KALASH BUILDING CODES

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ABOUT

This publication has been produced by Dr. Zahra Hussain under the KITE project of The World Bank in collaboration with the Department of Archaeology and Museums, Khyber Pakhtunkhwa.

The kalash Valley building codes and guidelines have been developed for the protection and preservation of the tangible cultural heritage (architecture and built environment) of the Kalasha Valley keeping in view the current challenges to the social, cultural, environmental and tourism scenario in the valleys. The building codes and guidelines have been developed following a due diligence process of taking the local community, masons and carpenters and local Qazi's onboard via consultation workshops. The initial draft was prepared following a detailed literature review of built cultural heritage environments protection guidelines and international charters on the protection of built environment; detailed study of the Kalasha architectural pattern language; preliminary advice from relevant experts. This draft was shared with DOAM KP for initial review and comments. The second draft incorporated these comments along with specific inputs from water and sanitation expert and disaster management expert. This draft was shared with legal expert and DOAM KP for further review and comments. The final draft was prepared based on these comments and shared with suggestions of next steps for DOAM KP such as demarcating protected buildings and zones, GIS mapping of valleys and a model development for vernacular architecture that uses minimal wood for the protection of indigenous forests. The author may be contacted for further information on this verification and implementation process at hussain.zahra@icloud.com

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Executive Summary

Pakistan is experiencing rapid urbanization/densification, even in the relatively remote mountain landscapes of the Hindu Kush and Himalayas. Formerly verdant hill stations and small towns have already become significant urban centers that continue to expand outwards, e.g. Abbottabad, Mansehra, Gilgit, Skardu, Chitral, Naran. Geographic zones on the ecological frontiers with complex and interrelated ecosystems are where the impacts of climate change are most visible. Pakistan ranked in 8th position on the Global Climate Risk Index for 2019, but more alarming still is the fact that it is rated 4th most vulnerable to future climate change impacts. With climate change research still in the embryonic stage in Pakistan, there is a dire need to take immediate action to understand the complex and interrelated effects of climate change on human societies. Frequent and ever-increasing events like earthquakes, glacial lake outburst floods, river erosion, landslides and changing rain patterns affect life and accessibility in mountain landscapes. Moreover, with the development of transportation infrastructure, particularly CPEC, there has been a steady rise in country-based tourism in the past couple of years leading to slipshod development of hotels, guesthouses and tourist destinations. In such a scenario, it is crucial to address strategic planning for the built environment in mountain areas before these effects are irreversible. The interplay of increasing domestic tourism, ongoing development of road links and population pressures has led to poorly planned and executed developments in sites of major heritage and tourism importance, such as the Kalash Valley.

Built environment contributes to 35% of resource extraction and usage and to 40% of global energy use. It also consumes 12% of the world's drinkable water and produces 40% of the global Co2 emissions. Buildings are therefore a major driver of rising temperatures across the globe and can hence play an important role in the reduction of Co2 emissions and energy consumption through efficient design and construction strategy. The vernacular-built environment and physical landscape of Kalash is an intrinsic part of its character and importance. Both are actively being degraded due to new development (e.g. poor master planning, hasty construction). Strategic planning and implementation of policies and codes regarding the built environment are required to mitigate and prevent this decline and improve overall living conditions for the local community, before these changes become concrete.

The Kalash Valley building codes and guidelines have been developed for the protection and preservation of its tangible cultural heritage (architecture and built environment), keeping in view the current challenges to the social, cultural, environmental and tourism situation in the valleys. The building codes and guidelines have been developed following a due diligence process of taking onboard the local community, masons, carpenters and qazis via consultation workshops. The initial draft was prepared following a detailed literature review of built cultural heritage environment protection guidelines and international charters on the protection of built environment; detailed study of the Kalash architectural pattern language; recommendations and concerns received from the local community; and preliminary advice from relevant experts. This draft was shared with DOAM-KP for initial review and comments.

The second draft incorporated these comments, along with specific inputs from water and sanitation expert as well as disaster management experts. This draft was shared with legal experts and DOAM-KP for further review and comment. The final draft was prepared based on these comments and shared with suggestions of next steps for DOAM-KP. These include demarcating protected buildings and zones, GIS mapping of valleys and developing a prototype for vernacular architecture that uses minimal wood for the protection of indigenous forests.

Executive Summary (Kalashmondr)

Translated by Akram Hussain

Kal'as'on Dur sawzaikas phon

Pakistanani pasmanda jaiga asta ajo bo z'ar z'ar ruaw pariman indai. Kohindukush zhe Hamalia Naqsha/ shemi chutyak chutyak harilak denta s'umbermina ghona shahar saws thishian gheri bianyaka pregijiman ita shian, shemio tasi jaigaan nom, Abbottabad, Mansehra,Gilgit,Skardu.C'hertaw zhe Naran, Shisi whan'an tan mocuna egoegis som jaiga zhali shian. Shandai jaigai deos badel hikas asar bo shian. 2019 as mutabekuna Pakistan musimi tabdilias 8 lamberuna ita shiaw.

Khatranak mondr shia ki homa desh iudai barouna mosimi khatas 4 lambaruna shiaw. Homa deshuna onja asta mosimi tabdilias barauna niz'girek shuruk shiaw. Mocbian apaudikeinuna mosimi tabdili jonikas bati ghas' kormas bo zarurat shiaw.Bhon'jaw harchat' dikas wakiat, bo mci putsas chi d'aran ita mocbian hatya khan'dori hindai. Shan'dai ek kimono kaw mocuna mocbian ik zhe parik bo kam hikas wajauna hotelan, guest house an halat kamzor thishian. Shisa wajahendai homa jaigauna kia halat ki shiaw isa bati pru't citikas ajat shiaw. Shehen z'ar krom kareli ki isa asar geran mo hiu oria.Kal'as'a deshuna bo kasaw zhe sarakan krom zhe bocbian bo hikan wajehen Kal'as'a ya o Kal'as'on dasturi jaigan kia ki krom shian asi bati krom shuruk thishian. Krom gada abadi 35% ishnyaharian thara iudai. Pura dunyaas ajatas thara 40% zhe dunyaas ugas ajatas thara 40% paida hiudai. Shisa wajehendai saw abadi pura dunyauna co2 as 12% ajat kawdai. Gheri pura dunyaas co2 as takat ajat hik shuruk shiaw. Shisa wajehendai o dunyaas gosdum kam karikuna prus't krom kariu.

Dasturi sawzala jaiga zhe huma tan c'hetr Kal'as'on hatya boa ham chelak shiaw.audu no'a tharakias phon zhe z'ar krom karikas wajehen krom kharab thishian. Homa kia ki kada krom shian asi thara paka palisi sawzaikas ajat shiaw. Shatalak ki emi krom kharab mo hin oria geri isi thara kabu Karin pariu oria. Halat badel hikan s'umber Kal'as'on baro zhe us't'ik nisik prus't kareli hiu oria. Kal'as'a deshuna abadi karikas phond zhe dasturi us'tik nisik, iudai mocbian hatya kasikas dastur waregasta bo kia sawzai tayar kai shian. Krom karikas dastur kal'as'a kazian wa gad'erakan zhe krom jonawan pi phuci toa shama tharik barik sawzai shiaw.

Shisa krom bati bianai deshani zhe sawin pi mashwara karikan pis't'awo toa tayar kai shiaw. Kal'as'on abadi karikas phond kal'as'a jonaw mocan pi phucio toa kai shiaw zhe DOAM-KP an jonaw moc ita mashwara kai aran. Isa pis't'awo ugas zhe safaias justuna disaster management an jonaw zhe DOAM ani jonaw asta this hemi asta mocai pron. Shemi saw kroman bati dastur jonaw DOAM ani jonaw an som mashkulgi aran.shisi kada kroman naksha d'izikas bati GIS ani jonaw ita emi krom sawzai pashaan. Shashehen ki jaigaan is'mar zhe jangal thawaikas bati dastur sawzaan.

Appendix

1. Introduction

Pakistan is experiencing rapid urbanization/densification, even in the relatively remote mountain landscapes of the Hindu Kush and Himalayas. Formerly verdant hill stations and small towns have already become significant urban centers that continue to expand outwards (e.g. Abbottabad, Mansehra, Gilgit, Skardu, Chitral, Naran). The interplay of ever-increasing domestic tourism, ongoing development of road links and population pressures has led to poorly planned and executed developments in sites of major heritage and tourism importance, such as the Kalash Valley.

The vernacular-built environment and physical landscape of Kalash is an intrinsic part of its character and importance. Both are actively being degraded due to new development (e.g. poor master planning, hasty construction). Strategic planning and implementation of policies and codes regarding the built environment are required to mitigate and prevent this decline while also improving overall living conditions for the local community, before these changes become concrete.

2. Vision and Objectives

The building guidelines and codes for Kalash Valley have been developed to achieve the following objectives:

- ***To protect the rich natural and cultural landscape*** of the Kalash Valley and promote functional and safe living for its inhabitants by learning from the vernacular passive solar techniques, as well as efficient use of available natural materials.

- ***Authenticity:*** To retain the architectural authenticity of the vernacular Kalash architecture by respecting the built form, proportions and volumes.

- ***Craftsmanship:*** To preserve and promote the vernacular craftsmanship in building to reflect local artisanship, which is an important part of the material culture.

- ***Evolution:*** To encourage the evolution of the built environment whilst keeping the vernacular spatial pattern intact in new building constructions that follow the natural terrain.

- ***Living cultural heritage:*** To protect the living cultural heritage of the Kalash people which includes religious and cultural sites, as well as sacred places.

- ***Appreciate the architectural pattern language:*** The scheme/approach of your building/development must respect the local architectural pattern language which includes spatial arrangements and patterns that have been derived by local communities over centuries in response to culture, religion, society, climate and the topography of the area. The idea is not to replicate vernacular building style and form, rather to be inspired by how spaces are arranged and embedded in the landscape according to sun, wind, rain, culture and belief systems.

3. Technical Terms and Usage

Vernacular: The definition of vernacular given in the Charter of the Built Vernacular Heritage, 1999.

Preservation: Retention of the existing form, materials and integrity of the site.

Rehabilitation: Modification of a resource to contemporary functional standards, which may involve adaptation for new use.

Maintenance: Continual activity to ensure the longevity of the resource without irreversible or damaging intervention.

Communal open spaces: Open spaces on the commercial streets, used by the community.

Stabilization: A periodic activity to halt deterioration and to put the existing form and materials of a site into a state of equilibrium, with minimal change.

Temporary structures: A temporary structure consists of a minimum substructure and its construction does not disrupt the natural terrain. The structure can be dismantled without destruction and re-used elsewhere.

Permanent structure: A permanent structure has a strong foundation, and deep substructure. The removal of the structure would cause damage to the property and the structure cannot be used again.

Primary structure: A primary structure is the part of the main façade and comprises the entrance, foyer and gathering areas, such as a lounge or main corridor connecting other parts of the building.

Removal: A periodic activity, modification which involves the subtraction of surfaces, layers, volumes and/or elements.

Addition: Modification which involves the introduction of new volumes or material to an existing structure.

Terraces: An open space on a higher floor attached to a building opening into the front, rear or side of a building.

Balconies: An elevated platform which extends/projects from the walls of a building.

Natural grade level: The elevation of the original or undisturbed natural surface of the ground.

Fill: The deposit of soil, rock or other materials placed by man.

Vernacular style: The special character or historical association that distinguishes it from its surroundings and depicts the vernacular expression and traditional workmanship. It shows a recognizable local or regional character responsive to the environment. In terms of building form, vernacular style denotes the original scale, form and massing of volumes, the historic patterns of spatial arrangement and the relationship of solids to voids in wall openings.

Slope: The relationship of vertical rise to horizontal run, expressed as a percentage from the 'toe' to 'top' of a slope (See Steep Slope document).

Workmanship: The quality of masonry and woodwork used in the construction of a building.

Protected Areas: Areas declared 'protected' by a certain government department, including special laws regarding the use of and construction in these areas.

Frontage: The length of a plot of land or a building facing the main road or valley view (in the absence of a main road) onto which the plot or building fronts.

Façade: The principal front of a building/development one encounters upon first look at it. It plays an important role in how the building is placed or embedded with its surroundings, i.e. the natural landscape and the existing built environment.

Plinth area: The covered built-up area measured at the floor level of any storey, or at the floor level of the basement, occupied by the building including internal and external walls.

Walkability: Any place within a five-minute walk from the parking area. It roughly translates to 0.25 miles or 400 meters on plain land. Walkability distance changes when the ground is inclined.

Projection: Limited areas that extend beyond the exterior wall of a building and are not provided with surrounding walls and shall be included in the building area if such areas are included within the horizontal projection of the roof or floor above.

4. Macro Level land use and zoning

Description of macro level and the zones that have been identified at macro level

4.1. Zones

4.1.1. ***Historic Cluster:*** The declared historic zones will consist of vernacular housing clusters and heritage resources with special character or historical association that

distinguishes them from their surroundings ('Principles of conservation', ICOMOS Charter on the Built Vernacular Heritage, 1999). These date back more than 100 years and depict vernacular expression and traditional workmanship, as well as recognizable local or regional style responsive to the environment. These structures may have undergone certain modifications in the last century but maintain their integrity and exhibit a coherence of vernacular style, form and appearance. Declared as 'protected' by DOAM-KP, the buffer zone allows the residents to expand the settlement as the population grows without affecting the heritage cluster. Historic structures in the context of the region refer to vernacular buildings deemed to be integral to the preservation of the living culture of the Kalash Valleys by the Archaeology Department. For example, water mills and old shops fit this criterion. For a detailed list of historic structures in the valley, refer to the database maintained by DOAM-KP.

4.1.2. Cultural and religious sites: This zone includes all sites that mark the religious and culturally significant spaces used during cultural and religious activities by the communities in Kalash Valley. These sites are protected by a 200ft buffer zone according to the Antiquities Act of the DOAM-KP. The guidelines and codes in this section are based on the principles of Preservation, Restoration/Rehabilitation and new additions. This zone consists of all the religiously significant buildings, pathways and areas. The codes for this zone are not limited to religious sites but also extend to any surrounding area directly affecting religious sites. These religious sites can be affiliated with any faith or belief system and may be either or currently in use.

4.1.3. Hazard zone: This zone includes areas that are subject to landslides, debris flow, floods, GLOFs and other natural disasters and are hence considered unsafe for construction as well as cultural or religious usage (festival place, altars or graveyards). No permanent construction is allowed in this zone. However, the land may be used for cultivation purposes. (See ***Demarcation Map***)

5. Macro level design guidelines

5.1. Landscape and wellbeing

5.1.1. Preserve the atmosphere around cultural heritage sites/assets: On a macro level, the historic landmarks and sites must be preserved. Any new building/development or introduction of touristic activities must be planned in consideration of the existing landmarks and sacred sites. For example, if there is a temple, worship area or mosque in the locality, only quiet activities must be introduced in the vicinity to respect the privacy and space of local worshippers. Even if the landmark is not an active worship area, in remembrance of the building and its functionality, the atmosphere should be considered and retained.

5.1.2. Create visual lines: Throughout the valley, certain significant view lines should be maintained. Any construction along this line should ensure it does not obstruct the view of significance.

5.1.3. Follow the predominant spatial zones: Any development in the valley/village/area must adhere to spatial zoning that respects the local communities' privacy and establish private/non-interference zones for tourists. Specific out of bounds areas are to be established through the GIS work.

5.1.4. Protect natural assets by declaring them parks or outdoor museums: On a macro level, certain (Protected Area Initiative, Ministry of Climate Change) natural assets and areas that require protection (due to unique flora, fauna and eco-systems) must be designated as parks/natural reserves and/or outdoor museums to encourage preservation and attract tourism.

- Goremoon Mountain Brun: Anish history
- Rambhur, Nokthong spring: Shamanism history
- Rambhur Lake, Baok Lake, near the pastures
- Beo Barir: rock scriptures
- Grabatkoi: rock scriptures
- Shawal (name of the place), Diziawata (name of the rock carvings), Bambhurat Pastures

5.1.5. Ensure purity of the environment: Reduce the carbon footprint by encouraging systems that ensure the purity of the environment. This includes encouraging walking, conserving energy, conserving clean water and allowing the landscape to maintain its ecosystem, flora and fauna.

5.1.6. Enhance the landscape for protection, promotion and sustainability: On a macro level, the natural environment must be enhanced by providing viewing points,

tourist information centers or tourist facilities in areas surrounded by unique natural features. On a meso level, these enhancements to the natural features can be attained by providing complementary built features (sitting areas, pathways, boundaries, fountains, springs). Any such spaces must follow the codes on 'new additions' for buildings, surfaces and boundary fences.

5.2. Infrastructure and waste management

5.2.1. Plastics are hazardous to the environment and must be avoided or banned where possible: Plastic trade-in programs must be prepared for tourist discounts and provide incentive to local community actors. Moreover, plant, textile or paper-based products should be encouraged.

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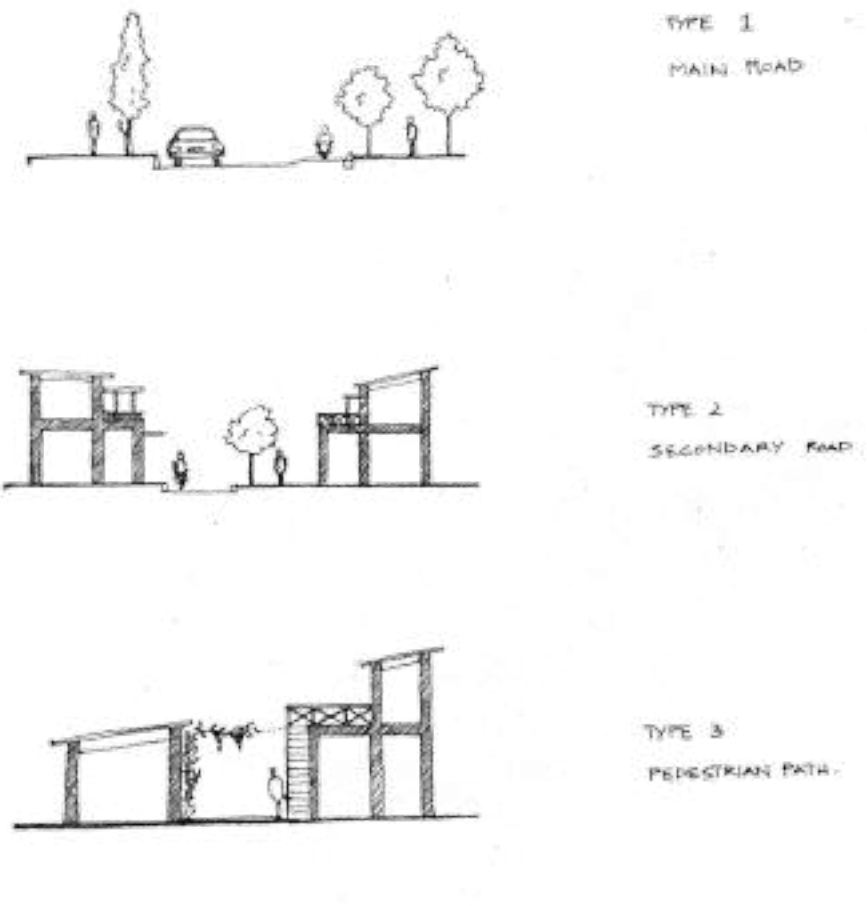
5.2.2. Introduce waste disposal systems: On a macro level, waste disposal systems must be oriented towards recycling (waste sorting) and repurposing. Garbage collection program: waste baskets and drums must be installed, and the waste should be dumped in pits or processed through industry. During tourist season specific waste disposal zones should be established in the valley.

5.2.3. Sustainable and efficient development requires adequate resource infrastructure: Any new building/development should only be allowed if there are adequate resources (parking, energy, water supply, auxiliary functions) available in the village/valley. In case of any lack of resources, the new building/development would create a strain on existing programs by using alternative unsustainable methods.

5.3. Pathways

5.3.1. Pedestrian pathways

a. All pathways are pedestrian-friendly except for certain secondary roads through zones where only motorbikes are allowed. In this case the pedestrian still has right of way.



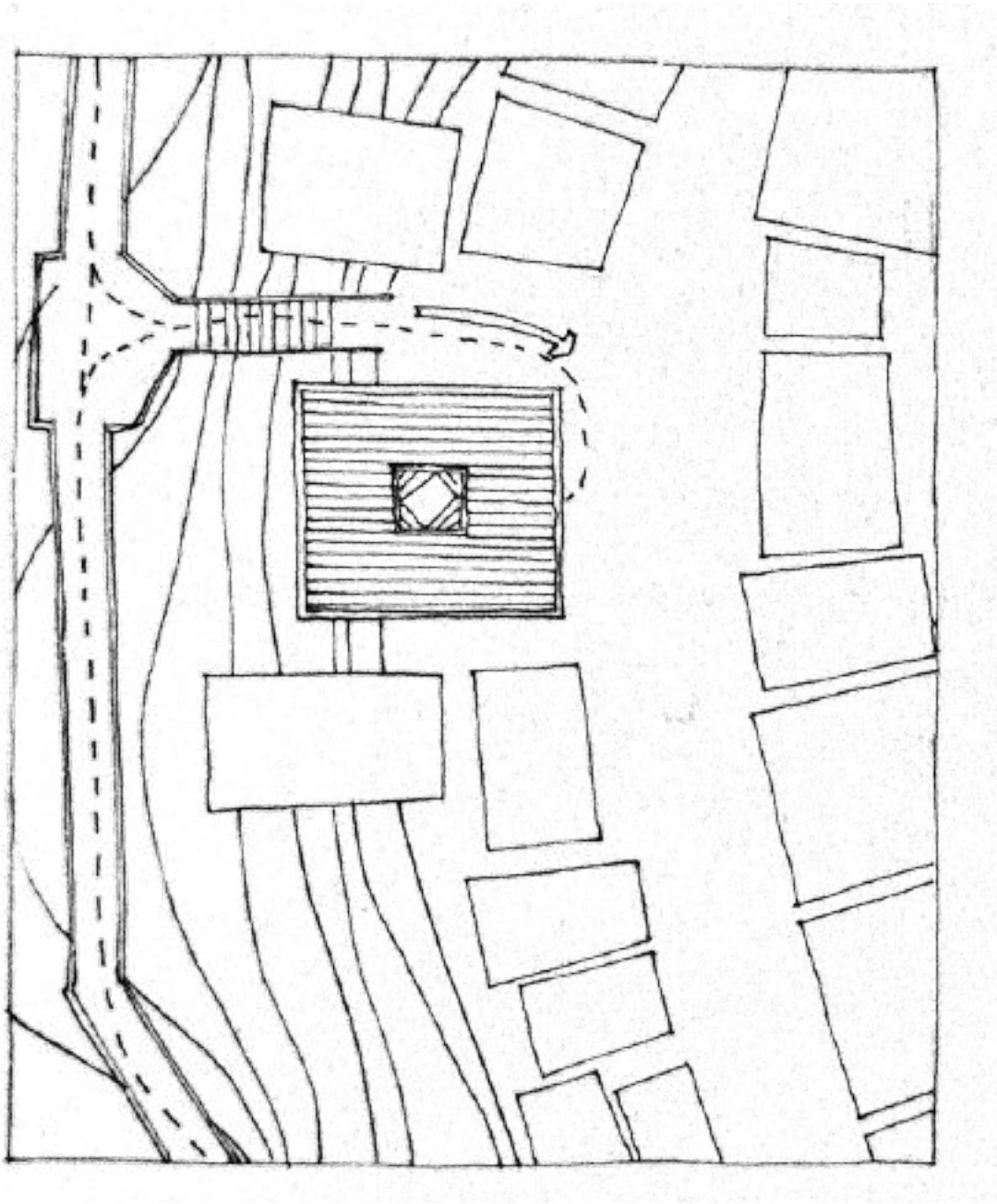
Drawing 5.3.1 a

b. Vehicular movements are restricted to marked roads throughout the valleys. In such instances, pedestrians also have right of way.
c. Main pathways should be well lit at night, preferably by using solar lamps. Minimum 3' width (unless stated otherwise), using stable surface material such as local stone and crush.

