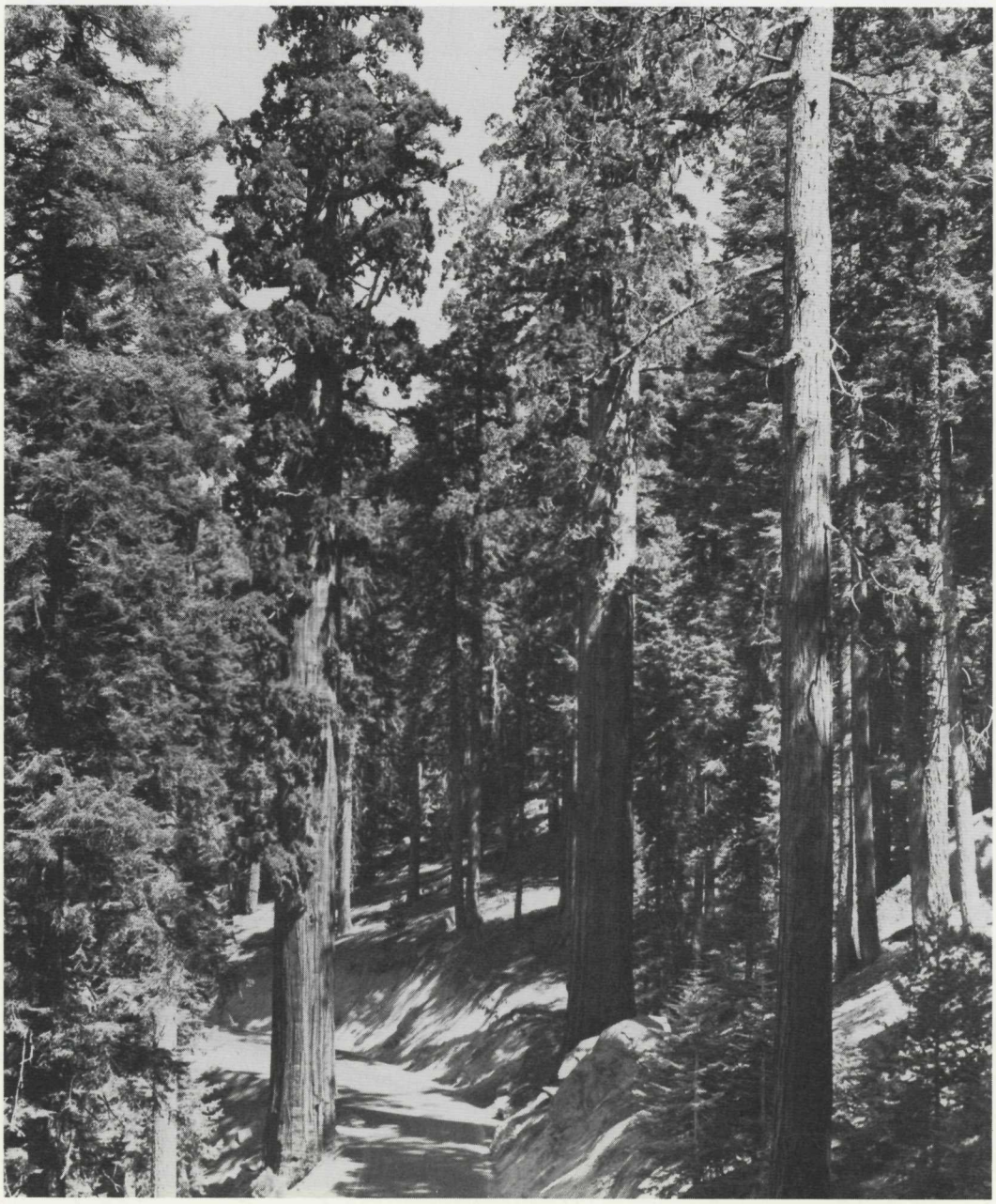
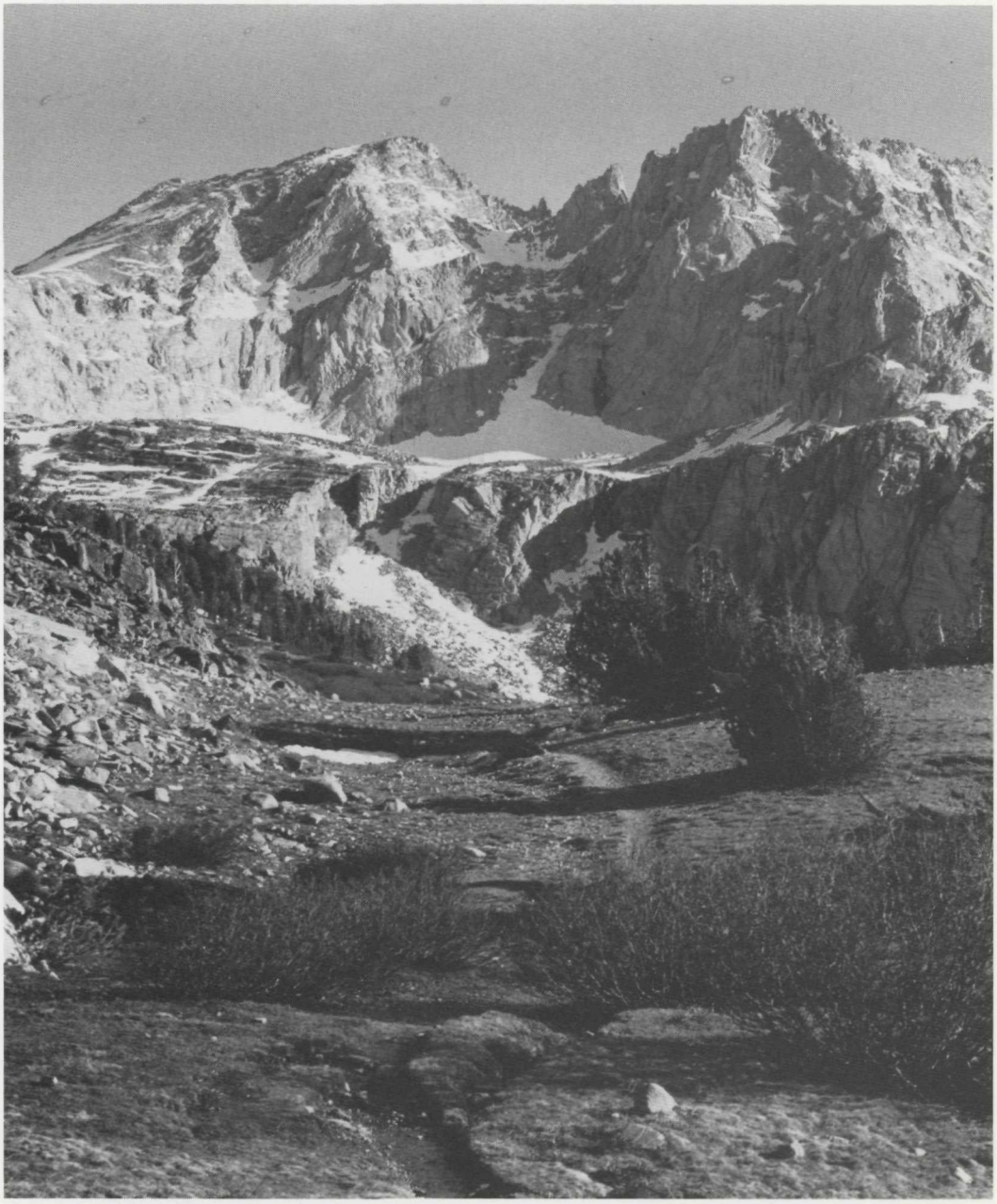
ARCHITECTURAL CHARACTER GUIDELINES

SEQUOIA & KINGS CANYON NATIONAL PARKS

Sequoia National Park



Kings Canyon National Park



Architectural Character
Guidelines

SEQUOIA & KINGS CANYON NATIONAL PARKS

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Former Director William Penn Mott, Jr.'s 12-point plan to protect and enhance the heritage of the National Park system includes plans for the moving and construction of park facilities. Development concept plans call for large amounts of construction to occur in Sequoia over the next several years, including the Giant Forest Development Concept Plan, which will involve moving from Giant Forest to Clover Creek. The philosophy behind Former Director Mott's plan also emphasizes the need for unified architecture within the parks. As a result of these plans and concerns, the need for architectural character guidelines to suggest directions for construction in Sequoia/Kings Canyon National Parks has become critical.

Architecture in national parks must be special.

The idea is not new. As early as 1918, only two years after the formation of the National Park Service, the basic policies of the NPS clearly specified that buildings and other park developments must seek a special relationship to the visual environment. During the next twenty years the Service perfected a definition of that special relationship. Today, although the buildings of the 1920s and 1930s vary widely in their actual appearance, we class them together stylistically under the designation of "rustic architecture." These buildings, despite their individuality, do share many characteristics. Generally, they used natural materials and textures, small size, historical details, and careful siting to develop strong visual ties between the structure and its setting. Successful examples vary from low, adobe ranch houses in southern Arizona to "chalets" with massive stone walls and steeply pitched roofs at Crater Lake.

Basic to all these design efforts were several philosophical premises about the nature of the national parks themselves. The first and most basic of these was the concept that national parks were fundamentally separate from the surrounding world. This was a management attitude. Parks were sacred landscapes, and visitors had to realize that within the parks everything was different, including the purpose of the land and its relationship to humankind. The architecture had to contribute to this special purpose.

A second crucial premise was that each park area had to have a clear and distinct image that unified its various developments. Buildings and other structures varied from site to site, depending upon the immediate visual scene, but across any particular park all the developments had to share enough elements to give them a recognizable unity.

To a degree both of these concepts, and the architecture that grew out of them, fell out of favor in the decades following 1940. Park management, caught up in the complexity of the post-war world, placed less and less emphasis on separateness from the outside world and unified design within single parks. The impact of this period can be seen in the presence of numerous "modern" structures that largely ignore the design premises of the rustic era and seek little compromise with adjacent park structures.

During the present decade, philosophies have begun once again to shift. We now know that the parks are not biologically separate; indeed, they are totally inseparable from and dependent upon the surrounding world. Yet at the same time, in our now overwhelmingly urban culture, park managers have come to realize that park visitors still need to perceive the parks as special, significant places. And one way to bring this about is to create a human environment that is different from the daily urban environment. Unified park image has resurfaced once again as a way of seeking distinctive park images, and is now a design goal clearly expressed by Former NPS Director William Penn Mott, Jr.

In Sequoia and Kings Canyon, the need to resolve these issues has reached a critical point. In the next twenty years, major new construction will replace much of the existing development in the two Parks. Particularly affected will be the Giant Forest and Lodgepole areas in Sequoia, and the Grant Grove area of Kings Canyon. In all three areas the great majority of existing structures will be razed and replaced, sometimes in new locations. A number of factors make these changes necessary. The most critical are the excessive age and poor condition of many of the facilities and their location in fragile resource areas that cannot sustain another cycle of human disruption. The biggest single project in this process will be the removal of over 400 buildings from

the Giant Forest Village/Camp Kaweah/ Giant Forest Lodge area and their replacement with a totally new development at Clover Creek Village, some six miles away.

Since the developed areas in question represent the first-developed and still most heavily used portions of the two Parks, they contain what many visitors perceive as the human heart of the Parks. These are the cabins and support facilities that have been used and enjoyed by generations of Californians. To many, the lodges and cabins at Giant Forest and Grant Grove are Sequoia and Kings Canyon.

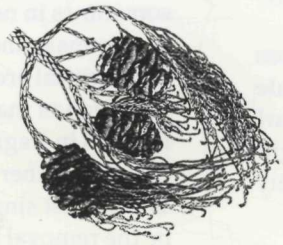
The challenge now facing Parks management is how to replace these old facilities without losing continuity with a century of human heritage and park identity. One possible answer may be to return and take a fresh look at the architectural themes worked out for these two parks in times past. Can we ease the transition from our old development areas to the new ones by seeking architectural continuity with older designs? Can we reinforce the integral identity of the Parks by reinstituting a consistency of design through the various areas of the Parks?

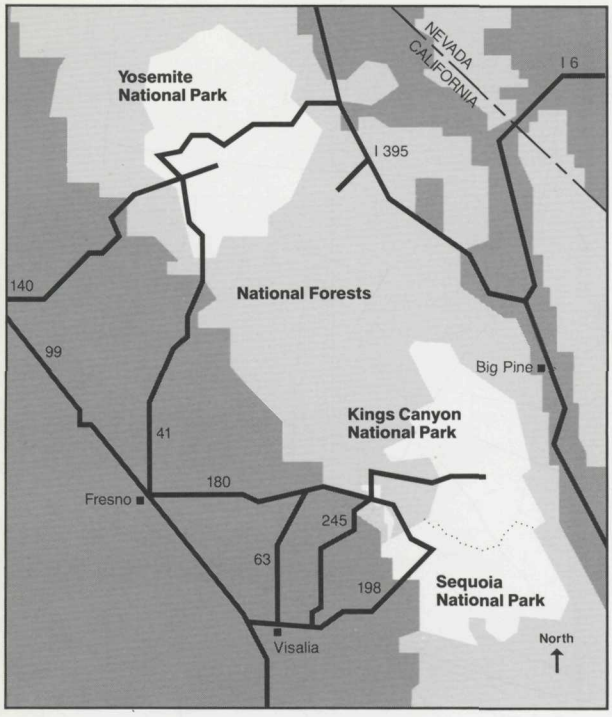
The following document is an attempt to define an architecture appropriate for new development work in Sequoia and Kings Canyon National Parks based on the following traditional premises:

1. National Parks should have an architecture that contributes to the understanding that they are special places that require special attitudes and behavior on the part of Park visitors.
2. National Parks should be developed so that architectural themes are consistent throughout the developed areas of the park.
3. New development work in older National Parks should be designed in a way that establishes a continuity with the most successful design elements of past Park projects.
4. Ultimately, Park architecture has a significant impact on how visitors perceive and use the Park. At its best, good architecture provides a special human setting in which the values of the Park are clarified and reinforced. At its worst, it weakens and cheapens the entire Park experience, subtracting from the values and perceptions that allow a park to survive and prosper.

The new building program in Sequoia and Kings Canyon, which will lead to the most thorough facility change ever to occur in a major National Park, will provide a testing ground for the applicability and practicality of these premises.

