



# Sarawat Mountains

## Architectural Design Guidelines





**FIG.1 SARAWAT MOUNTAINS ARCHITECTURAL CHARACTER AREA**

# Contents

## Introduction

I	Vision.....	3
II	Topography and landscape .....	6
III	Overview of Sarawat Mountains Architecture .....	8
IV	Analysis of Sarawat Mountains Architecture .....	10
V	Evolution.....	14
VI	How to use the guidelines.....	16

## Guidelines

1	Key features .....	18
2	Composition .....	20
3	Elements .....	24
4	Colors and materials.....	30
5	Patterns .....	34
6	Applying the architectural character .....	36
7	Worked examples.....	40
8	Public realm.....	46



FIG.2 ARCHITECTURAL CHARACTERS MAP OF KSA

# INTRODUCTION

## I Vision

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

### I.1 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.



Najran

Al Ahsa  
OasisAl Qatif  
OasisEast  
CoastEastern  
NajdiSpecial  
Zones

### 1.3 **Sarawat Mountains**

Sarawat Mountains character area is located within the high mountains and highlands of the Sarawat Mountain ranges within the regions of Makkah, Al Baha and Jazan. The architectural character within the Sarawat Mountains in all the three regions shares similarities with variation limited to use of local materials.

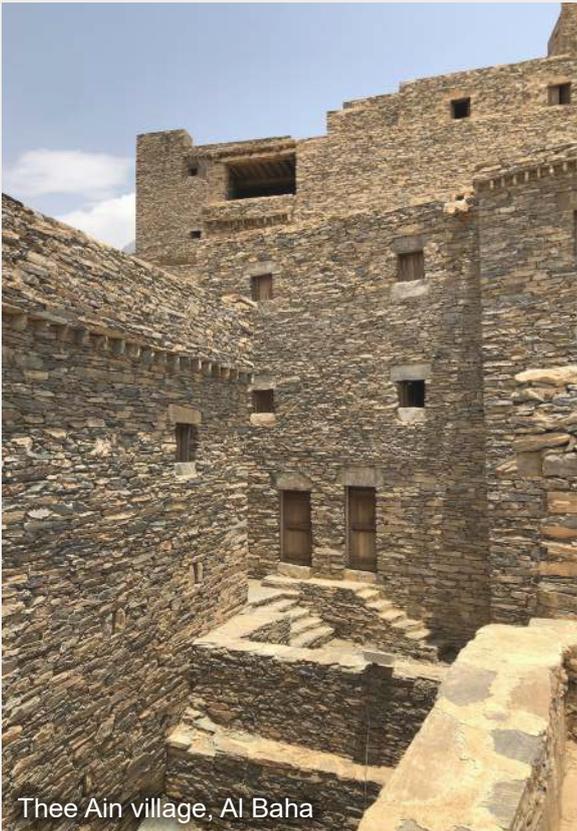
The main purpose of Sarawat Mountains ADG is to help raise the overall architectural design quality of built environment, especially in the expression of regional character of the Sarawat Mountains area for the improvement of both architecture and public realm design. Based on a regional character study identifying key heritage sites, natural environments as well as typical cultural landscapes, the guidelines are founded on an understanding of the traditions and heritage forming the character zone's sense of style.

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

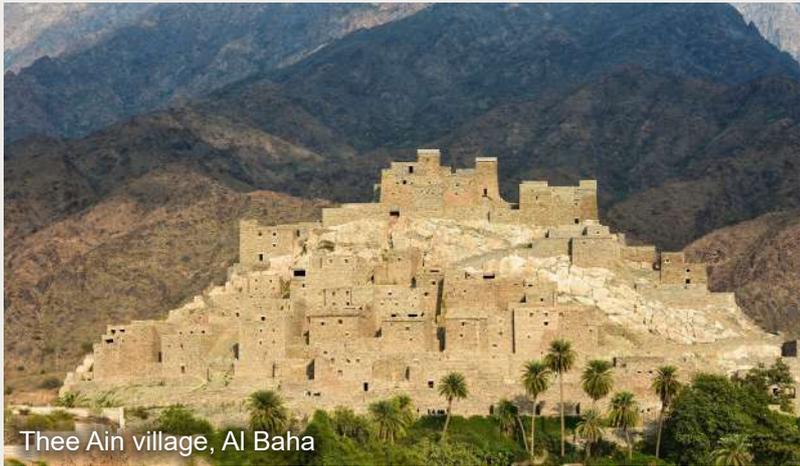
They are also intended to promote a general excellence in landscape design and urban design, and intend to promote the development of an attractive, representative, and inviting public realm, with a generous and lush landscape environment.

The guidelines are developed with the following main goals:

- 1 **Celebrate Sarawat Mountains' 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 Sarawat Mountains.**
- 5 **Inspire the production of a more contextually rooted new architecture for the area.**



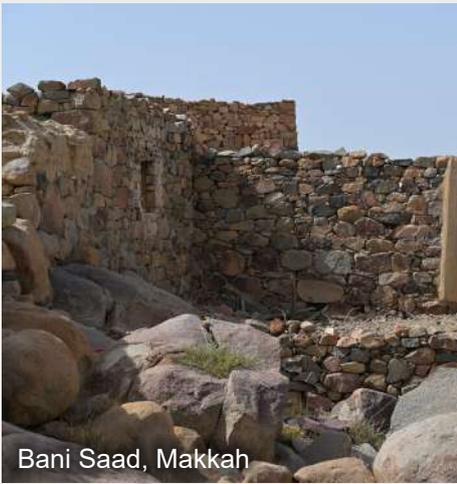
Thee Ain village, Al Baha



Thee Ain village, Al Baha



Vernacular architecture in Bani Saad, Makkah



Bani Saad, Makkah



Traditional patterns



Traditional column



Vernacular architecture in Addayer village, Jazan



Towers in mountains, Jazan



Sarawat mountains landscape in Al Baha region

FIG.3 SARAWAT MOUNTAINS

## II Topography and landscape

Observations on the links between landscape, climate, culture and the architectural character of Sarawat Mountains.

### II.1 Key information

The Sarawat Mountains are identified as a mix of steep rocky hillsides and dramatic ridge lines, an eastward declining plateau, a westerly escarpment that dramatically drops toward the upper Tuhama foothills, water corridors and the Tuhama coast.

Two vegetation groups have been defined reflecting the dryer slopes and wetter slopes. Whereas the western area has a greater extent of slopes and escarpments, where the bedrock is often exposed (erosion) and fine soil materials are confined to pockets and crevices.

### II.2 Landscape

The eastern rocky plateau features a gently sloping landscape towards the inland desert, covered in geological formations, rocky hills and rocky ridges that appear to be predominantly yellow, red, brown in color, featuring many wadi tributaries, sandy plains and scattered arid vegetation. Wadi farming appears as the most dominant anthropogenic feature, whilst sprawling development tends to follow road corridors, and in flatter areas, a patchwork of rural development and field farming can be seen. There is evidence of a significant modern developments blanketing areas of the rocky landscape in the south and northeast, whilst other areas appear untouched due to difficult and harsh rocky terrain.

Towards the western part of the zone, ridge lines feature a distinctive mosaic of

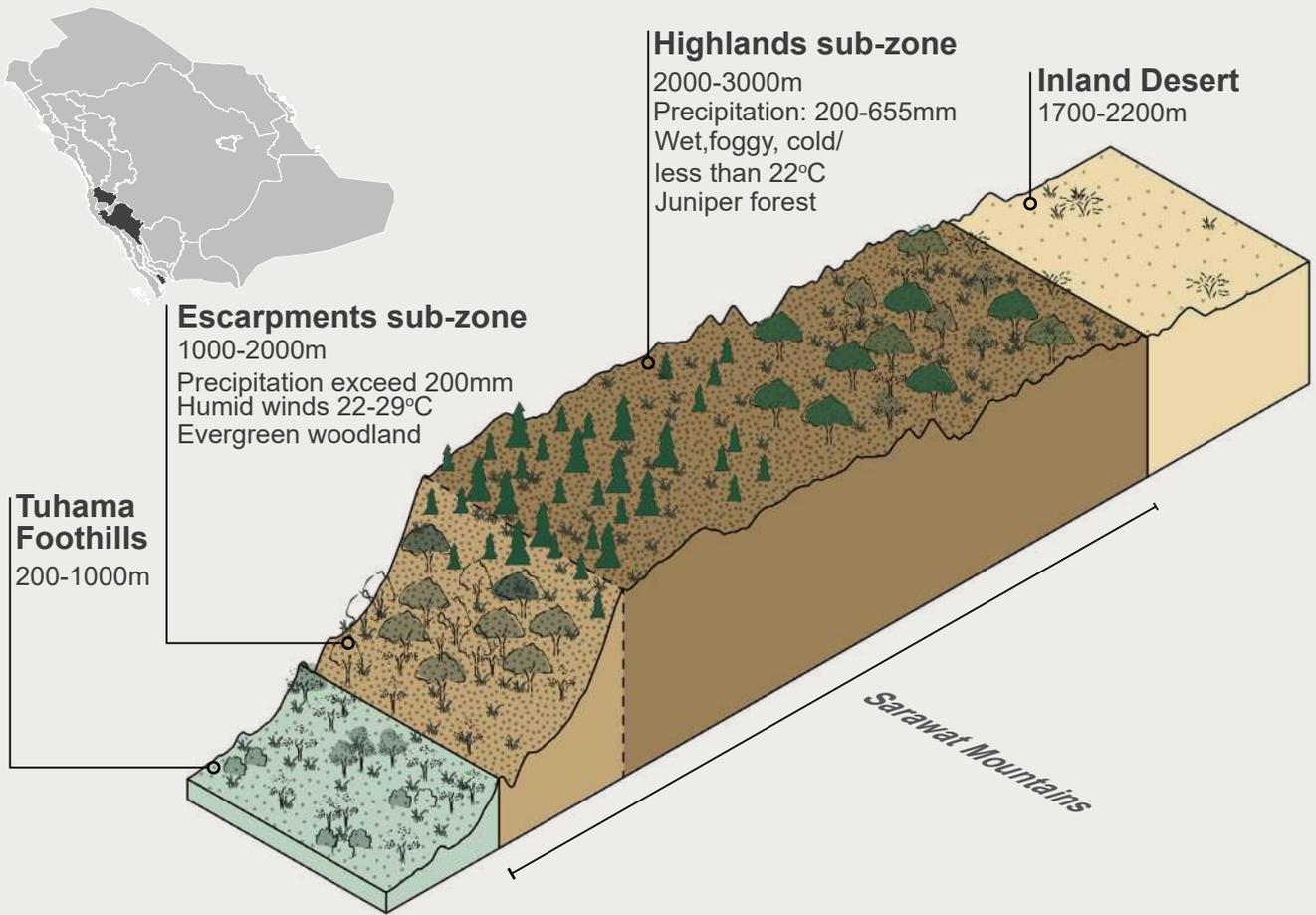
fragmented juniper forests that descend down the escarpment and appears largely intact and of high quality, scattered rural developments, terrace farming (both of traditional and contemporary character) and wadi farming. The gently eastward sloping plateau, immediately adjacent to the ridge line, features rocky hills, wadi watercourses, fragmented vacant lands with seemingly intact, yet sparser vegetation habitat types. Soil is generally of a granite sandy type. Additionally, flatter plains of various sizes are found amongst the hills, where the soils are mostly sand pans or gravel pans of granite origin and are typically impervious to water.

Towards the inland desert, the flat basin features a patchwork of wide and shallow wadi corridors, wadi farms, field farms and is generally featureless in terms of vertical topographic elements until the sudden volcanic ridge and hillsides. The southern degradation features mostly intact volcanic fields with flows of wadis, covered with white sand sheets on the eastern side and alluvial plains with sand cover plains where wadi corridors are evident.

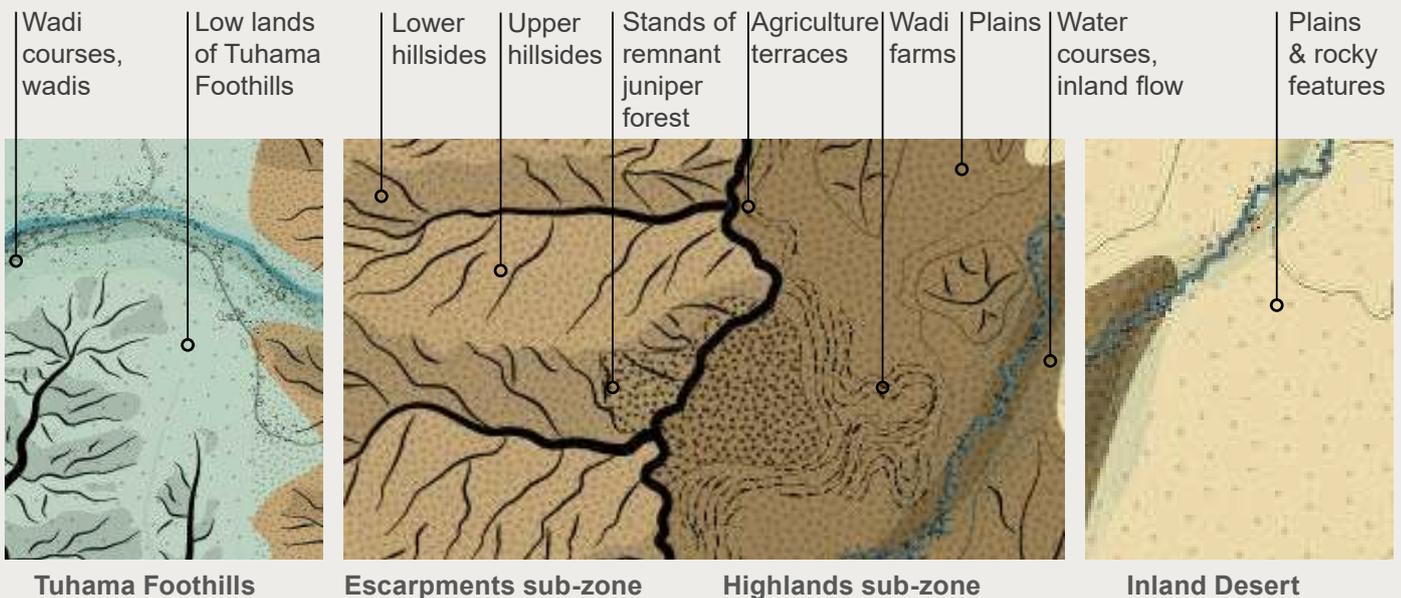
Throughout the region, summers are long, arid and can reach 30°Celsius, whilst winters are short and dry with a drop down to 8°Celsius. Half of the year is mostly cloudy from May to October with high precipitation reaching 30mm in April and low humidity. Wind speed varies mildly during year from 11 to 14 km per hour with the highest speed in March.

### II.3 Architectural influence

Settlements influenced by its character are mostly clustered settlements constructed of materials such as local stone in mountains. Fewer sporadic settlements with plastered houses and dispersed vegetation are present near wadi corridors towards inland desert.



**Natural color palette**



**FIG.4 SARAWAT MOUNTAINS - LANDSCAPE FEATURES AND TOPOGRAPHY**

### III Overview of Sarawat Mountains Architecture

A summary of the existing character of traditional architecture and settlements in the Sarawat Mountains.

#### III.1 Settlement character

Settlements are spread across the mountains and patterns differ based on the location within the topography and the typology. Mountain buildings were scattered, built on precise grounds geographically and geometrically for defense and protection against environmental conditions.



FIG.5 Traditional hilltop village settlement

The buildings were located on agricultural terraces in form of castles to protect the farm.