5.3.2. Respecting culture and traditions

a. Establish Kalash no go areas such as bashali, temple roofs (for women), altars, Onjesta and Pragata spaces.
b. Designated pathways for tourists should be created around religious and residential sites ensuring non-interference with any religious practice and

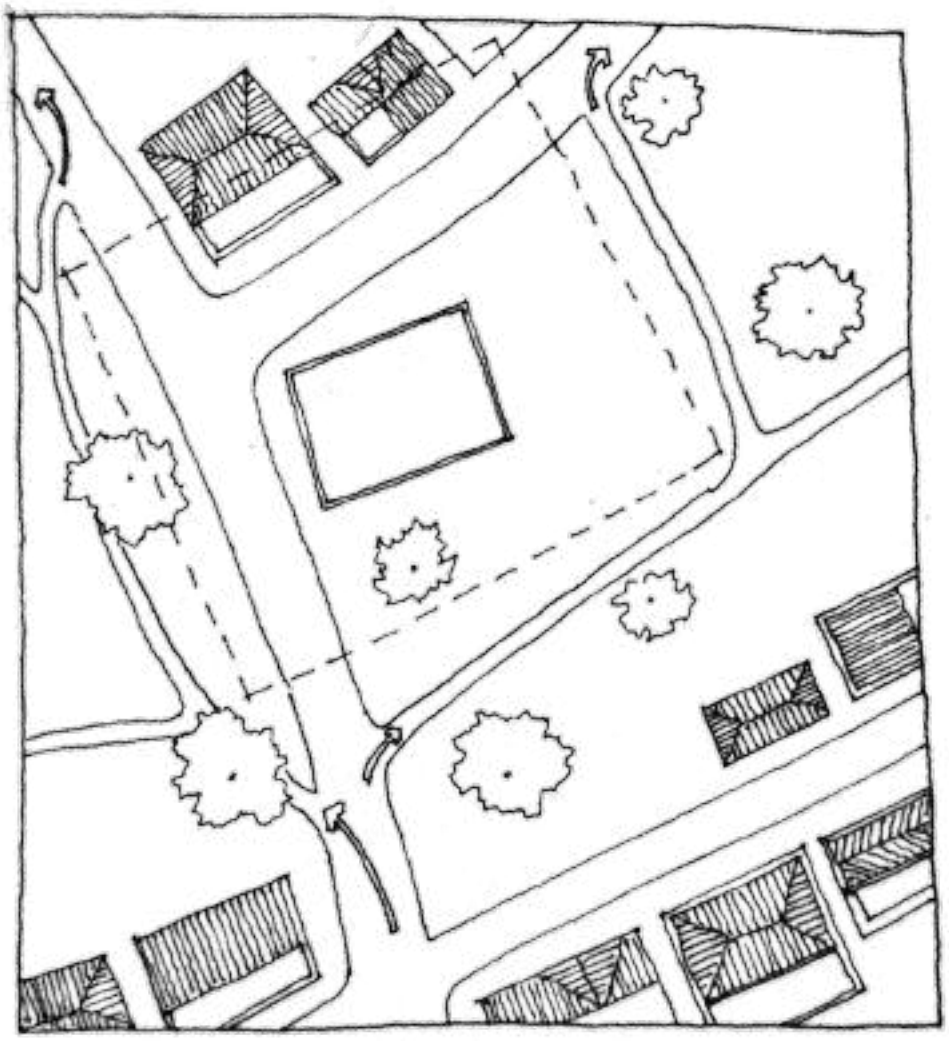
local pathways. These pathways can be designed differently from local pathways. However, they should not create any visual disturbance. The design for these pathways should respect local aesthetics and use local materials and built patterns.



Drawing 5.3.2 b

c. Alternate pathways for female tourists should be designed, respecting the Onjesta spaces. These pathways should be designed around the Onjesta space connecting back to the original pathway. They must be constructed in

local materials (see checklist) with proper gradient, incorporating slopes and steps as required.



Drawing 5.3.2 c

d. Pathways used by the locals for animal herding should be marked and documented by the local administration. These pathways should respect the Onjesta and Pragata spaces.
e. Pathways to and from religious sites, used by the local population, should maintain the approved minimum width, traditional aesthetics and vernacular material integrity. These pathways need a regular maintenance plan ensuring structural stability, hygiene and safety from encroachment. Pathways leading to these cultural and religious sites must be at least 5' wide and unobstructed.

f. All pathways within the historic housing cluster should use naturally available materials such as different types of stone and mud. If cement is used as a binding agent, it must not be visible.

5.3.3. Right of way

a. The right of way shall be maintained in accordance with the Easement Act of 1882.
b. Public pathways should always be clear of any obstacle or interruption to pass along any route within the settlement.
c. A minimum width of 4' should be maintained across the historic zone, e.g. carriage of grass baskets, wheelbarrows, religious rituals and any other livelihood activities.
d. Any building or boundary must maintain access rights for subsequent plots of land and cannot block another landowner's access rights.
e. Natural pathways for drainage should not be blocked. Any structure found encroaching on the water channel/drainage pathway is to be demolished, with the owner of the encroachment bearing the cost of the demolition as a fine.

5.4. Industrial/heavy machinery

a. Areas must be designated for heavy machinery and activities that causes noise and air pollution and disturb the socio-cultural and natural environment. This includes wood-cutting/saw machinery, roadworks machinery, stone cutting, cement blocks factories and crushing machines.

b. In the case of heavy machinery needed in the fields, the responsible party needs an allotted time approved by the local community. This time should respect the local lifestyle and not disturb anyone's daily routine (sleep, work, etc.).

c. Buffer for industrial buildings is mandatory. These could be in the form of offsets populated with auxiliary service programs or vegetation. Industrial plots should maintain thick vegetation on the boundary walls

d. Ground protection for areas that have excessive pedestrian movement or use of plants and machinery that may lead to soil compaction. Temporary ground protection might be required in some cases, which can support any site traffic without compacting or distorting the underlying soil and/or root system of the retained trees. Once in place, the tree protection fencing and or ground protection matting cannot be altered or removed without prior

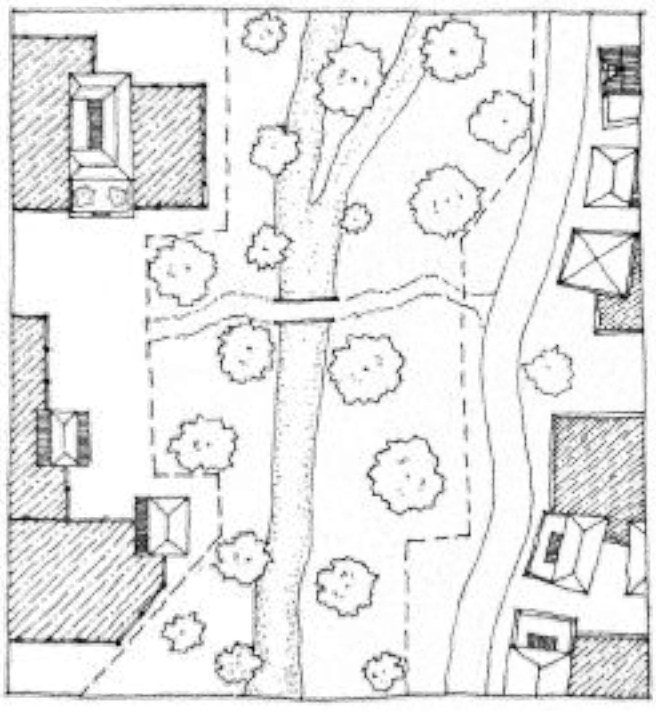
approval where necessary. Designate pathways for movement of heavy machinery.

e. Fish farms: No artificial/cement/concrete fishponds are allowed on any property. Only natural ponds may be created of a certain capacity.

5.5. Natural assets, flora and fauna

a. No construction is allowed within 30' of a natural asset such as an old tree or group of trees, a water stream or a big boulder that contributes to the vernacular landscape. These offsets must be considered as breathing spaces to ensure balance between the built and natural environment and must be kept clean and protected. These can be
developed as gardens, botanical gardens and kitchen gardens. They must be designated for use, pleasure and awareness of local communities and tourists. These areas must be jointly managed by developers and local communities.

b. Industries must not be set up in a natural zone/ecologically sensitive area or within its vicinity. Waste and garbage must not be accumulated or dumped in natural zones.



Drawing 5.5 b

c. The landscaping must be focused on local traditional flora. The Kalash culture is grounded in the traditions which are a result of the landscape. As such, the local flora must be given preference when landscaping in order to ensure the continuity of the cultural landscape. The community is to be consulted on the types of local flora to be used.

d. Permanent structures are not allowed in natural zones, however temporary structures (TBD) such as animal houses and summer dwellings may be set up. These can only be set up by local community members. Where absolutely essential, non-intrusive (soil excavation not allowed) and temporary small-scale structures may be introduced in the natural zone. These structures must be made from resilient, non-toxic building materials with weathering properties. Any built intervention will follow the 'temporary structure' detail. These can only be set up by local community members.

e. Natural species that are used in Kalash festivals such as Juniper and Shahbalooth forestation to maintain their culture. Preservation of pasturelands, rivers, streams, springs etc.

f. Regulate access and flow to protected areas: You must consider the approachability of protected areas, natural landmarks and natural heritage assets and regulate the flow and traffic to these by planning parking areas and supervised, guided, hour-based walking tours. However, camping trips are discouraged in protected areas (DOAM and Tourism Dept can coordinate on this).

g. Plantation: Plantation should be encouraged along fragile terrains to reduce soil erosion and enhance soil stabilization. Communal efforts towards reforestation in the agro-pastoral and natural zones should be encouraged to reduce natural disasters such as landslides, debris flow and floods.

h. All the natural features and elements of historic built environments should be achieved, protected and kept open to maintain the vernacular style, such as trees, pathways leading to temples, seating spaces, boulders etc.

i. Trees must be pruned according to the annual growth which might vary by species. Any exposed roots should be protected and covered with mulch.

j. Irrigation (water rights): Traditional water rights should be practiced while watershed management should be encouraged by expanding existing farmlands and orchards.

k. The community should be allowed to continue taking care of their natural resources through mutual collaboration.

5.6. Parking and infrastructure

a. ***Vehicular traffic must be regulated for environmental wellbeing:*** The natural local environment is affected by the influx of vehicular traffic which must be regulated and controlled. A limited traffic zone (pedestrianized streets and areas, limited access to people parking lots), which is currently being practiced in Italy, can be used to reduce congestion within the villages and improve overall air quality.

b. A shuttle service must be provided from Ayun during the Kalash festival days.

c. A 15-car parking lot in each village for day tourists.

Drawing 5.6 c

d. ***Adequate toilets:*** Parking areas must incorporate toilet facilities fabricated in local
materials to blend in with the landscape. Surfaces and materials must follow the codes in the 'Commercial zone' section. They should have proper ventilation which should not open towards public areas. The doors and ventilation should not open directly towards pathways or access/gathering areas.

e. Public car parking lots at the start of every village or every 800 meters with capacity depending on occupancy of the villages. Based on the overlap of two walkability radii, which are 0.25 miles each, roughly converted this translates to 800 meters. A walkability radius is considered a 5-minute walk. Since the villages do not take up an area that large, it would make sense to

limit the public parking area to one per village, to be placed at the start of the village limits, in order to preserve vernacular style.

f. ***Flow of vehicular traffic and parking must be designed properly:*** On a macro level, open areas can be designated as common parking lots. These open areas should be selected based on their size, current use, and location. It can then be connected to the building/development via interesting pathways for tourists. Staff of the development authority should identify congestion points for the development of such spaces.

g. ***Traffic in cultural and religious sites:*** Pedestrianize the religious and cultural sites, as well the spaces around it. All vehicular movement, parking and congestion points should be kept considerably away from these sites. 200' offset to be provided, according to the UNHCR charter.

5.7. Land use

5.7.1. Predominant land use:

a. The predominant land use in rural areas is residential and mixed-use development. Special permission for other land use is required.
b. Proposals for use other than the predominant land use, irrespective of ownership or the proponent, shall require special approval of the KDA. If this land has been declared protected, an NOC will be required from the DOAM-KP for construction.
c. The KDA and DOAM, may: a) consider an application and grant or refuse it or b) refer the application to the department for its consideration and decision on whether to grant or refuse it. Special permission may be granted subject to conditions.

5.7.2. Developments in existing clustered villages:

The following developments are prohibited in existing clustered villages: hotels, resorts, offices, polluting factories, group housing, hostels and similar developments. Homestay facilities may be permitted if they do not exert undue pressure on the resources or social structure of the local community. An operation plan with facilities listed must be submitted for approval.

5.7.3. Areas in which construction shall not be permitted:

a. In an environmentally sensitive area, or along or obstructing a water course or natural drainage.
b. Within 15 meters of the edge of a major stream or within 30 meters of the bank or the edge of a river, measured from the highest recorded water level.

c. If it would have an adverse impact on the scenic views, the historical and cultural significant attributes of the area or the overall ambience of the traditional settlement.

Vicinity of sacred sites and structures:

d. Conditions including restrictions and special requirements, shall be imposed for constructions and site developments proposed adjacent to or in the
vicinity of sacred sites and structures such as dancing areas, graveyards and religious worship areas.
e. In assessing such proposals, consideration is to be given to: a) the nature of existing and proposed land uses; b) plot and building layout, access and orientation; c) building scale, proportion and architecture; d) materials and modes of construction; and e) the location of septic tanks, soak-away pits and the drainage system.

6. Built Form Guidelines

6.1. Site considerations

a. Site analysis: Master planning requires detailed site analysis that consists of the location, topography, drainage patterns, zoning the site for noise, traffic, vistas, accessibility, natural assets and features, setbacks, easements, neighborhood, views, vegetation, availability of local construction material within the site and soil type.
b. Before planning the building, a master plan and site analysis is required to be submitted.
c. Consider the effects of your building on the surroundings and vice versa: The surrounding areas of a building/development must be duly considered in advance of planning, design and construction. This includes the natural and built environment. The construction and form of your building must respect the everyday lives which must not be disturbed. Create natural buffers like thick vegetation to dissolve sound and to act as a visual barrier.
d. The debris and fill from your site and any raw materials such as crush, sand, wood etc must not block any public or private pathway.
e. Construction work on site is prohibited after 6pm unless the neighbors give written consent for work to continue after these hours.

6.2. Commercial typologies

a) Shops: Shops are used for commercial purposes and must open onto the street.
Street side cafes: Cafes can be incorporated into shops on the condition that safety provisions are ensured against fire hazards. They require a proper ventilation system so that odors are not trapped.

b) Homestay: An existing structure of vernacular style may be converted for homestay purposes only if they are serviced by a street, ensure privacy and wellbeing of local people and provide adequate guest rooms and toilet facilities for the guests.
c) Restaurant: A restaurant will provide adequate seating space for the visitors and a separate, well-serviced kitchen with proper ventilation. It will also provide toilet facilities for visitors, both male and female. All Water and Sanitation laws will apply to this building.

d) Hotel: A hotel will provide a parking area, entrance, foyer and waiting area for its visitors, and adequately sized guestrooms with attached or shared

toilets. The hotel must also comprise a common area/lounge, dining area and a separate laundry and kitchen.

e) Lodge facilities: Any structure, or any portion of any structure, which is occupied, intended or designed for short-term occupancy for dwelling, lodging or sleeping purposes. Lodges are separate stand-alone structures providing individual or group guest sleeping and toilet facilities. A lodge facility will provide a parking area, entrance, foyer, waiting and common area for its visitors. A common self-serviced kitchen facility must be provided for visitors. In addition to this, separate lodges must be provided adequate habitable space with lighting facilities. The toilets may be attached or combined. Campsite: A campsite or camping pitch is a place used for overnight stay in an outdoor area. A parking area, small reception area, designated spots for setting up camp and pathways should be defined. Toilet facilities must be provided on site.

f) Government buildings: All government buildings must follow the vernacular style as outlined in this document.

Any extra land falling outside your plot size range must be used as an open area. No permanent structures are allowed, although temporary structures may be considered if approved.

	Category	***Size (marla)***	***Detail***
1	A	Less than 10	Shops, street-side cafes, mixed use
2	B	15 to 30	Restaurants, home stays
3	C	35 to 60	Hotels and lodges
4	D	> 65	Lodges, campsites
5	E	> 40	Schools, offices, colleges, etc

Table 1. Commercial building typologies

COMMERCIAL BUILDING/DEVELOPMENT

Cat	*Size*	*Offset*	*Plinth area*	*Height*	*Terrace*	*Awnings*	*Covered area*
A	Less than 10 marla	10′ deep, no boundary walls. 5′ deep veranda mandatory in front of shops.	90% of the plot size	20′ max height per floor = 8.5′	4′ deep covered terrace allowed if it does not obstruct 60 deg view of the sky from the road.	Signs boards are allowed. Ref to section	2250+~2000= ~4250
B	15 to 30 marla	12′ deep, 5′ deep veranda mandatory in front of buildings.	GF: 70% of the plot size FF: 60% of the GF	24′	6′ deep terrace towards the valley panning at least 10′	Shade above windows/doors, maximum 3′ made entirely in wood. Balconies of minimum 4′ depth allowed.	2625+1575=4 200 5250+3150=8 400
C	35 to 60 marla	30′ from the road line	GF: 55% of plot size FF: 60% of GF	24′	8′ deep terrace spanning at least 14′ towards valley view	Shade Above windows/doors. Maximum 3′ made entirely in wood. Balconies of minimum 4′ depth allowed.	4812+2887=7 699 8250+4950=1 3200
D	> 65 marla	40′on the frontage	GF: 50% FF: 50% of GF	24′	8′ deep terrace spanning at least 10′ towards valley view	Balconies of minimum 4′ depth allowed. The projection cannot be used as a walkway.	8125+4062=1 2187
E	> 40 marla	40′ on the frontage	GF: 40% FF: 50% of GF	24′	8′ deep terrace spanning at least 10′ towards valley view	Balconies of minimum 4′ depth allowed. The projection cannot be used as a walkway.	4000+2000=6 000

Table 2. Overview of commercial bylaws

RESIDENTIAL BUILDING/DEVELOPMENT

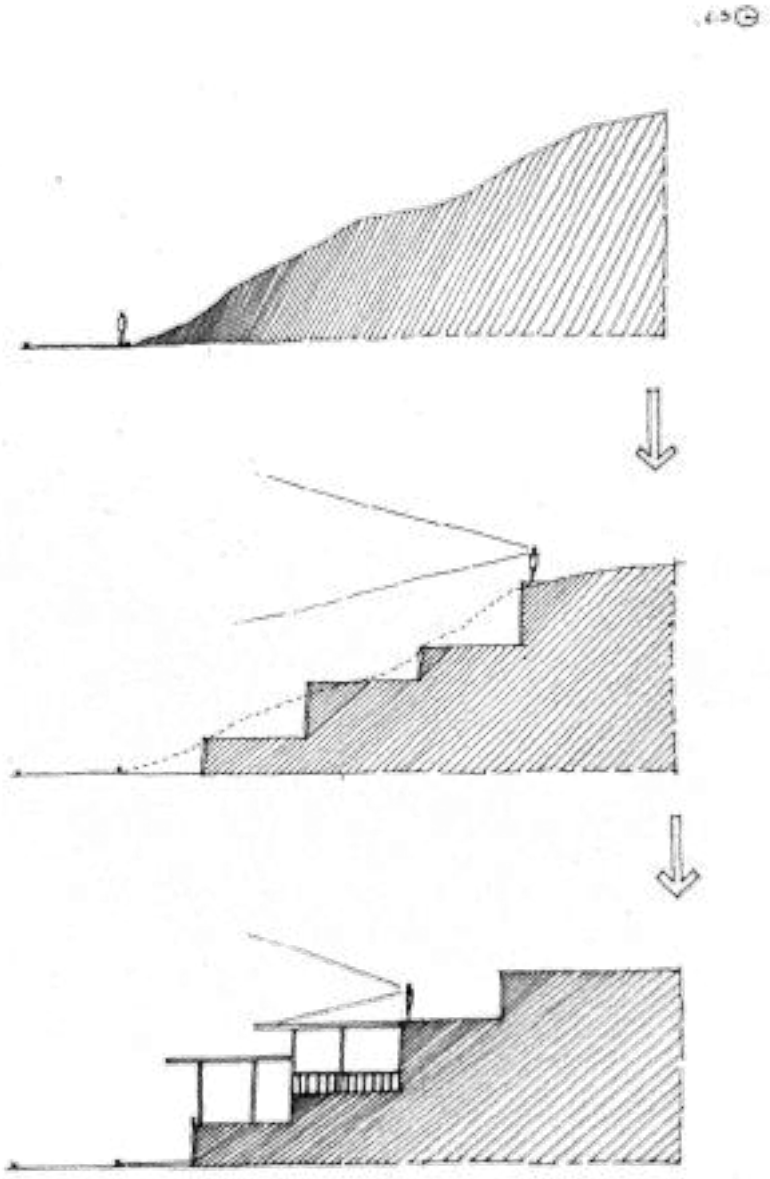
Cat	Size (marla)	Offset	Plinth	Height	Terrace	Awnings	Covered area
A	10 or less	According to the predominant pattern. Main door shouldn't open onto the main road	GF: 60% FF: 70% of GF	22′	8′ deep terrace spanning at least 10′ towards valley view	Balconies of minimum 4′ depth allowed	1500+1050=2550
B	15 to 20	On the frontage, follow predominant pattern or 12′, whichever r is greater	GF: 55% of plot size FF 60% of GF	22′	8′ deep terrace spanning at least 10′ towards valley view	Balconies of minimum 4′ depth allowed	1375+825=2200 2750+1650=4400
C	Above 25, up to 40	On the frontage, follow predominant pattern or 12′, whichever is greater	GF: 50% FF: 50% of GF	22′	8′ deep terrace spanning at least 10′ towards valley view	Balconies of minimum 4′ depth allowed	2500+1250=375- 5000+2500=7500
D	45 and above	On the frontage, follow predominant pattern or 12′, whichever is greater	GF: 40% FF: 50% of GF	22′	8′ deep terrace spanning at least 10′ towards valley view	Balconies of minimum 4′ depth allowed.	4000+2000=6000

Table 3. Overview of residential bylaws

6.3. Land grading and slopes

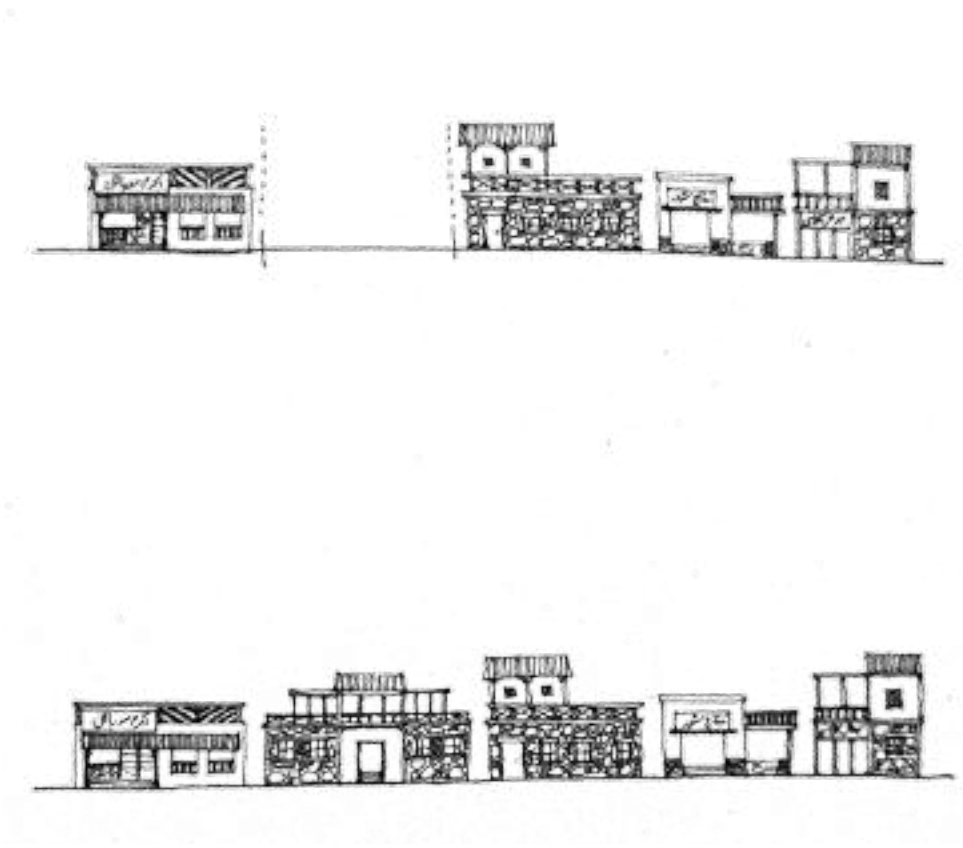
In mountain regions the topography can vary even within a plot. This change in topography should be used as a design guide. For example, the highest area in the plot can be used to create a structure with fewer storeys than a structure in the lowest area. This way, both structures can maintain a harmonious height in the streetscape.

a. Complete excavation of the plot to flatten the terrain is not allowed, rather the higher plot areas can be used by creating open recreational spaces which the visitors can use as viewpoints. (Refer to category allowances for covered area)



Drawing 6.3 a

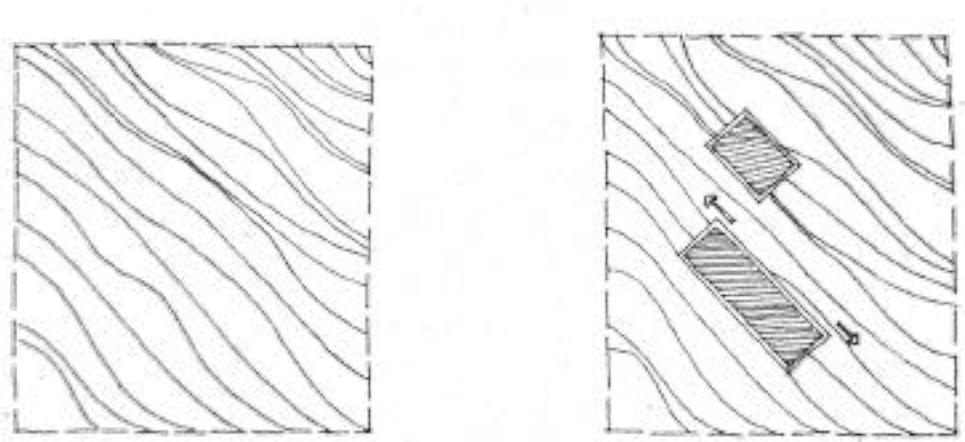
b. To maintain visual harmony, a commercial and residential building must follow the maximum number of floors in the adjacent and surrounding buildings, or two storeys, whichever is less.