William Tweed
Sequoia and Kings Canyon National Parks
January, 1989





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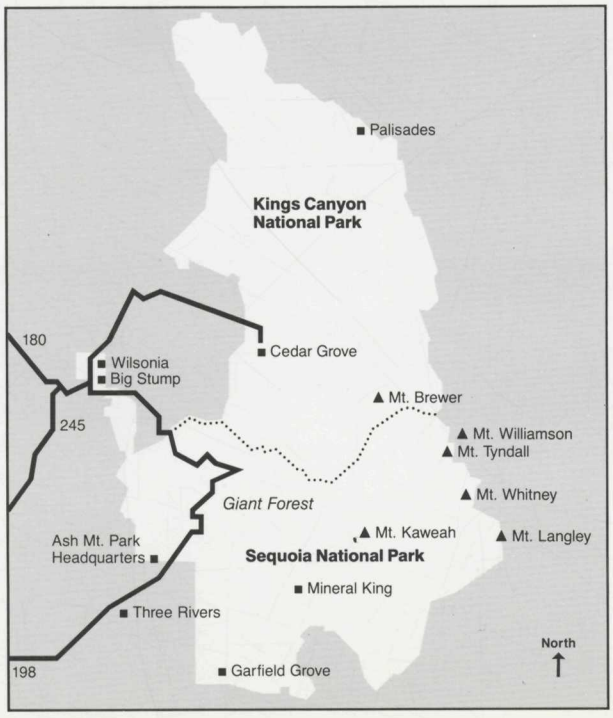

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I. Analysis of Existing Architecture

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The architecture at Sequoia and Kings Canyon National Parks is the product of two divergent design philosophies. Prior to World War II, building design was more sensitive to the immediate site and the fragile natural environment, incorporating natural materials such as wood shingles, granite and logs that visually and subliminally connected the buildings to their site.

After the war, a new design philosophy based on clean lines and stripped-down practicality took hold. The designers argued that the old buildings were not appropriate for the modern world. Designers as well as park and concessions staffs emphasized ease of maintenance. Today, however, architecture in the Parks is being reexamined. The modern structures leave us cold. Their generic nature lacks the Park Service trademark so evident in the earlier buildings. Sequoia and Kings Canyon urgently need a thoughtful design program that incorporates the better aspects of both past approaches, that understand the aesthetics of building in the natural environment, and that takes into account the availability of modern technologies.

In undertaking this study, our team analyzed the existing architecture and looked at successful examples from the parks' past (see *Inventory of Existing Structures*). We looked at particular buildings whose elements we might consider emulating in the future – the Cabin Creek Residences, the Giant Forest Market and Ranger Residence, and the rustic cabins of Giant Forest. We noticed specific design elements in simpler structures that, through repetition, created the sense of place so evident in the parks' older developments. We christened these elements "character-defining features." The study area for this project concentrated in the parks' middle elevations – from Giant Forest in the south to Grant Grove in the South. These are the areas where the greatest number of the older structures will be removed and where the greatest amount of new construction will take place in the future.

The extant buildings at the higher elevations have certain architectural elements that characterize the simple styles. First and most obvious of these is the choice of color. Most of the concessioner and Park Service buildings at the higher elevations are painted dark brown. The Park Service buildings most often are a dark, rich chocolate brown. The concessioner buildings often have a slightly reddish-brown color. The windows of the Park Service buildings traditionally are a pale green, while those of the concessioner are a lime-green identical to the lichen on the surrounding conifers. The second element is roof shape and materials. In most instances, wood shingles cover the medium-pitched gable roofs. Third are the two types of foundations. The first type is a battered stone or stone-veneer foundation. Post-and-block foundations also appear in some of the very informal buildings.

Other features also contribute to the definition of character. One of the frequently appearing elements is the exposed frame. The exposed frame can be an actual heavy timber frame or just appear to be one through the use of applied braces and cornerboards. Exterior wall surfaces can be covered with shakes or various types of horizontal siding. Also, most of the buildings have small sizes and contain functions that take up a minimal amount of space. Residences and comfort stations are typical examples. Most of these buildings have very simple rectangular plans. Next, the buildings often follow the natural contours of the earth. When clustered, the grouping of structures also follow the natural topographic contours. Finally, most of the buildings have a horizontal emphasis. A few vertical elements, such as battens in the gable ends, provide a visual counterpoint to the low rise of the buildings.

The frequent repetition of these and other features in the parks' building programs created the specific image and sense of place that we see today. Selective use of some of them in the future will reinforce that image out of the past and eventually dilute the impact that the buildings of lesser architectural quality have had on the parks. The end result will be a stronger architectural character and stronger agency image. Visitors, once again, will drive past the entrance sign into that special National Park experience.

Laura Soullière Harrison,
Sequoia/Kings Canyon National Parks
January, 1989

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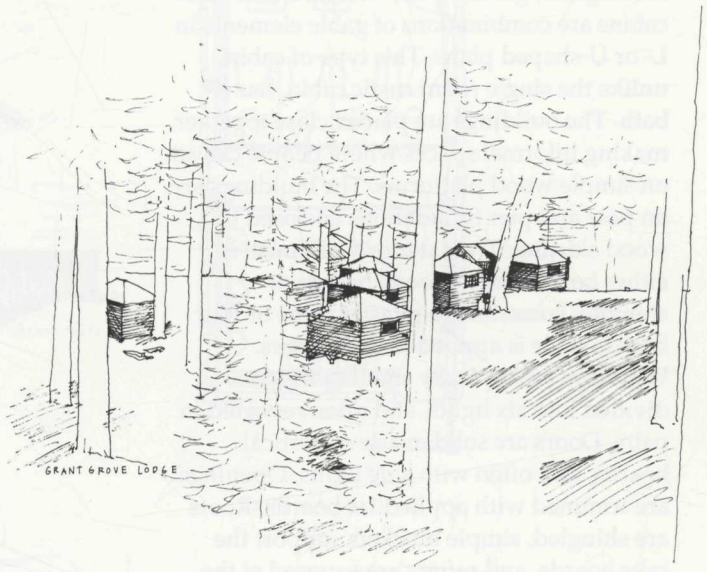
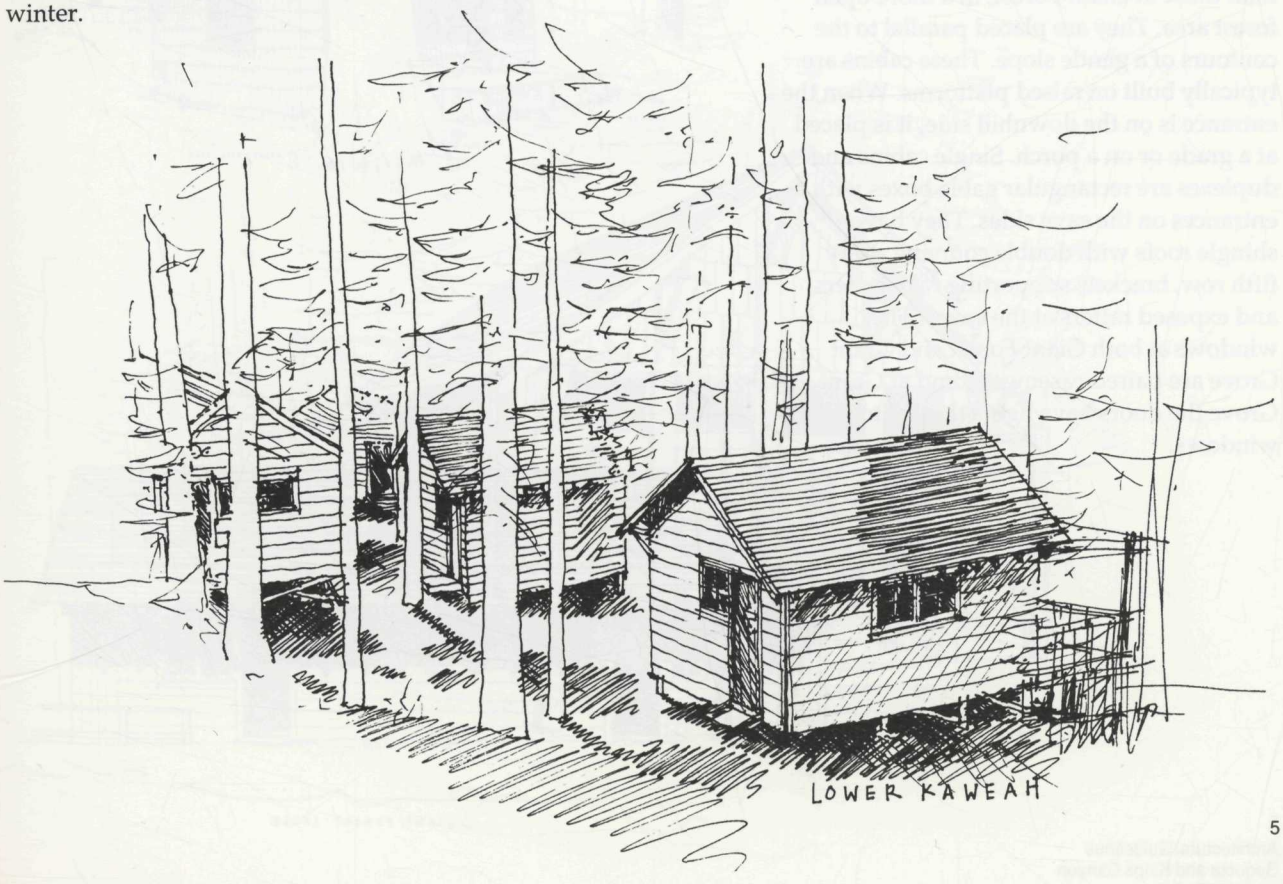
Single Room Rustic Cabins

This is the simplest type of residential structure at Sequoia/Kings Canyon. It provides the most basic accommodation without integral bath or kitchen, though some rustic housekeeping cabins have outdoor cooking porches. The cabins at Kaweah are casually grouped in various parts of a forest. They are nestled between the trees, roughly perpendicular to the pathways which wind along the slope's contours. There are two forms of rustic cabins, one with a wood shingle roof and one with a canvas roof, which is often called a tent cabin. The first is a simple gable box with a door at the gable end. It is built on a raised platform, usually without skirting. Walls are sheathed with bevel wood siding. The roof is shingled and has small overhangs with exposed rafters at the eaves. The tent cabins are utilitarian structures which are used seasonally. They are simple wood-frame boxes on raised platforms, often unskirted. The walls usually have horizontal board siding, small windows, and solid doors made of vertical boards. The hip-shaped canvas roofs are removed for the winter.

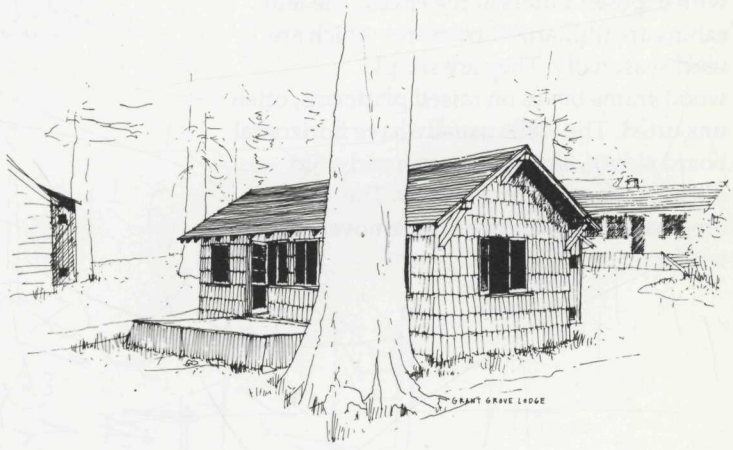


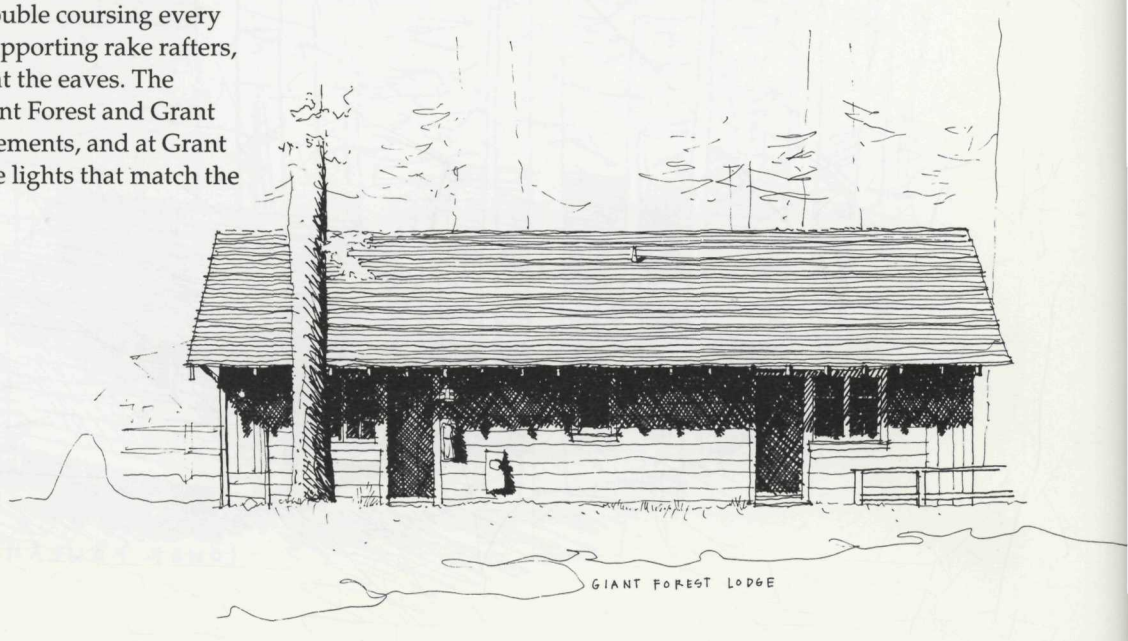


Large Rustic Cabins

At Giant Forest, there are single, duplex, and four-unit cabins. They are sited between the giant Sequoias, along paths which follow the rolling terrain. The singles and duplexes are rectangular, gable boxes, while the four-unit cabins are combinations of gable elements in L- or U-shaped plans. This type of cabin, unlike the single room rustic cabin, has a bath. The buildings are placed close together, making informal spaces where people can sit on simple wood platforms. The buildings are on post and pier foundations enclosed by wood skirting. The exterior wall finish is either horizontal v-groove boards or shingles; sometimes a pilaster three or four boards wide is applied to the corners. Windows are typically small casements, divided into six lights, and often repeated in pairs. Doors are solid, made of vertical boards, and often with side lights. Openings are trimmed with applied 1 x boards. Roofs are shingled, simple brackets support the rake boards, and rafters are exposed at the eaves.

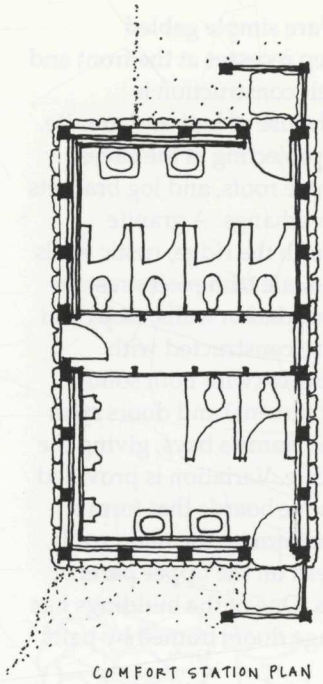
The Grant Grove cabins are sited less densely than those at Giant Forest, in a more open forest area. They are placed parallel to the contours of a gentle slope. These cabins are typically built on raised platforms. When the entrance is on the downhill side, it is placed at a grade or on a porch. Single cabins and duplexes are rectangular gable boxes with entrances on the eave sides. They have shingle roofs with double coursing every fifth row, brackets supporting rake rafters, and exposed rafters at the eaves. The windows at both Giant Forest and Grant Grove are paired casements, and at Grant Grove the doors have lights that match the windows.



