrast between character areas.
- 5 Sensitive highlight historic buildings, mosques and public buildings / spaces after dark, subtly revealing their architecture without over-use of light.
- 6 Utilize lighting that is appropriate to scale and context of routes and spaces- e.g. lower mounted lights on smaller lanes and in historic conditions to highlight textures.
- 7 Utilize contemporary lighting elements which are low energy, low heat, and dust resistant with a long life expectancy.
- 8 Manage private light spill, light pollution, or trespass - particularly over-lighting of shopfronts on souqs and streets - producing diffuse, soft and warm light.
- 9 Design of lighting fixtures should be authentic to the area - simple, sensitive to the setting, not historically pastiche or using imported historic forms.
- 10 Introduce a lighting control system that allows variable light levels.

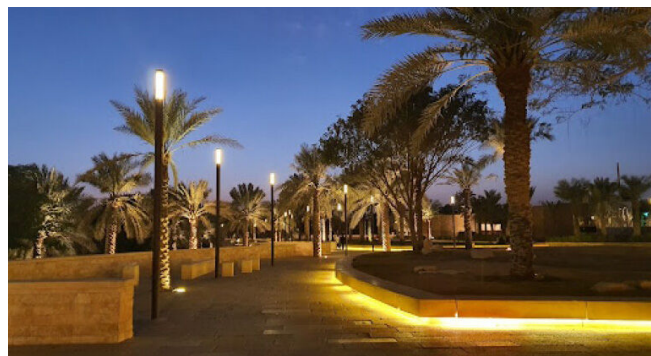


FIG. 69 Light bollards and led lights integrated in seating elements casting warm ambient light highlighting landscape features. Al Dirriyah, KSA



FIG. 70 Contemporary and contextual light bollards. Al Ula, KSA

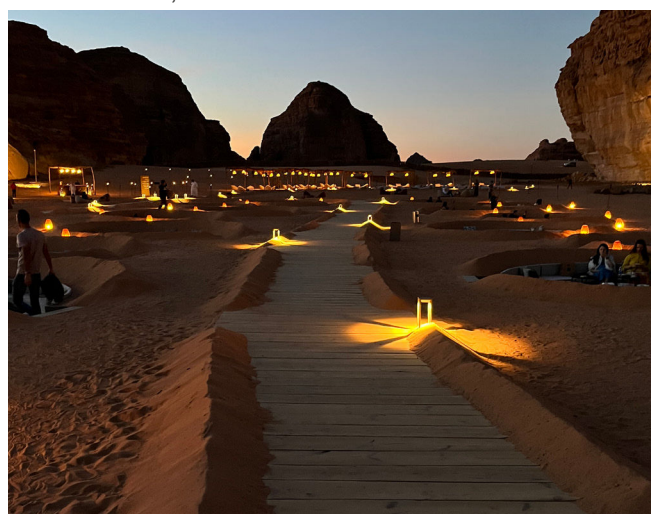


FIG. 71 Subtle floor lights highlighting walkways. Al Ula, KSA

8.8 Signage

Signage and public information system design, including materials, should respond to the character and environmental elements within the Bisha Desert area.

Signage elements should be seen as part of a wider strategy that seamlessly integrates with the furniture, lighting elements and landscape, reflecting and complimenting the hardscape materials palette.

Key considerations

- 1 Should include a combination of unified and integrated elements that are simple, concise, legible, and consistent that help and orient people to find their way, educate, entertain or to provide relevant information.
- 2 These can include, landmarks, points of interest, sculptural designs integrated with architecture, materials, landscape, lighting, furniture, and digital information.
- 3 Robust, flexible, and hard wearing with high quality durable finishes which adopt sustainable processes.
- 4 Allow for upgrading / updating and possible customization - e.g. special events.
- 5 Consider minimizing the amount of visual clutter by keeping fittings and support elements to a minimum by utilizing lighting columns, buildings and other structures in lieu of standalone columns and supports.

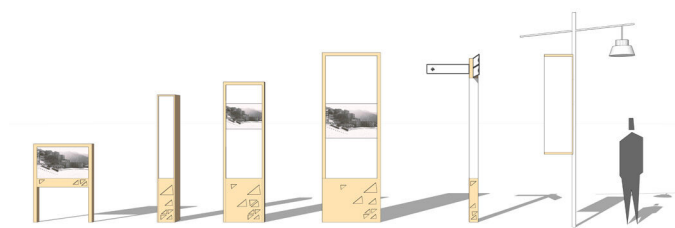


FIG. 72 Example of a signage family illustrating how contextual elements of traditional patterns and colors could be expressed within the lighting and signage elements



FIG. 73 Local materials and colors complementing the context. Palma, Spain



FIG. 74 Materials and colors of signage elements complementing the context. Causeway route, Ireland

8.9 Parking

Parking areas are divided into two distinct groups, off-street parking which is predominantly private and on-street parking which is dedicated to public parking.

The design of parking areas should be integrated into the overall design of the public realm, considering, requirements of the user, pedestrians, urban mobility, landscape, and hardscape elements.