Drawing 6.3 b

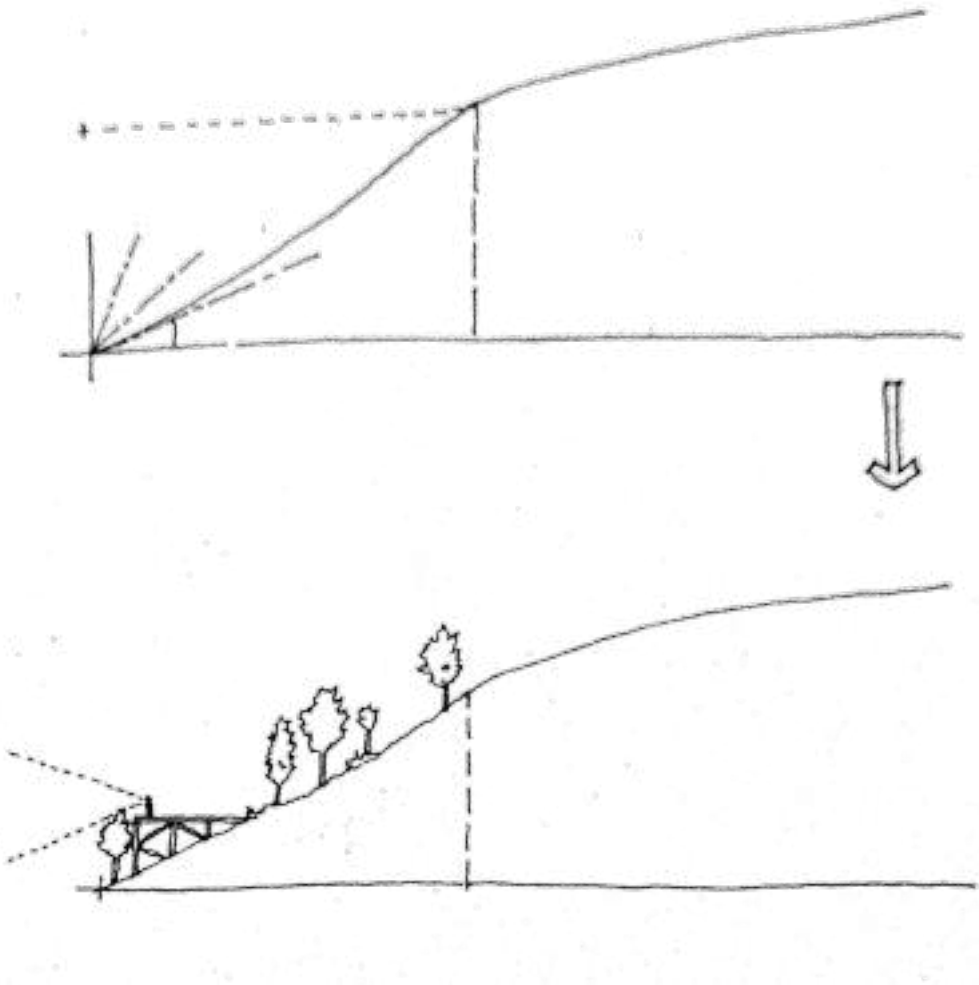
c. All buildings, structures, roads and drives shall, to the fullest extent practicable, follow and utilize the natural contours of the land to minimize land disturbance. The maximum height of any cut used to establish a Building Site shall not exceed 15'.

d. Single-level residential structures should be oriented such that the greatest horizontal dimension of the structure is parallel with, and not perpendicular to, the natural contour of the land.



Drawing 6.3 d

e. Grading should be limited to the extent possible and designed to retain the shape of the natural landform. Padded building sites are allowed, but site design and architecture techniques (such as custom foundations, split level designs, stacking and clustering) should be used to mitigate the need for large, padded building areas. Grading must be designed to preserve natural features such as knolls or ridgelines. In no case should the top of a prominent hilltop, knoll or ridge be graded to create a large building pad.
f. Soil terraces at least 8′ in width shall be established at not more than 12′ vertical intervals on all cut or fill graded slopes in order to control surface drainage and debris. Where only one terrace is required, it shall be at the mid-height of the slope.
g. The maximum depth of fill shall not exceed 7.5′ except beneath the footprint of the main residence. All exposed disturbed area fill shall be contained behind retaining walls or covered with a natural rock veneer and treated with an aging agent and landscaped with indigenous plant material.
h. No commercial construction is allowed on slopes more than 25% (this will prevent commercial development from reaching the residential settlements) as it poses risk to land and causes land deformation.
i. Areas within the plot with a slope more than 25% can be used as a buffer, as outdoor landscape seating and other functions which do not involve the deformation of the landscape.

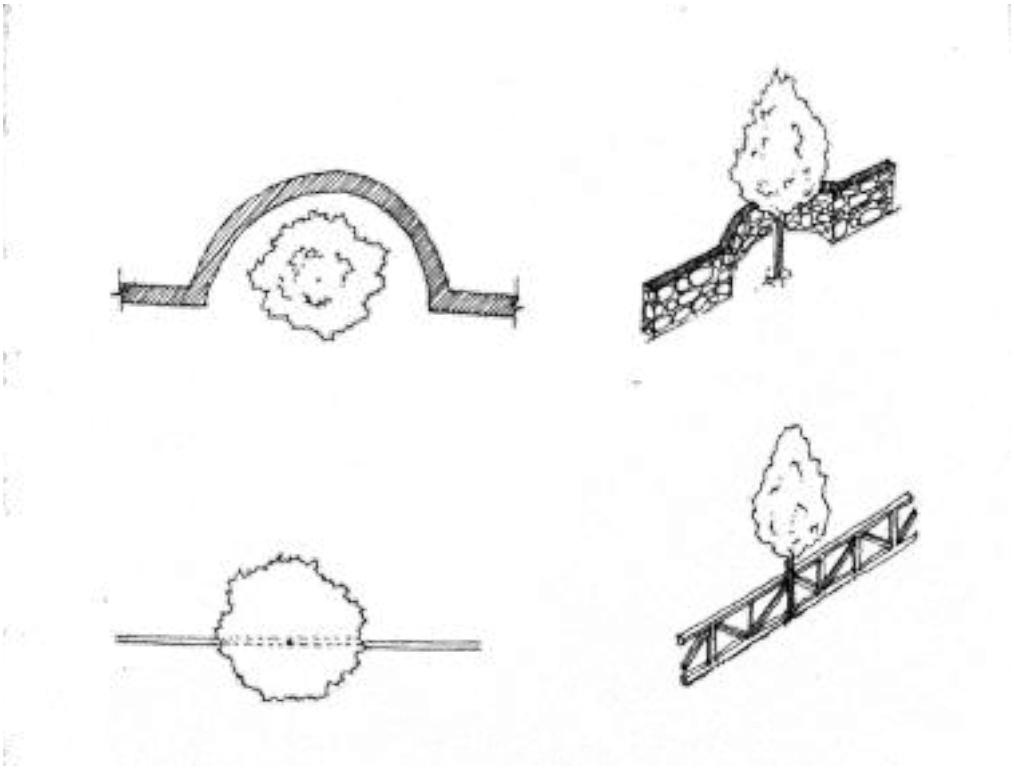


Drawing 6.3 i

6.4. Flora and fauna

a. Felling: Fruit Trees older than five years are granted protected status and cannot be felled unless by special permission. This is to protect new plantations which survive the initial five-year growth period, to act as carbon sinks for the valley. This protected status is not extended to privately owned trees traditionally grown by the community for the purpose of obtaining timber for construction. If any tree older than five years is cut, the person should compensate for it by planting two new trees of the same species.
b. Property edge: In the case of a tree being on the edge of a property, the boundary wall of said property has to completely avoid the construction exclusion zone of the tree (as determined by development authority experts). If the property is demarcated by non-invasive fencing, the tree

trunk must be incorporated as part of the boundary fence.



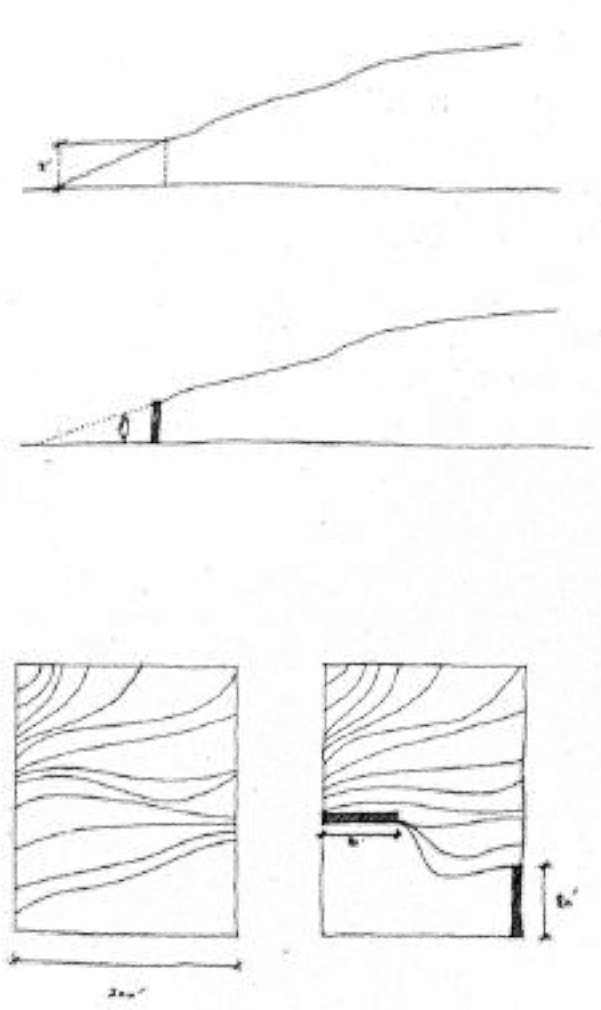
Drawing 6.4 b

c. Tree canopy: No construction allowed within the vicinity of a tree canopy older than 80 years. An assessment is to be made by the development authority to determine root spread and depth, in order to demarcate a construction exclusion zone.
d. No chalking, painting, pasting or nailing on the tree branches/trunks.
e. If a tree is on public property, no part of the tree can be used as a supporting structure to paste advertisement boards etc, however, they can be used by the community for drying fruits or for swings with mutual consent.
f. Specific flora which are traditionally used, such as grapevines, mulberry trees, aspen trees, walnut trees, pine trees, Chalghoza pine, apple trees, pear trees and Shah baloot trees, should be considered in the new addition.

6.5. Retaining walls

The intent of the retaining wall requirements is to mitigate the massing and impact of walls on the hillside and preserve the characteristics of the Kalash Valleys. The objective is to allow only the minimum number of retaining walls needed to access the property and retain cut and fill.

a. The maximum length of any continuous retaining wall shall not be more than 80′ linear. The maximum height of any retaining wall shall not be more than 8′. The height of a retaining wall is measured from the low side of natural grade when retaining fill slopes and from finished grade when retaining cut slopes to the top of the wall, whether or not the top is retaining earth.



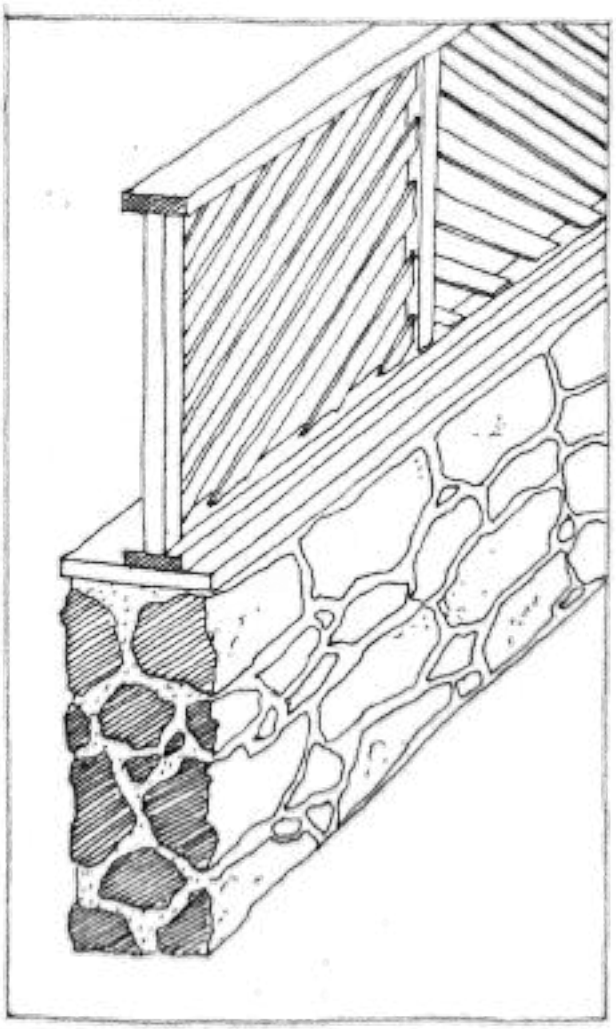
Drawing 6.5 a

b. Retaining walls shall be used for the purpose of containing fill material or for minimizing cut or fill slopes. The retaining wall may only extend 6" above the material it is retaining.
c. When a safety fence, on top of a retaining wall, is required by code it shall be a view fence with a minimum height as per building code.
d. Where retaining walls are provided they shall be color treated, textured or veneered to blend in with the surrounding natural colors and textures of the native rock and soils at the site.

e. Ask the community for further details on slopes/construction.

6.6. Boundaries

a. No solid gates of iron or steel are allowed. However, porous boundaries including gates can be built using metal structures designed with local motifs and materials. MS (Mild steel) with wood veneer may also be used.



Drawing 6.6 a

b. Boundary fences: high masonry walls, high solid infills, panels (e.g. CGI sheets) and horizontal boarding are not allowed.
c. The boundary wall height of residential buildings must not exceed 6′ where 3′ will be constructed in stone masonry base, followed by porous wall in stone or wooden fencing.
d. The boundary height of commercial building must not exceed 5′ where 3′ will be constructed in stone masonry base, followed by porous wall in stone or wooden fencing.

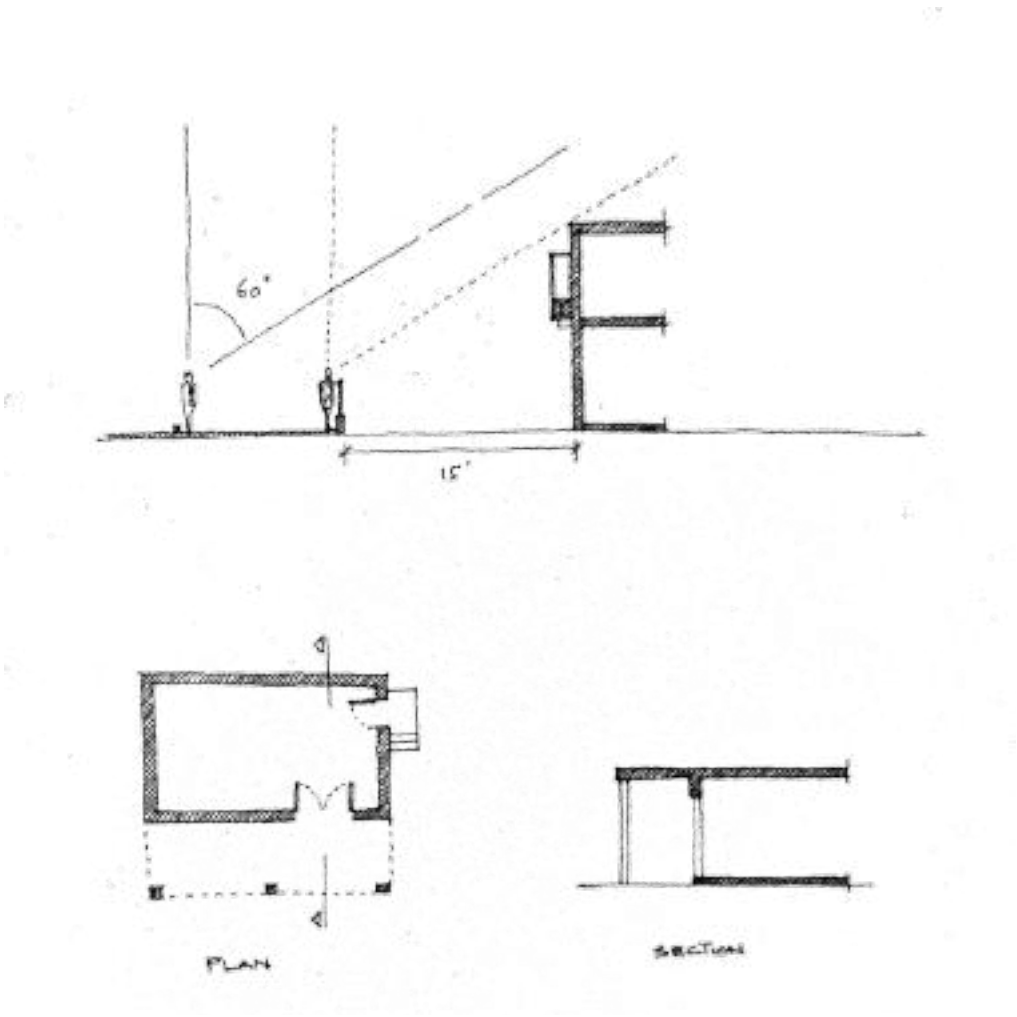
e. A continuous linear boundary wall of no more than 120′ shall be constructed any point on the property line. Perforated surfaces or open areas must be introduced to break linearity.
f. Boundary walls for agricultural fields should be avoided. Where required, they must not exceed 3′ in height from the soil level and they should be made with wooden planks or shrubs. A more solid boundary is allowed only if it is built in mud bricks or rubble stone masonry.
Demarking of agriculture fields should be done with stones, dirt paths, water channels, bushes or wooden fences.

6.7. Offsets

- Offsets lend depth of field to your building/development: You must have an offset from the external built setting. The size of the offset should be according to the local pattern being followed in the vicinity.
- Right of light: No extension or intervention should be made which intervenes in right of daylight of the surrounding buildings. The right of light shall be maintained in accordance with the Easement Act of 1882. To ensure the right of light, the building height should not block the sun for adjacent buildings.

*6.7.1. Commercial Buildings *A*

- The street offsets should ensure that a 60° field of view of the sky is visible from the road at all times.
- All shops opening onto the road must provide an offset of at least 10′ from the road boundary.
- It is mandatory for a shop to provide veranda space i.e. at least 5′ in depth on the front. No direct doors onto the road/street. All doors should open on the side, or in a buffer space such as a veranda, set back, etc.



Drawing 6.7.1

*6.7.2. Commercial Buildings *B, C, D, E*

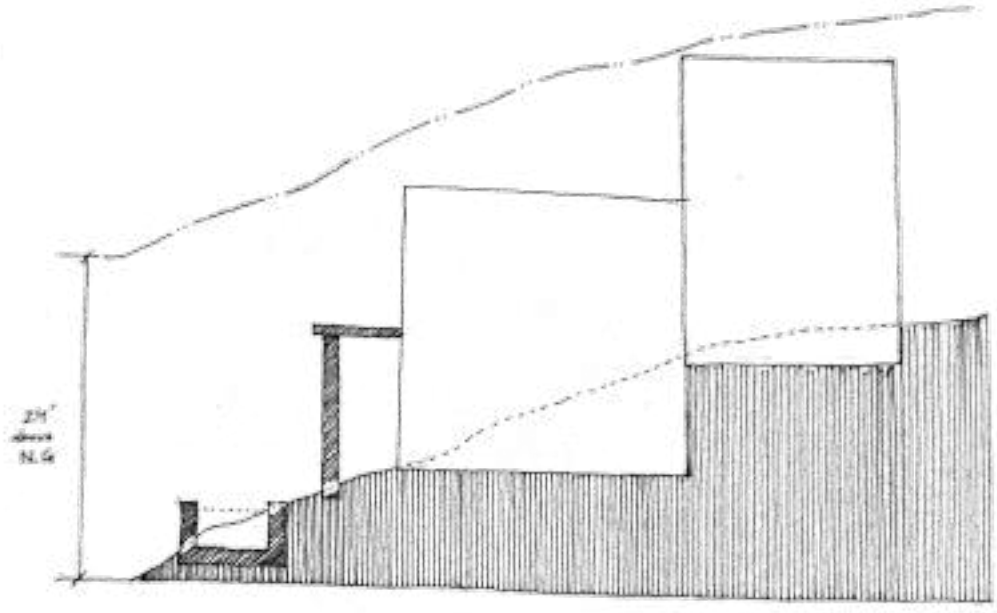
- A minimum 30′ offset needs to be provided or, if the offset is greater than this in the vicinity, then the predominant offset should be followed.
- All buildings opening to various roads and pathways must have the minimum setback mentioned according to the width (level/hierarchy) of the road.
- For category B: Set back from the boundary wall must be at least 12′ on the frontage.
- For category C: at least 30′.
- For category D: at least 40′.
- For category E: at least 40′.

6.7.3. Residential Buildings

- For category A, the offset should be calculated according to the predominant pattern in the vicinity of the building, ensuring that the main door does not open onto the main road or street.
- For categories B, C and D, the offset should be calculated according to the predominant pattern or 12', whichever is greater.

6.8. Height

a. The height of a residential building or structure is limited to 22' imaginary plane that
parallels the existing pre-development natural grade where terraced construction is permissible. However, this height is only permissible if it does not disrupt the view line of any plot on the higher level of the natural grade level.



Drawing 6.8 a

b. The maximum overall height of the building or structure, including chimneys and accessory buildings, shall not exceed 40' from the highest point of a building or structure to the lowest point of natural grade at the lowest building or structure (excluding driveway retaining walls, driveway entry, gates and retaining walls needed
to prevent erosion or flooding).

c. The height of commercial buildings in Category A cannot exceed 20', with internal height of one floor not exceeding 8.5'.

d. The height of commercial buildings in Categories B to E cannot exceed 24' from natural grade level.
e. The height of commercial buildings in Categories A to D cannot exceed 24' from natural grade level.
f. Height of outhouses and sheds cannot exceed 8' from ground level.
g. Internally, minimum ceiling height must be 7' from floor level.

6.9. Roof

a. In case of an RCC slab, the slab should not exceed the floor area of the respective floor. RCC projections are not allowed.
b. In commercial buildings, with sloping roofs, the slope angle should be a minimum of 27° and a maximum of 35°.
c. The roof hang must be minimum 2' away from the road or adjoining property to avoid obstruction during snow season.
d. For specifications of roof material and colors, refer to Table 5 on material specifications.

6.10. Covered/plinth area

6.10.1. Buffer areas (atriums included) must be incorporated between two covered structures where one structure cannot exceed 1300 sq. ft. unless restricted by slope ratio. This is to break a building's mass and visual monotony.

6.10.2. At least every 800 sq. ft. should be read as a separate volume within the elevation/façade in the 1300 sq. ft. plinth area. This can be achieved by limiting the roof to 800 sq. ft., creating setbacks/terraces/projections, or varying ceiling heights.

6.10.3. Floor Covered Floor Area for Commercial Buildings

- ***Category A:*** Ground floor plinth area cannot exceed 80% of the entire area.
- ***Category B:*** Ground floor plinth area cannot exceed 70% of the plot size. First floor covered area cannot exceed 60% of the ground floor area where terraces must be incorporated on street frontage. Second floor is not permitted.
- ***Category C***: Ground floor covered area cannot exceed 55% of the entire plot area. First floor covered area cannot exceed 60% of the ground floor area where terraces must be incorporated on street frontage and can be incorporated into the rear and side of the building. Second floor is not permitted. Temporary sheds and outhouses are allowed covering a maximum of 80 sq. ft. Generators can be accommodated within this.
- ***Category D:*** Ground floor covered area cannot exceed 50% of the entire plot area. First floor covered area cannot exceed 50% of the ground floor area

where terraces must be incorporated into street frontage and also the rear and side of the building. Second floor is not permitted. Temporary sheds and outhouses are allowed covering a maximum of 120 sq. ft. Generators can be accommodated within this.

- ***Category E:*** Ground floor covered area cannot exceed 40% of the entire plot area. First floor covered area cannot exceed 50% of the ground floor area where terraces must be incorporated into street frontage and can be incorporated into the rear and side of the building. Second floor is not permitted.