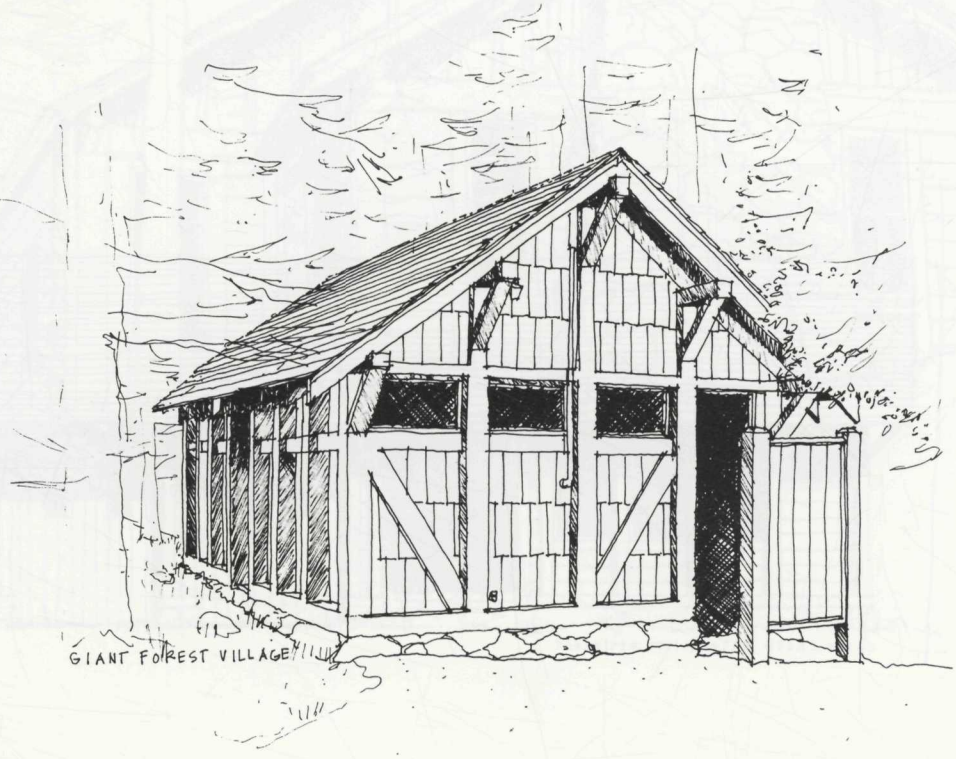


Comfort Station

This is one of several rustic comfort stations in Sequoia/Kings Canyon. It is a simple gabled form with the entrance shielded by privacy screens. The building is a heavy timber frame structure with diagonal braces at the corners and knee braces supporting the rake rafter at the gable ends. The frame sits on a modest exposed granite rubble foundation. The roof is shingled, with double coursing every fifth row. Shakes are used as wall sheathing throughout. Door and window openings are set between structural posts.



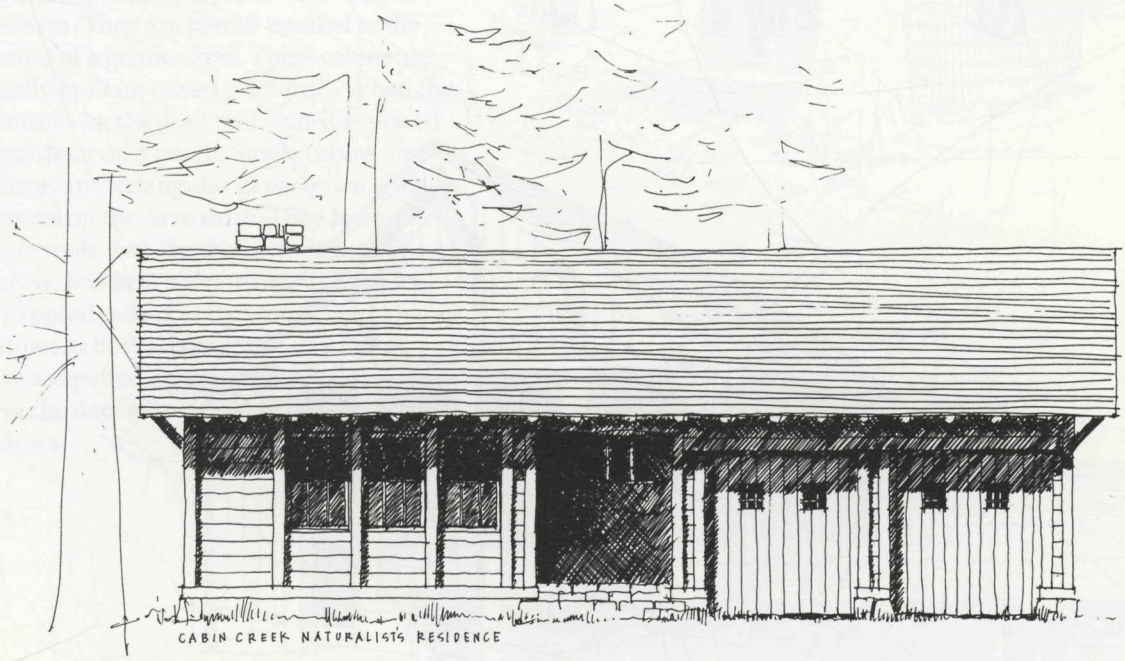
COMFORT STATION PLAN



GIANT FOREST VILLAGE

Cabin Creek Park Service Residences

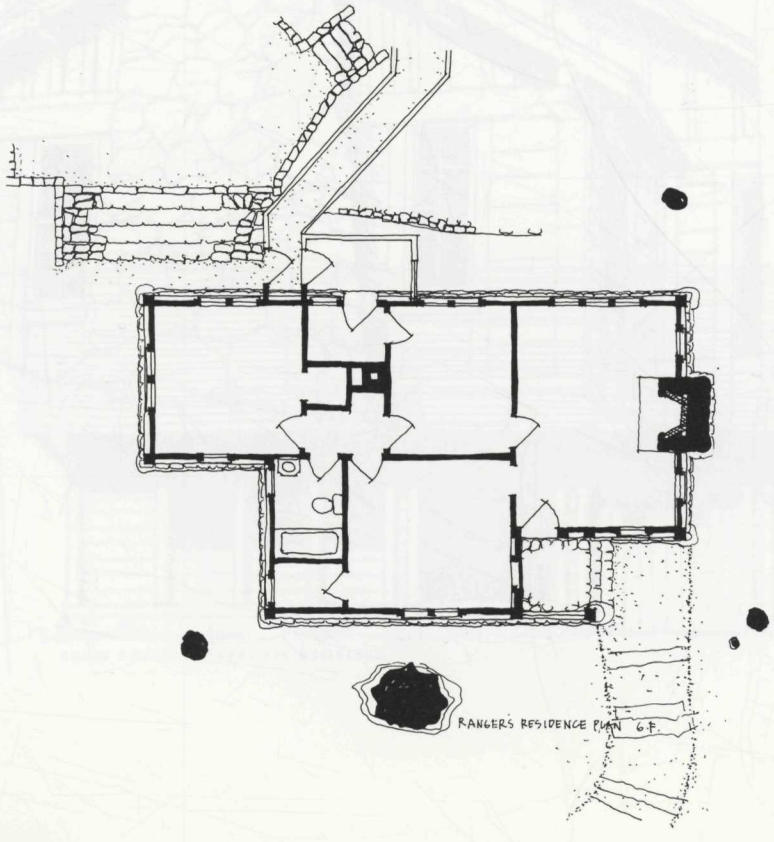
The two buildings are simple gabled structures with deep recesses at the front and rear entrances. Their construction is distinguished by the use of logs and granite. Peeled log rafters, projecting at the eaves, support wood shingle roofs, and log brackets support the rake overhangs. A granite chimney rises through the ridge; rustic walls with applied large-scale trim pieces rest on battered granite foundation walls; steps and entrance terraces are constructed with granite slabs. Windows (with both solid shutters and insect screens) and doors span the full width of the frame's bays, giving the façade relief and scale. Variation is provided by tongue-and-groove boards that form a subtle horizontal pattern on the main walls, and a vertical pattern on the upper parts of the gable end walls. One of the buildings has vertical-plank garage doors framed by pairs of columns.



Ranger Residence at Giant Forest Village

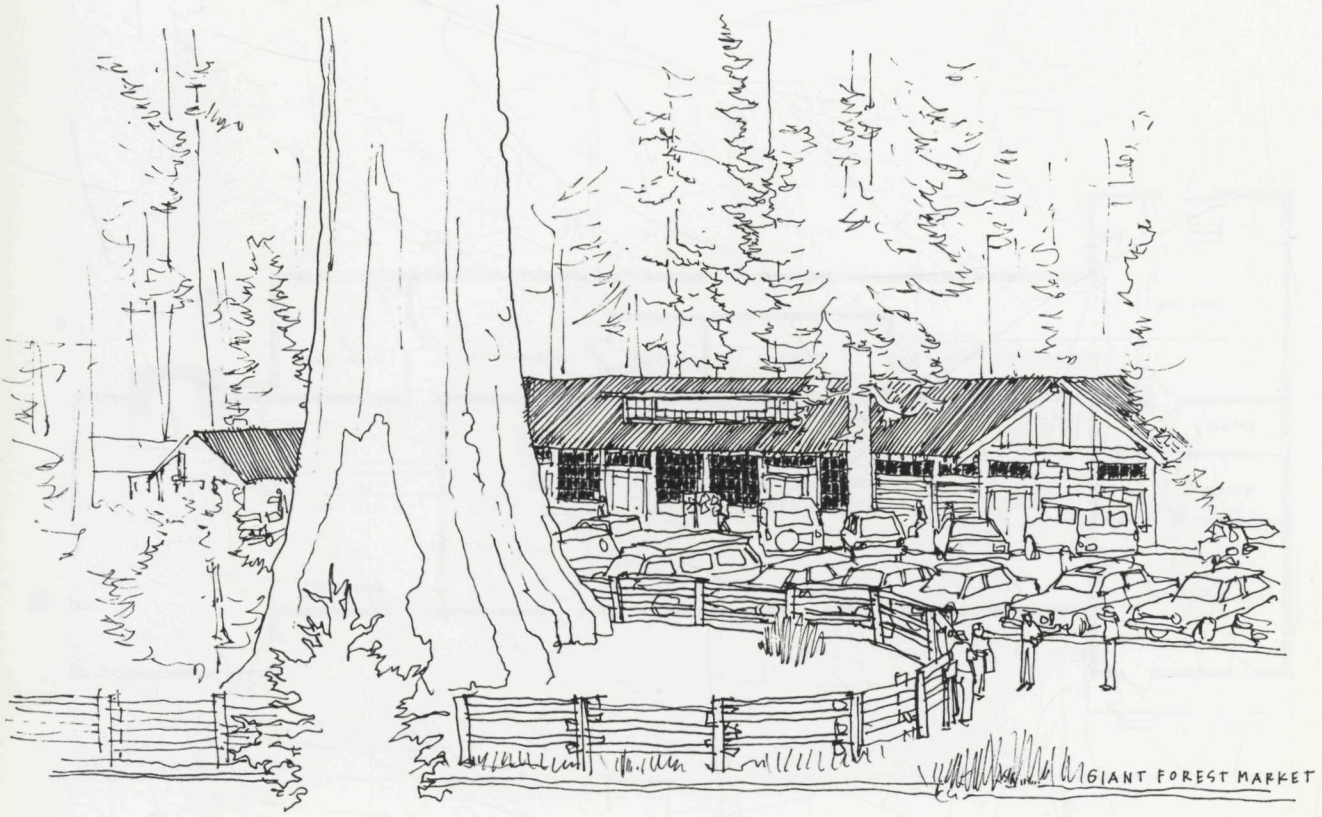
The building orientation follows the contours of a gentle slope. The central gabled form has smaller gable elements projecting from each end of the main roof. A heavy timber frame divides the façades into vertical bays, in which are set tall casement windows and resawn bevel siding. The upper portions of the gable walls rest on an exposed beam and are finished with vertical board and batten. The granite veneer foundation extends from the ground to the floor line. Granite masonry is also used in the chimney, steps and terraces.

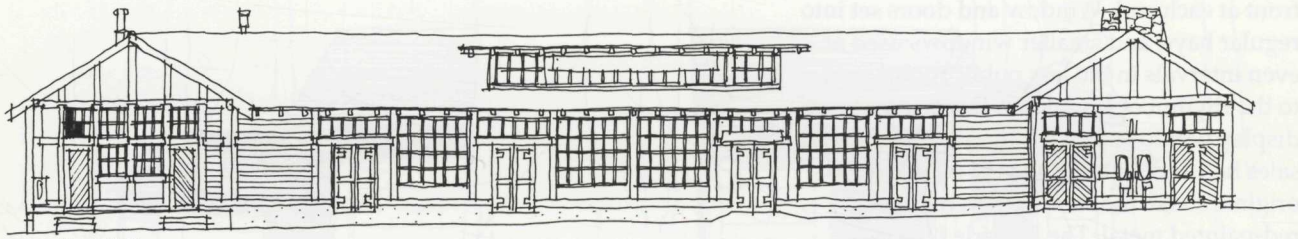
RANGER'S RESIDENCE G.F.


RANGER'S RESIDENCE PLAN G.F.

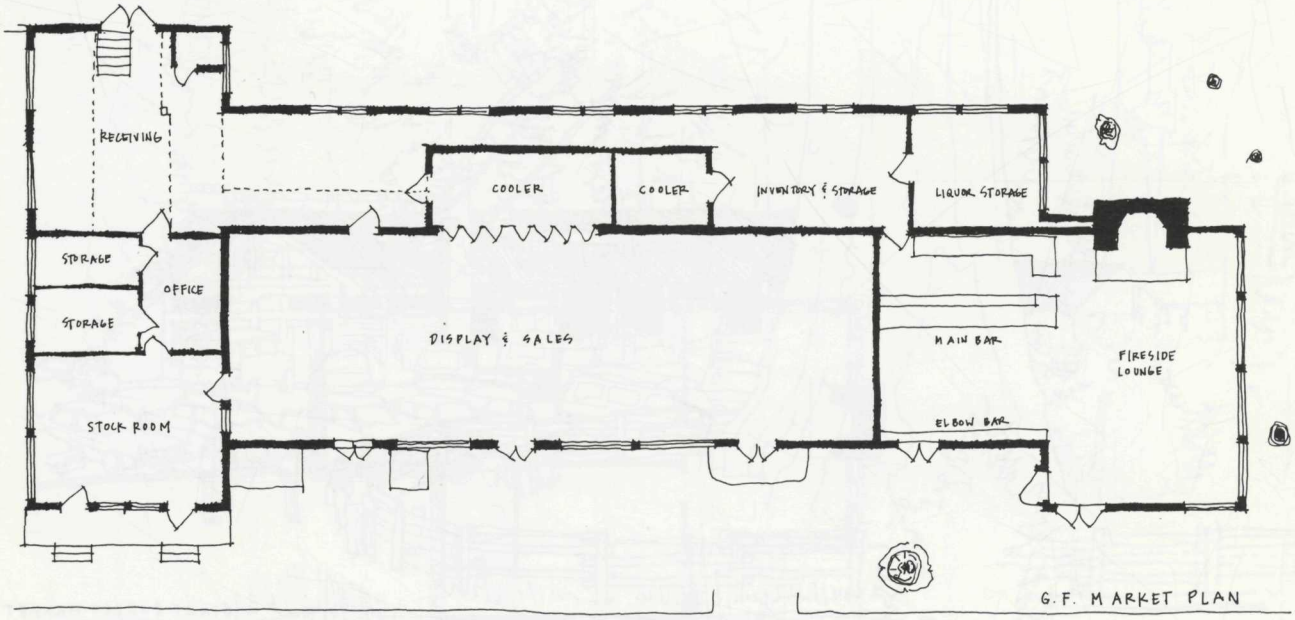
Giant Forest Market

The Market building sits at the foot of a gentle slope, along the Generals Highway. A symmetrical building, its major element is a long, central wing with a shed extension on the rear and a gable element projecting to the front at each end. Window and doors set into regular bays, and smaller windows used at even intervals in the less public rooms, add to the rhythm of symmetry. Dormer and display windows bring light into the central sales hall and give scale to the elevation. The original shake roof is now covered with red-painted metal. The Fireside Lounge at the south end has a fully glazed south wall and a handsome granite fireplace and chimney.