Key considerations

- 1 Consideration shall be given to the needs of all users, with design solutions for ease of accessibility to parking for the physically impaired.
- 2 Clear legible, defined, and safe pedestrian links between parking areas and adjacent destinations should be planned.
- 3 The screening of large areas of parked cars shall be considered, with trees, hedging and landscape berms helping to minimize views of parked cars.
- 4 Consider introducing planting in regular parking spaces, to break up the expanse of cars and introduce shading.
- 5 Large canopy trees should be considered for the shading of vehicles.
- 6 Consider adopting sustainable urban drainage solutions for surface storm water runoff. The use of permeable surfacing materials and bioswales to parking medians with suitable planting should be encouraged.



FIG. 75 Example of shared cycle & pedestrian route with no vehicle access.



FIG. 76 Example of attractive public realm incorporating parking, pedestrians and planting



FIG. 77 Segregated pedestrian routes naturally shaded with trees. Riyadh, KSA

8.10 Public realm worked examples

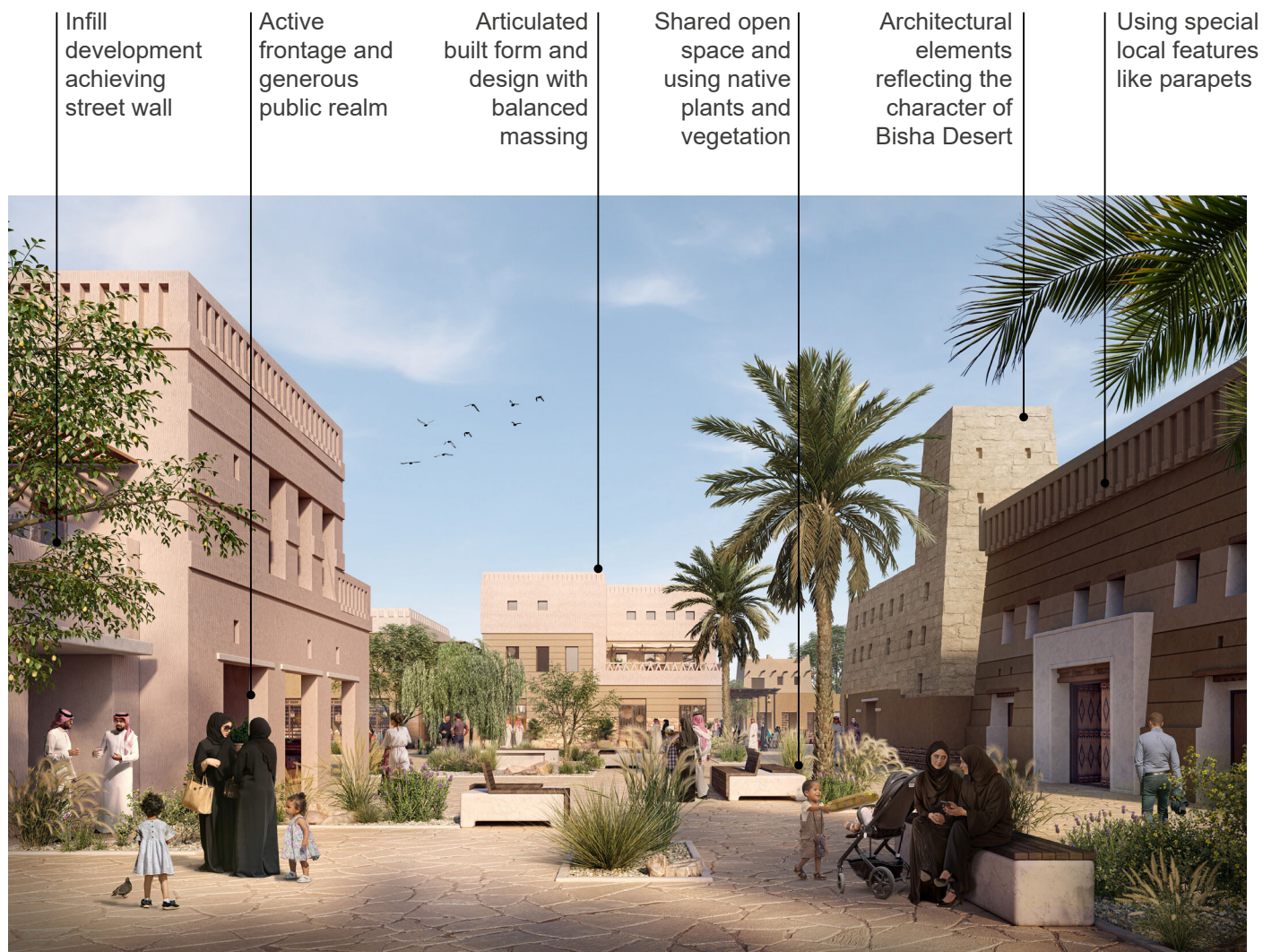


FIG. 78 Proposed view of heritage plaza in Bisha

The above illustrations are an example of a holistic vision for an old village center and a main street in the urban center in the Bisha Desert, with displays of an attractive public realm, active frontages, restoration of heritage buildings, contemporary interpretation of contextual architecture elements, high standard architectural materials and finishes, a color palette reflecting the local context, use of local art and patterns, and the enhancement of natural features.