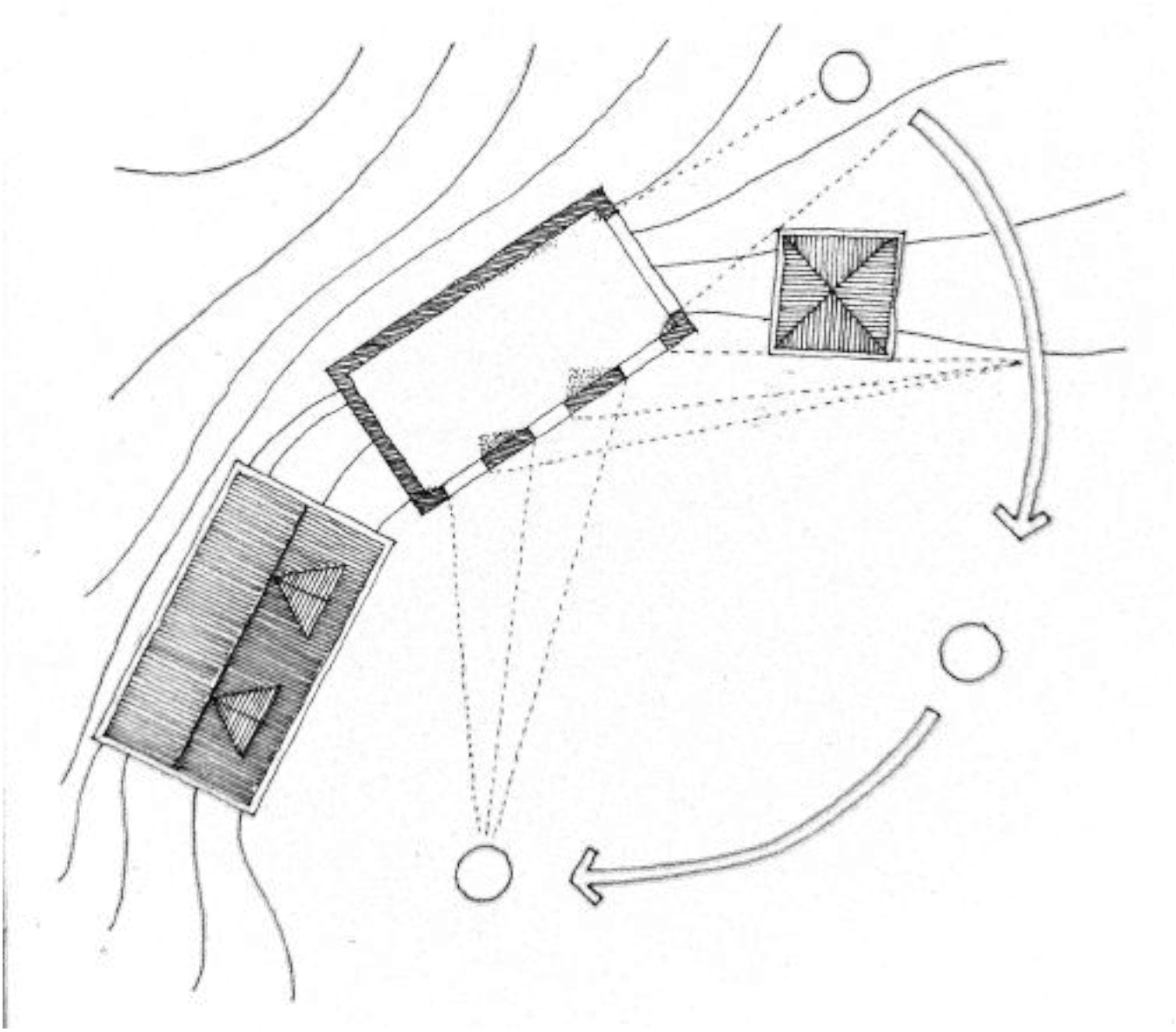
6.10.4. Floor Covered Area Residential Buildings

- ***Category A:*** Ground floor plinth area cannot exceed 60% of the entire area. First floor covered area cannot exceed 70% of the ground plinth area where terraces must be incorporated into street frontage. Second floor is not permitted.
- ***Category B:*** Ground floor plinth area cannot exceed 55% of the entire area. First floor covered area cannot exceed 60% of the ground plinth area where terraces must be incorporated into street frontage. Second floor is not permitted.
- ***Category C:*** Ground floor plinth area cannot exceed 50% of the entire area. First floor covered area cannot exceed 50% of the ground plinth area where terraces must be incorporated into street frontage and additionally can be incorporated into the side or rear of the building. Second floor is not permitted. Temporary sheds and outhouses are allowed covering a maximum of 80 sq. ft. in addition to the permitted covered area.
- ***Category D:*** Ground floor plinth area cannot exceed 40% of the entire area. First floor covered area cannot exceed 50% of the ground plinth area where terraces must be incorporated into street frontage and additionally can be incorporated into the side or rear of the building. Second floor is not permitted. Temporary sheds and outhouses are allowed covering a maximum of 120 sq. ft. in addition to permitted covered area.

6.11. Orientation

The orientation, openings and access to your building/development must not disturb the privacy of the local community.

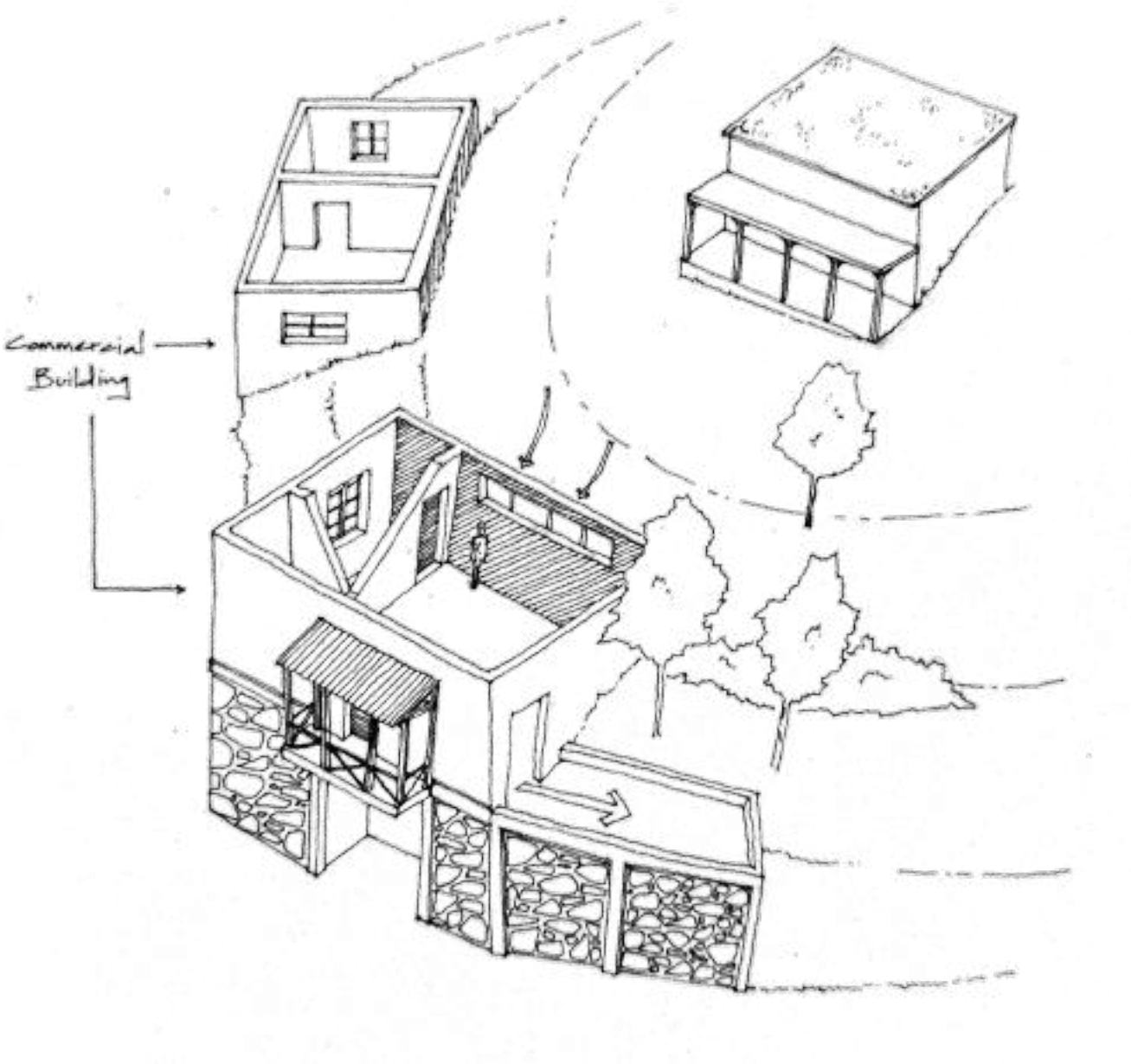
a. The layout of new building construction shall follow the orientation of existing houses.
b. Where a discernible orientation is not present, the building must be orientated for maximum passive solar gain.



Drawing 6.11 b

c. Where required, for commercial buildings, create alternative pathways to access the building/development to ensure privacy of the local community.

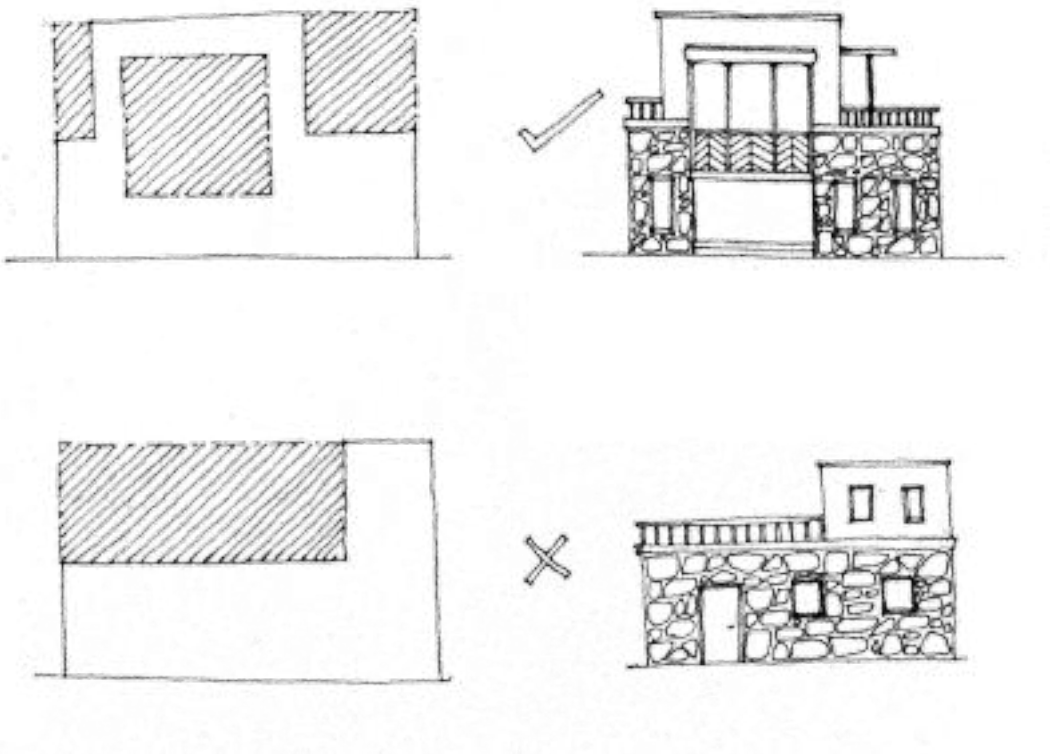
d. In commercial buildings, no openings (windows, terraces or balconies, doors) are permitted towards local residential and cultural and religious spaces. In case openings are required (due to sun in-take), visuals to the adjacent plot must be obstructed using natural buffers such as trees and tall hedges.
e. Clerestory windows are permitted to open towards residential and social spaces to allow light but not visual access.



Drawing 6.11 e

6.12. Façades

a. The materials and the placement of windows and doors should be consistent with the vernacular style. The openings (windows/doors/clerestory windows) on the GF façade must not exceed 30% of the total area so that the vernacular materials are readily visible on the façade.
b. The façade of any new building should represent the traditional method of building construction. The natural material should maintain its integrity and originality.
c. A building's façade should not be treated with any artificial plaster, color, paint, unapproved sign boards, stickers or wall chalking. Mud plasters and cleaning must be applied/carried out annually.
d. Wall chalking and painted advertisements are not allowed on shops, buildings or boundary walls.
e. A long corridor or a flat façade in the building must be punctured with perforations, a viewing terrace or sitting area to match the vernacular volumes.
f. Terraces occupy a maximum 60% of the front façade in an irregular manner. The terrace should be distributed in the façade, such that it does not read as a single monolithic terrace.



Drawing 6.12 f

g. Solar panels may be allowed if they are integrated into the building design and hidden from view when viewed from the same or a lower level and approved by the KDA/DOAM by Combined Review. Solar panels may be allowed on pitched roofs when screened from the same or a lower level by the adjoining hillside or hillside cut and approved by the KDA/DOAM by Combined Review.
h. Sacred visual patterns must be respected: The Kalash architecture has specific visual patterns and ornamentations associated with sacred meanings. These can be found in wood carvings and wall paintings. Any new building/development must respect the cultural significance of these ornamentations and avoid appropriation. For example, in the sacred buildings of the Kalash valleys, the goat head motif and knot pattern are frequently seen. This demarcates a sacred place for the local community. Use of such patterns in the building/development would be disrespectful to the local community.
i. Usage of steel shutters for any building is prohibited. Wooden structures should be used instead.

6.13. Foyers

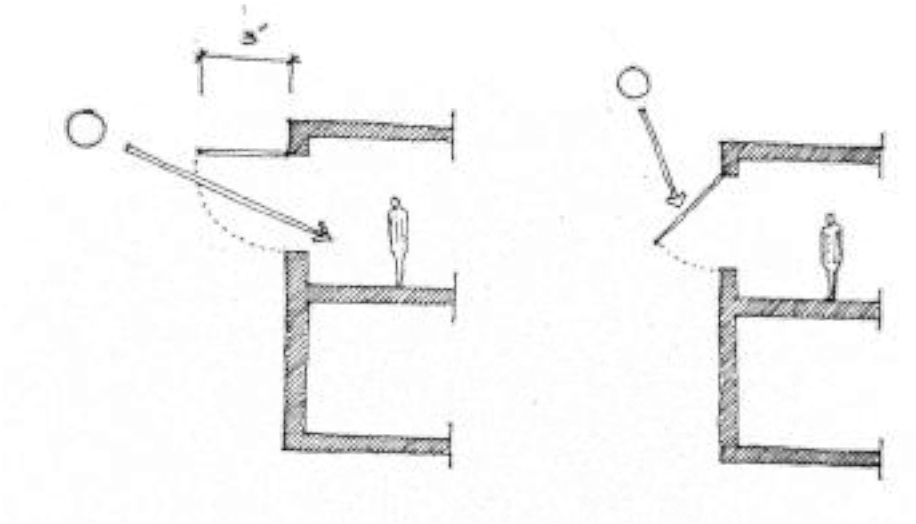
Foyers regulate temperature between the inside and outside: A foyer covering a minimum area of 60 sq. ft. is mandatory in commercial buildings (categories B, C, D, E) and residential buildings (categories A, B, C, D) to regulate temperature in the building and prevent outside climate entering and mixing directly with the inside.

6.14. Projections

Add depth of field to enhance the character of your façade. Façades must include terraces to add depth of field. When designing these elements, it may be considered how they blend in with the surrounding context, i.e. the natural landscape and existing built environment.

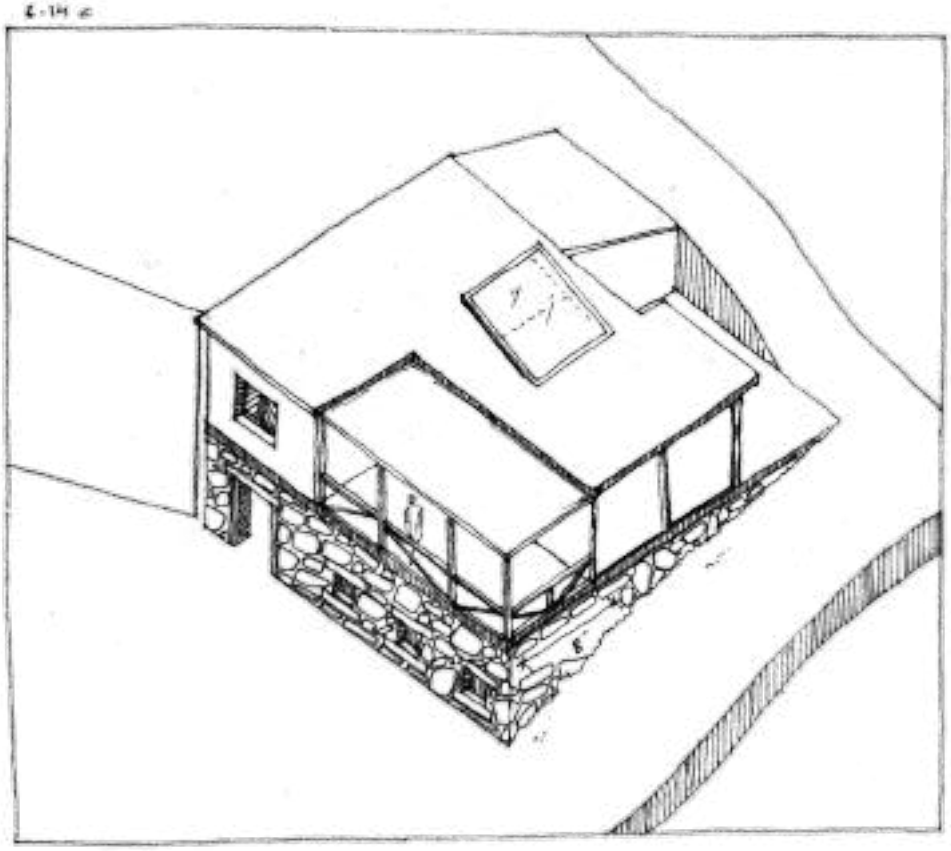
a. Refer to projection specifications in Tables 1 and 2 respectively for commercial and residential buildings.

b. Sunlight intake can be adjusted according to the season using shades which capture direct sunlight during winter and prevent it during summer. In some cases, adjustable shades can be designed to give more control over sunlight intake. Retractable awnings cannot exceed 3' maximum distance in projection.



Drawing 6.14 b

c. In case of covered terraces, they must not be less than 8' deep (following the local pattern).

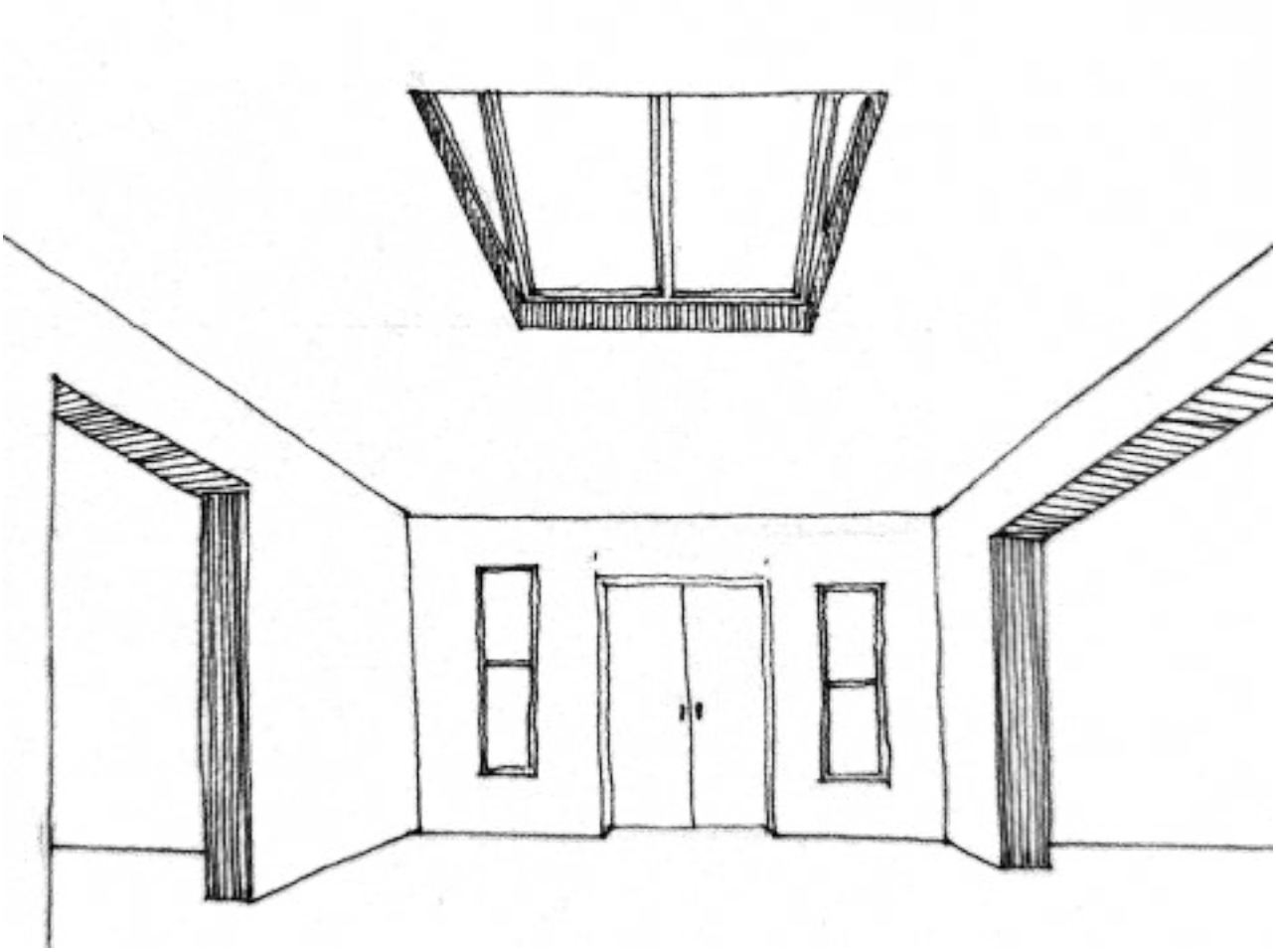


Drawing 6.14 c

d. Any building with a first floor must provide a terrace opening towards the connecting road. This terrace will provide the right to sky for the road.
e. Balustrades must take inspiration from local woodwork or terraces may be placed to capture canopies of walnut trees.

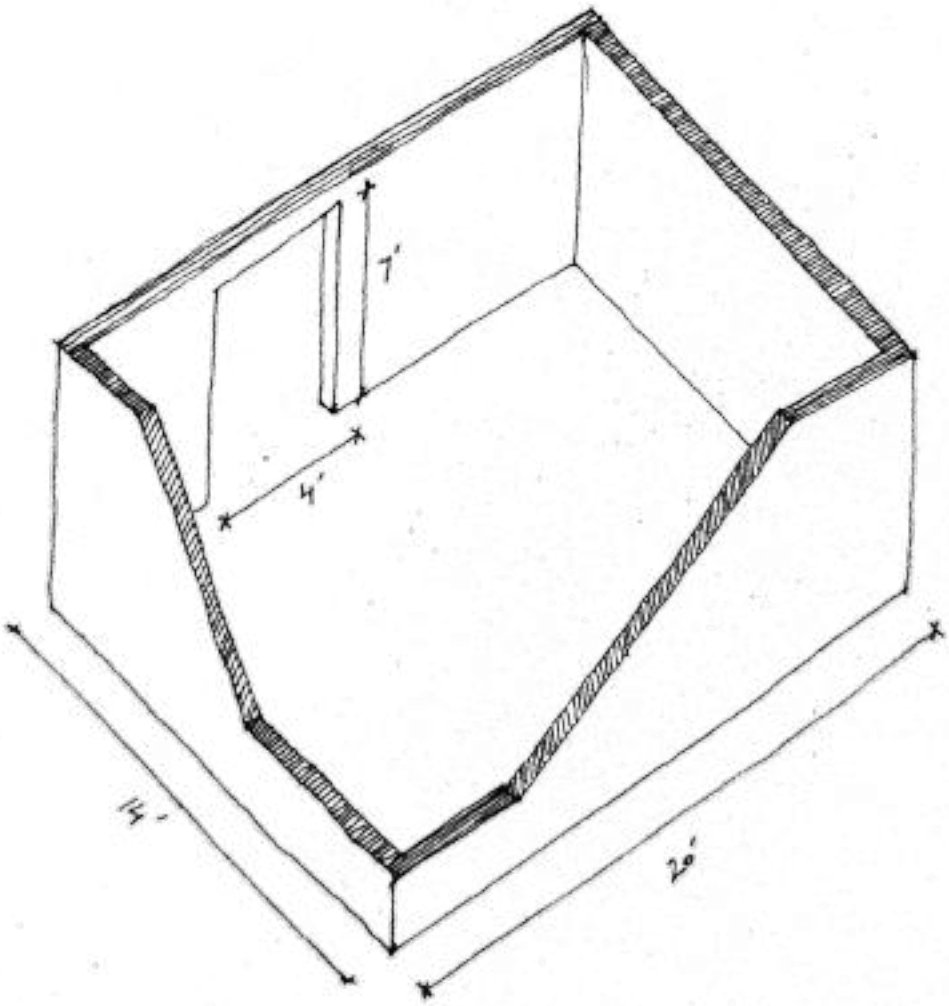
6.15. Openings, doors, windows and skylights

a. All openings such as doors, windows, skylights must be made with wooden frames.
b. A minimum of one skylight must be incorporated into a room (preferably central space, main lounge, transitional area). A minimum ratio of 1:25 of skylight clearance must be maintained in the primary structure. The design of the skylight must ensure sunlight gain in winter and exhaustion of hot air in summer.