G.F. MARKET



G.F. MARKET PLAN

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Siting

Buildings are placed to minimize alteration of terrain or intrusion into the natural character of a site. They are often sited on gentle slopes with their long sides parallel to the contours. Pathways wind along contours through informal clusters of small buildings.

Buildings are always subordinate to nature. In a forest setting, buildings fit between trees, accentuating the spaces in the landscape. When buildings are placed alongside rock outcroppings, a transition space is preserved in its natural state.

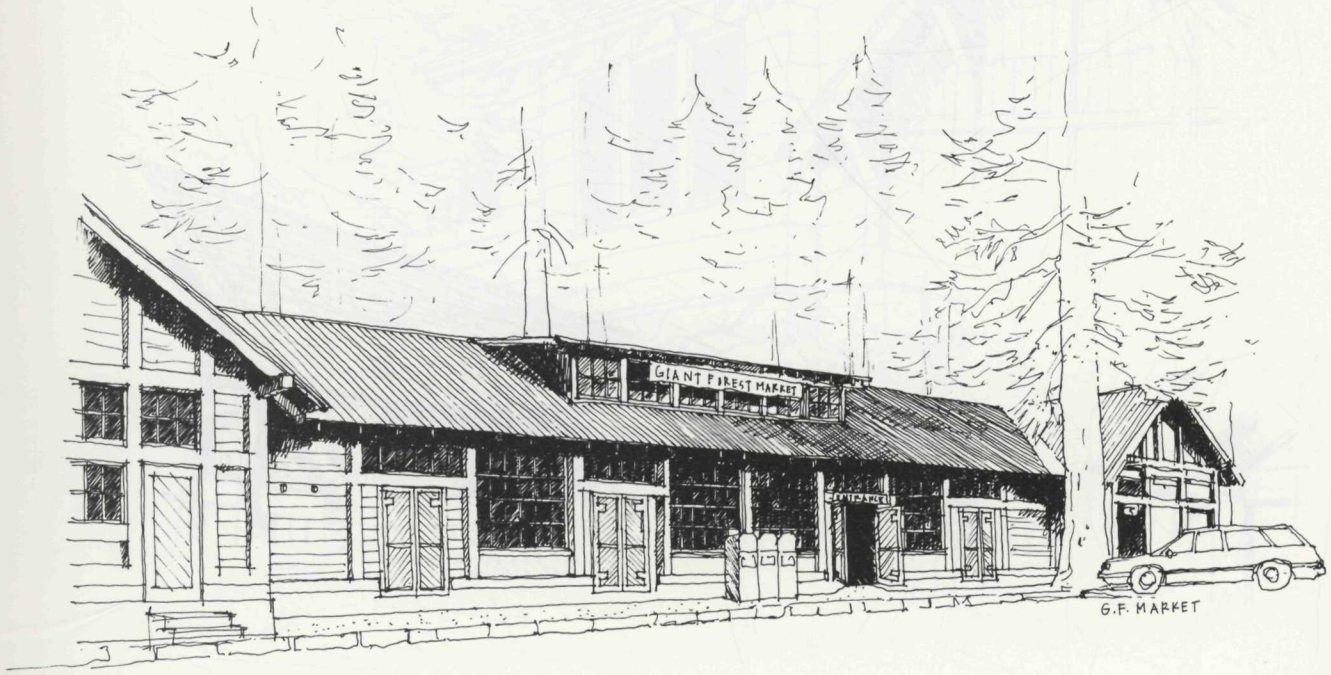
MASSING

Small buildings such as cabins are typically simple rectangular boxes with gable roofs.

Larger buildings such as the Ranger Residence and the Giant Forest Market are made up of rectangular plan elements and gable roofs. A central element dominates while smaller elements project from either the sides or the ends.

Giant Forest Cabin

G.F. MARKET


GIANT FOREST MARKET
G.F. MARKET

ROOF

Roofs generally have slopes ranging from about 6-in-12 to 9-in-12.

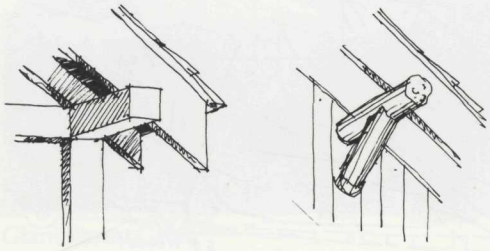
Historically, wood shingles were the only material used, but metal and asphalt have also been used in more recent building. Where shingles are used, they are often doubled every fifth course, adding a horizontal emphasis.

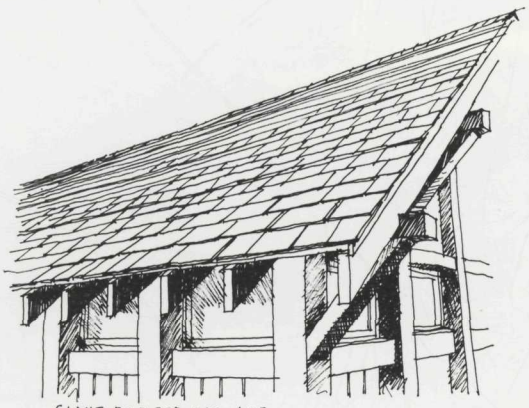
Wood shingles weather to a color varying from brown to gray; metal roofs are painted green.

Rakes generally project from one to three feet, and are supported by cantilevered logs or timbers, or by timber brackets.

Eaves generally project from one to two feet, without soffits or fascias. Log or timber rafters are exposed, sometimes with shaped ends.

CABIN CREEK



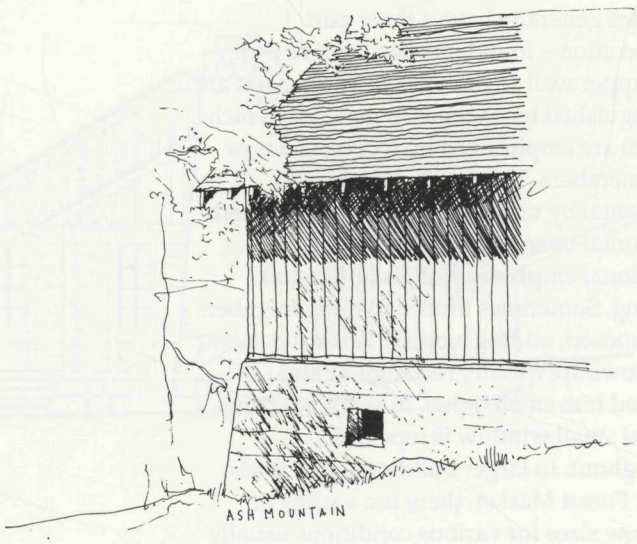


GIANT FOREST VILLAGE
COMFORT STATION

FOUNDATIONS/LOWER WALL

Foundations are usually battered walls of granite, either solid masonry or stone veneer over concrete.

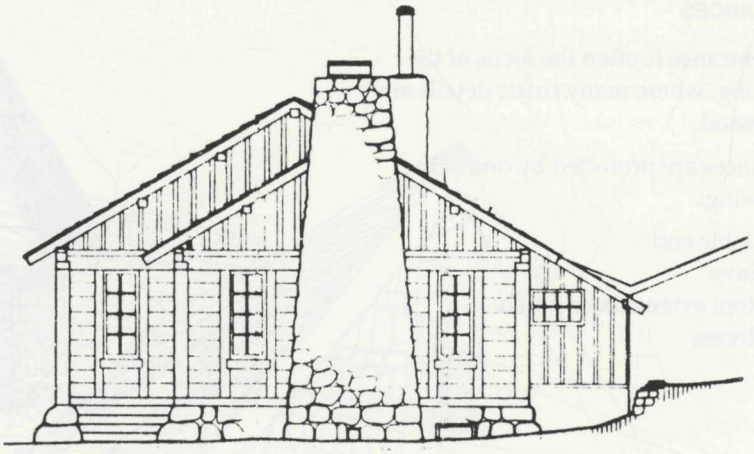
At Ash Mountain some buildings have battered, board-formed concrete foundation walls.

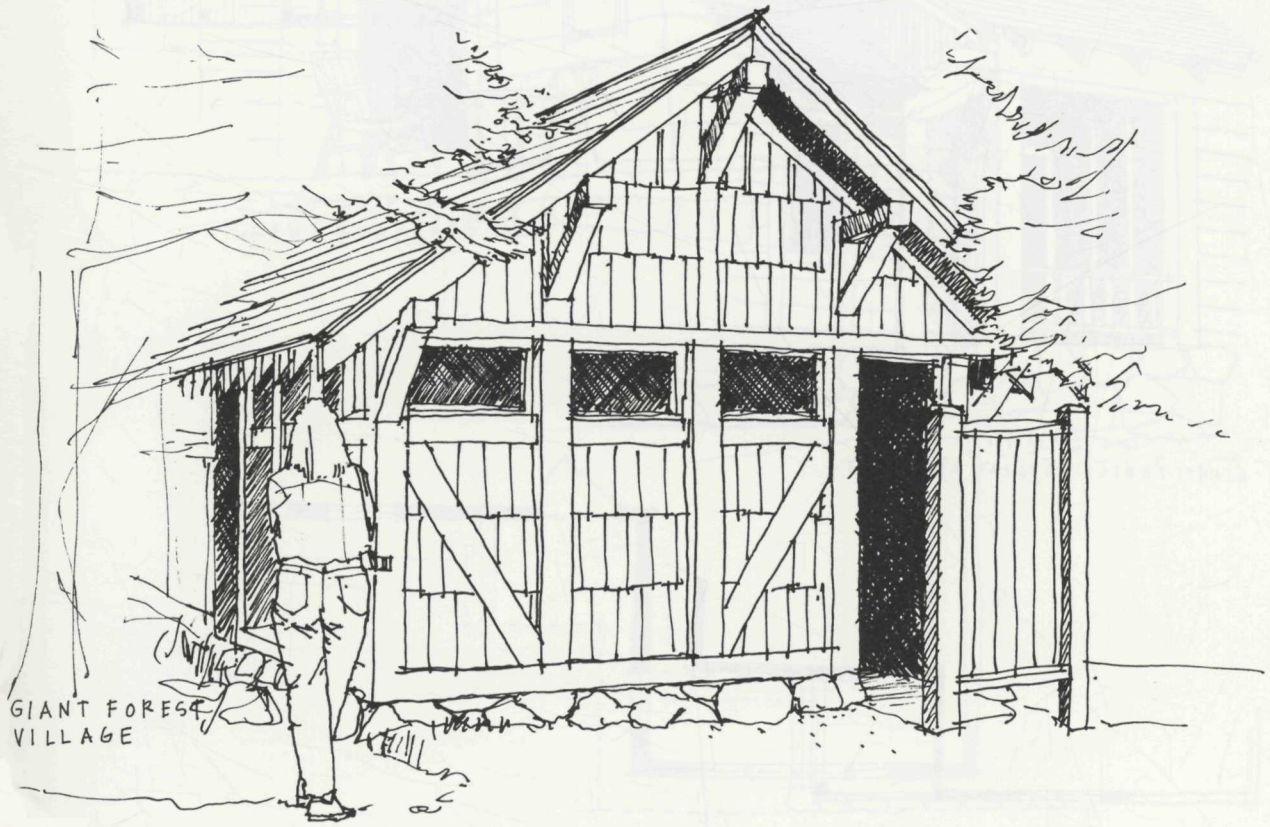


WALLS/WALL MATERIALS

Façades generally have a three-part composition – foundation wall, main wall, and upper wall at gable ends. These parts are distinguished by changes in material, which in turn are emphasized by wood frames or trim members. The façade is generally horizontal by virtue of its overall shape and horizontal board siding which lends additional emphasis with its horizontal jointing. Sometimes timber framing members are exposed, adding a minor vertical pattern. Windows are usually rectangular and divided into small lights. In small buildings a typical small window is repeated throughout. In larger buildings such as the Giant Forest Market, there is a variety of window sizes for various conditions usually dictated by the size of the room.

A variety of wood siding is used, either as a continuous skin or as infill between timber frames.



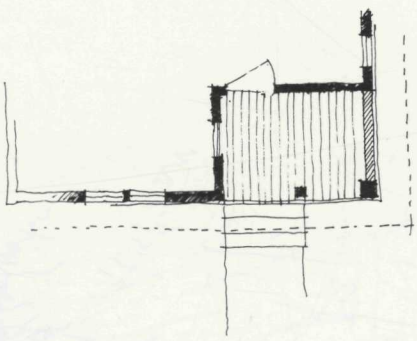

GIANT FOREST
VILLAGE

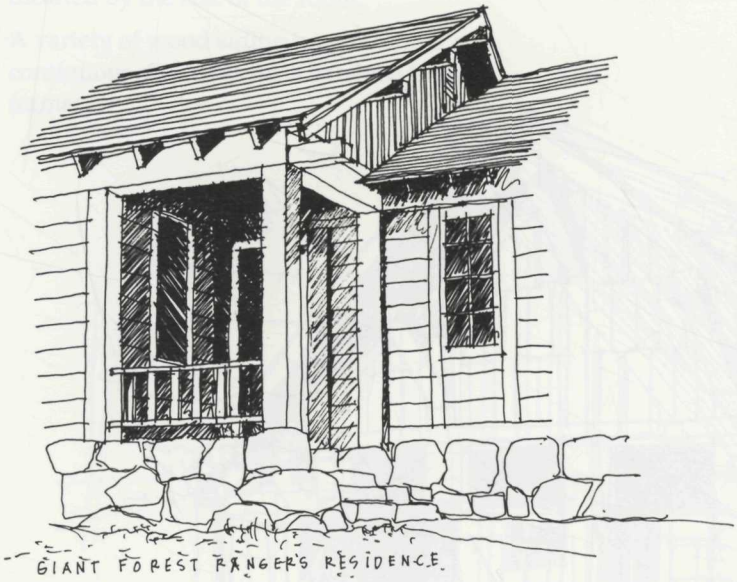
ENTRANCES

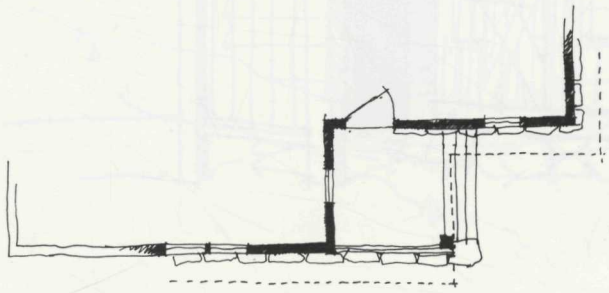
The entrance is often the focus of the building, where many rustic details are expressed.