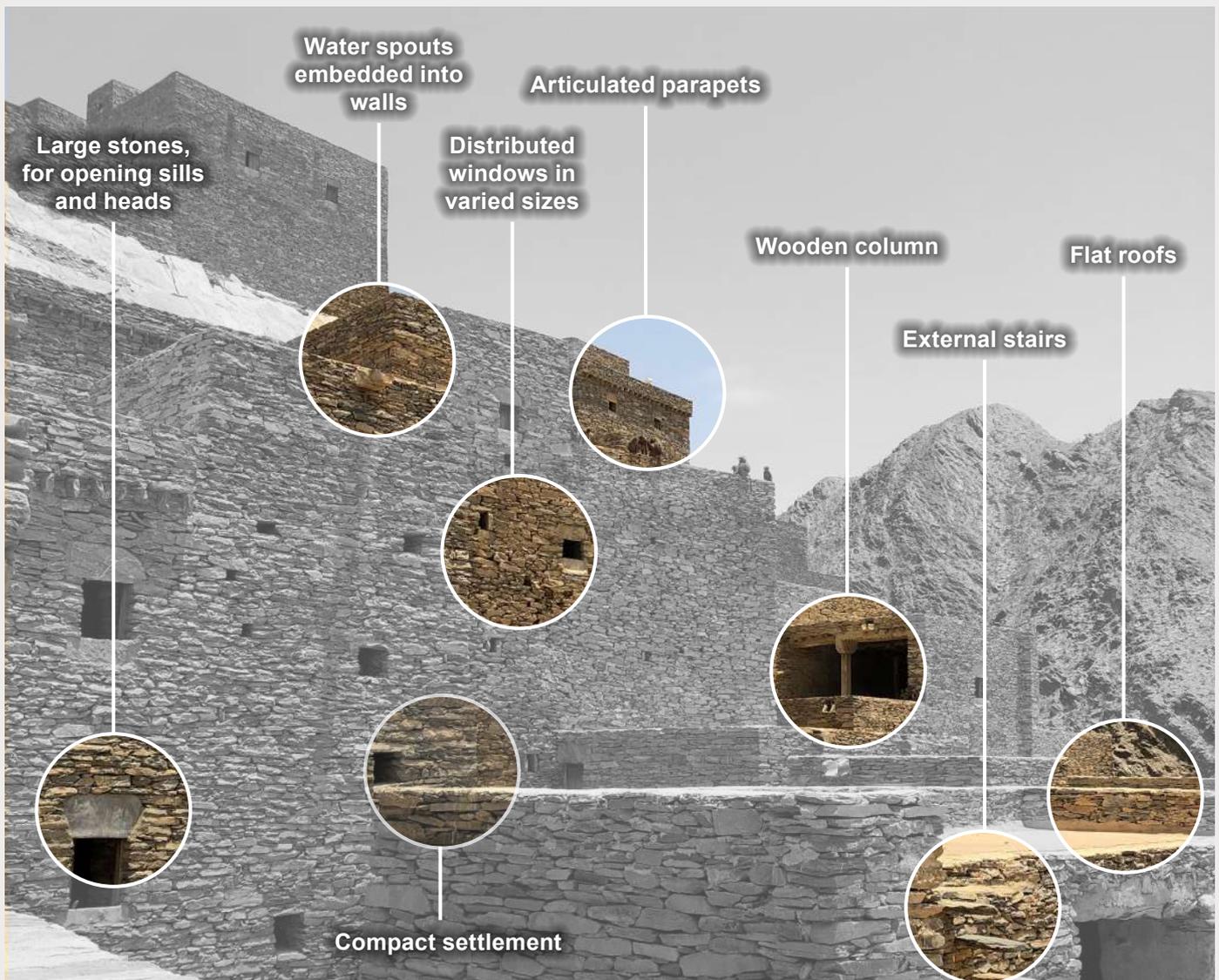


FIG.6 TRADITIONAL SETTLEMENT OF THEE AIN IN AL BAHA

Compact layout integrated by a system of houses, school, mosque, wells, orchards and houses of workers. Courtyards between houses and narrow passages feature as a means to unite the buildings giving hierarchy to open spaces.

Markets and mosques together with open spaces function as social gathering places and are located to facilitate easy access while allowing privacy to the village. Towers are generally located in a prominent location for defense purposes and refuge areas. They are also present in the cultural landscapes to function as storage for grains.

The nature of open spaces is highly dependent on the topography.

Plateaus and plains feature courtyards as open spaces while mountains feature terraces.

### III.2 Architectural character

The dominant vernacular architecture in this region is made of traditional construction materials such as local stones with compact massing and very strong geometric profiles. Play of solid and voids, evident with towers, and external circulation are distinct features of the architecture style.

Materiality and color in the Sarawat Mountains vary according to the locally available natural stone. Jazan region features black / brown stone while in Al Baha and Makkah regions feature stone in shades of brown and white.

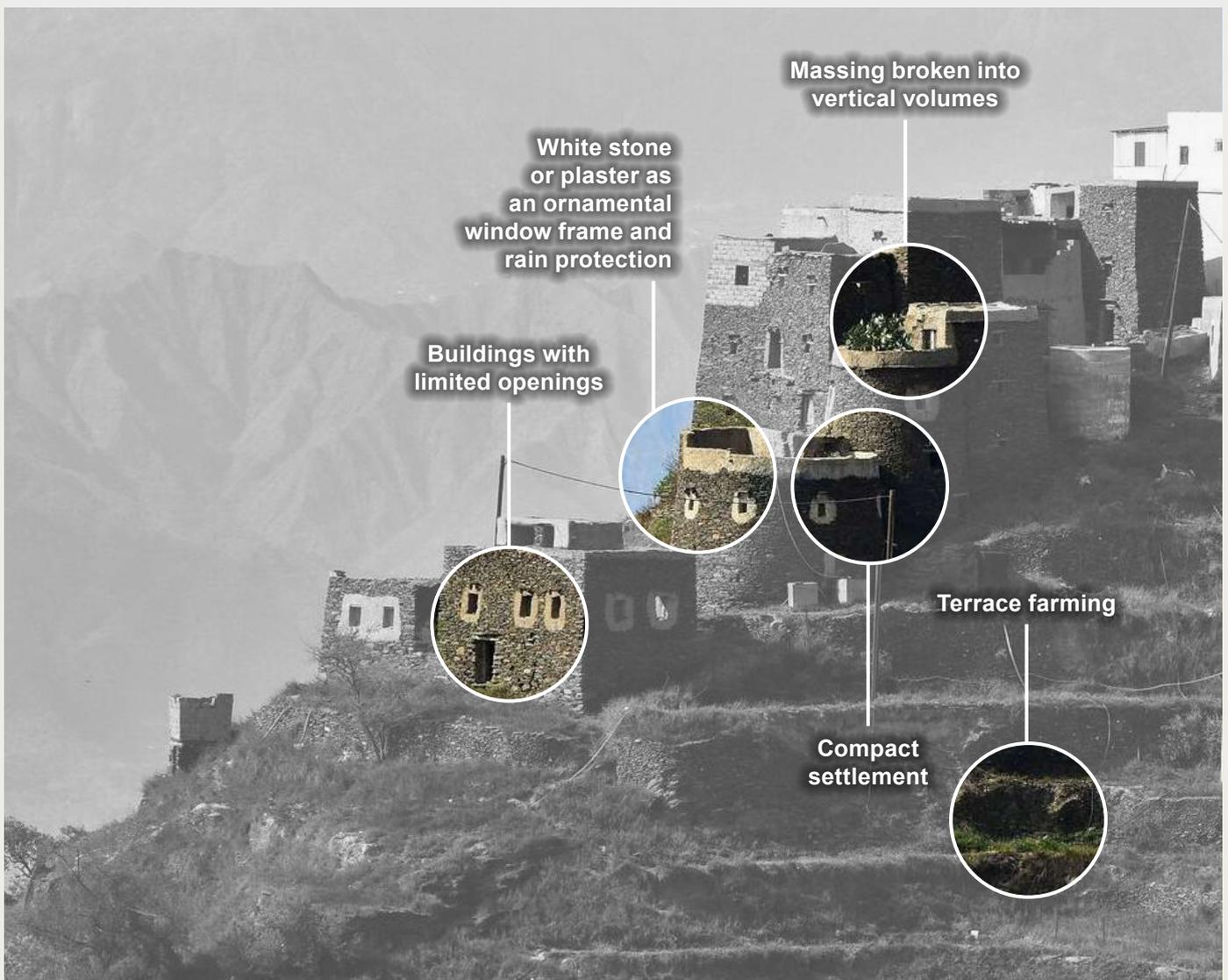


FIG.7 TRADITIONAL SETTLEMENT IN SARAWAT MOUNTAINS, JAZAN

## IV Analysis of Sarawat Mountains Architecture

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

To find objective characterizations of the vernacular architecture in Sarawat Mountains, 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, orthogonal forms, strong geometries, often ranging primarily from 1 to 3 story structures, with towers rising up to 6 stories.

### IV.2 Horizontality

Generally, strong horizontal proportions, indicated by a width-to-height ratio between 1:0.5 to 1:0.75 with towers having vertical proportions of 1:2.9 are characteristic of vernacular architecture in the area.

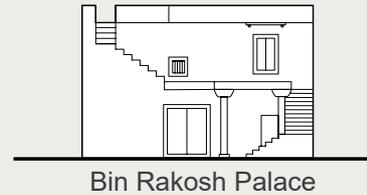
### IV.3 Solid to opening ratio

Facades are mainly composed of stone with little openings (between 2 to 6% of the total facade) covered by timber. Windows and doors are often framed with local white stone for the mountain areas.

These proportions are in line with the historical and geographical situation of the region. In the mountains, for security and privacy purposes, openings are much smaller than those in the coast.

**Horizontally continuous  
Large facade openings**

Locations



Width-to-height Ratio



Facade Analysis

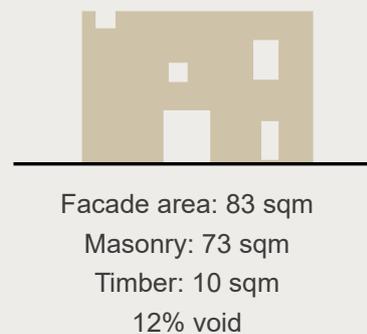
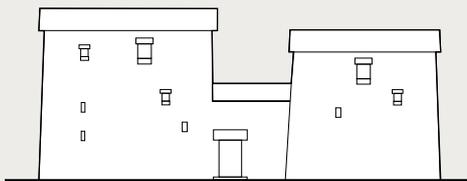
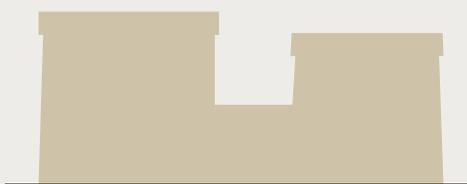


FIG.8 VERNACULAR FACADE STUDIES

**Vertically segmented  
Arbitrary facade openings**



Thee Ain Village

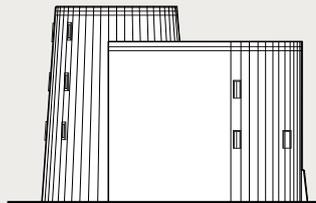


1:0.5  
Max. 5° wall  
inclination angle



Facade area: 375 sqm  
Masonry: 365 sqm  
Timber: 8 sqm  
2.7% void

**Vertically continuous  
Small facade openings**



Al Giyar Village

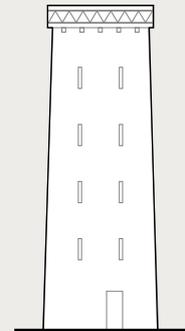


1:0.75  
Max. 5° wall  
inclination angle



Facade area: 162 sqm  
Masonry: 159 sqm  
Timber: 3 sqm  
2% void

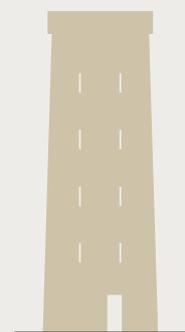
**Vertically continuous  
Cylindrical volumes  
Small facade openings**



Al Malad Village



1:2.9  
Max. 5° wall  
inclination angle



Facade area: 129 sqm  
Masonry: 124.1 sqm  
Timber: 3 sqm  
4% void

IV.4 **Building grouping patterns**

Layout of settlement and its open spaces is based on the nature of site, primarily the topography and the typology.

Stone house villages: compact layout permeated by narrow passages and hierarchy of open spaces. Shared courtyards between houses is one of the special features of Al Baha region.

Building placement on steep slopes may feature higher number of stories up to 5 to 6 floors as they are directly based on the slopes. Buildings are clustered together.

Towers are generally located in a prominent location for defense purposes and refuge areas. They are also present in the cultural landscapes to function as storage for grains.



FIG. 9 Building grouping patterns

IV.5 **Balanced massing**

A general development of two to three stories high with occasional tapered walls with a maximum inclination angle of 5°.

Massing broken into a balance of vertical volumes on terraces and horizontal volumes built on highlands and plains.

At town scale, skyline is balanced with horizontal volumes with highlights of stone towers reaching up to six stories high.

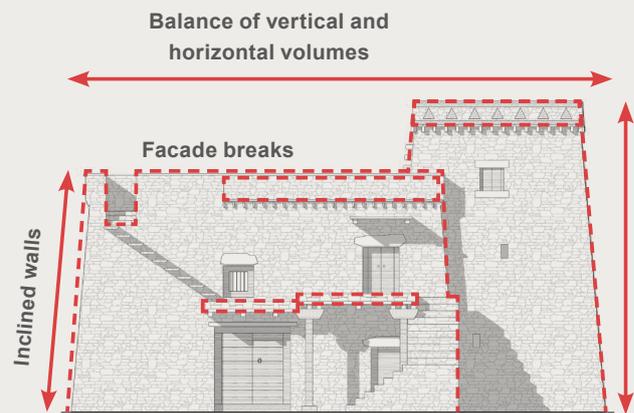


FIG. 10 Balanced massing  
Facades feature a balance of horizontal and vertical volumes.

IV.6 **Bipartite articulation**

Facades are articulated with two parts. This distinction between base and top is expressed most clearly through the articulation. The lower is solid stone / plastered with entrance or large openings, external staircase, and columns while the upper part is small openings with flat roofs.

Generally, houses have unarticulated parapets with a frieze. Tower parapets are articulated with a band of alternating masonry stone and white quartz stone, while palace buildings have corner feature.

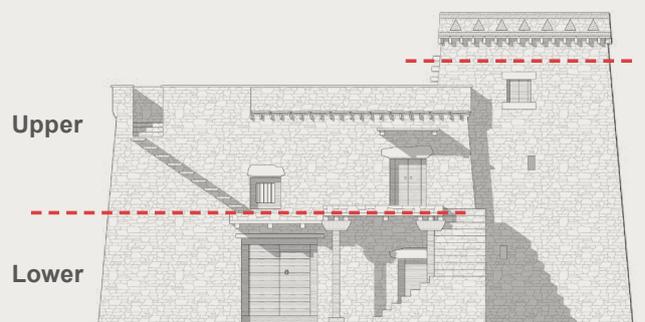


FIG. 11 Bipartite articulation  
Facades are typically split into 2 separate tiers with their own distinct character: lower (base), and upper part.

IV.7 **Special motifs**

Flat roofs with 1m to 1.5m stone extension parapets articulated with a band of alternating masonry stone and white quartz stone. White stone triangles as part of parapet articulation are a common pattern in the towers of Al Baha and Jazan region.

Generally, timber columns with wide top, door and window shutters are carved and decorated using local patterns and colors.

IV.8 **Recesses and projections**

Windows vary in size, from 50cm x 50cm up to 100cm x 100cm, containing a wooden frame and central divider.

A polished stone, usually cut into either rectangular or a bow, differing in the colors is placed above the opening to support the upper stones of the wall.

Timber heads, boards were also used as entrance heads / sills projecting from the door surface for protection against rain.

Large wooden pieces projecting outside the entrance and upper level openings roofed with palm leaves for shading purposes and as a defense mechanism.

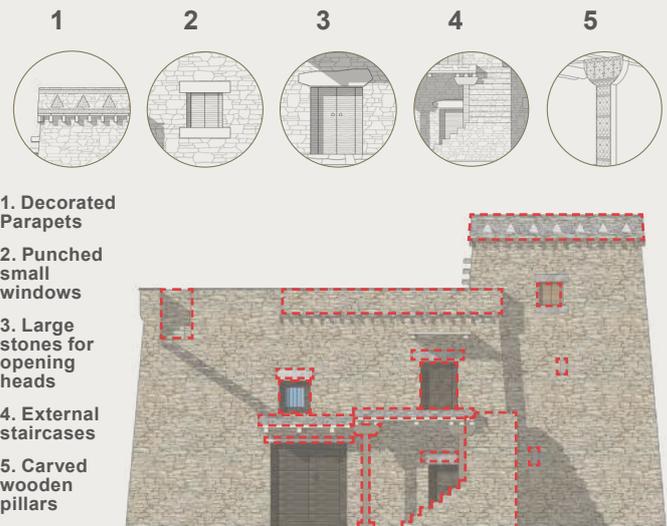
Embedded water spouts are also found in multiple structures at top of the building.