Drawing 6.15 b

c. Any given room must have a window or glass door that is equal at least 10% of the floor area of the room to ensure that natural light can enter the space.



Drawing 6.15 c

d. For natural ventilation, openings must equal 5% of the floor area and should ideally be placed in walls perpendicular to each other to maximize the flow of air through the space.
e. Windows exceeding the recommended size need to be double glazed to minimize heat loss.

f. Full length glass windows are only allowed in case of a sunroom.

6.16. Wet areas, kitchens and toilets

6.16.1. Kitchens

Kitchens are also considered a semi-wet and humid space in a building due to the use of water and steam from cooking. Kitchens must be well-ventilated and well-lit spaces in your building/development, preferably facing the south/sunny side. Moreover, since a kitchen is used for multiple tasks, such as preparing, cutting and cooking food, as well as washing and
drying dishes, the plan of the kitchen must segregate these tasks for an efficient working environment.

a. The minimum area for a kitchen is 180 sq. ft. for hotels/guesthouses and restaurants.
b. In both residential and commercial buildings, kitchens must be serviced with a window and exhaust fans.
c. Fire retardant materials should be used in the vicinity of the stove area to avoid fire hazards. See material list.

6.16.2. Laundry

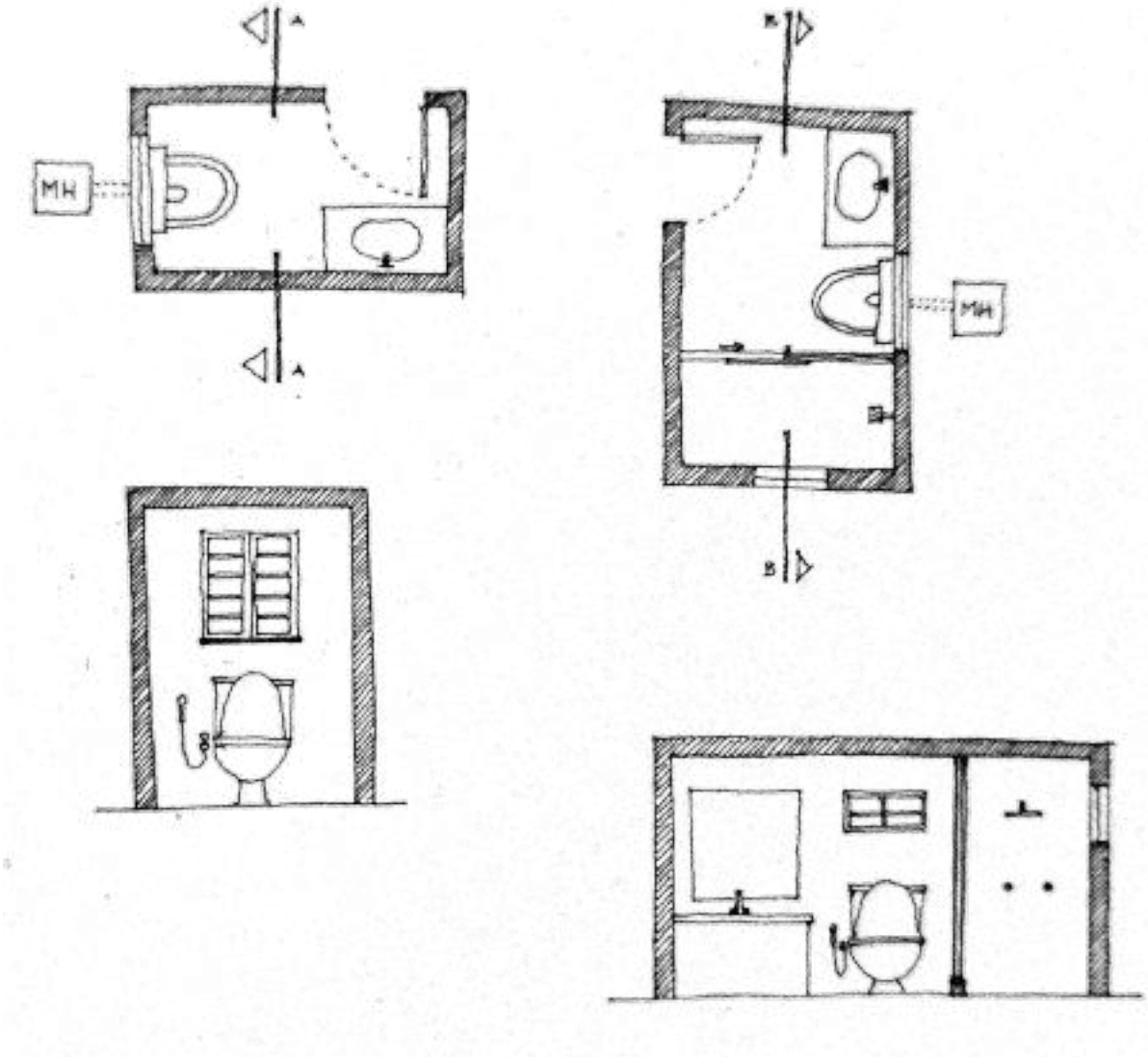
a. All commercial buildings in category B, C or D must be serviced with a laundry area which should be well ventilated and the water from which should be disposed of properly.
b. The size of the laundry should be a minimum of 50 sq. ft.

6.16.3. Bathrooms

Bathrooms and toilets are considered wet spaces in a building and hence require ventilation to decrease humidity and release trapped odors. Care must be taken with reference to the inlets/exhaust systems in a bathroom to keep it dry. Moreover, careful consideration must be given to the choice of materials in the bathroom that are slip-proof, hygienic and low-maintenance.

a. Toilets must have a proper outlet for drainage connecting to street drainage.
b. Each toilet should have an openable window along with an exhaust fan to ensure ventilation.
c. Bathroom windows and exhaust fans should be strategically placed to avoid areas of public or private activity. Bathroom odors should be kept away from visitor pathways, bedroom windows or areas like courtyards (where odors may be trapped).
d. The minimum size of a toilet with a bathing area should be 40 sq. ft.

e. The minimum size of a toilet without a bathing area should be 25 sq. ft.
f. PVC/fiberglass portable latrines are strictly forbidden.

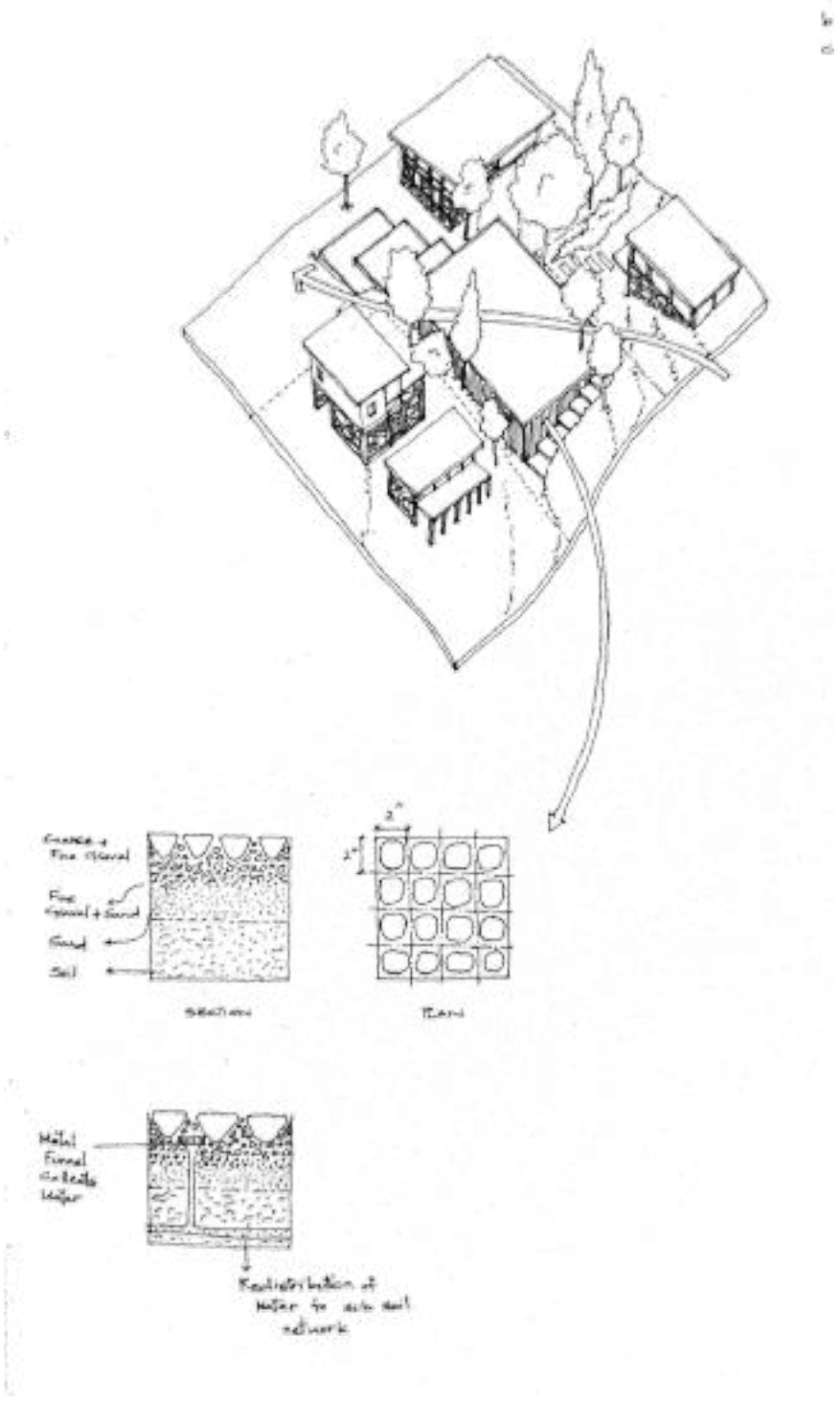


Drawing 6.16.3 f

6.17. Open areas and landscaping

Any building/development should plan the amount of open space needed for its program that follows the vernacular-built pattern. The design of the open spaces should be achieved by considering the function of the space.

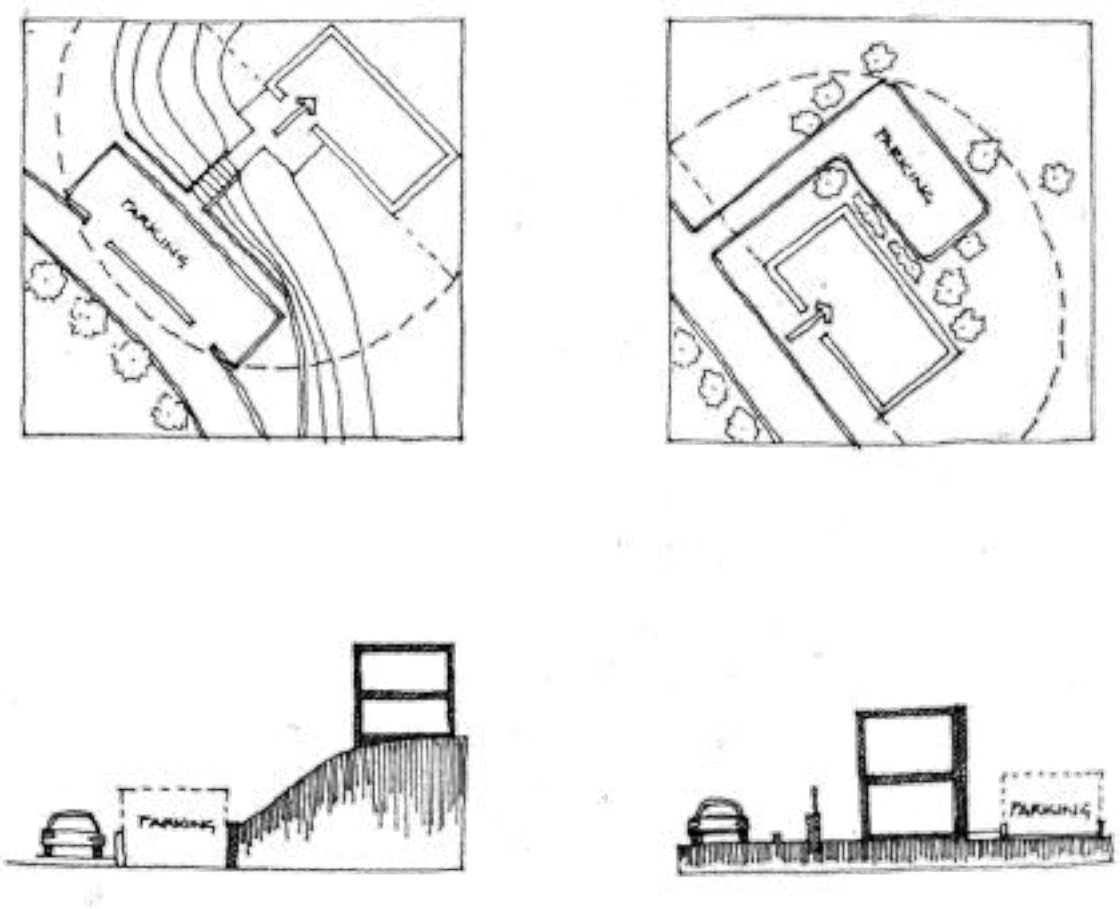
a. Open areas must be well lit and ventilated.
b. Open to sky surfaces should maintain a porous surface allowing water to be absorbed into the ground.
c. Materials used in open areas must be consistent with the vernacular visual vocabulary.



Drawing 6.17 c

6.18. Parking

a. Provision of parking spaces is mandatory for any construction serviced by a vehicular road, or which will generate parking requirements.
b. Parking spaces shall not be constructed within the road right of way.
c. For a construction which is not directly serviced by a vehicular road, the requirement for provision for parking spaces shall be met by suitable parking arrangements.
d. A commercial building should provide parking for visitors. The capacity of on-site parking in hotels/guesthouses must be calculated as per the number of rooms (1 parking space i.e. 9'x16' must be provided per guest room).
e. Distance to the parking from the building is to be kept with reference to walkability and in respect of the façade. Parking areas must not obstruct the frontage and façade of the building, where possible it must be placed on the lower contour, on the rear or side of the building.



Drawing 6.18 e

f. No shade is allowed for parking on the frontage of the building. In case shade is required, it can be provided at the rear or side of the building. It will not be attached

to the main building and will be a temporary structure with a maximum height of 8'.

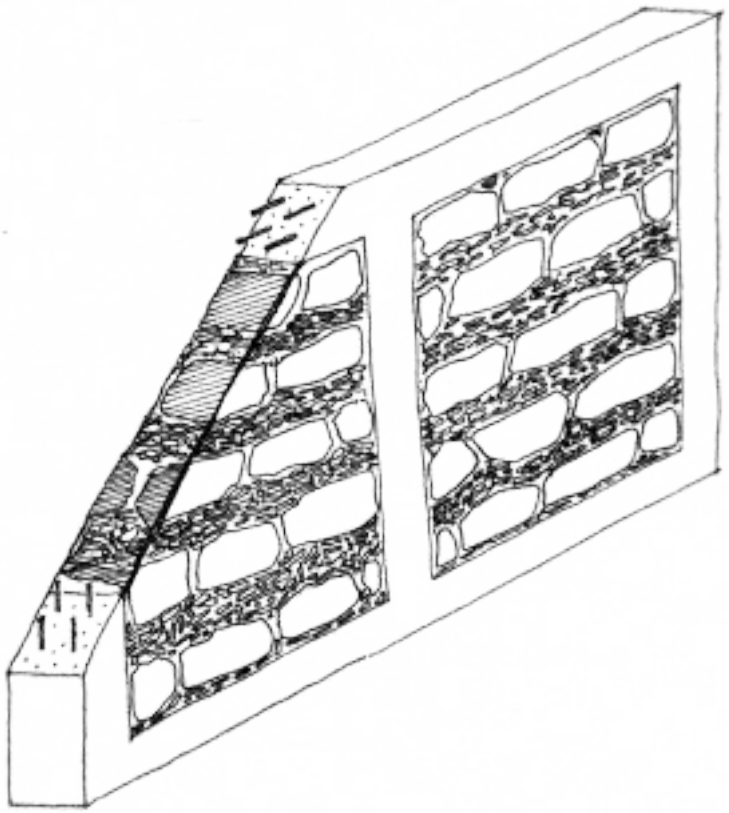
6.19. Passive and active energy systems

a. Verandas are to be placed at the south or face the valley of the building, to allow for passive heating in winter and solar shading in summer, or in case of little exposure to these sides, the building should follow the predominant local pattern.
b. For smaller development projects (one lot or a small assembly of lots), the height and scale of the building must not exceed the predominant pattern in the vicinity.
c. All fuel-based generators for production of electricity should be covered to manage noise. They should be placed at least 10' away from the road, or any other property.
d. Solar panels should be hidden when viewed from the road.
e. Any energy system additions should not disrupt the building façade.
f. All wiring from the main connection to the building must be placed underground.

6.20. Structure and construction

Construction type is limited to vernacular style, or RCC frame structure. Vernacular construction style consists of traditional drywall foundation, with stone masonry walls, horizontal wooden beams and a flat roof made from wood and mud. In the case of RCC frame structure, the use of RCC is limited to the columns, beams and foundation. The rest of the structure should be made from vernacular materials. The building block will remain in naturally available materials such as stone or mud blocks.

a. Residential Structure and construction to follow vernacular system and materials. Cement as mortar is allowed for walls infill if applied in concealed manner.
   Commercial A&B: follow the vernacular construction system. Commercial C etc: up to 30% of the construction can follow modern construction methods (such as RCC frame or metal framing) with a sloping roof, however this shall be concealed in vernacular style using local materials. The rest of the built area shall follow the same rule of vernacular structure and construction.



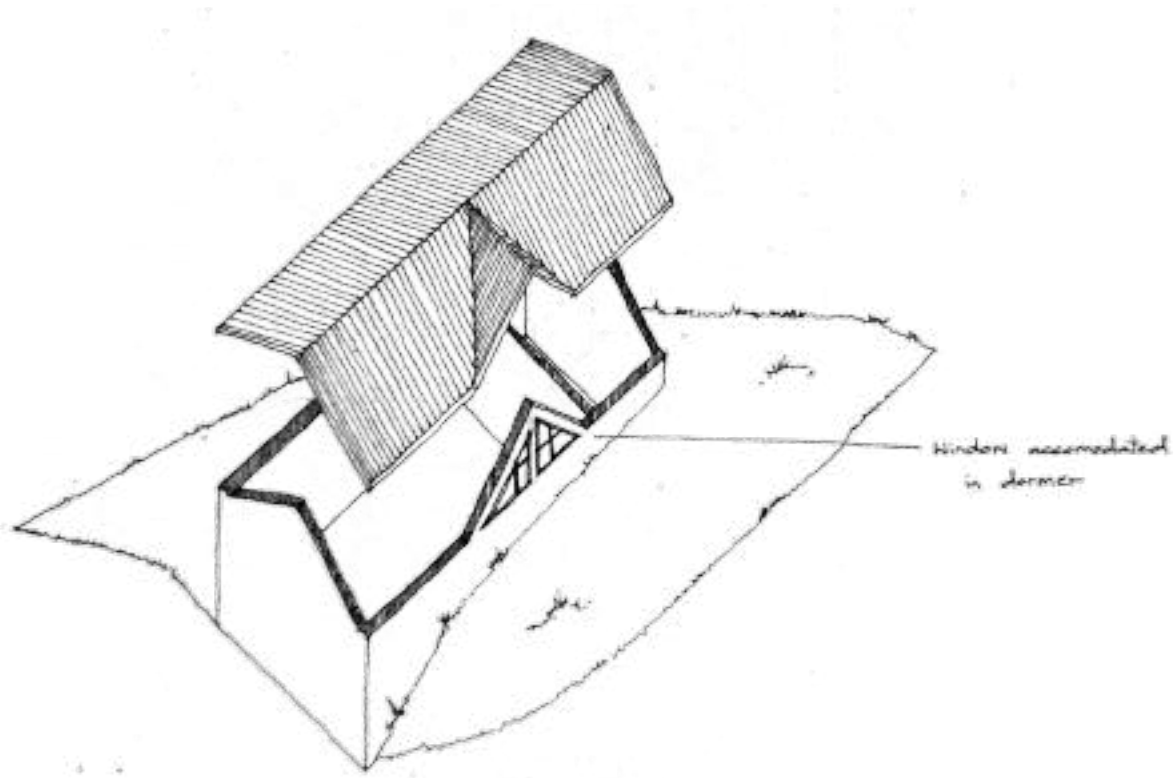
Drawing 6.20 a

b. Plinth: Plinth level (if above natural grade) should not exceed 2′ from the plot zero level in height

c. Lintel: Lintel is not to exceed 8′ from the plinth level. This can be accommodated in the band beam.

d. The foundation trench shall be of uniform width. The foundation bed shall be on the same level throughout the foundation in terms of flat area. The depth of footing should not be less than 2.5′ for one storey, or 3′ for two stories. The width of footing should not be less than 2′ in medium soil condition.

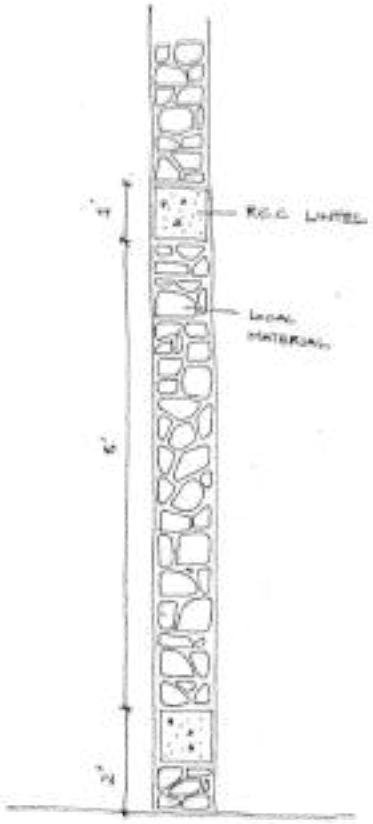
e. Roof: Roof types to be limited to flat roof for all residential buildings (limiting new forms of intervention to preserve local craftsmanship traditions). Commercial buildings are also encouraged to use flat roofs. If sloping roofs are provided, they must follow a 27–35 angle slope with dormer windows.



Drawing 6.20 f

f. Vernacular flat roof: Plastic or preferably a breathable water proofing membrane must be laid within the roof with a thinner mud layer applied on top of it which is periodically maintained.

g. Walls: All walls of the building must be made from local materials. Inner or concealed walls made be made from non-local building blocks. Cement mortar may be used in the walls, but it should not be visible from outside.



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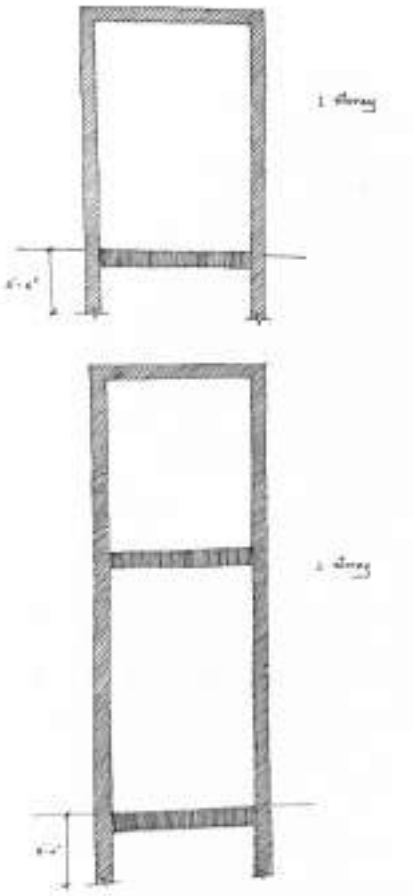


Drawing 6.20 d

h. To avoid showing the cement mortar on the outside walls, the mortar layer should be kept with maximum of 0.5 of an inch and should be washed off or hidden as much as possible on the outside wall. The remaining mortar can be washed off as soon as possible on the outside of the joints using old cloth rags or plastic bags with water.

i. The cement mortar should be mixed in a ratio of 1:4 cement to sand, in order for the joints to connect the massive stone walls and increase their resistance to future seismic activity.