Entrances are protected by one of the following:

1. Gable end
2. Eave
3. Roof extension or porch
4. Recess







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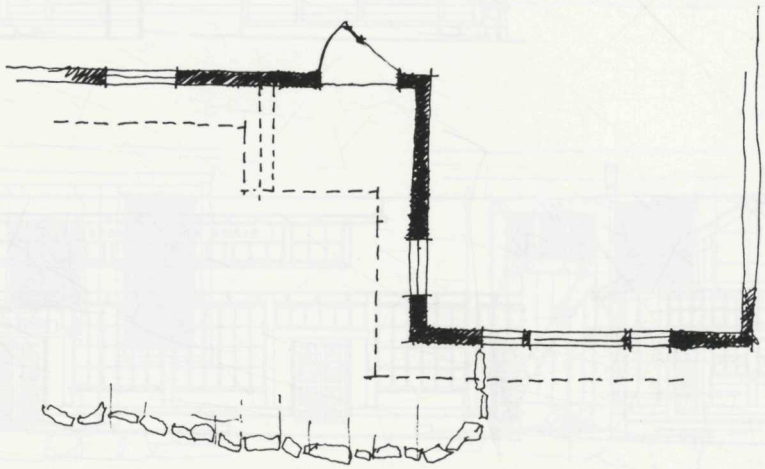
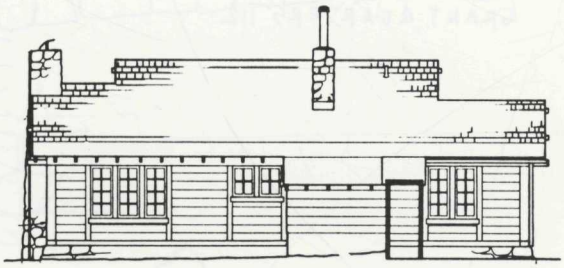
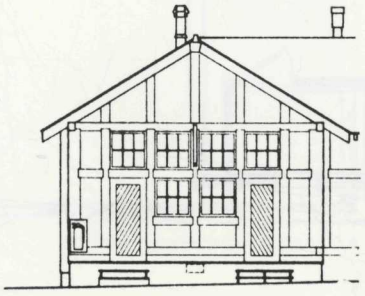


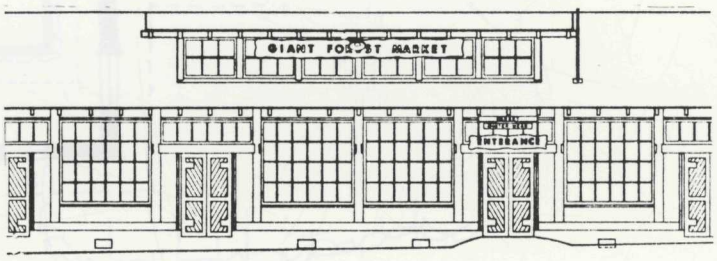
WINDOWS

Wood sash is used typically. In exposed timber frame walls, the sash is usually recessed and trimmed without a separated window frame. In sheathed walls, there is a simple, applied frame.

Windows are usually rectangular, vertically oriented, and divided into small lights. In small buildings, one small window module is repeated. In large buildings, window scale varies according to function and orientation. Insect screens are hung on the outside of a cabin, replaced by shutters in winter.







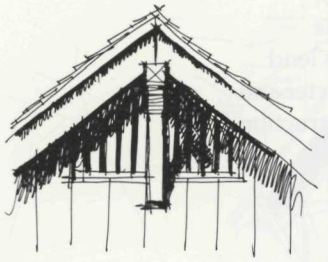
DOORS

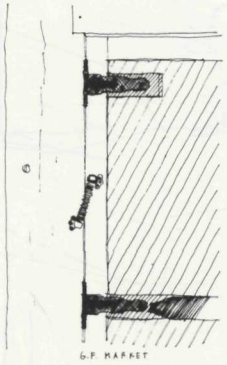
The use of rustic wood detailing lends character. Different shapes and styles lend variety between buildings. The character and proportion are derived from the construction method for the door.

ARCHITECTURAL DETAILS

Historically, both Park Service and concessioner buildings have each used a simple and consistent palette of colors suitable for the rustic location. Concessioner buildings typically have reddish-brown wood wall surfaces with dark green (painted metal) roofs and yellow-green window and door trim. Park Service buildings traditionally have chocolate-brown walls, natural shingle weathering roofs and trim in dark green, brown or white.

The exterior detailing of these handsome structures reveals an appropriateness of detail. Doors, windows and wall finishes are trimmed in a straightforward manner. Occasionally, an accent is found in the hardware, but the overall impression of these buildings is of a quiet and appropriate quality for their settings.





II. Guidelines for Building Design

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There are no doubts as to the fact that architecture in the mountains is not the result of the inspiration and education of one man: like all folk-art it is, on the contrary, the sum of many experiences, the result of trial and error and of the lessons taught by necessity.

It must also be noted that rustic architecture, as we see it to-day, is not the result of an evolution starting from a given point in the past and proceeding in a straight line.

(Cereghini, *Building in the Mountains*, p. 49)

The guidelines that follow are for a new generation of buildings in Sequoia and Kings Canyon National Parks. By program, technology and construction method, new buildings will necessarily be a departure from the handcrafted feel and small scale that have characterized park building in the past.

These guidelines approach architectural issues by asking how new construction can embody the *principles* of rustic construction in general, rather than imposing a stylistic rule. By embodying principles, new construction can achieve a greater continuity with the existing architecture of the parks. Like the earlier architecture, new construction must be sensitive to its context. It must defer to and respect the natural setting. It should not be overly sophisticated nor should it create a sense of human domination over the landscape.

It will not always be easy for new construction to embody these principles. Some aspects of new construction will follow easily from an understanding of the design principles of earlier buildings door and window design, for example. Other aspects may be difficult for new construction to approach. The program requirements of some new buildings may call for structures considerably larger than earlier buildings. Contemporary technology makes available building materials and techniques that have no precedent in park architecture. Year-round use and energy requirements, along with the cost of materials and labor, may make older methods of construction infeasible. Federal standards on handicapped accessibility and energy will also be factors in new construction. The designer needs to ensure that interpretation of these standards will not conflict with the overall principles of park construction.

These guidelines are offered with an awareness that conflicts may arise when new construction is placed amid older park construction. In some cases, the guidelines will suggest alternative solutions to mediate a potential conflict. In other cases, the guidelines leave the National Park Service management to determine whether new construction should mix with or be separated from distinctly different, older building groups. The future will decide whether the park is to be characterized by a single architectural style consistent throughout the Park, or whether instead, consistency will be maintained within each individual locale, with styles varying from locale to locale. The question is almost as much a part of the history of park architecture as the buildings themselves, and the optimistic words of Albert Good, writing in 1935, are still relevant:

The structures necessary in a park are naturally less obtrusive if they are reasonably unified by a use of one style of architecture, limited construction methods, and not too great variety in materials. When a truly inappropriate style of architecture already exists in a park in which new work is contemplated, it is urged that the new buildings do not stubbornly carry on the old tradition. If the new style is the more appropriate one, it will prevail. In course of time the earlier, inappropriately styled buildings, will, in the very fitness of things, be eliminated.

(*Park Structures and Facilities*, p. 6)

To maintain a sense of the "fitness of things" as an always evolving goal is what concerns us in these guidelines. The guidelines offer suggestions and alternatives, rather than rigid specifications for what should and should not be built. The guidelines are organized around five basic issues, ranging

from overall siting to building and landscape details:

A. *Site Character* – Four guidelines concerned with the arrangement of buildings in the natural landscape.

B. *Overall Building Form* – Four guidelines dealing with the major form elements of new buildings, such as massing and scale.

C. *Roof* – A discussion of the basic issues, philosophy and techniques of roof design and construction in a forested, snow-bound location.

D. *Façades* – Elements of the wall plane of new buildings such as windows, wall materials, color.

E. *Landscape Details* – The design of elements such as parking, walkways and landscaping.

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NATURAL SETTINGS

The natural landscape is the most valuable resource at Sequoia/Kings Canyon. New development in the park must protect the landscape while it enhances the visitors' enjoyment of nature, never detracting from the sense of place that is the basis of the Park experience. An appreciation of the Parks' natural landscape settings leads to an understanding of how to site buildings within the park.

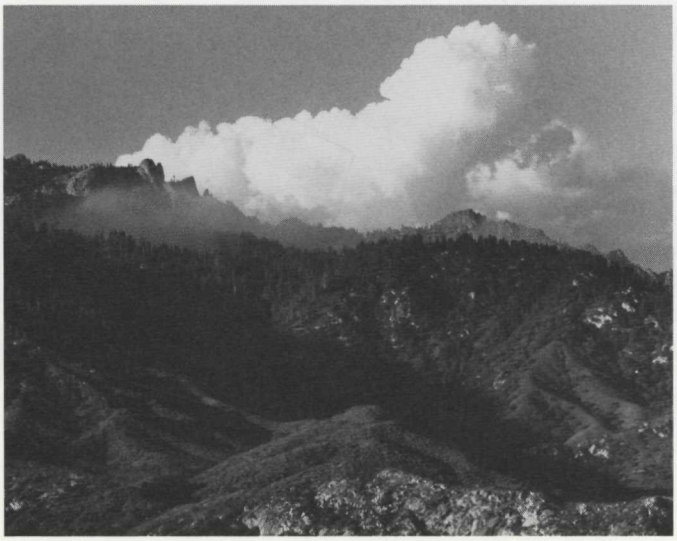
Conifer forests dominate the popular visitor use areas in the middle-altitude portions of Sequoia and Kings Canyon National Parks. The most common forest types on building locations are mixed conifer dominated by white and red fir. These areas, before disturbance, are often dense stands of tall, imposing forest giants. Occasionally, giant sequoias grow in these situations along with red and white fir and sugar pine, but none of the sites slated for significant additional construction have native giant sequoias.

Two types of settings exist within these forests. In areas where forest soils are thin or nonexistent, Jeffrey or Ponderosa Pine and incense cedar predominate. These trees often grow in widely spaced stands with much open rocky terrain between. At the other extreme, some areas within the forest belt drain so poorly that they are too wet for trees. In these wet areas, open grassy meadows develop.

The *meadow setting* is an open, beautiful carpet of grasses surrounded by trees. The carpet is filled with bouquets of unusual wildflowers mixed with other perennials. The meadow is a sanctuary for rodents, animals, reptiles, birds and insects. It is so unique and fragile that it should be protected from any cross-circulation. With the exception of an occasional overlook or boardwalk, no buildings should be placed in a meadow setting.

The *forest setting* is a vertical labyrinth of intimate, irregular and interconnected spaces. The forest floor changes and undulates from flat, to gentle sloping swales, to steep ridges with rock outcroppings enclosing and disclosing vistas. Numerous animals have homes and traffic routes in the trees. The conifer forest's fragrance is pungent and fresh. Portions of the forest setting are suitable for buildings.

Understory growth in the conifer forest is usually very sparse.A number of brushy shrubs grow in dry forest openings including manzanita, gooseberry, bitter cherry, and chinquapin.



King's Canyon View toward Sierra Crest

WORKING WITH THE SITE

Buildings are an intrusion into the natural environment. Consequences of this intrusion affect both the integrity of the site and the visitor's enjoyment. It must be remembered that in a national park, the highest values are protecting an irreplaceable resource and exposing the visitor to the surrounding natural environment without creating harmful intrusions. If the environment is harmed or if visitors are separated from the outdoors, the main purpose of the park will be defeated.

An understanding of the forms, textures, colors and scale of the landscape will provide necessary information for the design of a non-intrusive structure. The designer should relate the building and its parts to these basic elements.

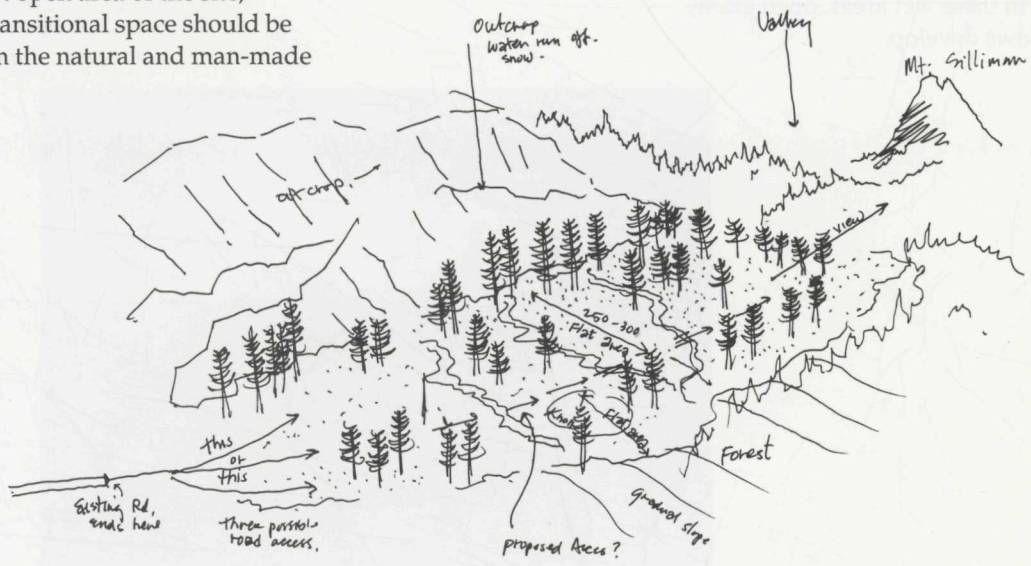
Within a given natural landscape setting, look for the amenities of the site. Such places have a very special sense of space, view, feel, or landscape feature. Rustic buildings should never occupy and hence eliminate a site's best parts. They should be placed in secondary positions in relation to natural features such as stands of trees, geological formations, creeks, and lakes.