Stairs are an exterior element in Al Baha houses. They are in form of stacked stones or supported by columns and beams.

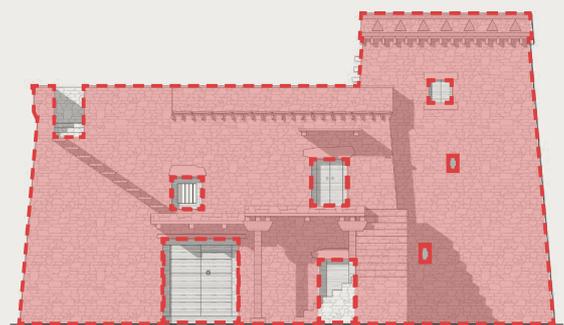
IV.9 **Varied symmetries**

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

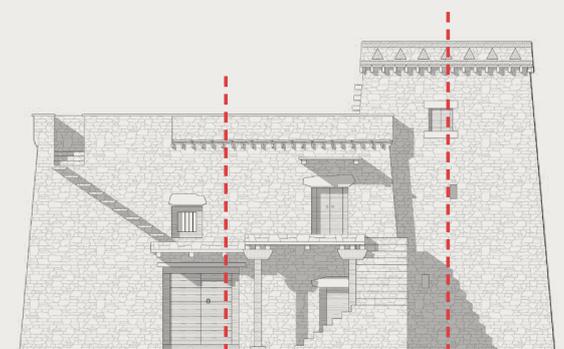
Windows are distributed on the facade and in varied sizes based on the function rather than following a pattern.



**FIG. 12** Special motifs and projecting elements  
For shading and protection against rain. External staircases articulating the facade.



**FIG. 13** Simple opening geometries  
Fenestration formed as punched hole openings within solid load-bearing masonry walls.



**FIG. 14** Asymmetrical composition

## 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.

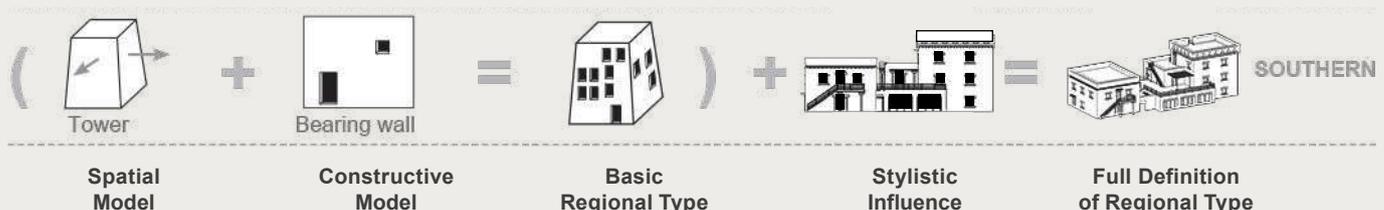


FIG. 15 Character equation for the Sarawat Mountains (after Ishteeaque & Al-Said 2008)



Traditional building

## TRADITIONAL

The massing and design of the new building should foster the architectural character, not necessarily by replicating it, but by adopting in an innovative and sensible way the traditional forms and patterns, elements and decorations, materials and colors.

Strong geometries with sharp solid and voids, stone walls, small framed openings, geometric and articulated parapets, external circulation elements with columns and occasional large openings.



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.

Strong geometries, smooth planes in earth tones, limited framed openings, external staircases and use of patterns. Sharp detailing and interpretation of traditional urban form.



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 forms, use of volumes to reflect the solid and voids, measures for increased daylighting. Perforated walls 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 Sarawat Mountains.

### VI.2 Guideline formatting

Individual guidelines are formatted graphically to make them more useful:

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

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

Link to the Contents page

1 Chapter number and heading

2 **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 topography of site and its context, figure ground qualities, and public realm.

3 General description

- 1 Human-scale, socio-cultural and family values, should be fostered in the design.
- 2 Walkable and non-car dominated environments should be prioritized. Attractive public realm and frontages should be provided along public streets.
- 3 Land use should promote a mix of uses.

4 Guideline actions

- 4 Spatial enclosures should be promoted to achieve a sense of place with a clear hierarchical variety of open spaces.
- 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.**

2.2 **Relationship to landscape**

- 1 Conservation and enhancement of environmental and cultural resources on site should be prioritized.
- 2 Built form should respect the natural terrain of escarpments, and flattening of slopes should be avoided.
- 3 In general, a usable open space should be provided within the plot oriented toward the public frontage.

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

5 Rationale

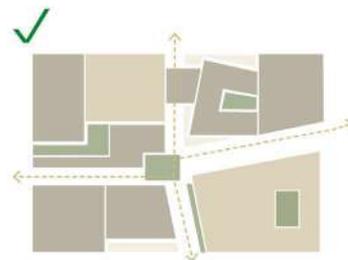


FIG. 21 Permeable fabric with hierarchy of open spaces, mixed uses, and continuous pedestrian network should be encouraged

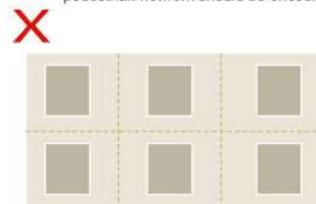


FIG. 22 Large blocks / consolidated blocks without pedestrian permeability should be discouraged

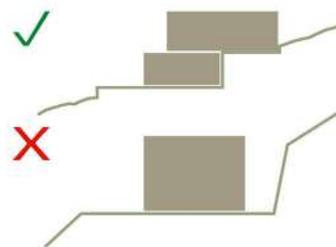


FIG. 23 Respecting the natural terrain to be encouraged; large flattening of sites should not be permitted

6 Illustrations

FIG. 17 Typical guideline structure

# GUIDELINES

## 1 Key features

The form and style of contemporary Sarawat Mountains architecture should distill the essential qualities, key features and the values of vernacular architecture.



FIG. 18 Sarawat Mountains key features

### Key features:

- 1 Compact forms with strong geometric shapes and flat roofs provide a well-balanced variety.
- 2 Alteration between mass and void to articulate the facade.
- 3 Massing broken into a balance of vertical volumes on terraces and horizontal volumes.
- 4 Facade articulation with external circulation and carved wooden pillars.
- 5 Geometric pattern and reliefs are used in the form of friezes, straps, and stone ornamentation in the form of parapets.
- 6 Low window-to-wall ratio: largely solid areas of wall with small framed windows.
- 7 Facades with localized symmetrical composition, and alternating volumes bringing asymmetry.
- 8 Shared courtyards within the cluster of buildings as a smaller social space.
- 9 Framed openings and entrances with occasional projected elements for shading.
- 10 General palette of beige, brown and gray with white and complementary landscape colors used for ornamentation.

## 1.1 Character summary

The vernacular architecture design, proportions, patterns and architectural features in the Sarawat Mountains were evolved based on primarily the local materials available, traditions and culture, and with a purpose of defense.

The design of vernacular architecture distinguishes itself from the neighboring styles with heavy use of stone as building material, strong geometric profiles with solids and voids, and frequent use of towers. Also, the variation in building style based on the typology of houses, palaces, and towers is distinct.

Some key features, are the exterior stairs that are in form of stacked stones or supported by columns or carved wooden pillars with wide top of local timber.

Massing and design in traditional constructions, like farmhouses or in villages, were typically small tower-like, conical or cubic shape buildings of 2 to 4 stories with tall defensive towers. Towers have a wide base with narrow top rising up to 6 floors.

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

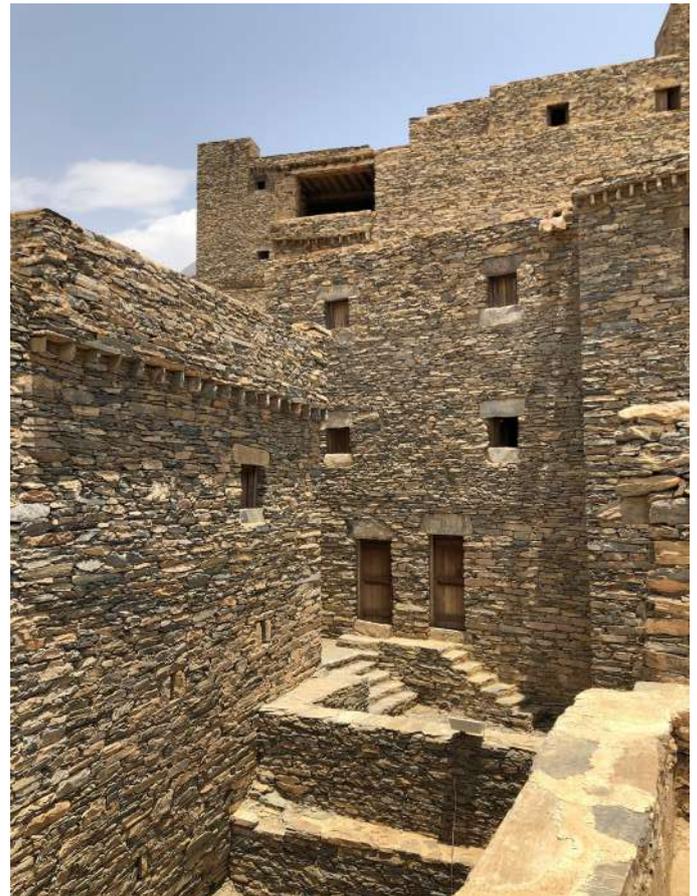


FIG. 19 Vernacular architecture in the Sarawat Mountains, location - Thee Ayn, Al Baha

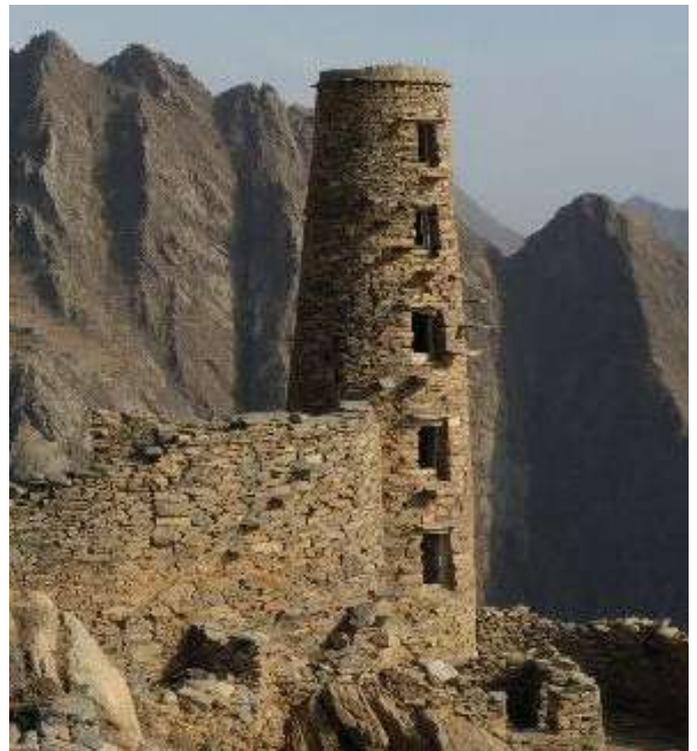


FIG. 20 Vernacular architecture in the Sarawat Mountains, location - Addayer village, Jazan

## 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 topography of site and its context, figure ground qualities, and public realm.

- 1 Human-scale, socio-cultural and family values, should be fostered in the design.
- 2 Walkable and non-car dominated environments should be prioritized. Attractive public realm and frontages should be provided along public streets.
- 3 Land use should promote a mix of uses.
- 4 Spatial enclosures should be promoted to achieve a sense of place with a clear hierarchical variety of open spaces.
- 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.**

### 2.2 Relationship to landscape

- 1 Conservation and enhancement of environmental and cultural resources on site should be prioritized.
- 2 Built form should respect the natural terrain of escarpments, and flattening of slopes should be avoided.
- 3 In general, a usable open space should be provided within the plot oriented toward the public frontage.

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

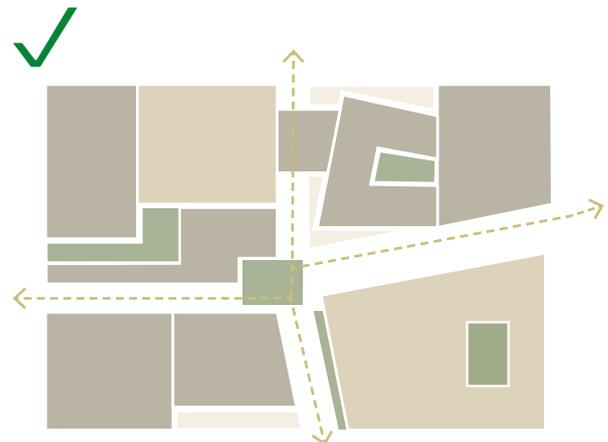


FIG. 21 Permeable fabric with hierarchy of open spaces, mixed uses, and continuous pedestrian network should be encouraged

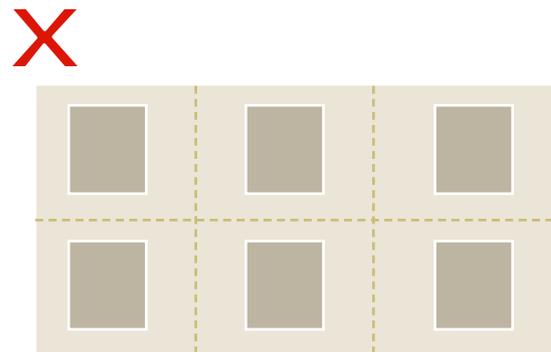


FIG. 22 Large blocks / consolidated blocks without pedestrian permeability should be discouraged



FIG. 23 Respecting the natural terrain to be encouraged; large flattening of sites should not be permitted

### 2.3 Balanced 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 Sarawat mountains while also fostering human scale.
- 2 Forms should be compact with strong geometric, orthogonal shapes with voids that provide a well-balanced variety that adds to the skyline.
- 3 Masses should be primarily horizontal with alternation of solids and openings and a balance of vertical volumes as highlights. Generally, a typical height of maximum 4 stories should be recommended.
- 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.

**To retain the typical horizontal form of traditional settlements with occasional use of vertical tower elements.**

### 2.4 Flat roofs

Roofscape guidelines significantly contribute to the character of the place through contemporary interpretation of roof line, 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.**

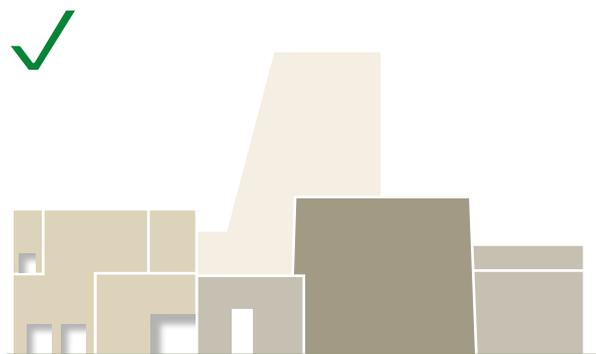


FIG. 24 Masses primarily horizontal with vertical volumes adding variation in skyline

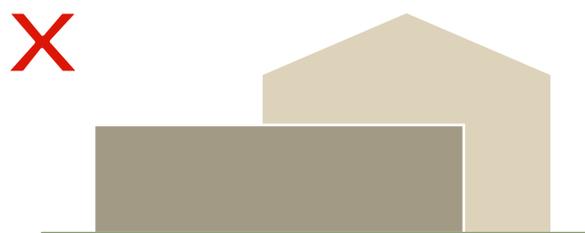


FIG. 25 Large monolithic building blocks, non contextual roof profiles should be avoided

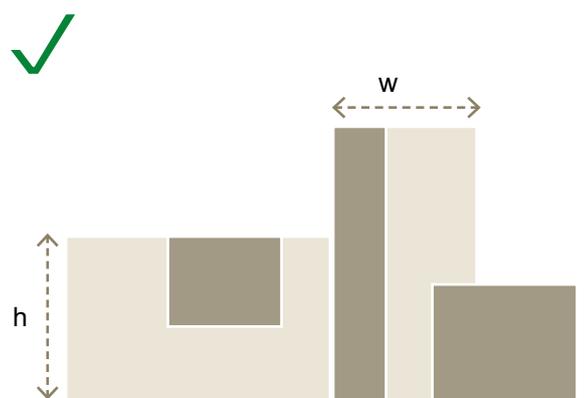


FIG. 26 Flat roofs with width-to-height ratio promoting horizontality

## 2.5 Solid facades

- 1 Facades should express external solid walls that are grounded to the street level.
- 2 Openings should have a maximum share of 30 to 50% of the overall facade surface, according to their solar and wind exposure.
- 3 Facade design should be integral to all public sides (i.e. with the same level of design quality and a consistent treatment).
- 4 Facade design should display a plain, simple, and elegant style.
- 5 Ground floor facade treatment should foster a high-quality interface between the building and the street, with active frontages between ground floor and main street .
- 6 Combination of traditional architectural elements with contemporary parameters and new technologies should be proposed in facade design.