- 1 Whilst the materials and colors should be limited within the spectrum of the natural context of the Bisha Desert, complimentary colors and contemporary patterns may be used to highlight destinations, routes and help reflect adjacent architectural elements.
- 2 Contemporary building massing should respond to the immediate context and to the history of the place fostering human scale.
- 3 Progression of privacy, from private to public in open space design, and the relationship between spaces should be dependent on the local culture of the place.

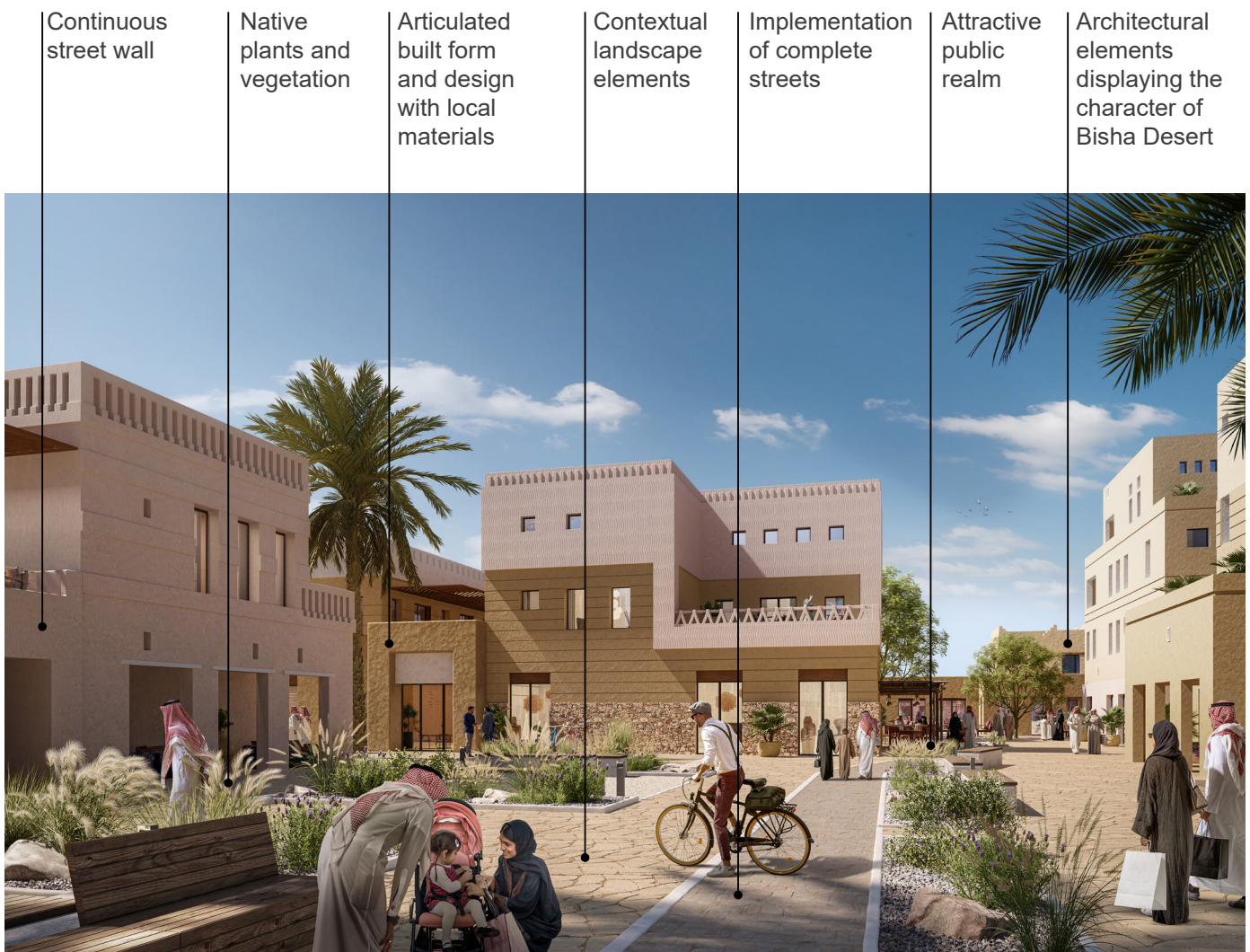


FIG. 79 Proposed view of plaza with micromobility path in Bisha City

- 4 Vegetation palettes in traditional zones to primarily reflect the contextual indigenous planting, including diversity, naturalistic arrangements, and coverage.
- 5 Hard paved areas should contribute to character and ensure functionality as well reflecting the material and color palette of the adjacent architecture and built form. Paving materials, unit size, textures and laying bond can express a contemporary or traditional design rationale and provide additional interest through variety and inclusion of art.
- 6 Softscape design in contemporary urban areas shall be predominantly indigenous species with a percentage of ornamental planting to provide variety and interest.

The main aspiration in promoting a more contextual driven architectural character is to produce building form and spaces reflecting the learnings from tradition, enhancing the proper character of the place, and thus creating a sense of belonging.

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