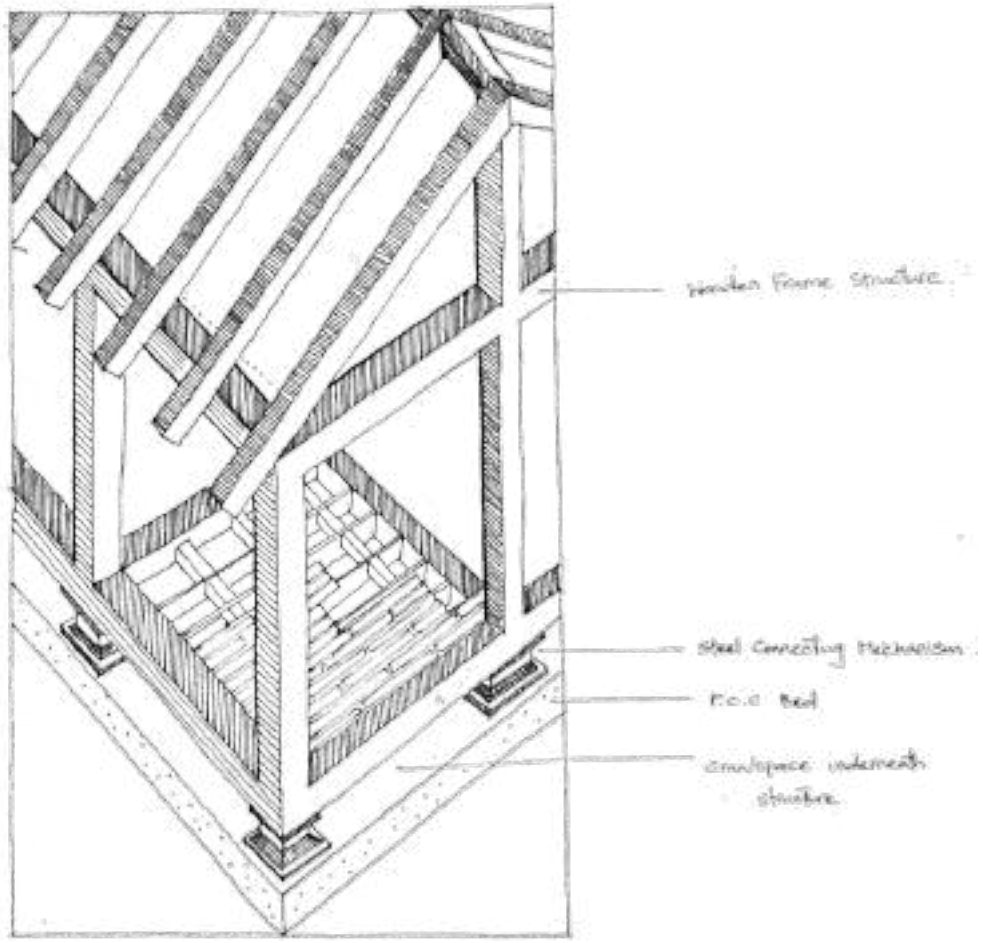
j. The structural components should be of high strength and flexibility to resist damage. This includes both vernacular styles of construction using horizontal beams that are tied together supported by stone masonry.

k. Resilient Building: The Kalash valleys are located in an area which has been categorized as seismic zone 4 (High Damage Risk Zone) by the Pakistan Building Code, which means that special consideration has to be given to the structural design of buildings to ensure that they are earthquake-resistant. Apart from the basic requirements of seismic design as set forward by the Pakistan Building code, structures should also aim for Low Damage Design, that is, in the case of collapse, the damage by the debris is minimal, and to make the process of rescue and recovery easier.

l. Damage to another individual's property will be penalized, with the person responsible for the damage having to repair the property as well as pay compensation to the affected based on the number of days the repair activity will take to complete. If the community brokers an arbitration to settle the dispute, it is allowed in lieu of the above penalty, but only if both parties agree to it.

6.21. Hazards and emergency exits

a. The structure should be isolated from the ground to avoid damage



Drawing 6.21 a

b. External structural frames should be reinforced to guide earthquake forces through the external structure, leaving the inner volume protected.
c. Lightweight floors to be used in all floors above the ground floor to reduce impact in case of collapse.
d. Foundations should be designed in accordance with the soil and design type.
e. Emergency exits must be placed at every 100' span in categories B, C, D and E of commercial buildings.
f. Fire extinguishers must be provided every 40' in categories B, C, D and E of commercial buildings.
g. A 7' wide doorway must be provided as a fire exit in categories B, C, D and E of commercial buildings.

6.22. Lighting

The intent of these lighting requirements is to preserve the low light level conditions that are characteristic of the Kalash Valleys. The objective is to allow only the quantity and level of lighting necessary for safety, security and the enjoyment of outdoor living, while protecting against direct glare and excessive lighting, protecting the ability to view the night sky and preventing light trespass.

a. All building-mounted light fixtures shall be fully shielded. Recessed lights in exterior soffits, eaves or ceilings shall have a 45° cutoff. At the main entry of the primary structure, a maximum of two translucent fixtures may be permitted as long as the total lumens, per fixture, do not exceed a maximum of 750. All other entrances, excluding garage doors, shall be limited to no more than one fixture.
b. All fixtures, unless otherwise allowed, shall be directed downwards and properly aimed at the targeted areas to maximize effectiveness and minimize the total number of lighting fixtures.
c. Building-mounted lighting must be directed downwards, away from adjacent lots, streets, undisturbed areas and open spaces. It may not be used to light walls or building elements for decorative purposes. There shall be no lighting permitted in areas identified as 'undisturbed areas' of the property pursuant to the plans submitted under Section 2207 III.A.
d. The maximum lighting intensity shall not exceed 0.25fc when measured at the property line.
e. A repetitive line up of lights along driveways or walkways accessing public streets shall not be allowed. Driveway and walkway lights shall not exceed a maximum of 0.25fc at any point beyond 10' from the fixture.
f. Each lighting or illuminating device shall be set back from the nearest property line by a minimum of 10', or a distance equal to or greater than the height of the device above natural or excavated grade, whichever is greater. The light source shall not exceed the equivalent projected brightness of 250 lumens.
g. Luminaires (light fixtures): All luminaires shall be subject to the following limitations:
    - Shall not exceed 750 lumens when attached to a structure and confined to the immediate vicinity of a building entrance or outdoor living area of the residence.
    - Shall not exceed 250 lumens for all other uses.
    - Shall not exceed 150 lumens for landscape up-lighting.
    - Motion sensor/detector light fixtures are permitted for security lighting. Security

lighting must be controlled separately from all other lighting.

- Security lights must be on timers that regulate their operation time to a maximum of 10 minutes and must be limited to lamps with a maximum of 750 lumens.
- Rope lighting shall not exceed 3.6w per linear foot for an incandescent rope light.
- Exterior light fixtures shall not exceed 3000K.
- All streets, roads, pathways and corridors must be well-lit except for wildlife corridors.

6.23. Signage

a. On macro and meso levels, signage must be present to direct tourists and visitors through the village/valley indicating cultural, religious and tourist facilities and recreational areas.
b. The main road should have proper road signs indicating rules such as speed limits, crossings, right of way, stop signs and overtaking restrictions.
c. Readable signage must be posted for the protection of natural landscape. On a meso level, signage indicating endangered/threatened flora and fauna must be provided in local and popular foreign languages to ensure readability.
d. Hotels are allowed to have a maximum of two sign boards for their service. One board
faces towards the road, and the other faces oncoming traffic. These signboards must follow the given design guidelines.
All the signs outside hotels and restaurants should follow the sign design guidelines and maintain visual coherence. Wooden boards, adhering to the given design guidelines, should be placed horizontally and vertically as signage, with clear and legible typography and lighting.
e. Awning signage can be used in lieu of the basic wooden signage provided it does not extend beyond 3'.

Figure 2. Different signage across the valley. Reference: Ryan Corrigan Ecological Design (skadesign.com)

Type of sign board	*Size*	*Placement location*	*Specification*
Entry signs: Vehicular	5′ width 3′ height	Used to identify entrances to parks, open spaces and other cultural sites	The name of the site, the Kalash Government logos, enquiries telephone number
Information signs	4′ width 6′ height	Information signs increase visitor appreciation of the site, minimize management problems and maximize safety. They are generally located inside the boundaries of sites, near entrances or areas where people meet or congregate at a focal point or facility.	Maps for location, welcome messages, information about the site, safety measures
Directional signs, pedestrian	6″ width 6′ height	Directional signs are used to guide visitors to specific destinations, attractions, facilities and amenities	Iconography of different facilities with names, directional arrows
Identification signs, pedestrian	2.5′ width 1′ height	Identification signs are placed next to culturally, environmentally, or socially important objects.	Information about the object, name
Temporary signs	Dependent on the location	These signs are placed around the valley depending on certain occasions such as closing for repairs, etc.	Iconography with text and message about the current situation
Statutory signs	Dependent on the location	Includes all signage related to services including fire, electrical, communications within a particular development	Existing iconography

Table 4. Types of signage and their uses

Typeface: The names and messages on all signs use Typeface Meta. The standard typeface is Meta Medium in capitals and lower case. Meta Book in capitals and lower case is used for information body text (headings are to be Meta Medium) and site type name, as well as secondary name or additional text. Meta Medium in all capitals is used only for warnings or

emergency signs e.g. for fire entrances or water safety signs. All signs must be bilingual, incorporating local language and English.

6.24. Materials

a. Materials used for exterior surfaces such as structures, walls, roofs and fences shall blend with the surrounding natural setting and avoid high contrasts. There shall be no paint or material colors used which have a LRV (Light Reflecting Value) greater than 38%. Materials and color used for exterior surfaces are subject to KDA/DOAM review and approval. The applicant must demonstrate how the materials and colors used for the exterior surfaces blend in with the natural surroundings and settings. Limited use of contrasting accent colors (exceeding 38% LRV) for small elements, including but not limited to items such as doors and window mullions, may be allowed upon explicit approval of the KDA/DOAM.
b. Any type of hard surface infrastructure such as RCC or cemented or chipped surfaces in outdoor areas is not allowed.
c. Wood or any other flammable material should not be used in the stove area of the kitchen.

SURFACE	***QUALITIES***	***MATERIALS***
Open ground	Porous, natural, rough, water-resistant	Stone slabs, gravel, clay tiles
Openings/shutters/ windows/doors	Natural	Wood, stone, any natural material
Façade	Rough, weather-resistant, natural, water-resistant	Local stone, wood, mud plaster
Terraces	Rough surfaces, brushed	Tiles, stone, wood
Shades such as pergolas, canopies	Non-overt, earthy colors, non-shiny, temporary, removable	Wood, metal with wood inlay
Awnings	Natural material with warm character	Wooden, fabric
Structural elements: foundations, columns, beams	Strength and flexibility	Wooden columns and beams, RCC allowed if exterior clad with local materials

Walls	Natural, textured	Stone and wood infill in local vernacular style, mud plaster
Terraces/balconies, covered areas	Rough surfaces, brushed	Tiles, stone, wood
Interior flooring	Smooth or textured, matte, non-slip	Slate stone, concrete and stone, brushed stone, compact earth, mud finish
Kitchen counter surfaces	Hard, glossy	Shale stone, marble, granite
Sloping roof	Insulated, water-resistant	No CGI sheet, wood
		Planks, prec'hawbath stone (grey stone), waterproof membranes, tiles
Flat roofs	Breathable, waterproof	(Tyvek) Waterproof membrane, mud, wood
Pathways	Rough, porous, natural	Stone, gravel
Benches	Non-slip,	Stone, wood
Ground surfaces: Pathways, open to sky areas.	Rough, porous, natural	Stone, gravel
Parking area surface	Porous, stable, hard, rough,	Gravel, stones, tiles
Sheds/temporary structures	Lightweight, removable, temporary structures	Wood, steel framing, natural materials

Table 5. List of approved materials for construction in the valley

7. Preservation of historic structures

- A property will be used as it was historically or be given a new use that maximizes the retention of distinctive materials, features, spaces and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until an adaptive re-use plan has been devised.

- The historic style of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.

- Each property will be recognized as a physical record of its time, place and use. Work needed to stabilize, consolidate and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection and properly documented for future research.

- Changes to a property that have acquired historic significance in their own right will be retained and preserved. When making additions to any historic structure, ensure the original (vernacular) part of the building remains the prominent element in streetscape views.

- Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that characterize a property will be preserved.

- The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color and texture.

- Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

- Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken and DOAM-KP must be informed in the first instance.

8. Historic Clusters

The declared historic zones will consist of vernacular housing clusters and heritage resources with special character or historical association that distinguishes them from their surroundings (Principles of Conservation, ICOMOS Charter on the Built Vernacular Heritage, 1999). These date back more than 100 years and depict the vernacular expression, traditional workmanship and recognizable local or regional character responsive to the environment. These structures may have undergone certain modifications in the last century but maintain their integrity and exhibit a coherence of vernacular style, form and appearance. Historic structures in the context of the region refer to vernacular buildings deemed by the Archaeology Department to be integral to the preservation of the living culture of the Kalash Valleys. For example, water mills and old shops fit this criterion. For a detailed list of historic structures in the valley, refer to the database maintained by DOAM-KP.

8.1. Maintain the original form of the street, how it was used and the main purpose of the street

For example, the street leading up to the temple and/or altar shall always be cleared for festival days. Periodic
snapshots of the street profile must be taken and any violations reported immediately for removal.

8.2. Existing structures

Water channels, flour mills and water mills must be maintained, and renovation work must be carried out in
local materials. Refer to ***Material Checklist*** to determine the appropriate materials for intervention.

8.3. Function and use

A property will be used as it was historically or be given a new use that maximizes the retention of distinctive materials, features, spaces and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken. Refer to assessment and adaptive re-use checklists.

8.4. Interior addition/intervention

Any addition to the interior of a vernacular house declared protected by DOAM may be made in a manner
that does not compromise the form, style and coherence of the vernacular form. It will be carried out in
traditional materials in order to maintain the same outlook. New interventions can only be allowed once

necessary maintenance work to the old façade has been carried out, with visual proof of maintenance in the
last two years to be provided before construction. *HC

8.5. Roof accessibility (external)

All buildings should have access to roofs and this access must not be blocked by any occupant or group of occupants for any reason. Should an intervention pose a disruption to access, it must be submitted to the DOAM-KP for assessment and approval.

8.6. Features and craftsmanship

Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that
characterize a property will be preserved.

8.7. Treatment

Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible.
Treatments that cause damage to historic materials will not be used. Refer to the assessment checklist.

8.8. Maintain communal open spaces

All communal spaces such as verandas, courtyards or grounds declared protected by DOAM should be
maintained. No permanent intervention should be made on communal property. Existing stairs and access
ways (in wood, stone/mud) must be maintained and preserved in their original condition. In case an access
way or stairs are damaged or weak, these may be replaced with newer ones made in a similar style.

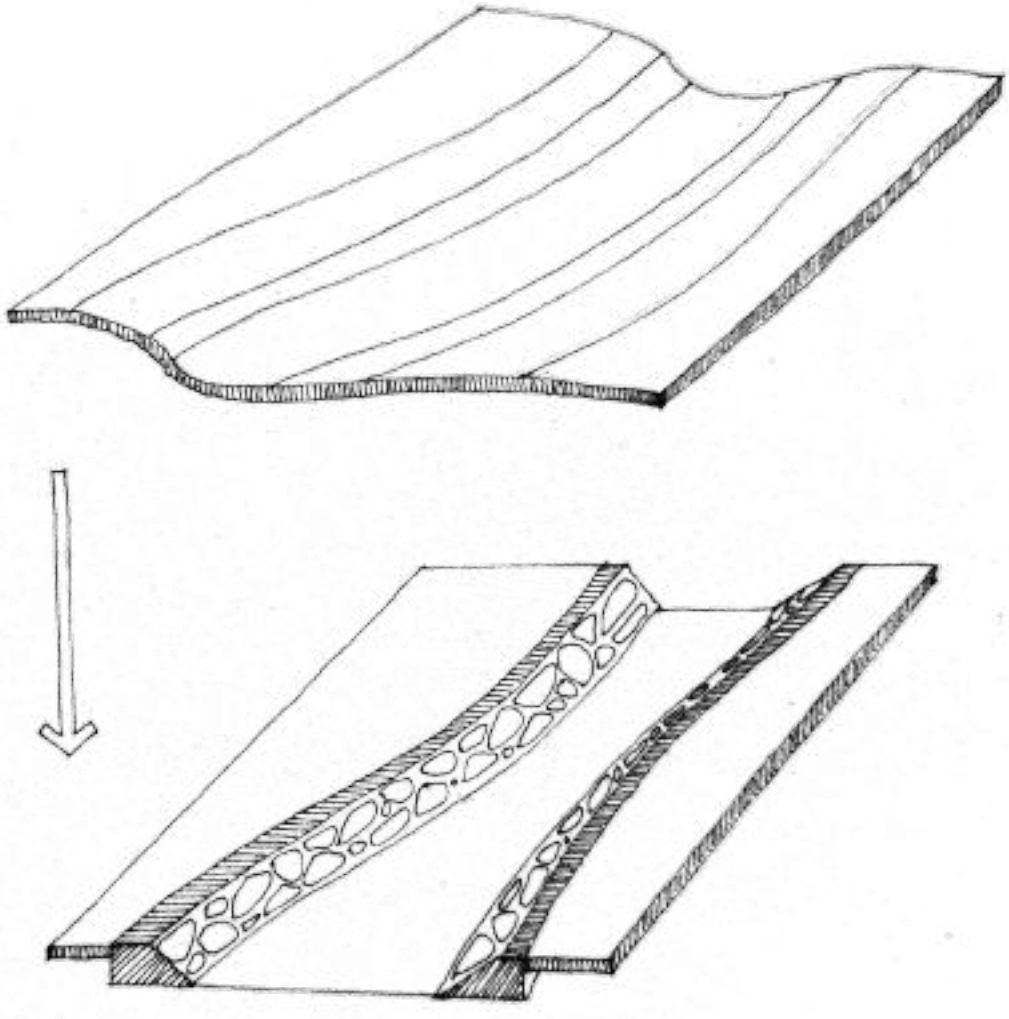
8.9. Hazards

In flooding scenarios, keeping water out of or moving out of an historic building are primary concerns. Flood
gates or barriers help deflect incoming high water from entrances, basement windows, and cellar areaway
doors. Sump pumps that operate on water system pressure and not electricity can keep performing when
the power goes out. Berms, levees and dunes can hold back or channel flood waters and/or tidal surges.

8.10. Sanitation

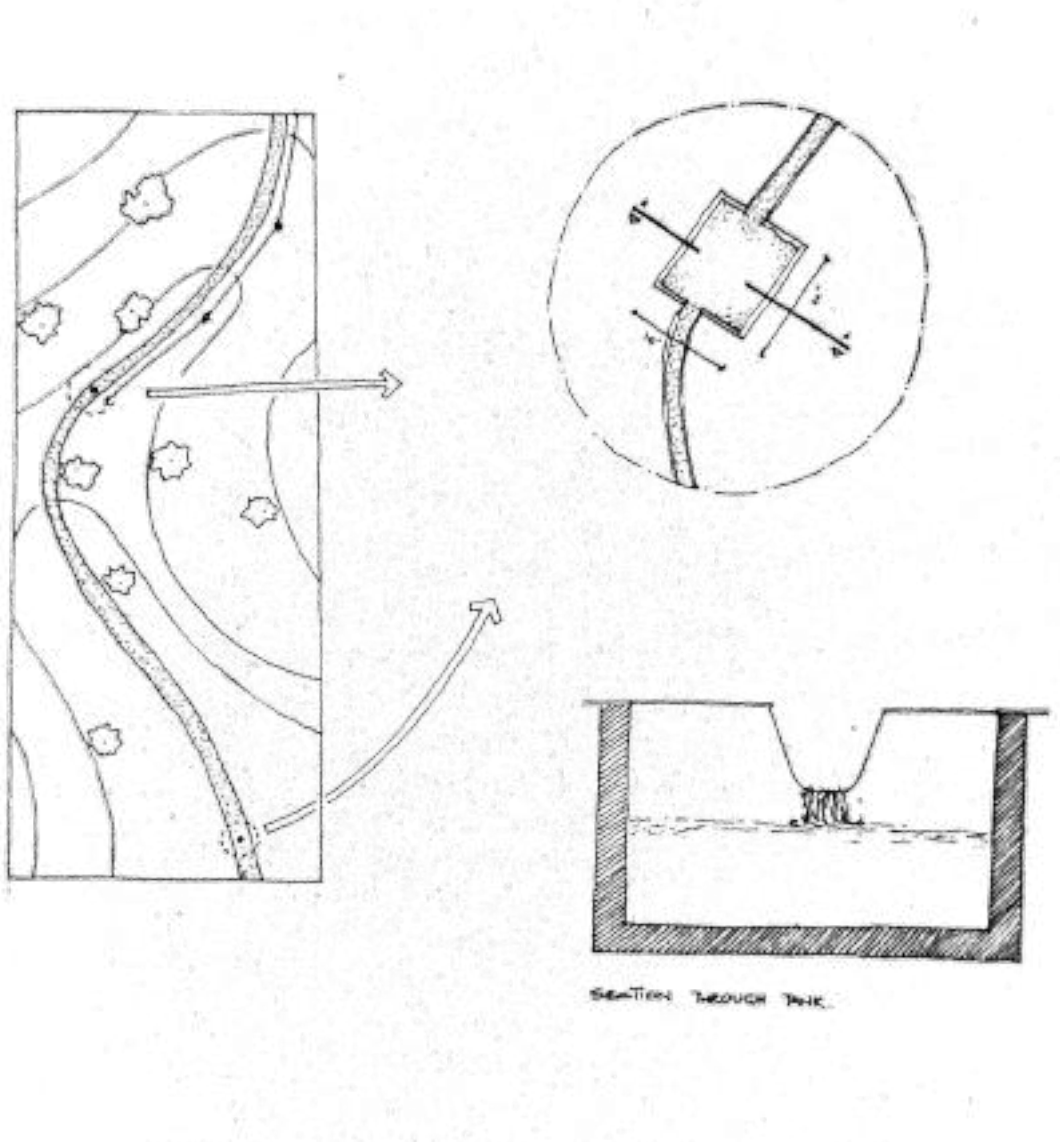
A common sewer line should be proposed and used for drainage of wastewater and sanitation. Manholes and drop manholes should be provided at appropriate intervals. A sanitation scheme should be planned and isolated to maintain hygienic conditions.

a. Protect streams and water channels from foul and grey water.
b. Water channels to be provided along natural drainage pathways to ensure free flow of fresh water through the landscape. The minimum width for the channels is 2′–6″, whereas the minimum depth is 2′. Flood discharge from existing drain lines is requir



Drawing 8.10 b

c. A retention pond of 10'x10' with a depth of 6' to be made along a water channel every 200m to reduce flash flood risk.



Drawing 8.10 c

d. Sewerage water channels to run separately from freshwater channels and should not coincide at any given instance. Additionally, all sewerage channels are to flow into a main underground line for which manholes will be provided at every intersection.
e. One common septic tank for a cluster of houses must be provided connected by a main pipe with drains leading from their toilets.

8.11. Maintenance

a. ***Roof maintenance:***
Depending on the footfall and weathering, the roof might require yearly maintenance. Maintenance might call for cleaning of mulch deposits on the roof and reapplying plaster where cracks have developed.

b. ***Roof drainage:***
Due to deposition of decayed plants, the spouts or drainpipes might require frequent cleaning to ensure drainage of snowmelt and water.

c. ***Façade and internal walls (plastering and renders):***
Common causes of plaster/wall damage are heavy furniture running against walls and leakage along the toilets and bathrooms. Plaster must be reapplied with adequate material composition. Where leakages are surfaced, the source must be identified by a plumber.

d. ***Toilets (plumbing):***
Any choked water closet should be reported. Ventilation should be ensured by installing ventilators/exhaust fans in ways that do not disturb the vernacular façade or open onto pedestrian pathways. Cover the ventilator with wooden planks. Problems are to be fixed by the owner of the property.

e. ***Animal keeping:***
All structures for animal keeping such as goat and cattle houses should be maintained and kept hygienic. The waste in the goat and cattle houses should be collected regularly from a designated area nearby.

f. Any such structure not currently in use should not be dismantled, rather it should be preserved. Possible plans for adaptive re-use should be explored and encouraged.

8.12. New Additions to the Historic Cluster

a. ***Electrical (pathway lights/doorbell/electric meter/telecom):***
- All electrical services/fixtures should be installed in an inconspicuous manner in order to retain the vernacular style of the building. Uniformity in color and size of the fixture should be maintained. Service meters and other related infrastructures must be placed in a location that is not readily visible.These may be recessed in walls or covered with locally resourced materials.

b. ***Systems:***
   - Uniformity should be maintained in the design and color of the water reservoirs. If deemed necessary, they should be housed or covered with wooden planks. Any new rainwater tanks, solar system, climate control system or other modern surfaces are to be installed in locations that are not intrusive in public views.

c. ***Need-based interventions:***
   - Need-based structures such as sheds and canopies must be built using locally resourced materials. Reversibility of such structures should be ensured.

d. Permanent extension is not allowed within the historic cluster.

e. The use of a building may be allowed to change in the case of converting the residence into a homestay if the owner can abide by the given conditions. This consideration is only applicable to houses constructed in vernacular style. (Conditions: Drinking alcohol is not allowed within or near the premises. The homestay may only be rented to families. All proper facilities must be provided. Loud activities are not allowed after 10pm). The owner needs to acquire a permit from the local authorities for this change.