**To express the architectural intent and character of the mountains. To interpret the bipartite facade character with distinct lower part of the facade of vernacular architecture of Sarawat mountains.**

## 2.6 Simple openings

- 1 Generally, openings should consist of small windows of simple geometry. Variation in placement, rhythm and patterns should be interpreted from the vernacular architecture.
- 2 Loggias may be incorporated in frontages and should be preferred over abutting balconies.
- 3 Large or unusual opening features should be generally discouraged and/or used only to demarcate unique conditions, like landmark buildings, or special uses.

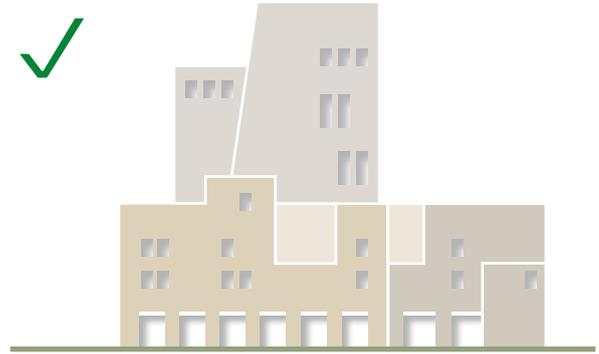


FIG. 27 Solid facades with low percentage of openings. Sober, plain facades



FIG. 28 Large openings at base, thin columns, blank, non-integral facades, facades not respecting privacy, should be avoided



FIG. 29 Openings with simple geometries. Loggias incorporated in facade design. Privacy for neighboring plots

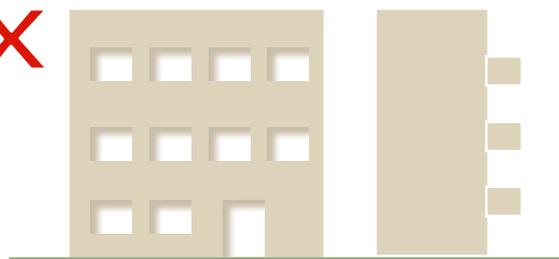


FIG. 30 Large openings, arranged in grid patterns, projected balconies should be discouraged

- 4 Occasional use of colonnades and recesses for pedestrian micro-climate comfort may be proposed.
- 5 Screening spaces and devices should be integrated to facade design to provide privacy and protection from the weather.
- 6 Opening design should always ensure privacy of neighboring residential buildings.

**To observe the aesthetic character and simplicity of the mountains.**

## 2.7 Asymmetrical frontages

- 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.
- 2 Facades should be articulated by horizontal and vertical breaks and by finishes, material banding, bringing variation.
- 3 Large-scale symmetry should be reserved for only the most important of civic and religious buildings.

**To observe simple asymmetry defining the traditional architecture.**

## 2.8 Special features

- 1 Contemporary interpretation of external staircases and circulation, a distinct feature of the area should be encouraged.
- 2 Top part of the vertical volumes should be distinct with the use of facade features, materials or articulation.
- 3 Use of patterns used in wooden column carvings should be encouraged to highlight facade elements.

**To highlight the character of Sarawat mountains while creating attractive facades.**

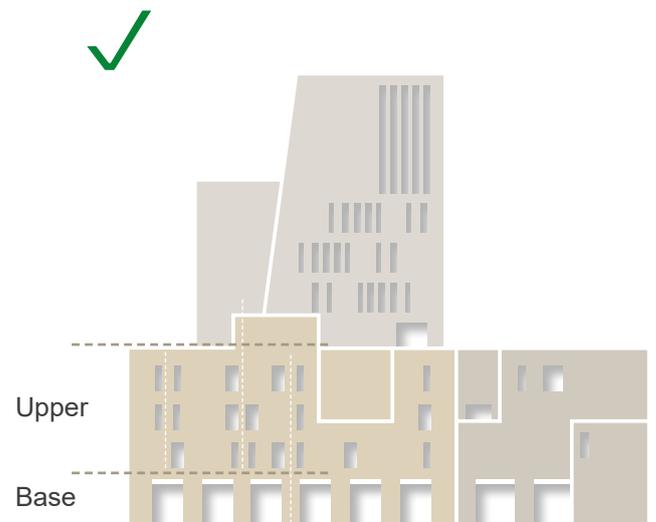


FIG. 31 General asymmetry. Openings arranged in localized symmetry

Tower elements highlighted with distinct top element. Bipartite character of facade maintained.

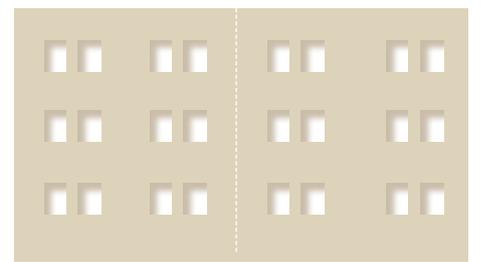


FIG. 32 Long monotonous facades, large scale symmetry without facade breaks should be avoided

### 3 Elements

The individual parts that are the building blocks of the Sarawat Mountains architecture.

TAB. 1 Sarawat Mountains architectural elements

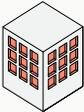
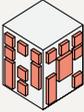
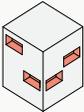
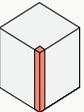
#### GENERAL ELEMENTS

	<b>Key characteristics</b>	Strong geometries with balance of solids and voids, articulated parapets and patterns, external circulation. Refer to source page 18 for key characteristics.
	<b>Facade proportion</b>	The massing, design and height of the new building should foster human scale, respect and work with the existing proportions of the heritage built form. Balance of horizontal and vertical volumes.
	<b>Window-to-wall %</b>	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.
	<b>Opening proportions</b>	Opening proportions should interpret the traditional character of openings in the region / heritage site. Openings should follow a pattern and rhythm contributing to the character of the place as well as designed for human comfort. Refer to section "3.3 Windows and openings" on page 29.
	<b>Composition</b>	Depending on overall building size, the base may be characterized by as much as the first 1 - 3 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.

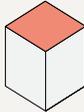
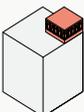
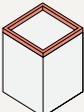
#### BASE ELEMENTS

	<b>Entrances</b>	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 section "3.2 Doors and entrances" on page 28.
	<b>Shop fronts</b>	Active frontages between ground floor and main street should be emphasized.
	<b>Arcades</b>	Arches should not be permitted. Occasional colonnades maybe allowed for active frontages.
	<b>Curtilage</b>	Curtilage: small yard or court. Buildings' exterior ground floors, 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.

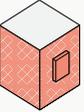
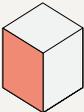
## MIDDLE ELEMENTS

	<b>Wall articulation</b>	Facades should ideally express a dynamic character, articulated through features such as external circulation (e.g., staircases supported by columns), balance of solids and voids, and use of traditional patterns. Regular breaks (generally at maximum 30 meters intervals) along building facade with varied elements like offsets, recesses, stepped facades are recommended to create a visually engaging streetscape. 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.
	<b>Windows and Openings</b>	Openings should follow a pattern and rhythm contributing to the character of the place as well as designed for human comfort in the particular character zone. See expanded guideline “3.3 Windows and openings” on page 29.
	<b>Projecting elements</b>	Projecting features should reference historic examples, if used, being appropriately sized for the rooms they serve. For Sarawat Mountains, projecting elements such as balconies should be generally discouraged or should be well integrated within the massing.
	<b>Recessed elements</b>	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, arcades, overhangs and chamfered corners.
	<b>Shutters and Shading</b>	Should adapt to the vernacular language. Shading should be achieved by recessing openings from the facade, or providing perforated or latticed screens. Complementary color palette may be used to highlight shutters as special feature, based on the vernacular language.
	<b>Corner features</b>	Building corners should be well defined and positively contribute to the public realm and help pedestrian movement.

## TOP ELEMENTS

	<b>Roofscape</b>	Active, accessible roof space is encouraged. Roofscapes should be used as amenity space and to incorporate sustainability and green roof measures.
	<b>Rooftop Elements</b>	Should be set back min.4m from the parapet/building facade and be of a lighter expression of construction (i.e. materiality or color). Rooftop rooms derived from vernacular architecture are encouraged. Temporary fabric shading also permitted. Rooftop elements usually, should not extend more than 33% of the frontage.
	<b>Parapets</b>	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

	<b>Materiality</b>	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 Materials and Colors” on page 30.
	<b>Color</b>	Generally, approximately 60-70% 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.
	<b>Pattern</b>	Local art and patterns should be integrated in design composition, generally up to 10% of total facade surface. See expanded guideline “5 Patterns” on page 34.

Top



Soft and simple but articulated, sculptural building forms, flat roofs, parapets with frieze and embedded water spout



Pointed parapets



Parapets with crenellations



Inclined tower top with triangular stone pattern

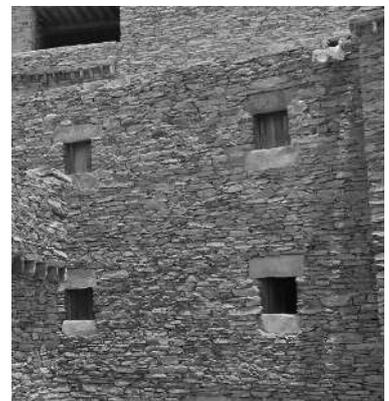
Middle



Asymmetrical pattern of openings



Narrow openings with projected tops



Small openings, use of large stones above openings



External staircases



Simple sober facades



Highlighted door openings

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

Base



Use of columns for shading structures



Typical entrance



External staircases



Wide entrances



Articulated shutters



Recessed openings

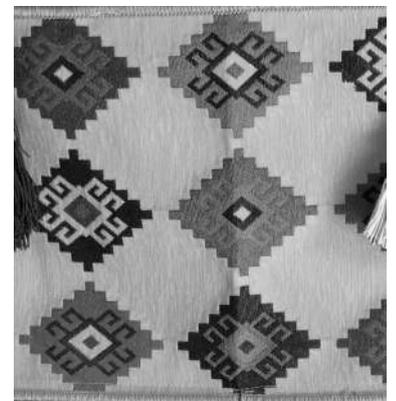
Ornaments and other elements



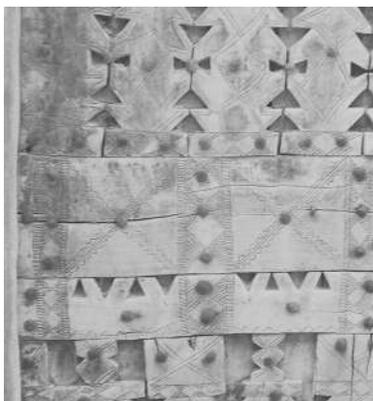
Carved wood pattern



Traditional opening ornamentation pattern



Example traditional textile patterns



Traditional door ornamentation patterns



### 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 entrance openings should consist of simple geometry.
- 2 Doors have a width to height proportion of 1:1.25 - 1:2.5.
- 3 Ground floor entrances should feature wide highlighted entrances. Main entrances commonly feature carvings on the wooden shutters.
- 4 Columns and colonnades should be encouraged for active frontages and around courtyards.

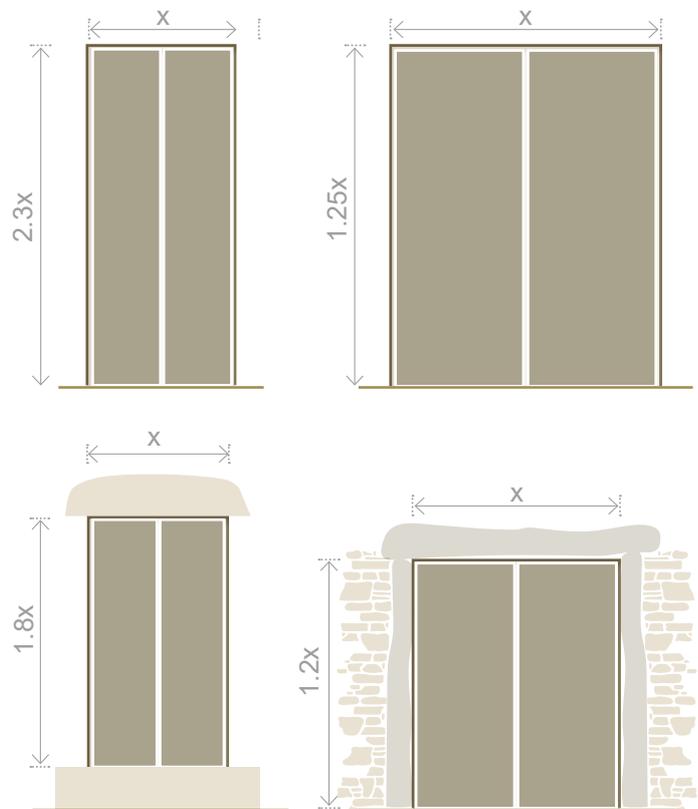


FIG. 34 Traditional door elements proportions

### 3.3 Windows and openings

- 1 Generally, openings should consist of small windows of simple geometry.
- 2 Openings may be articulated with change in materiality and/or color and highlighted heads and sills.
- 3 Opening surrounds may be recessed or projected from the main facade to increase compositional layering and the play of light on the facade.
- 4 Generally vernacular windows have the proportions of 1:1.5 - 1:3.
- 5 Informal groupings; alignments related to interior room layouts rather than external facade composition.

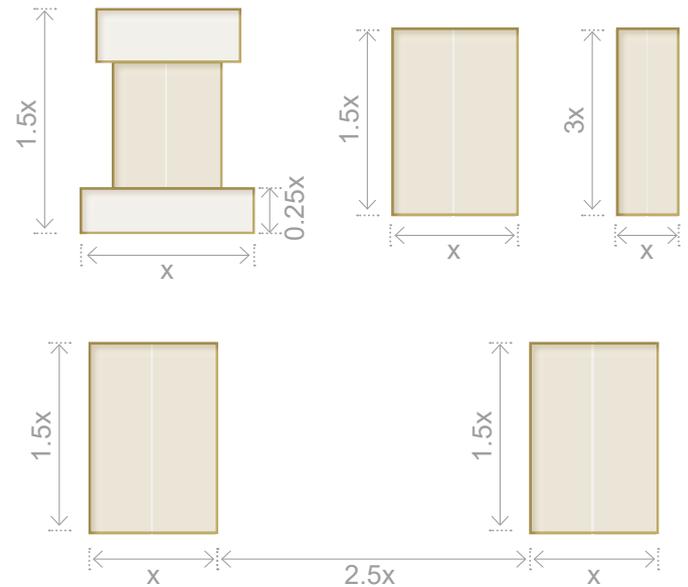


FIG. 35 Traditional window elements proportions

### 3.4 Roofscape

The traditional roof elements of the Sarawat Mountains is characterized by their simple strong geometric shapes and flat roofs with simple ornamentation. Parapet articulations include:

- 1 Flat roofs with simple parapets or occasionally articulated with frieze / pointed corner.
- 2 1m to 1.5m high stone parapets articulated with a band of alternating masonry stone and white stone decorations (mainly triangular patterns).
- 3 Articulation using a frieze with embedded water spouts.
- 4 Corner element on top of the parapet of special typologies.
- 5 Parapets feature small openings enabling access from outdoor staircase.