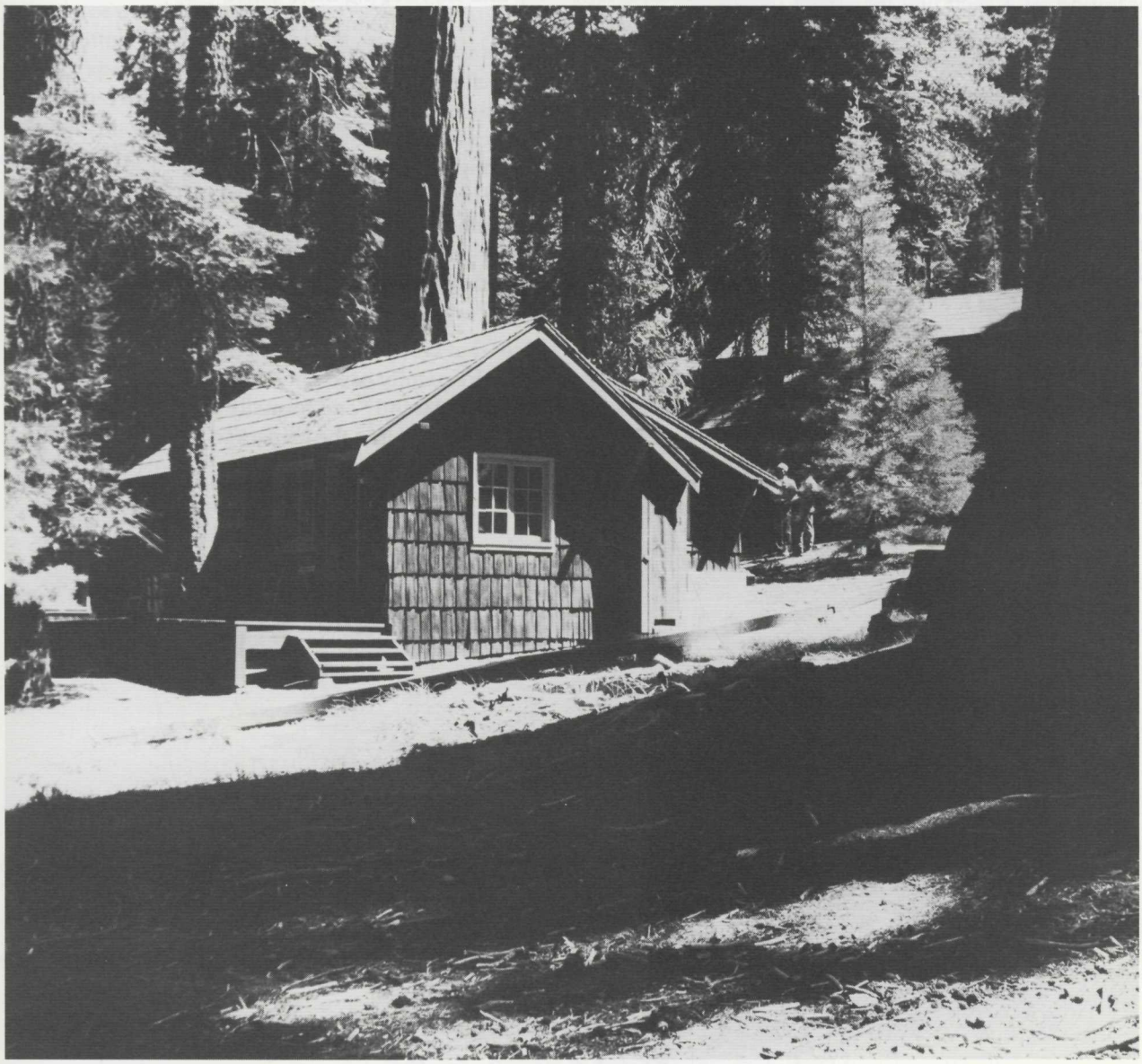
Buildings can be placed near the edge of natural features. Here the building can overlook the best open area of the site, though ample transitional space should be allowed between the natural and man-made features.

The site must be assessed for its capacity to absorb new construction. The integrity of the natural landscape should regulate the density of development. Buildings should be seen among tree masses and geological features as integral parts of the natural scene.

The natural landscape should continue through the building complex. The visitor should experience living in nature during the course of going in and out of these buildings. Hence, rustic buildings should work with the existing land form. The process of site grading and design of the building setting should not ignore but reinforce the character of the existing land. See also the Guidelines on landscape details and outdoor spaces.

Natural settings differ in their characteristic patterns of snow deposits and natural lighting. Placing buildings in a natural setting alters these patterns. Care should be taken to ensure that the resulting configuration of snow accumulation and drifting does not compromise the natural landscape and the exterior spaces – the open areas, walks, and entrances of the buildings (see the "Entrance" Guideline).





Cabin at Giant Forest Lodge

OUTDOOR SPACES FORMED BY BUILDINGS

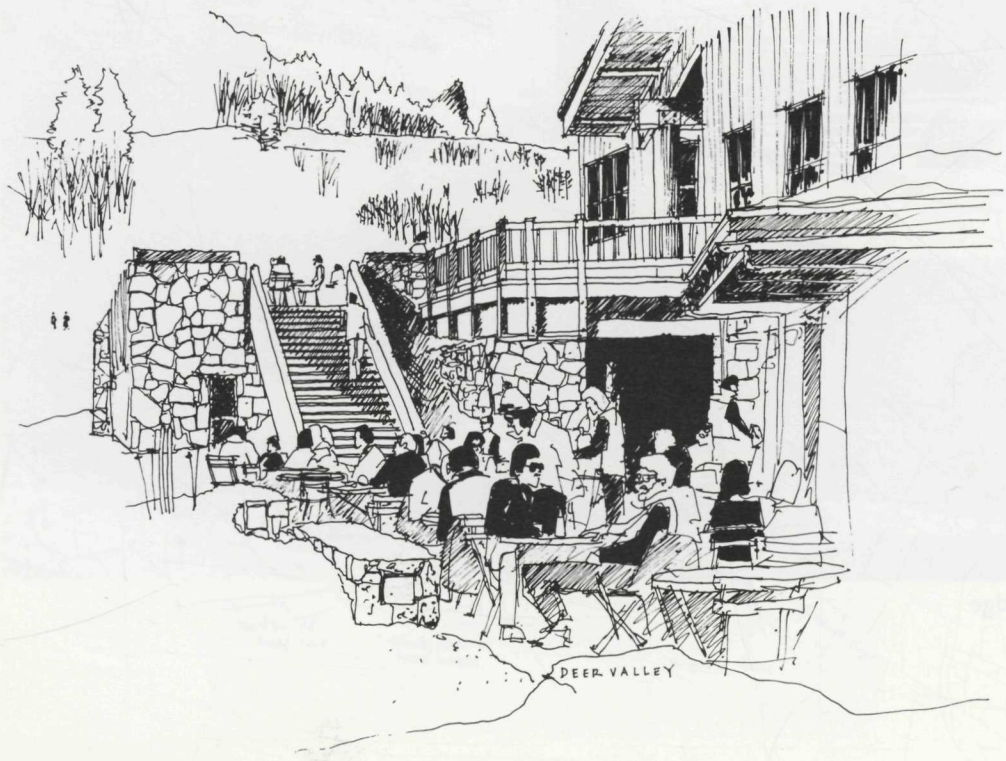
Outdoor spaces created by buildings should always direct the viewer's focus to the natural world of the Park. The natural setting must dominate any building site. Buildings can be sited in ways that create wonderful outdoor spaces, enhancing rather than detracting from that setting.

The outdoor spaces formed by buildings are as important as their interior spaces. Outdoor spaces make a transition between the activity within the building and the exterior natural environment. Visitors spend considerable time in outdoor spaces adjacent to buildings relaxing, eating or waiting for others.

The outdoor spaces adjacent to buildings are affected by them in several ways. Buildings may protect spaces from winds and snow drifts, rain or summer heat. In a shaded, cold setting, buildings may be configured to allow warming sunlight to penetrate or be reflected into the outdoor spaces. The configuration of buildings around outdoor spaces can also focus and open up views into the natural environment.

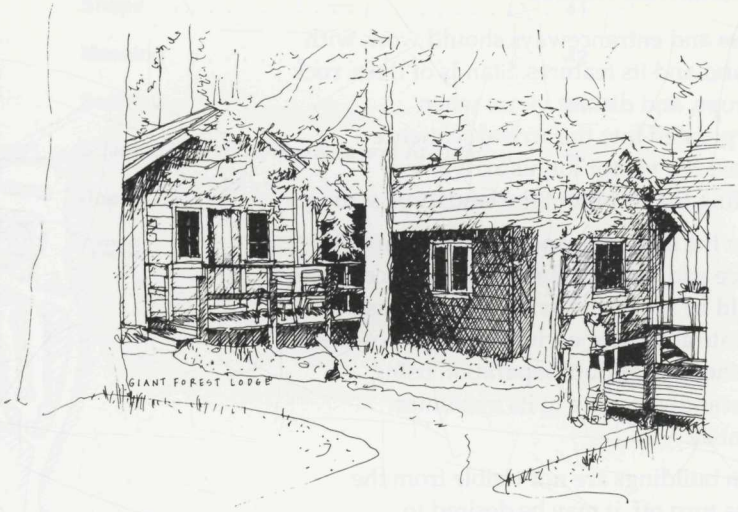
Adjacent buildings and their exterior details contribute to the scale and emotional feel of outdoor space. Active outdoor spaces such as dining or entry waiting terraces should feel inviting, not intimidating or impersonal. Explicit edges such as terrace walls and benches, outer building walls, or arcades and trellises give people defined and comfortable places to stop and sit. Keeping these active spaces relatively small contains and invigorates their activity. They do not feel too big and therefore empty, and the small size helps to preserve the surrounding landscape. An active terrace overlooking a vast panorama might be given a comfortable feeling and definition from the tall walls of an adjacent building on one or two of its sides. Yet similar tall walls surrounding a terrace in the middle of the forest might create outdoor space which is uninviting.

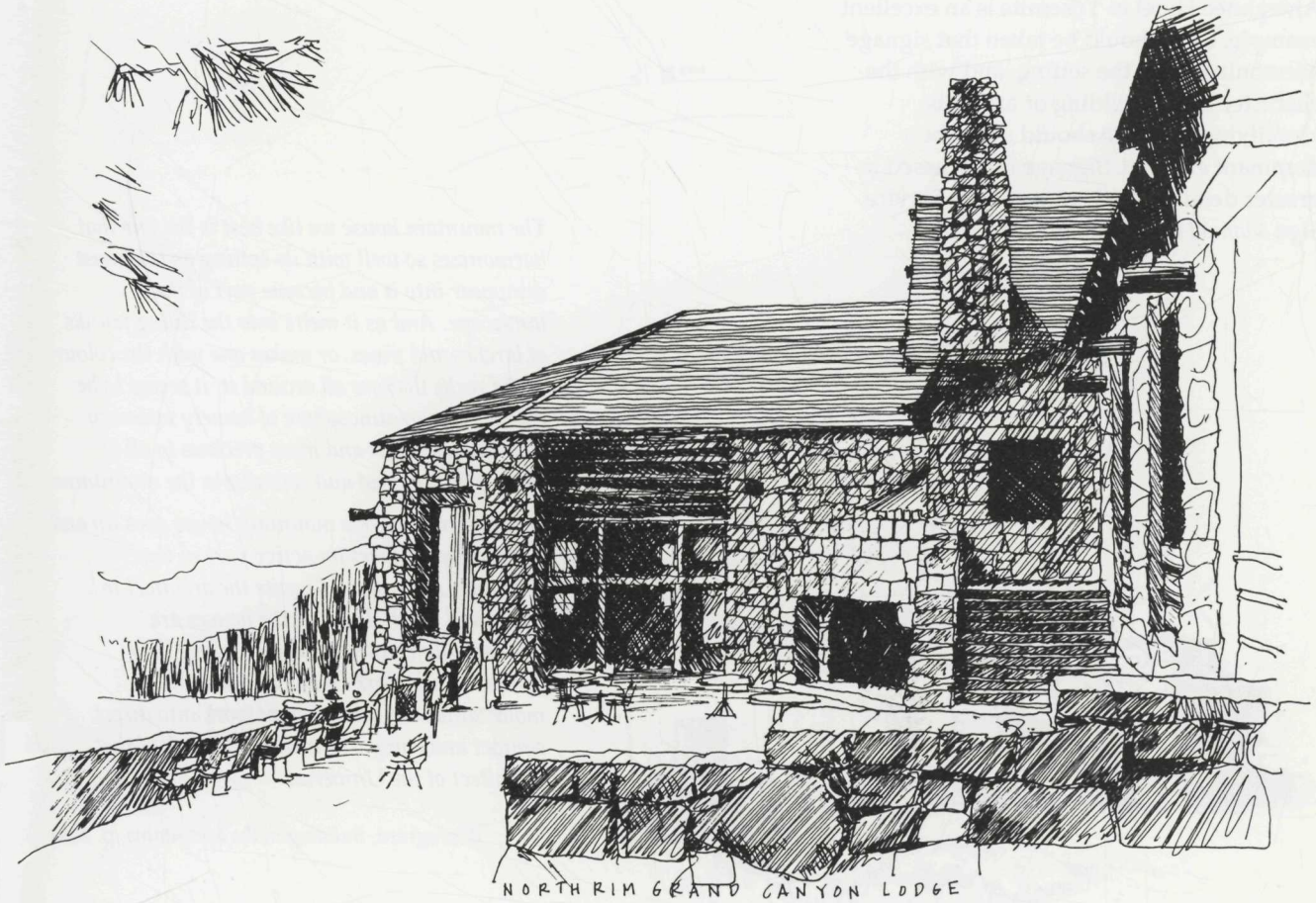
Outdoor spaces that are more passive in their activity and less frequently used may be larger in size and less tightly and formally defined. They may blend into the landscape without the need for containing edges.



In general, opening up a building's interior spaces to its adjoining outdoor spaces opens out the building to its natural setting. The arrangement of visitor circulation, windows and doorways can brings views, natural light, the sound of wind through trees and the smell of conifers into the interior.

Outdoor spaces may draw people out from indoors, or provide a point of interest for people sitting indoors. However, if an outdoor space used by visitors is itself overlooked from indoors, the visitor outdoors may have an awkward sense of being viewed rather than viewing.



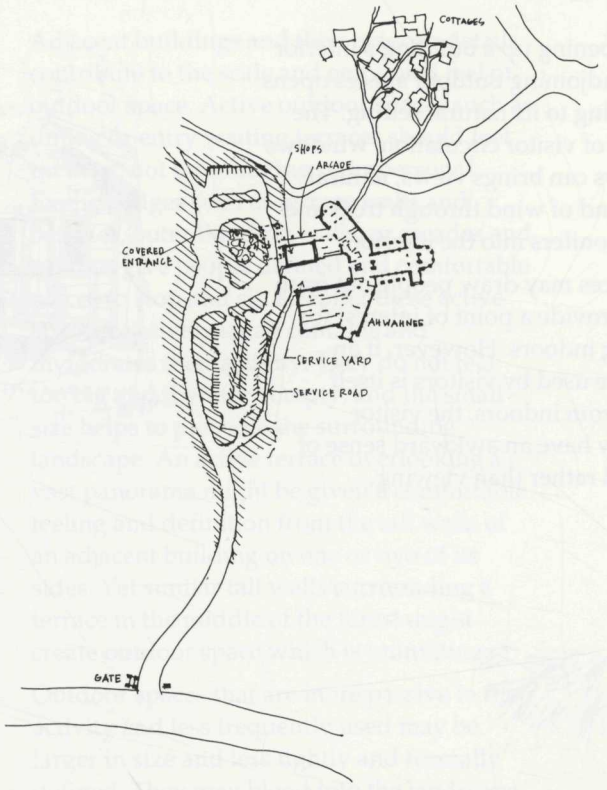


APPROACH AND ACCESS

Access and entranceways should work with the land and its features. Stands of trees, rock outcrops, and distant views when incorporated into the arrival sequence prepare the visitor for his arrival to a building that is part of the landscape setting.