8.13. Construction/Additions in Protected Areas Buffer Zone

The buffer zone consists of the 200' radius around any site or property declared protected by the DOAM-KP. This allows residents to expand the settlement as the population grows without affecting the heritage cluster.

a. Any new construction within the buffer zone should respect the historic patterns and relationship of solids to voids in wall openings. New forms of addition must be limited to only residential type buildings which must follow the height, form and proportions of the traditional housing systems.
b. New additions to an existing building should complement a building's original scale, form and massing, and ensure that the original fabric is easily identifiable. New additions may not necessarily mimic the original.
c. Ceiling height (floor height 9' max, roof height has to be maintained to regulate and retain heat in winter).
d. Adaptive re-use of the building and addition of temporary structures are allowed. Refer to the adaptive re-use checklist.

e. Slanting/gable roofs are not allowed in this area. The roof style must be consistent with the vernacular style i.e. flat mud roofs.
f. Materials and façade should remain consistent with the vernacular style.
g. Proportion of openings (doors and windows, as arranged on a wall + width and style) should maintain ventilation, with one opening each in at least 2 walls. A door can be considered an opening.
h. Any new rainwater tanks, solar system, climate control system or other modern surfaces are to be installed in locations that are not intrusive in public views of the valley/historic cluster.
i. Service meters and other related infrastructures must be placed in a location that is not readily visible from the valley/historic cluster.

8.14. Intervention around protected religious and cultural sites

a. No new major interventions such as digging or road construction that can cause vibration are allowed.
b. No underground sewerage lines are allowed within 100' which may compromise the foundations.
c. Any sort of intervention in or around a specific site must provide right of way to the religious site and should maintain visual coherence by using approved materials (such as wood, stone, mud, cement) in a concealed way and according to spatial standards.
d. New construction of cultural/religious sites should be done with consultation from the local community.
e. Any new building construction must be restricted in the area surrounding religious sites if it causes any sort of noise disturbance, hinders views from and to the sites, blocks any access or pathways or affects the overall ambience of the area.
f. Commercial buildings are not permitted directly adjacent to these sites.
g. Height: All buildings around and adjacent to the cultural and religious site cannot exceed in height relative to their natural grade, or open terraces or windows towards the site in order to maintain privacy. The ceiling height of any building cannot exceed the ceiling height of the culturally significant building in the adjacent plot.
h. New religious buildings should follow the older pattern in scale and outlook and be made only in traditional materials, except for roofing or dancing areas.
i. The Bashali Spaces should be clearly demarcated, and no building should encroach on it. A minimum of 20' offset needs to be provided. Only residential structures are allowed adjacent to and in the surrounds of Bashali. No windows, access or terraces are allowed to open towards the Bashali to maintain privacy.

9. Disaster mitigation

This area experiences natural and anthropogenic disaster events. Such events have the potential to cause damage to life, livelihood or infrastructure in and around the hazard site. The impact of an event varies depending upon the proximity and physical state of the elements at risk. On a macro level, risk to natural landscapes must be considered. Risk zones must be designated with respect to the natural landscape, where low risk zones (where the chance of disturbing the natural environment is considerably less) can be opened for small treks.

9.1. Flood hazard zoning

Flood zoning is done on the basis of frequency and depth of inundation. Levels of risk zones are marked from high to low flood risk zones (NDMA, 2017).

9.1.1. Very high-risk zone/Special flood hazard area (Severity scale: 4)

a. Construction in very high-risk zones (also called as special flood hazard areas) with flood levels of 9–49′ flood wave depth must be strictly prohibited. These areas can however be utilized for pastoral or recreational use only.
b. Levees and flood retention structural measures must be in place to divert the flood of flooding channels.
c. A threshold mark and a siren must be in place at the channels that experience frequent flooding.
d. Retention walls and embankments must be built along the channel to divert the flow of flood water for the community.
e. Structural intervention for maintaining channel morphology can be adopted to keep the flood ways open and unobstructed. These may include reshaping the natural channel and creating diversion of the natural stream flow to inhabited areas with lesser chances of flood damage.

9.1.2. High-risk zone (Severity scale: 3)

a. Areas experiencing a 5–10-year flood with flood levels of 6.1–9′ can be used for construction under specified building codes.
b. This zone can be utilized for construction in commercial areas on a limited scale. Construction patterns allowed in the zone must be open foundation piles or columns to allow the flow of flood water without damaging the underlying structure.
c. The foundation and structural designs must be certified by registered design professionals or government authorities.
d. This zone can also be partially designated for agricultural activities.
e. Terracing can also be done to reduce the flow velocity of flood water.

f. Plantation along the channels and in areas experiencing frequent flooding acts as a natural barrier to flood hazards.
g. Retention ponds can also be constructed to keep flood waters at lower levels in the terrain.

9.1.3. Moderate-risk zone (Severity scale: 2)

a. With flood levels of 3.1–6' the third zone is marked as moderate flood risk.
b. This zone is suitable for residential and commercial purposes with construction design of perimeter wall (crawlspace) or base-filled monolithic slab.
c. Zone II can also be designated for building communal places like basic infrastructure. If the frequency of flooding drops, single-storey houses can also be permitted with flood proofing designs.

9.1.4. Low-risk zone (Severity scale: 1)

a. This zone is demarcated by flood levels of 1–3' and has the lowest probability of flooding.
b. This zone should be designated for building critical facilities (schools, hospitals, communication infrastructure, ration depots, evacuation centers) in case of flooding in downstream areas.
c. Structural fill foundation designs can be adopted in this zone.

9.2. Debris Flow

a. Flood events bring in the threat of debris flow especially in mountainous areas.
b. Debris flow has a greater impact since it is a slurry of sediments mixed with flood water, forming a viscous flow.
c. Construction along torrential streams and nullahs must be prohibited and demarcated as high-risk sites for debris flow.
d. Debris flow diversion structures like debris flow breakers must be constructed to divert the flow path to areas of lower impact.
e. Check dams are constructed to reduce the flow velocity and resulting impact of debris flow on the infrastructure in the path of this potential hazard. Check that dams reduce the flow velocity, minimize the availability of loose sediment along a slope and decrease the magnitude of debris flow.
f. Vegetation barriers can be created to reduce the resulting impact of debris flow hazard and divert the flow direction towards open spaces or wider sections of the channel.
g. Bioengineering techniques can be effectively utilized to stabilize the water bodies (channels, gullies, river/ streams), for redevelopment of the riverbanks to sustain the impacts of potential flood events and resulting debris flow.

9.3. Seismic Zones

Kalash Valley is part of Union Council Ayun which falls in Seismic Zone 4 and has peak ground acceleration, which is the highest risk level for earthquakes.

a. Construction must be prohibited in areas around channels and unstable slopes as an earthquake event triggers the potential landslides and liquefaction.
b. Site suitability analysis must be conducted before carrying out new construction in the area. Areas characterized by lose ground or mixed lithology are not suitable for building as the ground mass/sediments continue to shake after an earthquake occurs.
c. Construction can be allowed on a bed rock or firm ground as it allows seismic waves to quickly pass the energy through the overlying structures.
d. New construction to be carried out in the area must incorporate base isolation designs in the structures to overcome deformation. This technique must be particularly applied in the construction of critical facilities in the area.
e. Seismic retrofitting needs to be done in the existing infrastructure to ensure resistance to future earthquake events. This can be done through installation of seismic energy dissipation devices like vibrational control and pendulum dampers.
f. Apart from installing seismic dampers, lightweight materials are to be used in design of the buildings, especially in the roof structures in order to keep the seismic load at its bearable limit in any structure.
g. The columns and building frames are to be made of stronger materials so that the building sustains the seismic energy and the horizontal load of the roof.

9.4. Landslides

The area is highly vulnerable to landslides. The areas around potential landslides must be zoned with restrictions and there should be checks on construction in the area.

a. Slopes with angles 30°–45° or greater are at high risk of slides and construction near these slopes must be restricted.
b. Retention structures like meshing, buttress, retaining walls, steel nets or other structural mitigation measures are to be applied according to the extent and nature of potential landslide areas.
c. Bioengineering techniques include plantation along unstable slopes to stabiliza these hazard sites naturally.
d. Structures built in the path of potential landslides must be relocated to safe sites.

APPENDIX

1: Condition assessment of historic buildings (checklist proforma)

2: Draft approval process for DOAM KP/KDA

1. Approval checklist (for official use only)
2. Sample application for planning permit
3. Sample application for building permit
4. Sample acceptance/refusal of planning permit certificate
5. Sample application for occupancy certificate
6. Sample acceptance/refusal of occupancy certificate

3: Community engagement and consultation report

4: Recommendations to DOAM KP by the Consultant

CONDITION ASSESSMENT OF HISTORIC BUILDINGS
KALASH BUILDING GUIDELINES AND CODES
Heritage Building Documentation and Assessment Checklist *as built

Must include the open/natural areas around the building.

This condition assessment checklist will enable the technical team to detect, assess and rectify any defect or damage observed in the building that might lead to a hazard or further deterioration of the heritage asset. The intention of this checklist is to preserve the tangible fabric and propose interventions which least interferes with the original entities. In case of encountering unforeseen situations/conditions, decision to deviate from this checklist must be based on engineering judgement and at large in the interest of the heritage asset.

Building Information:

Address/House Code (based on nomenclature): _____

Coordinates: _____

Construction period: _____

Facade Photo: (attach)

Plan: (attach)

Foundations/Ground condition:

1. Look for any visible settlement inside and outside the target footprint. E.g., cracks in the floor or close to foundations.

2. Look for any differential settlements inside/outside the target footprint.
   E.g., Cracks with uneven ground conditions.

3. Look for any moisture or dampness along the plinths. (in case of occurrence, report the source such as water bodies, flumes, channels)

Walls (Stone masonry walls/Adobe walls/Wooden walls):

1. Look for any cracks/hairlines. If noticed, observe and note the direction of cracks. A structural engineer may be hired for a detailed assessment for proposing the consolidation.

Cracks may be categorized as thermal cracks, structural cracks (vertical/horizontal/diagonal cracks)

2. Look for any leaning/bulging in the walls (any wall which does not appear perpendicular to the ground). A plumb-bob may be used to verify the same.
   For any suspected bulge or leaning wall drop the plumb-line from the roof (parapet/edge) along that wall. The offset distance of the wall from the plumbline string should be constant. An uneven reading should be noted and reported.

3. For active cracks, conduct crack monitoring by Installing tell-tale scales *(Avongard tell tales were used in Altit Fort) (A monitoring manual should be developed).*

Fixing the Tell-Tale

The base plate and horizontal scale are fixed using screws and adhesive each side of the crack to be monitored.

Monitoring Crack Movement

By inserting the graduated ruler, the horizontal and displacement positions can be read and marked on the crack record sheet supplied. The movement of the crack can then be monitored over time.

4. Inspection of plasters. Look for any detached or loose plaster. Inspect the same by tapping on the surface for any hollow sound between the substrate (stone/adobe) and plaster.

5. Where wall masonry is seen, look for any pointing/grouting requirements.

6. Any loose stone masonry should be detected and noted.

7. Any undersized stone i.e., stones less than half the thickness of the wall should be replaced.

8. Check lintels and columns if any, such as, wooden belts or beams. Note any leaning or deflected column or sagging in horizontal lintels/beams. The realignment of the wooden elements would need other guidelines.

9. Reconstruction: For any wall reconstruction a new manual must be developed) where strategies to dismantle and realignment of the walls should be described.

Roof/Ceiling (Mud thatched/Timber/G.I.Sheet):

1. Look for dampness/moisture, stains or leakages beneath the ceiling. Moisture staining on the wooden planks or along the beams should be the major indicator. For confirmation (conduct investigative probes), uncover the suspected area of leakage for better observation.

2. Look for any sagging in the joists, rafters or beams. In traditional buildings, the sagging takes place over the years therefore minor sagging may not indicate heads-up. However, any vertical crack in the wood member perpendicular to its direction should be reported.

3. Look for any rotten joist/rafters. To prevent further decay the element should be spliced at ends. (Refer to Building Elements point no.4)

4. In case of visible leakage, dismantle the roof as described in the manual. (A roof treatment manual should be developed).

5. Design roof drainage (mud thatched/timber/G.I.Sheet) (options for spout or pipe drainage can be discussed)

6. Maintain roof slopes/gradients to ensure proper drainage. Roof treatment experts/mason should employ tools such as spirit level and edge to maintain constant slopes until the level of drain pipe or spout is reached. The drainage test may be followed up by pouring some water along the highest level of roof. The water should travel towards the direction of drain. In case of G.I.Sheet roofing this may not be needed. (Note: slope to be kept at 2%) .

7. Ensure presence of polythene sheeting (ordinary plastic sheet or breathable membrane (Chinese membrane: Tyvek) for waterproofing. After laying the sheeting, ensure to cut out holes where drain pipe is proposed. To ensure water tightness Edges along the roof should be provided with parapets.

8. Drainage water collection system to be proposed if necessary. To be discussed later.

9. Parapets: Look for any broken parapet. To prevent water seepage along the eaves, edges, ensure stabilized parapets.

10. Chimneys: Check for leakages along the chimneys, fireplace exhausts.

Building elements (Columns, Doors, windows, ventilators, skylights)

1. Ensure proper functioning by checking hardware. Equip all elements with door lock sets, insect mesh, window stays or any other hardware that is needed.

2. Check for any noise, squeaks while operating. Ensure lubrication of hardware during restoration.

3. Rectify any jammed doors/windows by dismantling, planning edges and re-assembling.

4. Any rotten segment noticed should be removed to avoid further decay. Any part of the wood which has been exposed to water/weathering should be inspected. To test the decay, use a metallic tool to scratch the surface, the crumbling fragments of wood should suggest the decayed part. (A manual for the treatment of wood may be developed on a later stage).

5. The elements may be redesigned as desired by the occupant such as glazing the doors where light is limited. Enhancing the light through the skylights or roof hatch windows. Introduce frosted glass as per the requirement. Employing the latest technologies, a double-glazed glass is recommended for thermal performance.

Toilets/Baths

1. Check for any foul smell. Any fixture with leakage should be removed. Water supply to be inspected by a plumber for any leakage.

2. Provide proper venting for WCs and other drains to prevent foul smell.

3. Provide manholes where necessary. To avoid air bubbles in WCs and foul smell, each toilet should have a manhole (12”x12”). These may be developed along the pathways. These will help to conduct O&M in case the sewer lines are chocked.

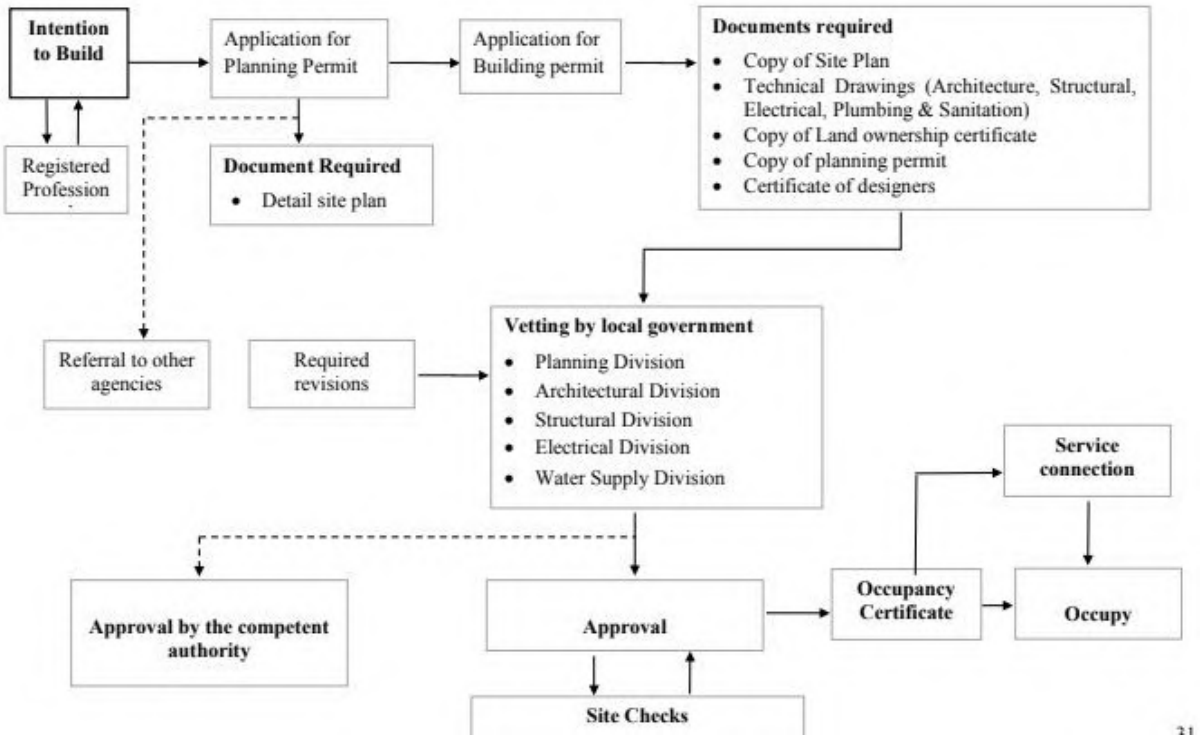
ANNEXES: (to be developed and shared by DOAM KP)

1. Crack monitoring guidelines
2. Roof treatment guidelines.
3. Wood treatment guidelines.

DRAFT APPROVAL PROCESS (to be edited by DOAM KP for its own use)

1. Approval System:

Chart 1: Chart showing procedure for obtaining planning, building permit and occupancy permission



2. Building construction/ adaptive re-use:

1. Apply for a planning permit
2. Upon approval, apply for a building permit
3. Upon approval, begin construction within 1 year of approval
4. During construction, inform the competent authority for regulatory visits.
5. Upon completion apply for occupancy with as-built drawings and proof of assessment visits.

- Commercial Buildings are required to submit all of the drawings mentioned below.

- Residential buildings are required to submit all drawings (all architectural and plumbing drawings) except structural, electrical and mechanical drawings.

3. Requirement to have a Planning permit, and to comply with it

3.1. For all buildings, it is essential to submit a site analysis along with land use plan to the department. The site analysis will include:

a) Site plan (plot area, neighboring context, flora, any existing structure access, sun path)

b) Topo survey (if required)

3.2. If the development on the site might be challenging the right of light, and access according to the easement act then alternate solutions must be submitted, clearly marked, along with site analysis.

3.3. Any type of work shall not commence without obtaining a planning permit and must comply with the procedures set under the permit.

3.4. A person shall not construct, demolish or substantially alter a building or site unless a permit authorizes that construction, demolition or alteration; or b) an exemption applies, as set out in section 7.

3.5. A person to whom a building permit has been issued shall comply with the conditions of the building permit.

3.6. If a person other than the owner of the land on which construction occurs commits an offence against the codes, the owner of the land is also guilty of an offence.

Exemptions

3.7. A building permit is not required for maintenance, improvement or alteration of a building which:

a) affects only the interior of the building without altering the structural members of the building;

b) does not affect the external appearance of the building; and

c) Does not add built-up area to the building.

3.8. However, the exemption does not apply to a heritage building or a structure in a heritage cluster.

4. Application for a building permit

4.1. A person shall apply to the local government for a building permit.

4.2. An application shall:

a) be made by the owner of the land, or by a person who has the authority, in writing, of the owner to make the application; and

b) Be in the form determined by the local government.

4.3. An application shall be accompanied by:

c) if a planning permit has been issued for the proposed development, a copy of the permit (including any attached plans);

d) a site plan drawn to scale, showing:

i) the boundaries and dimensions of the plot, set back lines and the access road; ii) levels of the plot, and the location of drains, septic tank and soak pit; and iii) location and dimensions of car parking spaces.

a) a layout plan of each floor, elevations of all sides of the building

b) sections through toilets and staircases, details of doors, windows, traditional cornices, railings/parapet, opening and other methods of ventilation and details of toilet and kitchen;

c) Commercial: technical drawings and related documents, in accordance with section 5.

4.4. Drawings submitted with an application shall show the name of the owner, site location, date, revision number, and scale and north direction.

4.5. Drawings shall be legible and drawn to scale. The following minimum scale may be used as reference:

a) site plan – 1/16

b) elevation plan/section – 1/16

c) staircase, toilet and kitchen details – 1/8

d) door, window and cornice details – 1/8

5. Technical drawings

5.1. The technical drawings to accompany an application for a building permit shall be prepared in the approved system of units (feet and inches) only.

5.2. The technical drawings to accompany an application for a building permit are:

a. architectural drawings, in accordance with section 5 and 6; structural drawings, in accordance with section 7;

b) electrical drawings, in accordance with section 8;

c) plumbing and sanitation drawings, in accordance with section 9;

d) at the discretion of the applicant, after consultation with the local government, heating, ventilation and air conditioning (HVAC) drawings.

6. Architectural drawings

6.1. Architectural drawings shall comply with the Kalash Valley Bylaws.

6.2. Clearly marked material and finishes with ratio and detail.

7. Structural drawings

7.1. Structural drawings shall include the following:

a) design calculation notes;

b) design codes (listed on the drawing);

c) material properties (listed on the drawing);

d) assumed soil bearing capacity or soil investigation report (as an attached document);

e) details of foundations, including:

i. a foundation plan

ii. foundation details, including depth of the foundation and plinth level; and

iii. in the case of foundations on different levels – retaining details;

f) details of beam and roof layout plan of each floor, showing clearly the staircase opening, shaft opening and any other openings and depressions;

g) truss elevations and connection details showing the holding-down details; i) details and location of separation gaps;

h)for load-bearing walls – details of plinth band, lintel band and roof band, including vertical bars at corners, opening jambs and wall junctions; and

i) the dimensions of all structural members, including:

i) anchorage of beam bars in an existing beam – column junction; and

ii) Column ties and beam stirrup details.

8. Electrical drawings

8.1. Electrical drawings shall include the following:

a) single line diagram of the total electrical system, showing the incoming terminal point and distribution network;

b) an electrical layout plan, showing the position of light points, power points and any other outlets, switches and a wiring diagram;

c) tapping off junctions, switchboards and distribution circuits for power and lighting from SDB and (in the case of multi-phase installations) phase distribution;

d) sub distribution boards, showing circuits and load and protection devices;

e) for multi-storey buildings - power distribution boards showing floor-wise distribution from the main control board and incoming power line;

f) for multi-storey and complex buildings – design calculations;

g) for compound electrification work – the following information:

i) fixture and fitting specifications;

i) foundation details for support poles and similar structures;

ii) terminal box details;

iii) the size and type of cables proposed to be used; and

iv) a single line diagram, showing connections, phase distribution and circuitry.

8.2 The electrical drawings shall include details of telephone connections, showing (by use of symbols and legend) all points, junctions, route ducts and telephone terminal cabinets.

9. Plumbing and sanitation drawings

9.1. Plumbing and sanitation drawings shall include details as follows:

a) Kitchen, bathroom and WC outlets;

b) the location of the septic tank and soak-pit or sanitary pipe layout to the nearest sewer line, including any manholes;

c) drainage layout, showing connection to the nearest storm water drain; d) materials and size of pipe lines; and

d) the sewer design, showing compliance with applicable plumbing codes of practice.

9.2. The plumbing and sanitation drawings shall include details of water supply, as follows:

a) layout plan of the internal plumbing system of each floor, with details of pipe sizes and material;

b) water meters provided for each dwelling unit;

c) plumbing design, showing compliance with applicable plumbing codes of practice; and

d) materials and sizes of pipe lines.

Things need to be shown

- Water management - drinking water supply, drainage systems (plumbing plans), rainwater harvesting, water storage tank,
- Waste management systems - mechanism for grey water disposal, septic tank, Disposal system for kitchen, BIO Filter installation, Septic tank, soakage pit, Schematic drawing of sewage treatment and disposal system.
- Structure stability - foundations details, column sections, structural plan, roof details, stair or core (stairs, lift etc) details
- Topographic - new grading, natural drainage pattern, site plan and section
- Electric - wiring, lighting fixtures, load capacity, outdoor lighting, distribution box, solar panels and ups system (if provided),
- Spatial - list of rooms and facilities provided, architectural plans, master plan - zoning (main structure and auxiliary structures), elevations details - material used and openings, sectional details.

- Mechanical - exhaust and ventilators for kitchen and bathrooms, Air conditioning outdoor units, generator room, fire places and their exhaust.

10. Certification of technical drawings

10.1. Technical drawings shall be signed by the person who prepared them, and shall state the person's name, e-mail address, phone number, address and qualifications.

10.2. Technical drawings shall be prepared by a certified architect or certified engineer, the architect or engineer shall sign them, and endorse them with:

a) a signed certification that the documents are compliant with this Regulation and the Building Code;

b) his or her name and the date of the endorsement; and

c) details of his or her certification.

10.3. Structural drawings for a reinforced cement concrete building in a rural area, must be prepared and certified by a certified engineer.