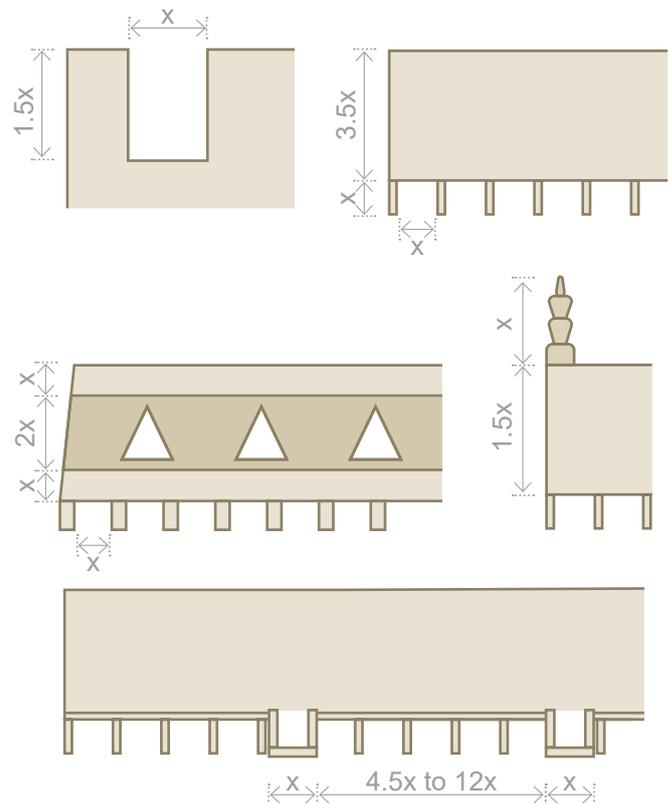


FIG. 36 Traditional parapet elements

**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 Sarawat Mountains.**

## 4 Colors and materials

The skillful interpretation, application and interplay of light, shadows and colors, so characteristic of the Sarawat Mountains 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 and others. 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/](http://www.ral-farben.de/en/)



FIG. 37 Sarawat Mountains color palette

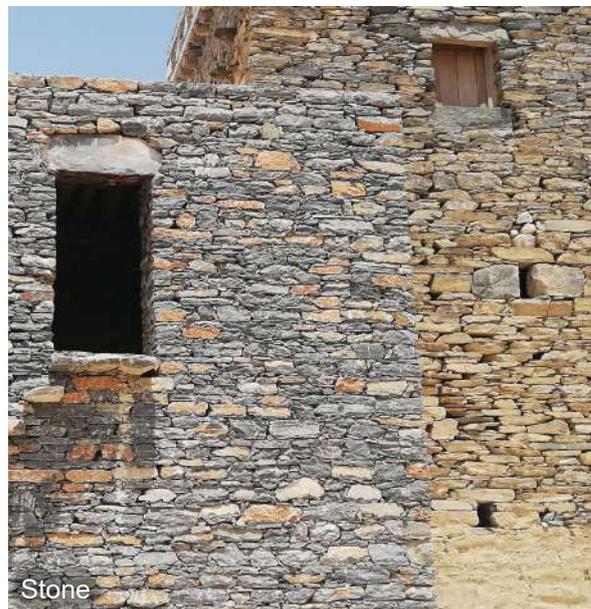


FIG. 38 Sarawat Mountains colors and materials mood board

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 aim to achieve and contribute to the contemporary interpretation of the Sarawat Mountains architecture through factors like quality of new materials, hierarchy, proportion and palette of materials and colors 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**

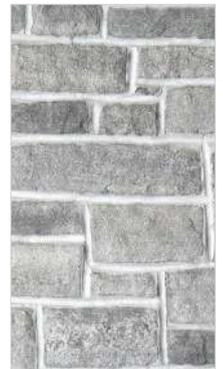
Use of low-quality building materials and elements are discouraged, such as:

- 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.

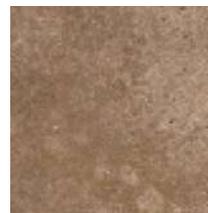
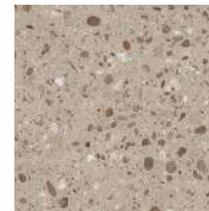
**From the tradition**



**Contemporary interpretation**



**Earth base**



**Other materials limited to 10% - 20%**



**FIG.39 SARAWAT MOUNTAINS - RECOMMENDED MATERIALS**

## 5 Patterns

Common motifs and patterns used in the traditional craftsmanship and material culture of the Sarawat Mountains.

Traditional patterns help to express the architectural character and preserve its socio-cultural values, customs and traditions. Patterns and motifs are commonly used in the Sarawat Mountains.

Carving on wood, in form of columns, doors, window frames and shutters and pillars are a unique feature of this region. The patterns of the carvings are generally flower shaped motifs or curvilinear geometries.

Use of different stones, triangular patterns, stripes to articulate the facades is also found in the Sarawat Mountains.

The traditional art of weaving 'Al Sadu' featuring geometric designs is also practiced in the Al Baha Sarawat Mountains region.

- 1 Traditional patterns 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.

**Retain Sarawat Mountains character using the traditional triangular patterns, geometric patterns used in wood carvings, and designs inspired from local Al Sadu art.**

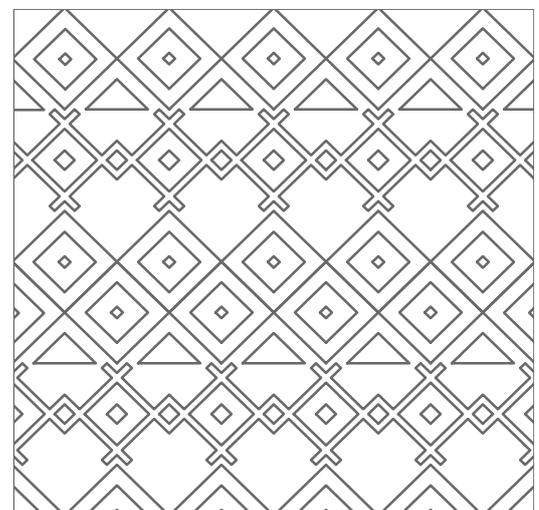
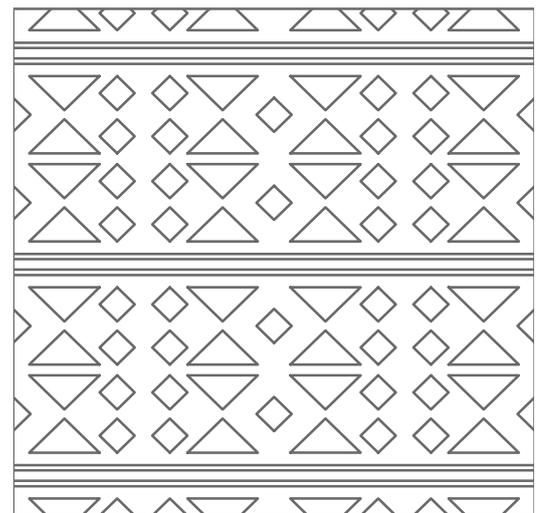
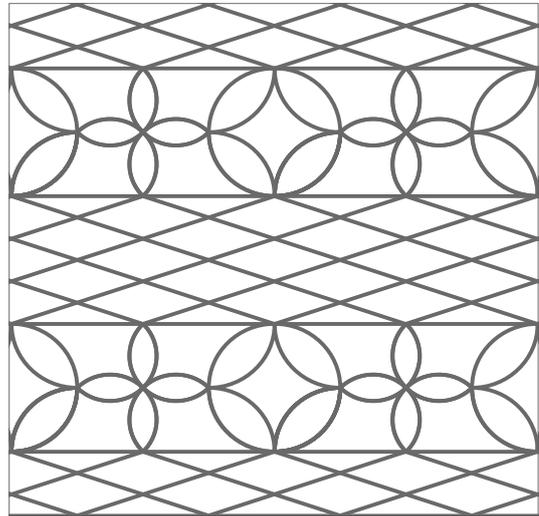


FIG. 40 Example of abstraction of decorative patterns and motifs

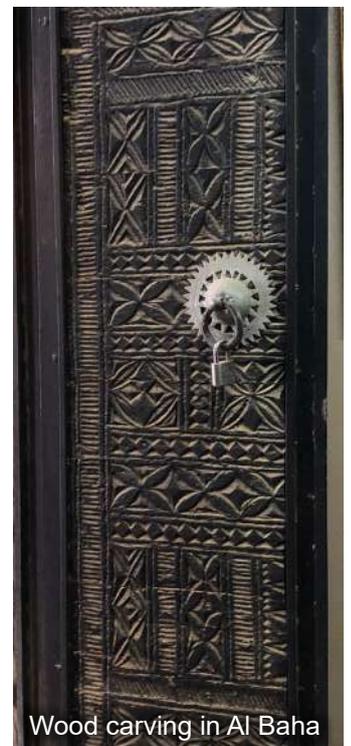


FIG. 41 Traditional patterns present in Sarawat Mountains

## 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.

**To encourage contextually sensitive contemporary design.**



FIG. 42 Example of building material abstraction

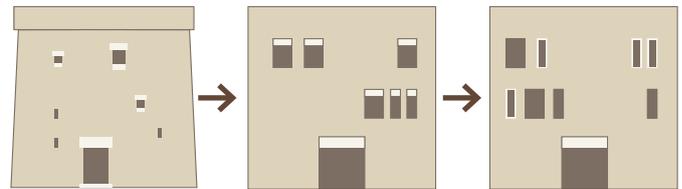


FIG. 43 Example of window shape abstraction

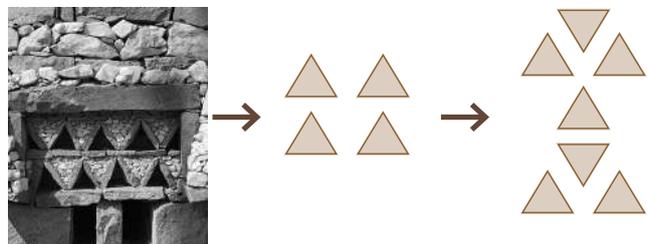


FIG. 44 Example of pattern abstraction

## 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.**

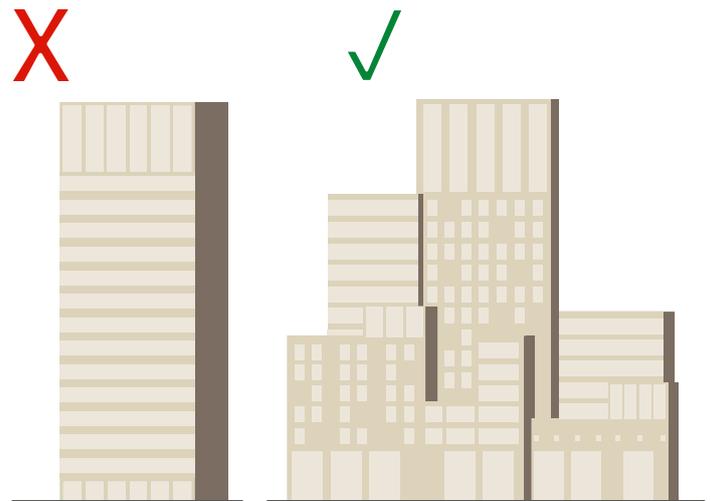


FIG. 45 Break down building massing to better fit traditional architectural elements

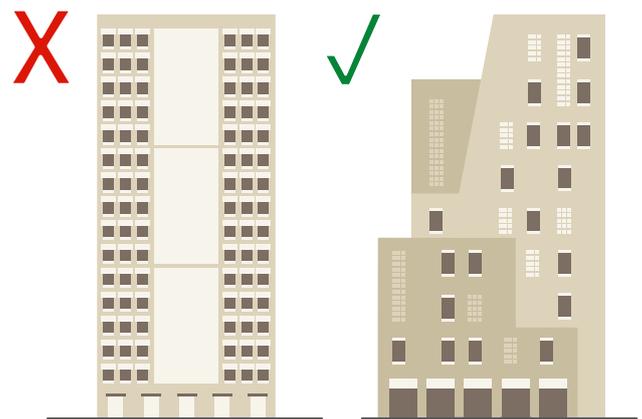


FIG. 46 Do not scale and distort smaller elements into oversized graphic features

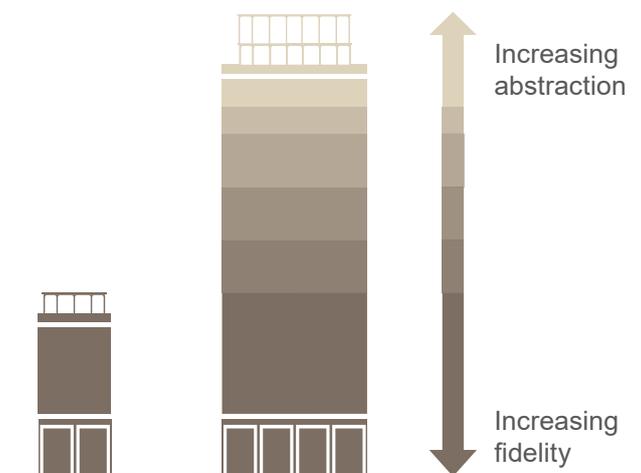


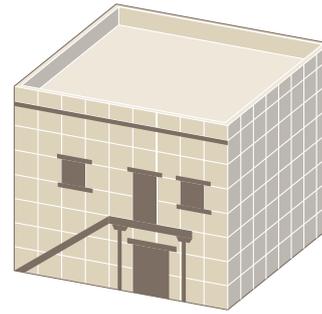
FIG. 47 Pay attention to building elements near the public realm, especially at the ground floor

### 6.3 Functionality

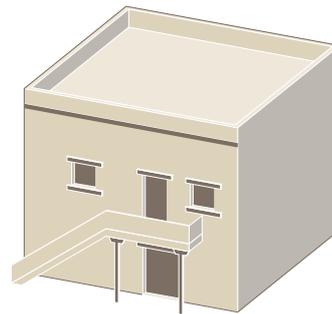
Architectural elements should perform functionally like their traditional counterparts, and not be applied superficially like graphic signage.

- 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 columns and projections



Functional projections and recesses

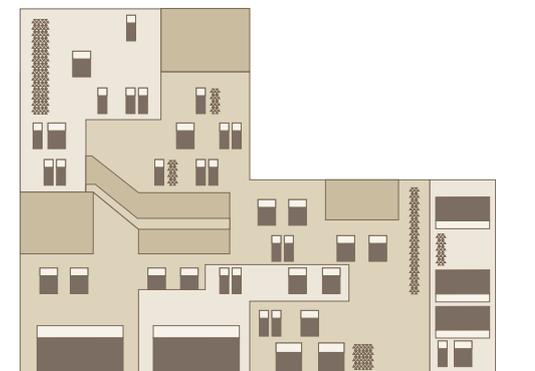
**FIG. 48** Example of functional architectural elements

### 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.**

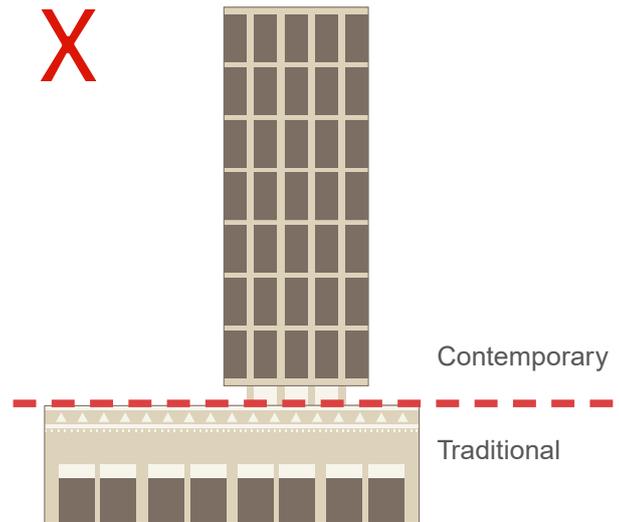


FIG. 50 Do not create hard breaks between mixed sources



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 Sarawat Mountains character zone, showcasing application of key compositional elements as described in chapter 1.