When the approach and access is shared by service and visitor vehicles, the service access should be separated as quickly as possible. If separate access for each function is possible, give them maximum separation using landscape screening to its maximum potential.

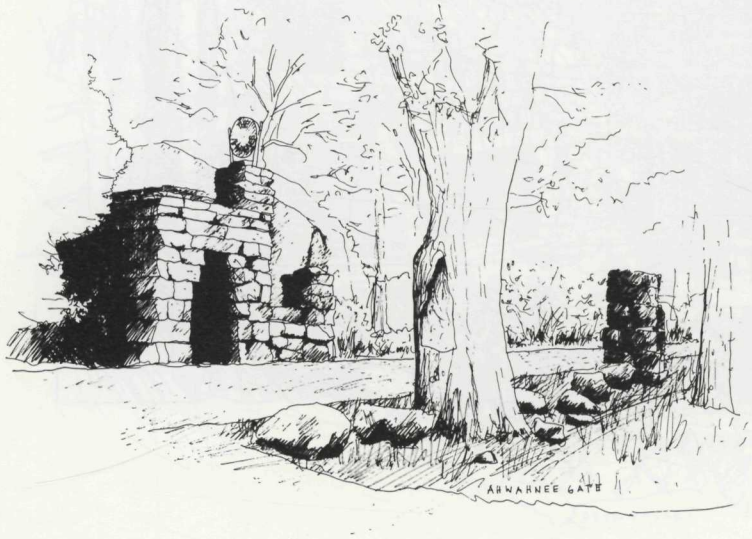
When buildings are not visible from the access turn off, it may be desired to announce the building with a gate, signage, or shelter. The masonry gate shelter at the Ahwahnee Hotel in Yosemite is an excellent example. Care should be taken that signage harmonizes with the setting, and with the character of the building or area it is identifying. Signage should never be a dominant element. Signage is discussed in greater detail in the National Park Service *Sign Manual* (see Bibliography).



The mountain house we like best is the one that harmonizes so well with its setting as to almost disappear into it and become part of the landscape. And as it melts into the living trunks of larches and pines, or makes one with the colour of the rocks that are all around it, it seems to be bathed into an atmosphere of homely intimacy that makes it dear and most precious to all of those who seek rest and serenity in the mountains.

As the structure of a mountain house goes up and shapes itself it takes an active part in the landscape. This should invite the architect to pause and think. In town the houses are aesthetically connected to each other: they compare with works made by man. In the mountains man sets his own work into direct contact and comparison with the work of the Architect of the Universe.

(Cereghini, *Building in the Mountains*, p. 219)



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SHAPE

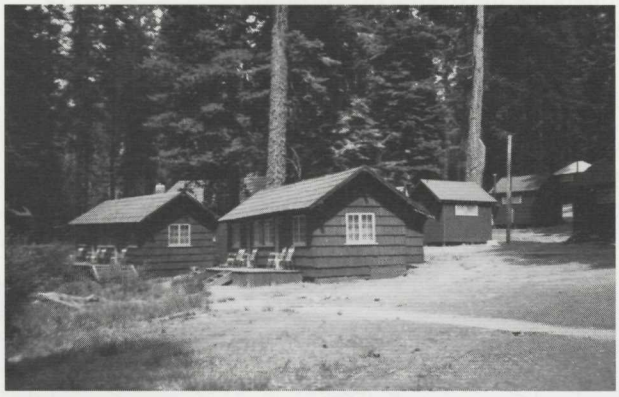
In the Park the shape of buildings should not be in competition with the natural landscape. Buildings are the intruders; their shape and form should distract as little as possible from one's enjoyment of the natural setting.

Rustic buildings should have a horizontal emphasis. Heavily shadowed roof overhangs, horizontally patterned wall elements, and rustic lower walls following the natural grade all work towards this goal. Vertical elements such as masonry chimneys, structural frames, and major wall openings are secondary elements which lend visual counterpoint.

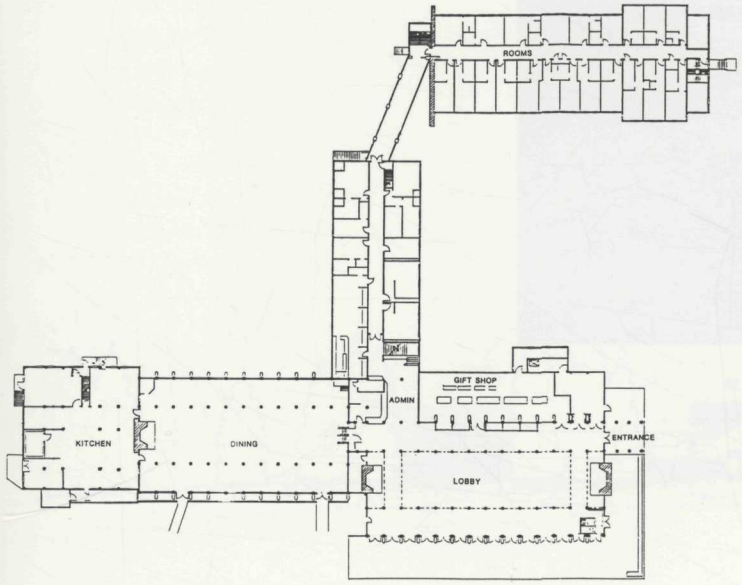
Plan shapes should be simple rectangles that lead directly to simple roof shapes. The gable roof shape should be used, hip roofs are not seen in the Park.

Rustic buildings in proximity are generally consistent from building to building. They work together to create an environment in keeping with their natural setting. They do not tend to stand out from each other nor from their natural settings.

Glen Alpine Springs, near Lake Tahoe – Bernard Maybeck, Architect



Grant Grove Cabins



I am not raising any question of styles, here. Alpine architecture lives in its very own environment which is made up of unusual skies, of intense colds, of the scent of wood and resins, of sweet flowers and impending dangers. I am far from asserting that it is impossible to build in an up to date fashion in the mountains, because I find, on the contrary, that glass, cement and steel match very well with rocks, pine trees, rhododendrons and the horns of cows, but I do definitely refuse "styles" those all too-well-known styles that deface our towns and are the cause of innumerable little horrors in pretentious suburbs all over the civilized world.

(Cereghini, *Building in the Mountains*, p. 10)

MASSING

The size of buildings must not overwhelm or dominate their natural settings. It must reflect a balance between functional requirements and the capacity of the site to accommodate buildings.

In keeping with the tradition in Sequoia, the designer should design small, restrained buildings placed within the natural features of a site with a minimal impact. Where appropriate, house multiple functions in clusters of small buildings connected by the protection of covered walkways. Where a disorderly arrangement of buildings exists, a new network of spaces that is clear and orderly, enhancing the overall organization of the site, should be introduced.

When several functions must be combined under one roof, there are several ways in which the apparent mass of a building can be diminished:

Placing the upper floors of the building within the roof as attic floors, with dormers and gable windows for view, light, and air makes what would otherwise appear as a 3 or 4 story structure appear like a 1 or 2 story structure.

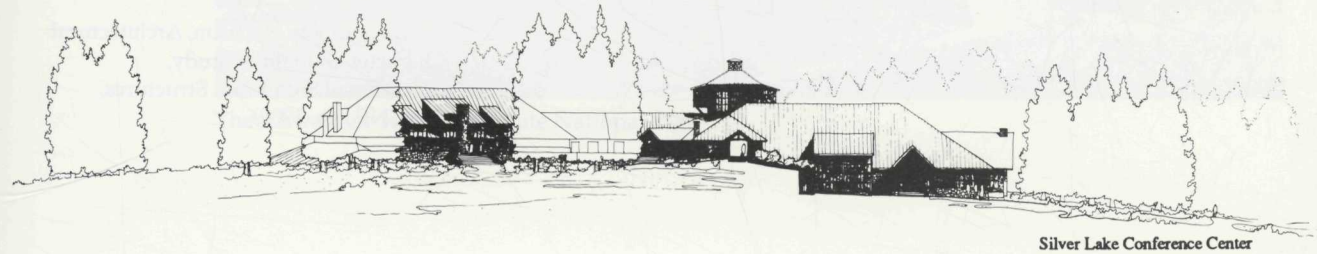
Offsetting or bending a large building in plan and roof form can break up the apparent bulk of a large building giving the building a sense that it was created out of a variety of smaller masses.

Paradise Inn, Mt. Rainier National Park

Building elements that project out and perhaps surround portions of a building such as porticos, porches, raised terraces, and large fireplace chimneys may serve to break up the scale of a large building. See the discussion of overscaling in the Guideline "Scale."

Large buildings should not be seen in profile. Placing them against tree masses or other natural landscape features is helpful in reducing their apparent size and bulk.

Limit the height of buildings to three stories above grade. Limit the length of building segments to 90-100 feet of unbroken wall length.



Silver Lake Conference Center

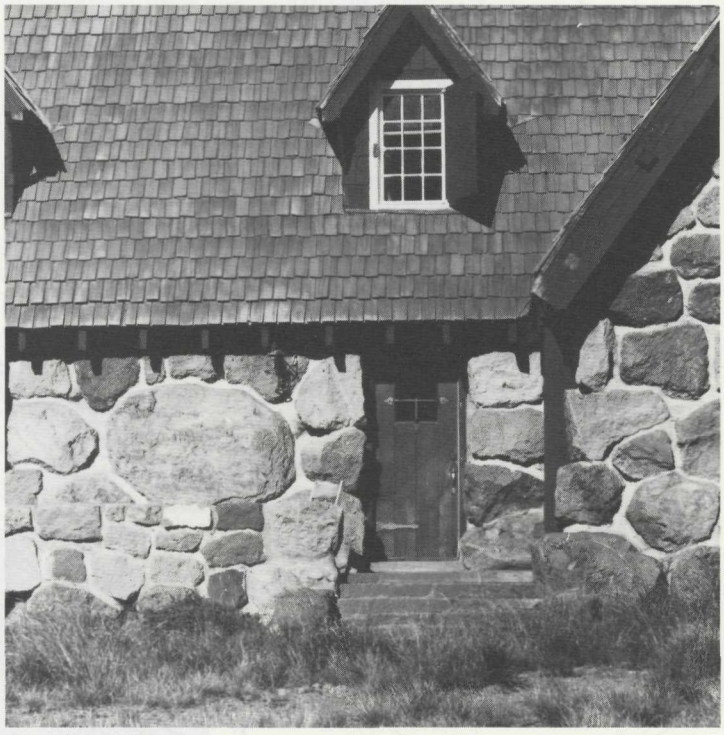
SCALE

In the mountain setting, buildings should have a vigorous and robust scale so they can stand with the forest, geological formations, and the rugged grandeur of distant mountain ranges. The major components of the building should be overscaled. Elements such as columns, beams, rafters and trusses should not be sized by engineering criteria alone. Their visual character should be appropriate to the emotional and aesthetic qualities of strength and protection suggested by the natural surroundings.

This attention to the size and scale of a building's components will enable it to take its place as part of the ensemble in the natural landscape.

Chimneys and porches should be carefully scaled because they are special opportunities to give accent and scale to the building.

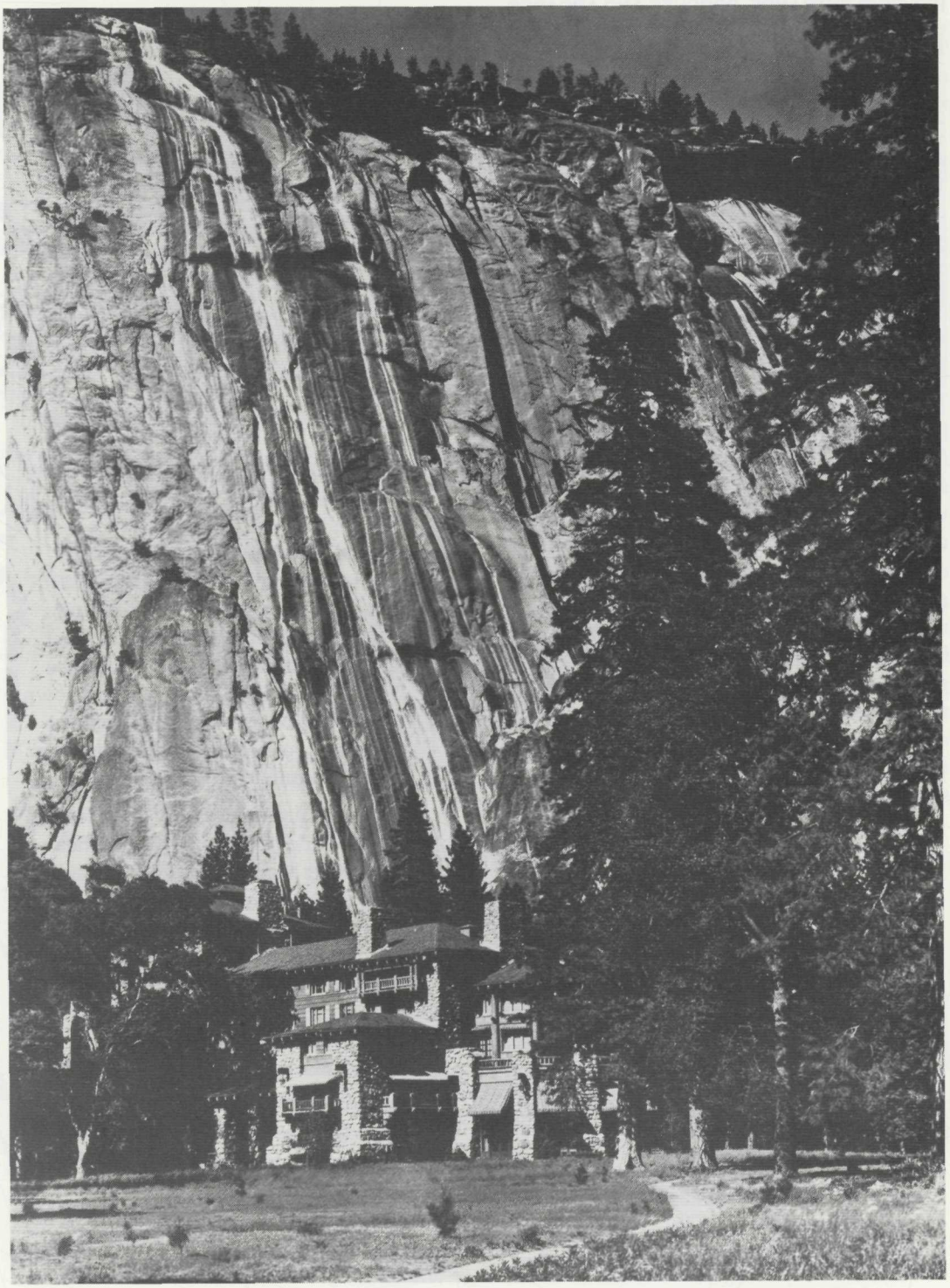
Overscaled building elements can diminish the apparent size of a building.



Superintendent's Residence at Crater Lake

Oversized windows, doors and exposed structural members can make a huge building seem considerably smaller when seen from a distance... A person standing on the balcony (of the Grand Canyon Power House) rested a chin on the balcony railing rather than a hand. Because the architect did this with all of the building's features, the structure seemed considerably smaller than it actually was when viewed from a distance.