11. Consideration of application and decision

11.1. The local government shall consider the application and within 30 days approve or refuse the application.

11.2. If it approves the application, the local government shall issue a building permit to the owner of the land on which the building is to be constructed, demolished or altered.

11.3. If it refuses the application, the local government shall give a statement in writing of the reasons for refusal.

12. Conditions of a building permit

12.1. A building permit is subject to the following conditions:

a) that the building shall be constructed in accordance with the approved plans;

b) that a copy of the building permit is to be displayed, visibly to the public, at the construction site from the date of its issue until a certificate of occupancy is issued;

c) that the building works shall commence within one year after the issue of the permit, and are to be completed within two years after commencement; and

d) any other conditions specified by the local government.

13. Suspension or cancellation of building permit

13.1. The local government may suspend or cancel a building permit if it appears to the local government that building works are being conducted in breach of:

a) this Regulation;

b) the Building Code; or

c) a condition of the building permit.

13.2. The local government may suspend a building permit under section 53 without prior notice to the owner or holder of the building permit.

13.3. The local government shall give five days' notice to the owner of the land before cancelling a building permit under section 53 and shall consider any written submission made in response to that notice.

14. Approval after commencement of construction

14.1. If a building has been wholly or partially constructed without a building permit;

a) the owner shall apply for a building permit;

b) the local government may consider the application and issue a building permit.

14.2. If the local government issues a building permit under section 56, it may impose conditions relating to inspection, rectification of works and fines and penalties as applicable in section 162 and section 163.

14.3. A condition under section 57 may include a condition requiring the removal of works and demolition of part or the whole of a building at the cost of the applicant in order to ensure that the building complies with this Regulation.

15. Review by the Review Board

15.1. Review board shall be established by the Department with Terms of Reference.

15.2. The Review Board shall accept a request for review from a person:

a) whose application for a building permit has been refused in any case where the local government has a discretion to approve or reject the application;

b) whose application for a building permit has been approved subject to conditions that are unacceptable to the applicant; or

c) who holds a building permit if work under that permit has been suspended or cancelled under section 53.

15.3. A request for review shall be submitted to the Review Board within 21 working days after the event which gives rise to the right to make the request.

15.4. Following a hearing, the Review Board may cancel or vary the decision of the local government or dismiss the request.

15.5. A person aggrieved by a decision of the Review Board may appeal it to the court on a question of law or jurisdiction only.

15.6. An application for review received by the Review Board shall be rejected by the Chairperson without a hearing if the matter complained of is not within the jurisdiction of the Review Board.

APPROVAL CHECKLIST (for official use only)

1. Planning permit approval checklist:

   a) Clearly check the location of the plot and which zone it falls into; make note of natural features around the plot site.
   b) Natural grade to be determined at permit stage and communicated to the owner in the planning permit approval document. This should be maintained in any planned excavations cutting/filling.
   c) Make note of the existing flora and see how it must be maintained on the plot. Give clear guidelines for maintaining this to the plot owner in the planning permit approval document.
   d) Make note of the neighborhood context; check proximity to natural and cultural/religious sites.
   e) Make note of existing pathways that must not be disrupted due to the building.
   f) Any observations at this stage must be clearly communicated in the planning permit approval document.

2. Building Permit Approval Criteria Checklist:

   2.1. Building; design and layout

   2.2. *Form:*

   a) Building external form and its relation to the terrain and neighborhood.
   b) Ensure that the Setback and offsets have been maintained as per bylaws.
   c) Ensure that the natural environment around the building has not been disturbed.

   2.3. *Proportions:*

   a) Ensure that the building volumes are controlled as per plinth (2000 sqft) and as per roof limitation (900 sqft) to maintain vernacular architecture proportions.
   b) Ensure that the 900 sqft volume is read on the facade of the building by either creating a setback or a projection so the form can be read clearly.
   c) Ensure that the proportions of openings to the facade are maintained as per bylaws.

3. Building: structural and technical

a) All drawings to be checked thoroughly and any observations must be clearly marked and communicated.
b) Foundation depth and thickness of wall according to bylaws.
c) Adequate measures for earthquake resistance taken

4. Building: Material and Finishes:
    a) Ensure that the materials have been used as per bylaws and that they complement the character of the built environment.
    b) Exterior finishes to be according to the bylaws/ vernacular system.

5. Assessment visit Review checklist:

5.1. Before pouring of the foundation

a) Excavation and land gradient followed as per approved drawing.
b) Landscape protection followed as per approved drawings.
c) Foundation type and layout as per approved drawings.

5.2. Before laying of the first roof

a) Structure (columns, beams, layout) as per approved drawing.
b) Use of materials on exterior surfaces as per approved drawing.
c) Projections and openings as per approved drawing.

5.3. After completion of the project

a) Electrical and mechanical review as per approved drawing.
b) Facade and materials as per approved drawing.
c) Architecture layout as per approved drawing.

In addition to this checklist, all rules and regulations mentioned in the original codes document must be followed.

Application for Planning permit *NOC

ANNEX 1 APPLICATION FOR PLANNING PERMIT

(Please type or write in clear block letters, use additional sheet if necessary)

1. Date Filed: .....
2. Name of applicant: .....
3. Sex: Male ( ) Female: ( )
4. Citizenship Identity Card No.: .....
5. Address: .....
6. Contact details: Phone No.: .....E-mail address:
.....
7. Following documents shall be submitted:

I. Copy of the latest Lag Thram/ Land Ownership Certificate

ii. Copy of Planning Certificate (only in planned areas)

iii. 2 sets (A3/A4) site plan showing the (one set referral to the other agencies):

a. The boundaries and dimensions of the plot, set-back lines and the access road

b. Levels of the plot, and the location of drains, septic tank and soak pit.

c. Location and dimensions of existing buildings, trees and car parking spaces.

8. Declaration to be signed by the applicant: The information supplied in this application form is correct to the best of my knowledge and if there are any discrepancies, I shall be personally responsible for the same and I am prepared to face any disciplinary or legal action against me.

Date: ..... Signature: .....

For official use only

Noting of the dealing officer with regard to land holdings, building construction, etc.

Recommended ( ) Not recommended ( ) Permit No. : .....

Date Issued.....

(Note: Permit expires if the work is not started within two years after the issuance of the permit or two years from last inspection)

Name & Signature of the Dealing Officer: .....

ACCEPTANCE/ REFUSAL OF PLANNING PERMIT CERTIFICATE

To,
……
……
……
……

Sir/Madam,

With reference to the application dated ….regarding the addition/ alteration/ construction of building on plot No. .....in village..... has been approved for planning on date .....

Instruction / Remarks (if any):

Signature of the approving authority Official Seal

Dated:

Issued by the competent authority

APPLICATION FOR BUILDING PERMIT

(Please type or write in clear block letters, use additional sheet if necessary)

1. Date Filed: ……..

2. Name of applicant: .....……..

Passport Size Photo

3. Sex: Male ( ) Female: ( )

4. Citizenship Identity Card No.: .....…….

5. Address: .....

6. Contact details: Phone No.: …….....

E-mail address: ……

7. Construction Type/Building use: …….

8. No. of Floor/floors: …….

9. Following documents shall be submitted:

i. 2 sets (A3/A4) of architectural, structural, electrical, water supply and sanitation drawings duly signed by the designers.

ii. Copy of the latest Land Ownership Certificate

iii. Copy of latest site plan

iv. Copy of planning permit

10. Declaration to be signed by the applicant:

The information supplied in this application form is correct to the best of my knowledge and if there are any discrepancies, I shall be personally responsible for the same and I am prepared to face any disciplinary or legal action against me.

Date: ..... Signature: .....……

For official use only

Noting of the dealing officer with regard to land holdings, building construction, etc.

Recommended ( ) Not recommended ( )

Permit No. :……Date Issued……

(Note: Permit expires if the work is not started within two years after the issuance of the permit or two years from last inspection)

Name & Signature of the Dealing Officer:

.....

Name & Signature of approving authority

.....

APPLICATION FOR OCCUPANCY CERTIFICATE

(Please type or write in clear block letters, use additional sheet if necessary)

To

.....

.....

.....

Sir/Madam,

I hereby certify that the addition/ alteration/ construction of building on .

.....in village..... ……..... has been completed on ....., according to the approved building plan/ drawings, vide building permit no. .....dated.....

The work has been completed to our best satisfaction. Workmanship and all the materials have been used strictly in accordance with the approved documents/ drawings and relevant standards, codes of practice and specifications, relevant rules and regulations. The building is fit for use for which it has been added /altered/ constructed. The necessary 'Occupancy Certificate' may be issued.

Signature of the Owner:

.....

Name & Address:

.....

Contact No.:

.....

E-mail address:

.....

Date: ……

ACCEPTANCE/ REFUSAL OF OCCUPANCY CERTIFICATE

To,
……
……
……
……

Sir/Madam,

With reference to the application dated ….regarding the addition/ alteration/ construction of building on plot No. ……in village…… has been inspected on date …… and found that the building is fit ( ) or not fit ( ) for occupation.

Instruction / Remarks (if any):

Signature of the approving authority Official Seal

Dated:

Annex 3: Community Engagement and Consultation report

Consultation session in Birir, Kalash Valley.

Introduction:

This Community Consultation has been produced to meet the objectives for the Kalash Building Codes (hereafter KBC) project under the model of the World Bank OP 4.10 Indigenous People for engagement during all phases of the proposed development of KBC. It further demonstrates the World Bank and DOAM KP commitment to genuinely engage with the local community and stakeholders in order to develop strategies and codes that respond their concerns whilst valuing their continuous contribution and involvement.

The purpose of this report is to transparently demonstrate the approach taken by the consultant for developing the KBC document. It outlines the consultative process, the various methods of engagement and how the feedback and concerns of the community were addressed by the project.
This report specifically relates to the development phases and the approaches taken for the KBC document and includes a detailed community engagement and consultative process.

The consultant has advised that community consultation is periodically conducted to address any issues which may arise during the execution and implementation of KBC.

The report is developed in three parts; the first outlines the community engagement and consultative process comprising of briefing sessions, consultative workshops, field visits, pattern language study and presentations; the second point discusses certain observations made during field visit which have been addressed in the KBC document. The third point highlights the concerns raised by the community and how these were addressed by the KBC document.

Community members presenting their concerns regarding built environment

a) Community engagement and consultative process:

1. Scoping visit and briefing session by Director DOAM KP and Consultant.
2. Consultative workshops with community members and *qazis* in Bumburet, Birir and Rumbur.
3. GIS mapping of sacred sites and places of the Kalasha community.
4. Field visits with selected local members to identify issues (e.g. encroachments, materials, form, seepage) in the built environment.
5. Pattern language study of the built environment in Kalash.
6. Workshop with masons and carpenters – January 2021

7. Consultative session in Peshawar with local representatives and Minorities Minister on the codes document – February 2021.

1. Briefing session:

The scoping visit was conducted by Director DOAM KP and the consultant to introduce and brief the Kalash community *qazis'* (elder/representative selected by the community*)* about the need for protecting the built environment and the department's initiative of developing building codes for Kalash Valley. Scoping visit in the Kalash Valleys was crucial in identifying issues that local Kalasha community face related to land ownership and land regulation in the Kalasha Valleys. In addition to slipshod built interventions that desecrate the sacred landscape and places in the valley due to the height of the building, proximity to a sacred site or an entirely different architectural built language, the ownership of sacred sites is also at stake as these have been taken over by certain landowners. Until now, there is no written record of the sacred communal land of the Kalasha people, therefore the Department of Archaeology and Museums (hereafter DOAM) was advised that these sites must be documented to avoid further conflicts in the valleys. The DOAM in coordination with the DC Chitral arranged for a GIS mapping expert to visit the Kalash Valley and mark the sacred sites in the presence of and in consultation with the Kalasha community *qazis*'.

2. Consultative Workshop:

In line with participatory and inclusive ethics, along with architectural pattern language mapping, a consultative workshop was conducted with community members. The workshop was a consultation effort conducted with the local community for sharing ideas and perspectives about the culture, identities, and issues with regards to the built environment of Kalash within the three Kalasha Valleys. It was held in Bumburet, Birir and Rumbur valleys. Through a PowerPoint presentation, the community was made aware of the value of architectural heritage and landscape preservation, the significance of vernacular architecture and the concept of building codes. Throughout the presentation the floor was open for discussion and feedback that encouraged members of the community to raise their concerns and issues. Three exercises were designed as part of this session to engage the community in discussions on three different scales of planning and building codes (macro, meal, micro). These exercises helped identify the needs and desires of the community and their perspective regarding the importance of building codes. The exercises required the community to

1) Identify different zones in the valley such as pastoral, sacred, residential, commercial etc.
2) Identify three problems in the meso-level planning (infrastructure) and create a code for them.
3) Identify challenges and potential of traditional and newly constructed houses by filling a form.

Consultant discussing the exercise with group members

Objectives of community consultation workshop:

- Increase awareness of local community members about the significance of Kalasha built heritage and the need for its protection and maintenance.
- Introduce the local community to the international charters regarding the built cultural heritage protection.
- Involve participants from all the valleys, and discuss their issues and concerns regarding built environment; accessibility of materials, construction mechanisms and financial sustainability.
- Conduct participatory exercises with local communities to better understand their concerns and issues with respect to design and construction in vernacular style vs new buildings.

Attendance and Feedback:

The local community was made aware of the workshop beforehand and the presence of male and female members was ensured. In addition to this, elders and *qazi* were also invited to attend the workshop in order to understand the long-standing challenges and threats to the built heritage of the Kalash people. The workshop was attended by over 20

members of the local community in each of the three valleys. Representation from each of the villages of the valleys was also ensured by the local representatives. Overall, there was positive feedback about the workshop since according to the attendees such a workshop or consultative process focussing on their built heritage had not been conducted before. The participants found it very helpful in terms of being introduced about architectural heritage and cultural protection. The participants were extremely satisfied with the theme of the workshop and found it very important for the protection of their sacred landscape. Most participants understood the significance of the codes, and the need for its development.

Group of community members discussing the exercise

3. GIS Mapping:

Alongside observation and community consultation, the methodology includes scientific mapping system i.e., GIS mapping in order to identify built areas, crops lands, roads, empty land, vegetation and forest land, Hazard areas, storm water run-off, main river and tributary streams etc. Alongside this, with reference to the land grabbing activities in the valley that has threatened the Kalasha community sacred lands, selected people (elders and qazi) from the community were asked to indicate the location and boundaries of significant Kalasha religious and cultural sites throughout the valley. An important aspect to highlight here is the fact that instead of marking sites with a place-holder, the boundaries of the sites were

marked in polygon which essential for marking the boundary of sacred sites which is cause of dispute. In this initial visit, all sites within Bumburet Valley were marked by the GIS expert. Most of the senior participants after this exercise remarked that "marking our sites and boundaries on the map with a GIS analyst was the most important part of the workshop as this is something which should have been done a long time ago and would have saved their sacred sites from illegal occupation and encroachments".

Community members getting sacred Kalasha sites marked by the GIS expert.

4. Field visits

Targeted field visits with a team of community members were conducted in several villages to understand the various threats and challenges to the built heritage of the kalasha people. Identified the waste and sewage management issues throughout the valley. Multiple areas where sewage water is leaking and damaging the existing historic structures, polluting the landscape. Lack of waste management also adds to the pollution of the valley. It was observed that the influx of tourists is a threat to the cultural heritage of the valley. With many hotels and guesthouses being constructed within the vicinity of existing residential or cultural buildings, the tourist will disturb the privacy and lifestyle of the local communities.


Field visits to observe issues and challenges to the existing built structures

5. Architectural Pattern Language study:

The aim of visiting the valley was to identity the potential cultural protection through the lens of ICOMOS charter on the built vernacular heritage which focuses on maintaining the vernacular character of a region on different levels (marco, meso, micro), preserve the architectural language, and adapt respecting the traditional systems. Visited different sites in all the villages of Bumburet valley. These sites included the historic housing cluster, graveyards, temples, hazard zones and agro-pastoral areas. Studied the landscape of the valley on a macro level, understanding the infrastructural component, the natural systems and the new development pattern. A spatial mapping exercise conducted was mapping the built environment pattern language, a concept introduced by Christopher Alexander (1979) which contains rules for how human beings interact with built form. It codifies practical solutions developed over millennia, which are appropriate to local customs, societies and climates (Salingaros and Mehaffy, 2006). Hence, the pattern language in a region is developed in response to the natural environment, climate and culture. A collection of these various aspects constitutes landscapes and forms relationships that are constantly evolving. This meant documenting ways in which land use patterns have developed and been sustained over time, which areas are considered favourable for construction and what is designated for agriculture.

This mapping entailed walking across the valley (first downhill, then uphill) documenting the macro, meso and micro level spatial patterns along the way. These walks usually meant sketching out a clustered dwelling, mapping the crop and forest areas or understanding why openings in houses face the river (windward) in order to understand relations between the climatic, geographical, material, cultural, cosmic and religious processes that are entangled and give rise to a particular built environment. These mapping exercises were meant to understand the built environment within its context (entities and processes) as opposed to an isolated documentation of physical built structures. Some patterns observed in the environment are terraced slopes, interconnected pathways, clustered housing, cribbage construction, deep south-facing terraces, external stairways, central hearth and central source of natural light in the house.

6. Session with local masons and carpenters

   This session was conducted in January 2021 to better understand the process of vernacular construction. In this workshop, an exercise was conducted which highlighted the challenges and advantages of construction in local materials following the vernacular form. In addition to this, a document was drafted outlining the step-by-step process of vernacular style of construction. Another document was produced which describes the local materials, availability and price.

7. Consultative session with local representatives and Minorities Minister

   This session was held in February 2021 where the entire KBC document was presented and discussed. In addition to this, the approval system and implementation process was also explained and finalized. Upon agreement of all concerned stake-holders, the document was finalized and submitted to DOAM KP with suggestions.

b) Observations from the field visits:

   Few observations about the Kalasha Landscape that have been addressed in the KBC document.

   1. Proper drainage required in the old settlements: It was observed in Karakal village of Bumburet Valley that the toilet drainage system has collapsed leading to leakages in the entire base of the building. This requires immediate attention and fixing as it may lead to potential hazard/ collapse of building.
   2. Building according to the Terrain: we fear the terrain and topography is being ignored due to the availability of new materials that allow locals to build taller buildings and ignore the vernacular terracing.
   3. Increasing population: Many old houses are being replaced or added with new construction to cater for larger families now.

4. **Tourism Influx and loss of vernacular architecture:** With increasing tourism a lot of new infrastructure and hotels are being built. These new constructions will replace the vernacular architecture of the valley.
5. **Availability of vernacular materials:** Innovative and green solutions for materials will have to be devised for retaining the construction pattern as wood is diminishing from the Valley and due to Forest Department regulations (on re-growth) etc., the community does not have easy access to wood for construction.
6. **Government Buildings are made in a standard format:** Most of the buildings that are entirely alien to the pattern language and materiality of the Kalash Valley are the Government Buildings such as schools, college and storage units.
7. **Compromises to be made with time**: Certain patterns will have to be compromised for the ease and comfort of valley dwellers; this includes slanting roofs vs straight vernacular mud roofs. The slants will however be designed for minimal disturbance in the valley slopes.

A Government school building under construction in Bumburet valley

c) Consultation feedback and incorporation in the KBC document

	Concerns of the community	Addressed in the Bylaws document
1	The community understood the need for enforcing building level codes and raised concern about how their landscape and sacred sites will be protected.	Section 4.1 in the document refers to the zoning in the valley. Section 5.1 include codes on landscape protection. Section 5.3.2 lays out specific codes for how sacred sites are to be protected.
2	Kalasha lands should not be sold to outsiders (business men or otherwise) as this threatens the identity of the Kalash	This point was raised with the DC Chitral and Director DOAM – KP, however is outside the ambit of building codes.
3	Noise of wood cutting and slicing machines disturb the neighborhood.	Section 5.4 includes codes on the use of heavy machinery and its location in order to minimize disturbance for the residents.
4	New Hotels look into private residences/ courtyards which disrupts their privacy	Sections 6.8, 6.11 and 6.15 include specific codes on the orientation, height and openings in buildings to ensure privacy of local residents.
5	Hotels constructed close to and look into the *Bashali* space which is a huge cause for concern	Section 8.14 and 5.7.3d lays out codes for the protection of religious and sacred sites of the Kalasha.
6	Lack of proper sewage and plumbing system causes seepage which is damaging historic structures.	Plumbing plan is to be submitted prior to construction – mentioned in the Approval process document.
7	Due to limited land, locals have to take the house down the old house and construct a new one with more storeys in order to accommodate families. Not enough money to acquire new land for construction of house in order to save old vernacular house.	DOAM KP has been suggested to demarcate and acquire certain houses with historic significance in exchange of land where the owner can construct a new house.
8	The road must be 20 feet only otherwise our trees will have to be cut and it will adversely affect our culture in the villages.	Restriction on cutting trees made in the section 6.4 in addition to codes ensuring the protection of flora and fauna.
9	The community raised concerns regarding the lack of availability of	DOAM KP has been suggested to create a prototype of vernacular house which uses

	wood due to restrictions from the forest department, and permit being issued to outsiders whereas the local community is restricted from using these.	lesser wood and retains the local architecture form language.
10	The locals expressed the need for policy and guidance on how to better develop sustainable tourism in their valleys as it is an important source of livelihood for them.	Sections "5.1.4" and "8" address these concerns with reference to the protection of built heritage and wellbeing of the community.
11	Community raised concerns about the non-sensitivity of tourists towards the *Onjesta* and *Pragata* spaces in the valleys.	Section "5.3.2" addresses this concern where designated pathways will ensure the protection of *Onjesta* and *Pragata* spaces.
12	The local community agreed to the concept of enforcing building codes in order to protect the cultural heritage however raised concerns about how these will be implemented.	The implementation strategy of the codes was discussed with the local community members. A consultative meeting was held in Peshawar on the second draft of the bylaws to incorporate any further comments from the local community on the codes.

4: Recommendations to DOAM KP by the Consultant

1. Section 5 of the KBC document - Design Guidelines on Macro level concerns multiple departments such as KDA/DA/DOAM/EPA which must consider and work together to streamline implementation by KDA.

2. Section 5.7 in the KBC document must be supported with a map especially highlighting the protected areas declared by DOAM KP.

3. Prepare checklists in addition to what has been provided by the consultant for the assessment, documentation, maintenance of historic structures and sites.

4. Appendix 1 – Condition assessment of historic buildings must be further revised by DOAM KP according to conservation rules and the Antiquities Act.

5. Check the assessment and approval system and appropriate this for implementation by DOAM KP and KDA according to conservation rules and the Antiquities Act

6. List of historic and sacred sites must be updated based on the data provided by local community and demarcated on by the GIS expert.

7. Demarcate historic houses and historic clusters as per criteria (social assessment - land ownership - family structures - assessment of the building) and declare these as such so that they may be maintained and protected by DOAM KP accordingly.

8. Periodic snapshots of the street profile must be taken and any violations should be reported immediately for removal.

9. Consult with structural engineer to develop a design based on the vernacular form and improvising segments of the building in order to make it cost effective and less reliant on wood. The local masonry teams must be given awareness and training sessions on this improvised vernacular building system.

10. Build capacity of local masons and workmen by conducting state of the art MEP (mechanical, electric, plumbing) training.

Specific recommendations for zoning/demarcation:

Sites and zones to be shown on the map

Type	Detail
Historic Zone	Residential house I Housing cluster IAnimal houses
Pathways	Tourist pathways I Community pathways
Natural assets	Old trees I Boulders *inscription I Sacred place

Natural zone	Ecological sensitive areas *streams, forests, river sides, pastures etc.
Industrial sites	Demarcate areas that allow industry/noisy machinery.
Religious and cultural sites	Buffer zone to be marked. Onjesta Pragata spaces demarcate (no go areas for tourists).
Residential zone	Historic clusters I Historic houses
Commercial zone	Existing Shops I Existing Hotels
Agriculture zone	Individual Fields I Pasture lands

1. Religious and cultural sites have been marked on the map although these have not been categorised according to use (Pragata - Onjesta) / Building or open area. This categorization is required for demarcating the buffer zones for specific cultural and religious buildings that are of heritage value.
2. Historic zones (historic housing clusters) have to be identified and marked on the map. This must be done by the DOAM staff with a criterion form and mark boundaries with coordinates.
3. Natural assets to be identified and marked in consultation with community and an environmentalist (assets that are important for eco-system).
4. Natural Zones to be identified and demarcated by Department of Wild Life and Forests.
5. Latest land use plan required from DC office, showing plots, sizes, ownerships (private and public) and their uses.
    a. Industrial Sites needs to be recognized, and marked throughout the valleys
    b. Residential houses need to be marked with their boundaries and access from the nearest street. This needs to be done with the help of DC office and local Patwari.
    c. New industrial zones to be marked.
    d. Existing commercial site, such as, hotels and shops need to be marked. This demarking would indicate new tourist high activity zones, and future distribution of commercial zones.
6. Street network needs to be developed and marked which should include.
    a. Existing community pathways and roads marked, with the widths and use.
    b. Proposed tourist pathways to be planned and marked
7. Agricultural fields need to be marked, along with its use and produced. Common pasture grounds and pathways associated to them needs to be marked.