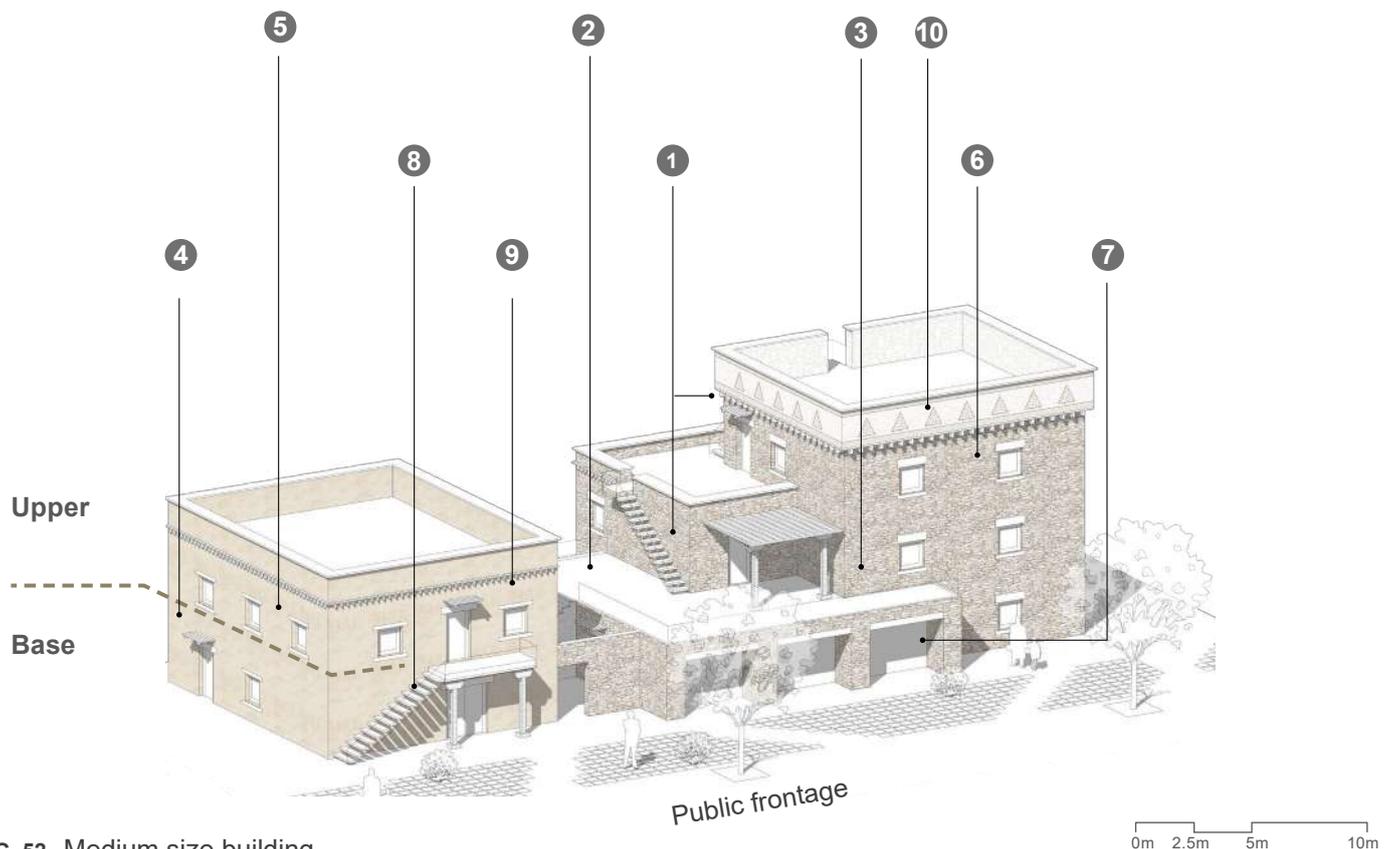


FIG. 52 Medium size building

### 7.1 Traditional

The massing and design of the traditional style buildings should foster the traditional character, by adopting in a sensible way traditional forms and patterns, 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 help reinforce its local character.**

- 1 All key compositional features of traditional architecture should be applied for the traditional style of architecture.
- 2 Compact massing with strong geometric orthogonal shapes, solids and voids, with hierarchy of open spaces.
- 3 Primarily horizontal massing, occasional vertical massing (towers) to balance the skyline.
- 4 Well ordered, balanced, clear, yet evenly transitioned base, and upper part of the building showcasing bipartite or monolithic facade character.

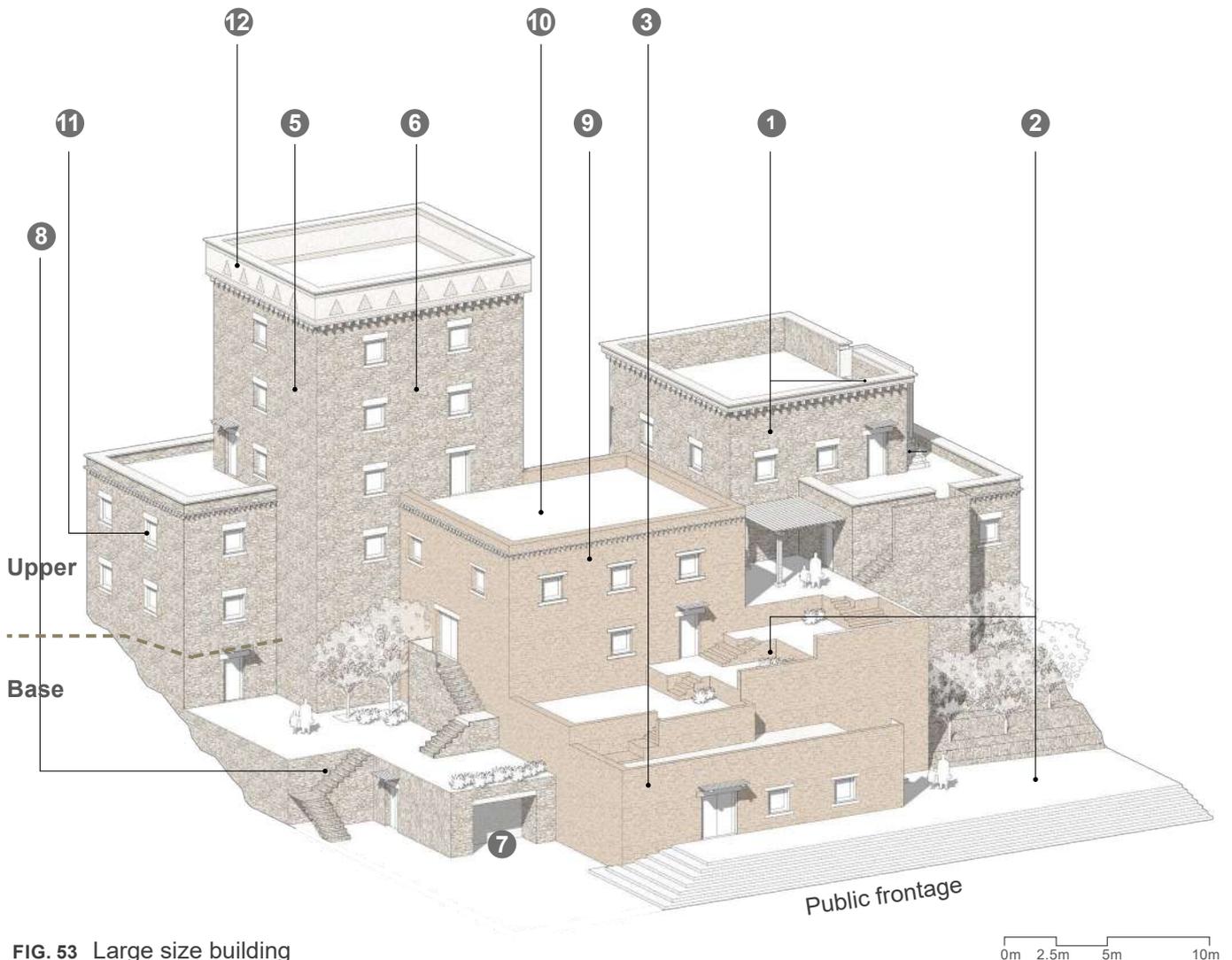


FIG. 53 Large size building

- 5 Largely solid areas of wall with regular small to medium windows.
- 6 Facades with generally localized symmetrical composition, use of volumes bringing variation through vertical accentuation.
- 7 Grounded facades with larger openings / occasional colonnades on ground floor.
- 8 External circulation, projected staircases, wooden columns form special features of Sarawat mountains.
- 9 General palette of beige, brown, and white using locally available materials.
- 10 Flat roofs with articulated parapets, usually with white stone decorations. Articulation usually supporting privacy requirements.
- 11 Typical colors and patterns used in traditional wooden carvings on columns and opening shutters, traditional triangular patterns, and local Al Sadu art form are used for decoration and highlights.
- 12 Large buildings in traditional style should not exceed more than 5-6 stories, respecting the traditional typologies. Towers with articulated top feature in large group of buildings.

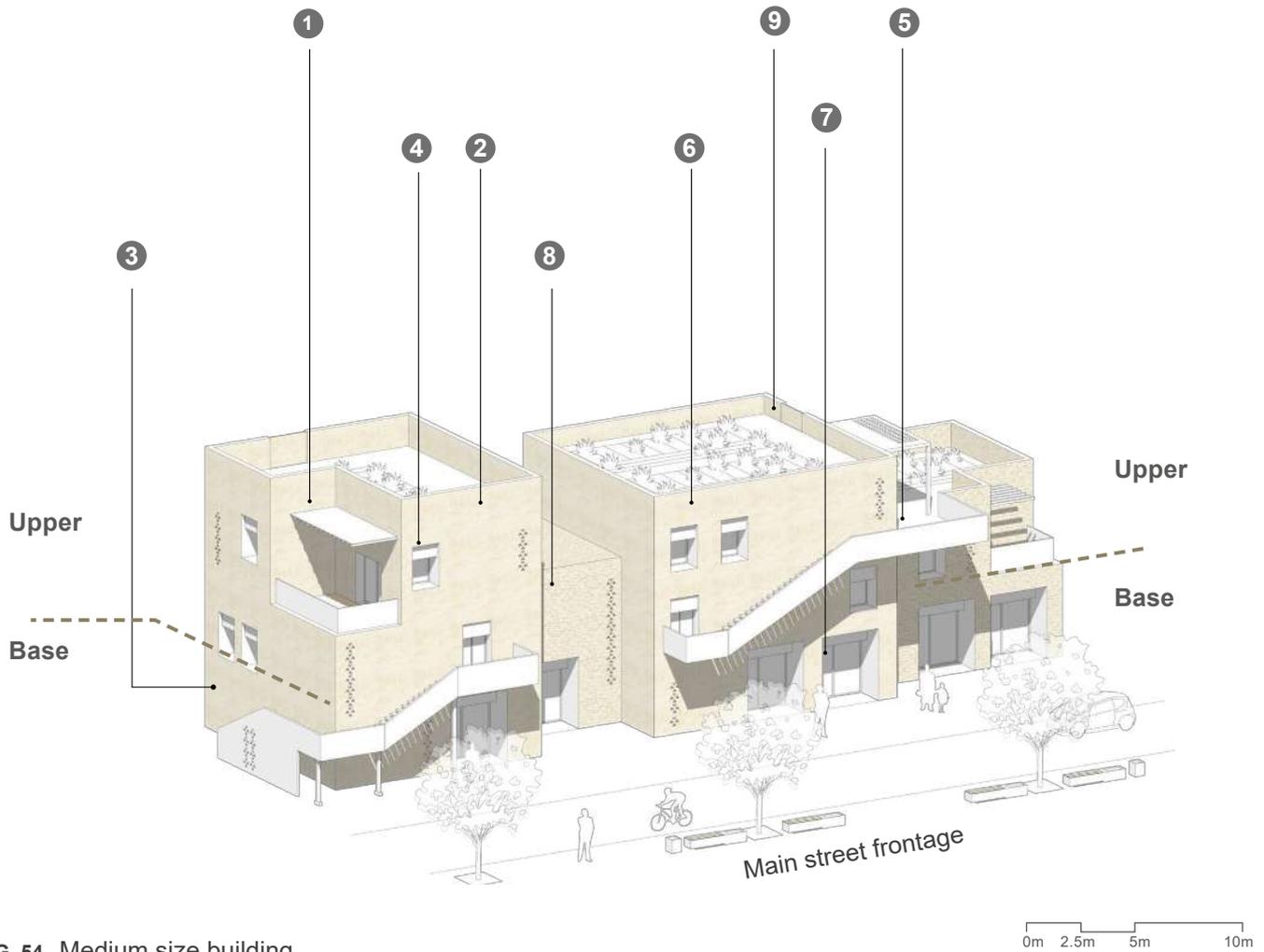


FIG. 54 Medium size building

## 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.

**Abstraction of geometric planes and forms, active frontages, adapting to a range of building types and increased daylighting. Perforated walls, screens and setbacks for shade and repetitive patterns.**

- 1 Compact massing with strong geometric shapes, flat roofs and balance of solids and voids.
- 2 Primarily horizontal massing, occasional vertical massing to balance the skyline.
- 3 Well ordered, balanced, and evenly transitioned base, and upper part of the building showcasing bipartite facade character.
- 4 Moderate sized windows. Large openings at base, max. 40% openings of the overall facade surface.

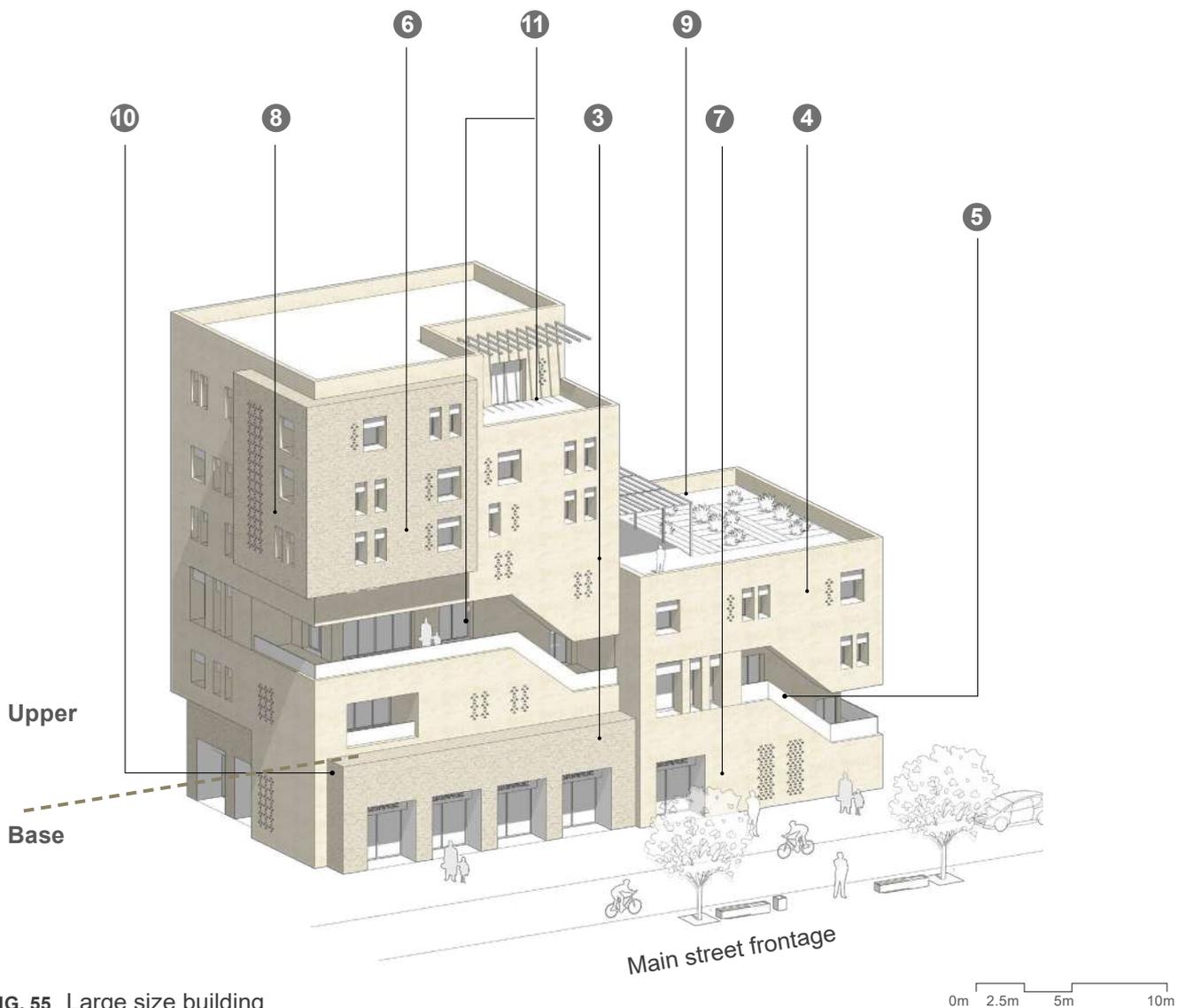


FIG. 55 Large size building

- 5 Interpretation of external circulation well integrated within the design.
- 6 Facades with generally localized symmetrical composition, use of volumes bringing variation through vertical accentuation.
- 7 Integrated shopfronts, shutters and screens, maintaining the grounded base. Perforations and patterning in surfaces.
- 8 General palette of light earth tone colors (beige, brown, and white) using recommended palette of materials, colors and finishes.
- 9 Flat roofs with simple parapets, supporting privacy requirements and hiding rooftop equipments.
- 10 In tall buildings, height of podium should establish street wall and reinforce the human scale and character of the area. Large floor plates should be avoided for towers.
- 11 Articulation of large building top should positively contribute to the skyline and design should be used to create landmarks.

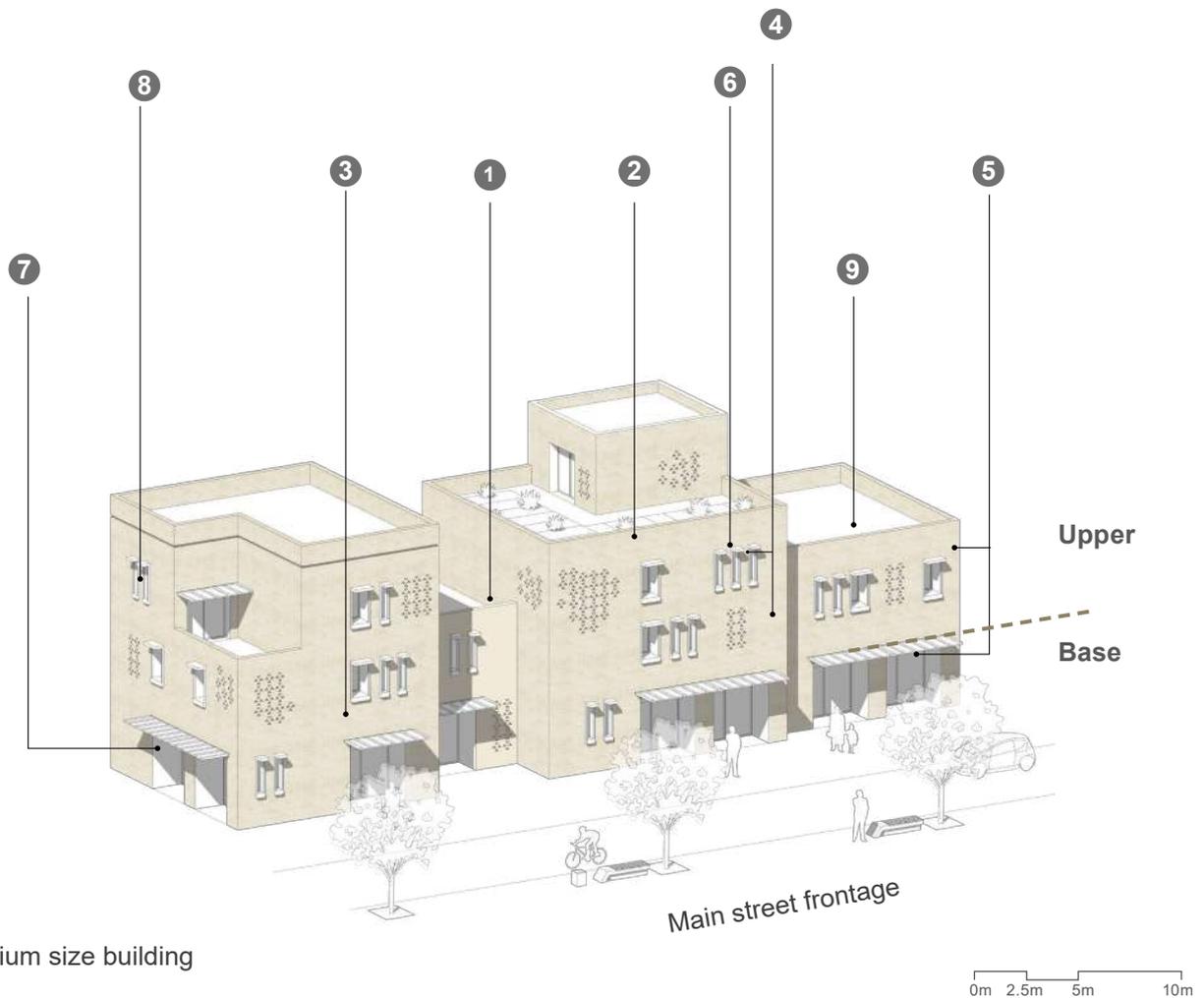


FIG. 56 Medium size building

### 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 should 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, flat roofs and balance of solids and voids.
- 2 Primarily horizontal massing, occasional vertical massing to balance the skyline.
- 3 Moderate sized windows. Larger openings on ground floor, max. 50% openings of the overall facade surface.
- 4 Interpretation of traditional elements as shading devices, recesses, patterns, articulation and use of new materials.

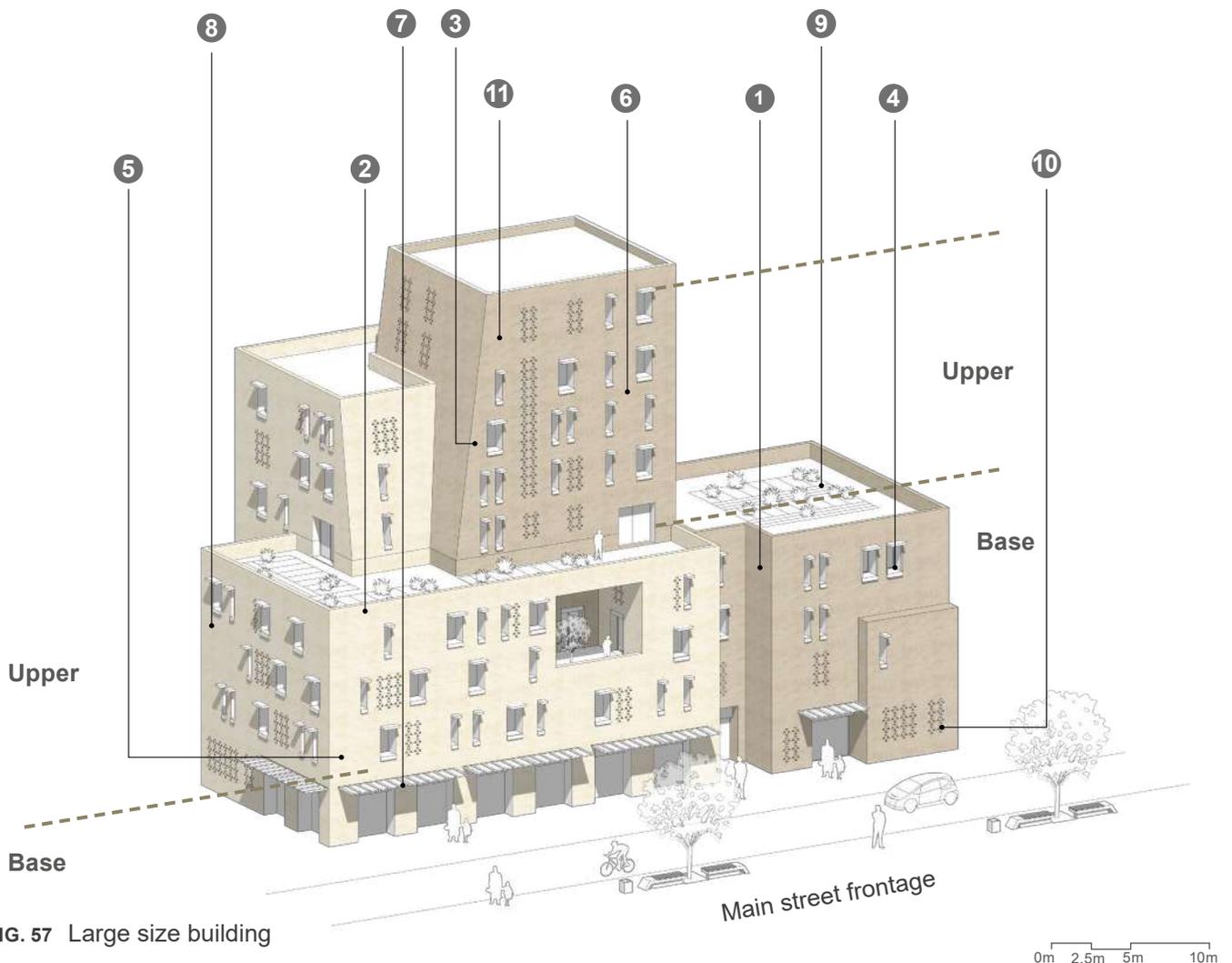


FIG. 57 Large size building

- 5 Well ordered, balanced, and evenly transitioned base, and upper part of the building showcasing bipartite facade character.
- 6 Facades with balanced asymmetrical composition / localized symmetry, use of volumes bringing variation through vertical and horizontal accentuation.
- 7 Integrated shopfronts, shutters and screens, maintaining the grounded base.
- 8 General palette of light earth tone colors (beige, brown, and white) using recommended palette of materials, colors and finishes.
- 9 Flat roofs with simple parapets, supporting privacy requirements and hiding rooftop equipments.
- 10 In tall buildings, height of podium should establish street wall and reinforce the human scale and character of the area. Large floor plates should be avoided for towers.
- 11 Articulation of large building top should positively contribute to the skyline and design should be used to create landmarks.
- 12 Max. 2 architectural compositional motives for the design derived from the sources is recommended.

## 8 Public realm

An overview of public realm character in Sarawat Mountains.

### 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 Sarawat Mountains. 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 Sarawat Mountains.

### 8.2 General character

The adjacent photographs summarize the typical characteristics of public realm and local landscape in Sarawat Mountains. As set out in the introduction, the Sarawat Mountains area is characterized by a series of mountain ranges that are located within the three regions of Makkah, Al Baha and Jazan.

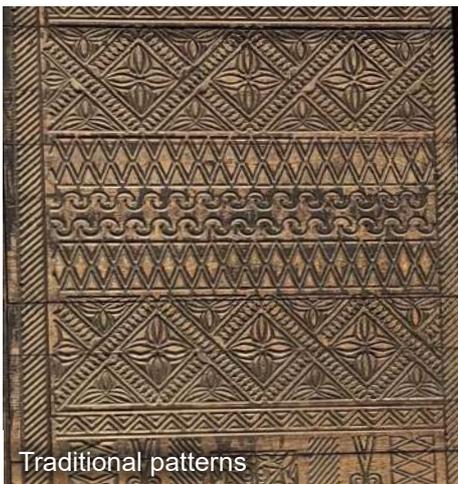
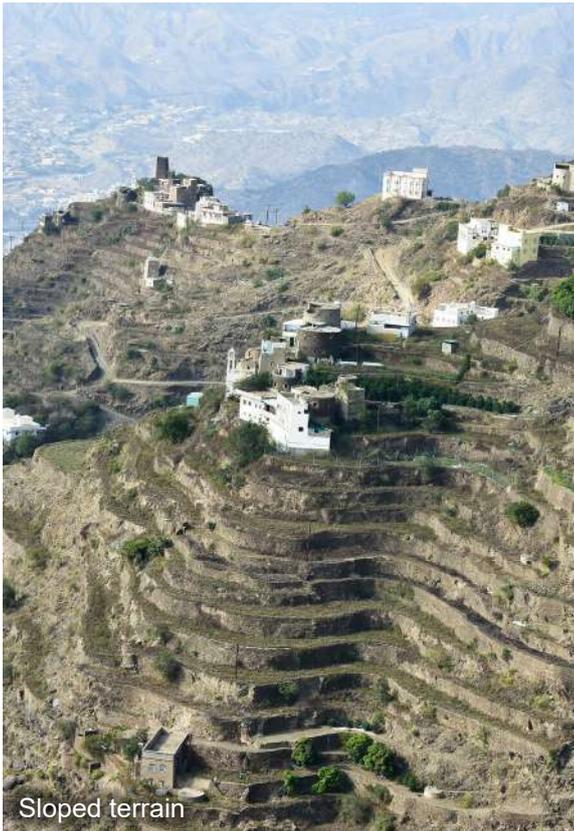


FIG.59 PUBLIC REALM ELEMENTS

8.3 **Types of public space**

Sarawat Mountain’s public realm is characterized by compact residential dwellings with narrow passages and alleyways (Zuqaq) which unites the buildings and provides a varied hierarchy of courtyards, terraces and larger spaces for markets, mosques and community gatherings, (Baraha and larger Saha).

The general characters and hierarchy of the public realm are distinguished by their scale, character, and 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 Sarawat Mountains.

The following categorizations are considered the principal typologies:

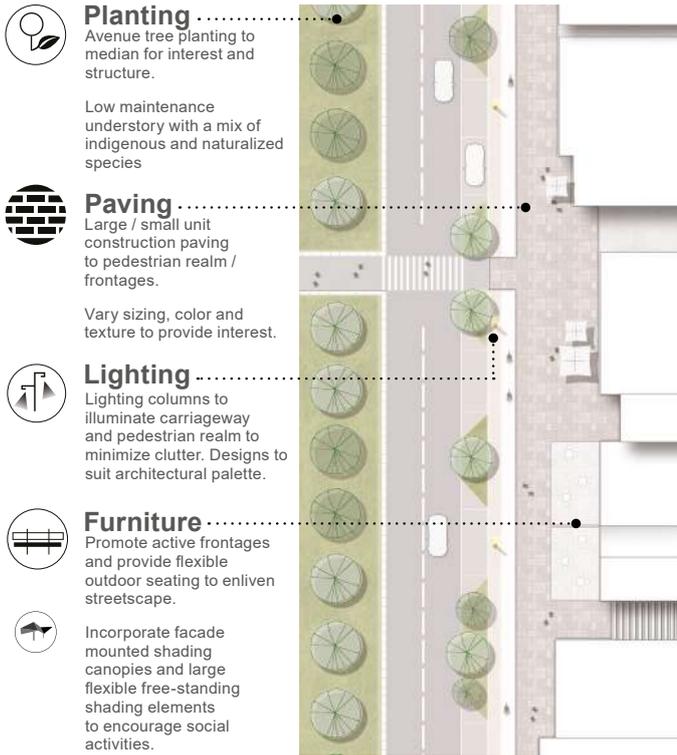
- Street- primary routes which define the edges of smaller settlements, mediating between green oasis areas, and buildings.
- Zuqaq- local alleys, generally narrow and of varying width and footfall which connect spaces and streets across settlements.
- Baraha- local public open space, usually found in 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.

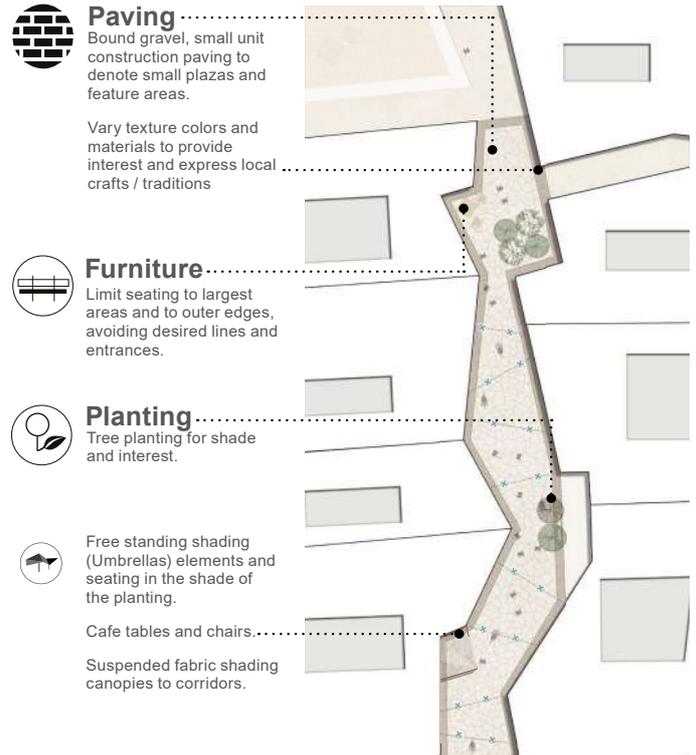


FIG. 60 Traditional hilltop village settlement

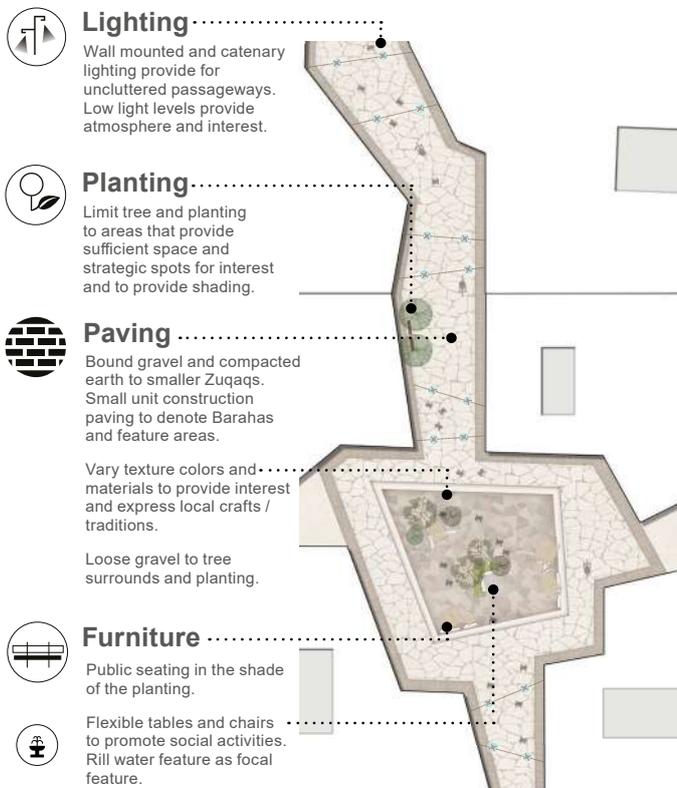
 Street	 Saha	 Cultural landscape
 Zuqaq	 Private courtyards	 Trees
 Baraha	 Buildings	 Terraces



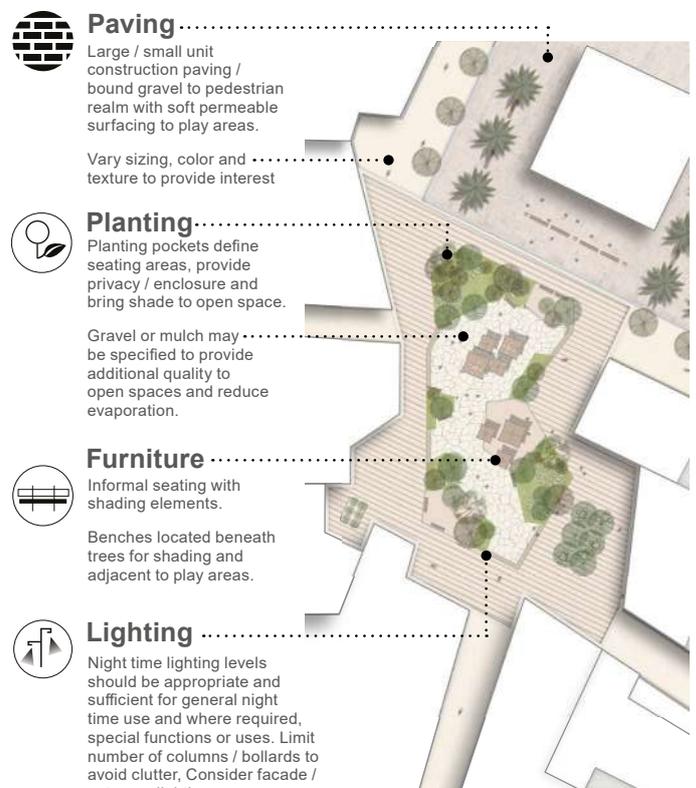
**FIG. 61 Street**  
Vehicle corridor with adjacent pedestrian realm



**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 Sarawat Mountain 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 Sarawat Mountains 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 (unless forming street avenues), or formal / block type compositions. Varied escarpment terracing, steep hillsides and wadi corridors with groups / expanses of evergreen species and understory, reflect the natural habitats.
- 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.
- A varied mix of indigenous and naturalized species will help create an appropriate response to rural or urban applications.

### Trees



*Acacia origenaherb*  
(Acacia)



*Juniperus procera*  
(African juniper)



*Olea chrysophylla*  
(Olive tree)



*Pistacia falcata*  
(Pistacia)

### Shrubs



*Achillea biebersteinii*  
(Yellow milfoil)



*Aloe Sp. aff. tomentosa*  
(Hairy Green Aloe)



*Buddleja polystachya*  
(Butterfly bush)



*Cenchrus ciliaris*  
(Foxtail buffalo grass)



*Euryops arabicus*  
(Euryops arabicus)



*Lavandula dentata*  
(Lavender)

## 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 Informal designs and colors of seating elements inspired from the topographical context. Jebel Jais observation deck, Ras Al Khaimah, UAE



FIG. 66 Interplay between water and furniture elements. Stuttgart, Germany



FIG. 67 Fabric canopy utilizing local materials (Fabric). Al Kindi passage, Riyadh, KSA

## 8.7 Lighting

A coordinated lighting strategy should create an appropriate and distinctive atmosphere for different areas to reinforce Sarawat Mountain'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. 68 Facade mounted luminaries casting warm ambient low key lighting, highlighting architectural elements. Jamaa El Finaa, Marrakesh, Morocco



FIG. 69 Illuminated water feature. King Abdulallah road, Riyadh, KSA



FIG. 70 Contemporary lighting elements and ground lights complementing the local context and interplaying with paving designs. Kulturzentrum, Herne, Germany

## 8.8 Signage

Signage and public information system design, including materials, should respond to the character and environmental elements within the Sarawat Mountains 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.

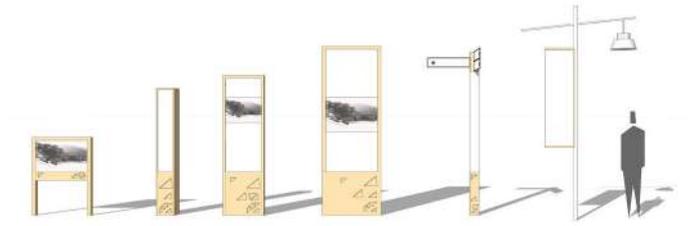


FIG. 71 Example of a signage family illustrating how contextual elements of traditional patterns and colors could be expressed within the lighting and signage elements



FIG. 72 Integrated signage / wayfinding in paving design KACST, Riyadh. Concept Space Agency Design

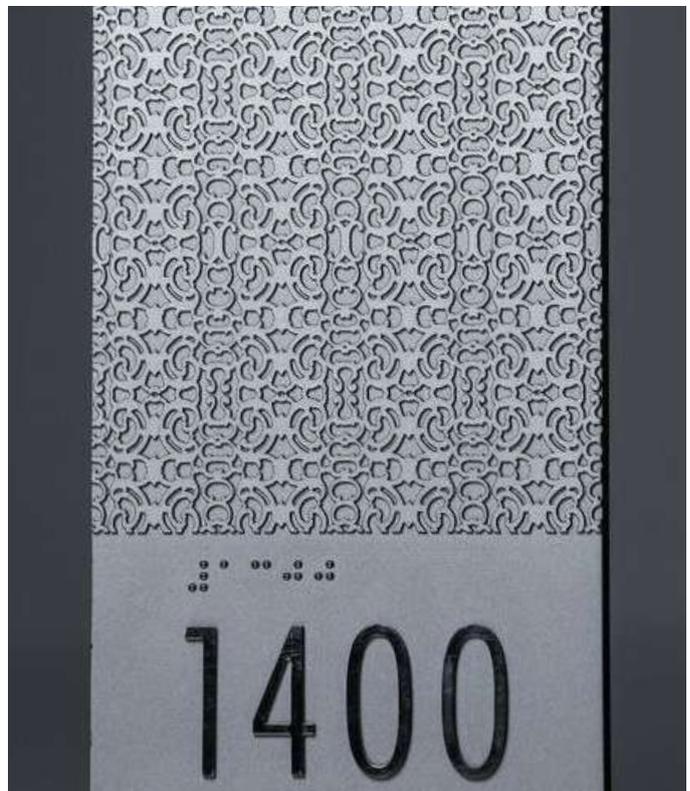


FIG. 73 Example of how the region's contextual arts and crafts may be reflected in lighting and signage fixtures, expressing the local patterns and hue. Boyd sign systems, USA

## 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.

Consideration of parking layouts within the public realm can be designated into three types:

- Perpendicular parking.
- Parallel parking.
- Angled 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. 74 Example of parking and pedestrian route improvement with private development setback area



FIG. 75 Example of an attractive public realm, incorporating parking, pedestrians and planting



FIG. 76 Material variation and segregation between pedestrian and public transportation modes. Frankfurt am Main, Germany

8.10 Public realm worked examples

Architectural elements reflecting the character of Sarawat mountains	Infill development achieving street wall	Implementation of shared path	Using native vegetation	Articulated built form and design	Active frontage and generous public realm
--	--	-------------------------------	-------------------------	-----------------------------------	---



FIG. 77 Proposed view of living street and plaza in Sarawat Mountains

The above illustrations are an example of a holistic vision for an old village center and a main street in the urban center in Sarawat Mountains, with displays a of 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 Sarawat Mountains, complimentary colors and patterns may be used to highlight destinations, routes and to help reflect adjacent architectural elements.
- 2 Transitional / 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, the relationship between spaces should be dependent on the local culture of the place.

Contextual landscape elements

Using native vegetation and accentuate planting in spaces with high use

Protected natural slopes and ridge lines

Articulated built form for tall and medium size and design with materials and elements displaying character of Sarawat mountains

Implementation of complete streets and attractive public realm



FIG. 78 Proposed view of local street in Sarawat Mountains

- 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 Primary paths may be accented with boulevard planting and trees, used to highlight destinations or points of interest and importance. 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.**

# Figure List

Fig.1	Sarawat Mountains architectural character area ....	ii	Fig. 29	Openings with simple geometries. Loggias incorporated in facade design. Privacy for neighboring plots .....	22
Fig.2	Architectural characters map of KSA.....	2	Fig. 30	Large openings, arranged in grid patterns, projected balconies should be discouraged.....	22
Fig.3	Sarawat Mountains .....	5	Fig. 31	General asymmetry. Openings arranged in localized symmetry .....	23
Fig.4	Sarawat Mountains - Landscape features and topography .....	7	Fig. 32	Long monotonous facades, large scale symmetry without facade breaks should be avoided.....	23
Fig.6	Traditional settlement of Thee Ain in Al Baha .....	8	Fig. 33	Example for top, middle, base, ornamentation and other elements .....	26
Fig.5	Traditional hilltop village settlement .....	8	Fig. 34	Traditional door elements proportions .....	28
Fig.7	Traditional settlement in Sarawat mountains, Jazan .....	9	Fig. 35	Traditional window elements proportions.....	29
Fig.8	Vernacular Facade Studies.....	10	Fig. 36	Traditional parapet elements .....	29
Fig. 9	Building grouping patterns .....	12	Fig. 37	Sarawat Mountains color palette.....	30
Fig. 10	Balanced massing.....	12	Fig. 38	Sarawat Mountains colors and materials mood board .....	31
Fig. 11	Bipartite articulation .....	12	Fig.39	Sarawat Mountains - recommended materials .....	33
Fig. 12	Special motifs and projecting elements .....	13	Fig. 40	Example of abstraction of decorative patterns and motifs .....	34
Fig. 13	Simple opening geometries .....	13	Fig. 41	Traditional patterns present in Sarawat Mountains....	35
Fig. 14	Asymmetrical composition .....	13	Fig. 42	Example of building material abstraction .....	36
Fig. 15	Character equation for the Sarawat Mountains (after Ishteeaque & Al-Said 2008).....	14	Fig. 43	Example of window shape abstraction.....	36
Fig. 16	Evolution of styles .....	15	Fig. 44	Example of pattern abstraction .....	36
Fig. 17	Typical guideline structure .....	17	Fig. 45	Break down building massing to better fit traditional architectural elements.....	37
Fig. 18	Sarawat Mountains key features.....	18	Fig. 46	Do not scale and distort smaller elements into oversized graphic features.....	37
Fig. 19	Vernacular architecture in the Sarawat Mountains, location - Thee Ayn, Al Baha.....	19	Fig. 47	Pay attention to building elements near the public realm, especially at the ground floor.....	37
Fig. 20	Vernacular architecture in the Sarawat Mountains, location - Addayer village, Jazan .....	19	Fig. 48	Example of functional architectural elements .....	38
Fig. 21	Permeable fabric with hierarchy of open spaces, mixed uses, and continuous pedestrian network should be encouraged .....	20	Fig. 49	Adaptation of traditional architectural elements to a contemporary building.....	38
Fig. 22	Large blocks / consolidated blocks without pedestrian permeability should be discouraged....	20	Fig. 50	Do not create hard breaks between mixed sources...39	
Fig. 23	Respecting the natural terrain to be encouraged; large flattening of sites should not be permitted ...	20	Fig. 51	Create gradual transitions between mixed sources and strengths of character application .....	39
Fig. 24	Masses primarily horizontal with vertical volumes adding variation in skyline.....	21	Fig. 52	Medium size building .....	40
Fig. 25	Large monolithic building blocks, non contextual roof profiles should be avoided .....	21	Fig. 53	Large size building .....	41
Fig. 26	Flat roofs with width-to-height ratio promoting horizontality.....	21	Fig. 54	Medium size building .....	42
Fig. 27	Solid facades with low percentage of openings. Sober, plain facades .....	22	Fig. 55	Large size building .....	43
Fig. 28	Large openings at base, thin columns, blank, non-integral facades, facades not respecting privacy, should be avoided .....	22	Fig. 56	Medium size building .....	44
			Fig. 57	Large size building .....	45

# Image Sources

Fig. 58 National Public Realm Design Manual and its five key principles.....	46	Fig. 65 <a href="https://shorturl.at/fHTU8">https://shorturl.at/fHTU8</a> .....	52
Fig.59 Public realm elements.....	47	Fig. 68 <a href="https://shorturl.at/uyCJ7">https://shorturl.at/uyCJ7</a> .....	53
Fig. 60 Traditional hilltop village settlement .....	48	Fig. 72 <a href="http://bit.ly/43IQ9mv">bit.ly/43IQ9mv</a> .....	54
Fig. 61 Street-Vehicle corridor with adjacent pedestrian realm .....	49	Fig. 73 <a href="https://shorturl.at/qrHS5">https://shorturl.at/qrHS5</a> .....	54
Fig. 63 Baraha .....	49		
Fig. 64 Saha.....	49		
Fig. 62 Zuqaq.....	49		
Fig. 65 Informal designs and colors of seating elements inspired from the topographical context. Jebel Jais observation deck, Ras Al Khaimah, UAE.....	52		
Fig. 66 Interplay between water and furniture elements. Stuttgart, Germany .....	52		
Fig. 67 Fabric canopy utilizing local materials (Fabric). Al Kindi passage, Riyadh, KSA.....	52		
Fig. 68 Facade mounted luminaries casting warm ambient low key lighting, highlighting architectural elements. Jamaa El Finaa, Marrakesh, Morocco .....	53		
Fig. 69 Illuminated water feature. King Abdulallah road, Riyadh, KSA.....	53		
Fig. 70 Contemporary lighting elements and ground lights complementing the local context and interplaying with paving designs. Kulturzentrum, Herne, Germany .....	53		
Fig. 71 Example of a signage family illustrating how contextual elements of traditional patterns and colors could be expressed within the lighting and signage elements..	54		
Fig. 72 Integrated signage / wayfinding in paving design KACST, Riyadh. Concept Space Agency Design.....	54		
Fig. 73 Example of how the region's contextual arts and crafts may be reflected in lighting and signage fixtures, expressing the local patterns and hue. Boyd sign systems, USA.....	54		
Fig. 74 Example of parking and pedestrian route improvement with private development setback area .....	55		
Fig. 75 Example of an attractive public realm, incorporating parking, pedestrians and planting .....	55		
Fig. 76 Material variation and segregation between pedestrian and public transportation modes. Frankfurt am Main, Germany .....	55		
Fig. 77 Proposed view of living street and plaza in Sarawat Mountains .....	56		
Fig. 78 Proposed view of local street in Sarawat Mountains ..	57		