(Laura Soullière Harrison, Architectural Character Guidelines Study, Inventory of Significant Structures, S/KCNP Feb. 1989)



The Ahwahnee Hotel, Yosemite National Park

BUILDING ENTRANCE, PORCHES AND ARCADES

The entrance is a visitor's most tangible experience of the Park's landscape in relationship to its buildings. It is where the Park's natural setting merges with and then gives way to the building and its interior. The design of the entrance shapes one of the more subtle yet impressionable experiences that a visitor has in the Park.

The entrance is the place where a visitor is on foot, sometimes having just gotten out of a vehicle for the first time in the park after a long drive.

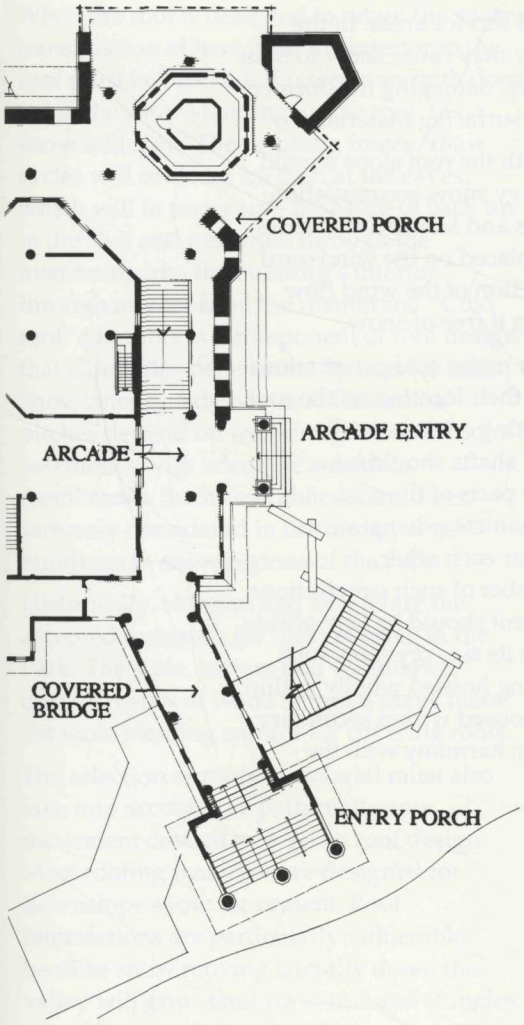
The entrance is also where the visitor comes into intimate contact with a building's outer form and materials. The entrance sets the stage for what the visitor experiences both within the building and back out in the park upon leaving the building. As discussed in other sections of these guidelines, a building entrance signalled by a strong, simple roof of robust scale and rustic materials will give the building a strong character. A projecting gable roof framed in oversized heavy timber rafters and beams, supported by columns of sawn timber or natural log members immediately portrays a strong sense of shelter and rustic identity.

Well designed winter entrances provide visitors as well as building interiors with protection from snowfall and from falling snow and ice packs off adjacent roof areas. Chronic snow drifts at entrances should be avoided through careful study of windblown snow in relation to entry design. Operation of snow removal equipment should be taken into account in configuring the entrance.

The size of an entrance area and its protected cover must be adequate for such activities as luggage transfer and storage, vehicle loading and guests waiting. Arcades (covered walkways), like porches, protect the spaces adjacent to buildings. They provide shelter for walking, waiting and viewing, and ease the transition from interior to outdoor space. In addition, building entrances and approaches must conform with federal accessibility standards (see Bibliography).

Functional and convenience equipment such as telephones, vending machines, etc. should be integrated as essential design requirements, receding into alcoves, so as not to distract from the overall character of the entrance.

Arcade Entry at Snow Park Lodge, Deer Valley

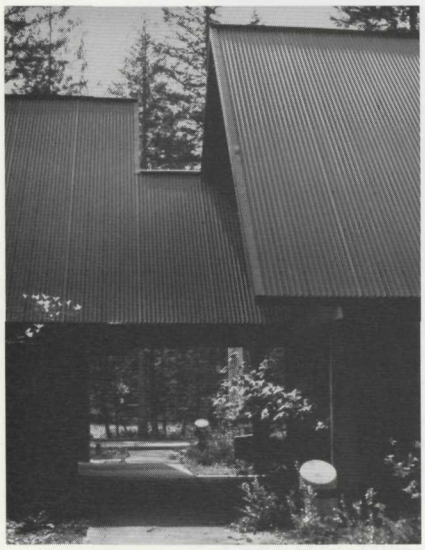


Covered Entry at Snow Park Lodge, Deer Valley

ROOF

The roof is the element of the building that most immediately and forcefully establishes the theme of shelter, the primary characteristic of rustic building. In snow country, simple roof geometry is a necessity. Complicated roof shapes and forms are primarily responsible for roof failures in snow environments. It is no coincidence that the gable roof is a basic element of rustic buildings.

The eave is the extension of the building that protects balconies, stairways, walls and wall openings. It is supported by purlins and rafters of the roof frame. Rafters themselves are sometimes supported by brackets and struts. The eave and eave edge (barge board or rake) are the finishing touches of the roof. The edges of the weathering plane are trimmed with barge boards, not of the same material as the weathering material. Weathering roof material should never be carried from the sloped plane of the roof onto the barge board. When this occurs, the roof no longer has the articulation of weather surface and supporting structure, but rather has a heavy, bulky appearance not unlike a thatched roof.



Breezeway between Camp Tender building and residences at Newhalem Campground, North Cascades

Secondary Roof Elements

Secondary roof elements include dormers, skylights, chimneys and other roof penetrations. These elements add massing, scale interest and usable space to a building. They can alter the course of snow on a roof in positive or harmful ways. Their form and placement must be carefully considered in relation to desired snow movement.

Both gable and flat dormers allow light to enter upper floors and increase headroom in the interior. They can divert snow from a building's entry and service areas. In the wrong location, they may cause snow to dam up or deflect laterally, damaging the dormer and the main roof's surfacing materials.

Skylights that lie with the roof slope should not be placed in heavy snow accumulation areas such as valleys and leeward roof sides. When a skylight is placed on the windward side, the scouring action of the wind flow will assist in keeping it free of snow.

Chimneys and other major roof penetrations may, depending on their location on the roof, require snow-deflecting crickets on the up-slope. Vents and shafts should be designed as integral parts of the roof. Plumbing and mechanical exhaust vents should be placed near each other, minimizing the number of such penetrations. Mechanical equipment should be kept within the roof form. When its size prevents such equipment from being housed wholly within the roof, it may be housed within secondary elements designed in harmony with the major roof.

Roof Design and Materials

A major factor in the determination of the roof design is the consideration of snow shedding and retention. Falling snow must be controlled for safe movement around and into buildings. Accumulation at ground level of snow deposits from a roof blocks light, air and access to views for the building's interior.

When the roof is designed to shed the snow, access to the building must be protected by extended porches, covered walls, and routing of pathways far enough beyond avalanching snow.

When the roof is designed to retain the snow, transmission of heat from the interior to the roof must be blocked. If interior warmth does reach the snow standing on the roof, the snow will melt. The resulting freeze/thaw cycles will cause an ice dam at the eaves, which will in turn cause moisture to back up in the roof and penetrate through the membrane into the building's interior through any break in the membrane. "Cold roof" assembly is a component of roof design that eliminates penetration by interior heat. Snow retention devices and flatter roof pitches depend on well-designed cold roof assemblies with adequate substrate membranes. Such assemblies should be seriously considered in the design of new buildings in snow regions of the Park.

Historically, shingles and shakes are the accepted materials for roof covering in the Park. The scale, texture and weathering characteristics of wood shingles make them the most pleasing surface for covering roofs.

The selection of roofing material must also take into account the pattern of snow movement created by a given roof design. Most roofing materials are designed for downslope snow movement. Roof intersections are particularly vulnerable because snow moving laterally down the valley will grip standing seams and shingles.

Shingle Roofing

– The roofing assembly shall meet the fire resistant requirements for class "A" or "B." Uniform Building Code.

– Wood shingles shall be Cedar #1, Blue Label, 24" x 5/2 royals, fire retardant to class "A" or "B." Shingles to be laid @7" to the weather.

Metal Roofing

Finish:

Non-painted metal is preferred, nonreflective, weathering to a medium gray. Painted metal is the least preferred option. If it must be used, the paint should be National Park Service brown. (See "Architectural Details and Color" for a more detailed discussion of exterior finish colors.)

Material:

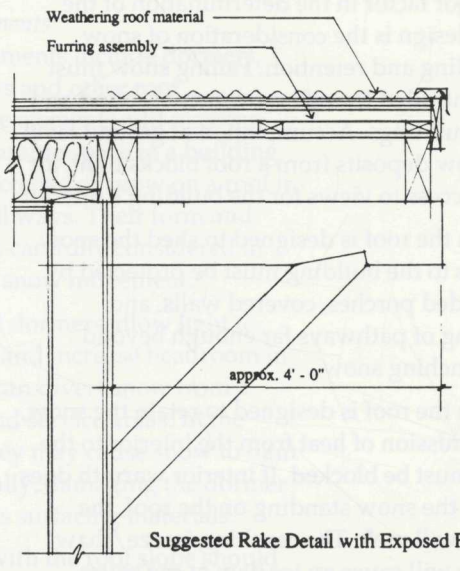
1. Sheet stainless steel terne-coated for natural weathering effect.

2. Zinc alloy.

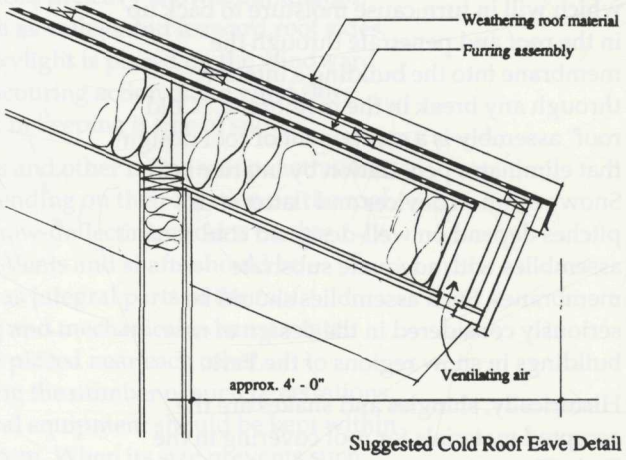
3. Galvanized coated sheet steel ASTM Spec 40, treated surface with solutions to accelerate weathering patina to a dark grey non-reflective surface. At the time of writing, the Park Service is conducting a field test of this material.

Pattern and Length:

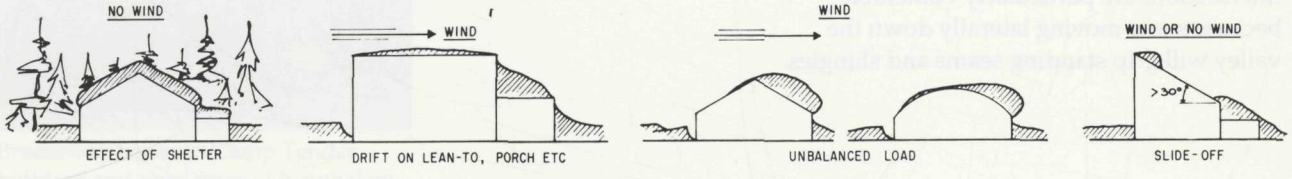
Corrugated round pattern, 1-1/2" radius, one piece from ridge to eave.



Suggested Rake Detail with Exposed Framing



Suggested Cold Roof Eave Detail



Possible effect of wind and building shape on snow load.

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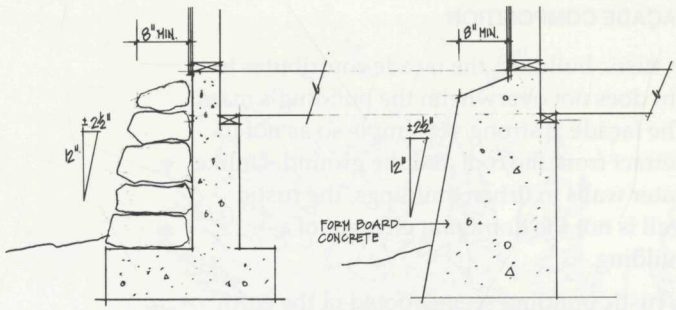
PROTECTED LOWER WALL

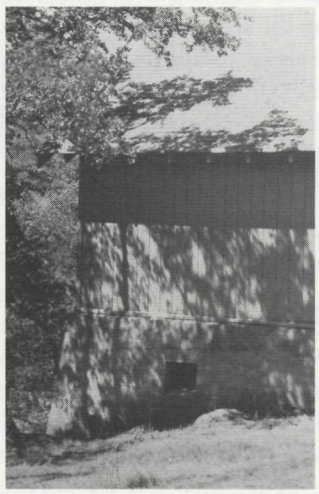
Traditional buildings in the Park have a stone foundation laid up in a gentle battered slope. This rusticated base protects the wood wall from thawing ground snow and the resultant staining. This element of rustic architecture is still valid in contemporary building where wood siding starts at the ground level.

It is recommended that the masonry be at least 36 inches high, reaching to the window sill or sometimes going the full wall in height. The lower wall should conform to the profile of the battered wall discussed above

The stone should be scaled properly for the building, preferably over-scaled as discussed in other sections of this guideline. The jointing should be the dry wall character with recessed mortar approximately 1-1/2 inches. This gives a sharp definition and shadow line to the stone work.

The contemporary version of the masonry treatment is a vigorous textured form board concrete. The most successful examples are the Sun Valley Lodge, Ketchum Idaho, and the Ahwahnee Hotel in Yosemite. The concrete should be stained to a wood hue, thus blending the construction with the adjacent work, and creating in itself a handsome element. The texture is achieved by using rough sawn boards, set horizontally, as the form work.



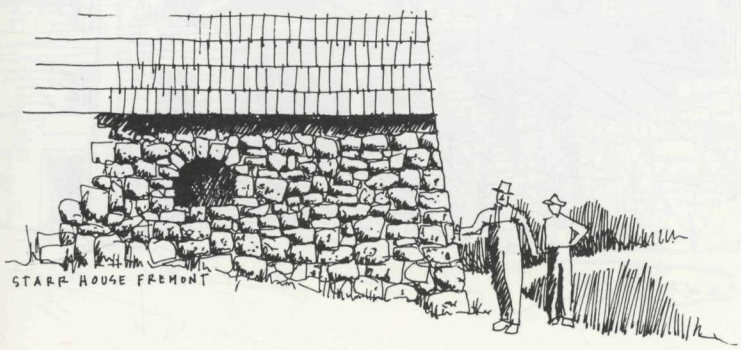


Utility Building at Ash Mountain

We have already said that architects and builders are often compelled, because of cost, to fall back on something cheaper than timber. There are, to our knowledge, some very good specimens of mountain houses in which no use of timber has been made, at least not on the outside.... In traditional rustic houses we generally see that stone prevails in the lower part of the building.... Sometimes stone extends to the upperfloor, where the living quarters are but the top floor, the loft, is practically always timber....

When planning half-timbered houses a few important rules should be borne in mind. In the first place one should never overlook the main principle establishing that materials must be used according to their natures....

(Cereghini, *Building in the Mountains*, pp. 109-10)



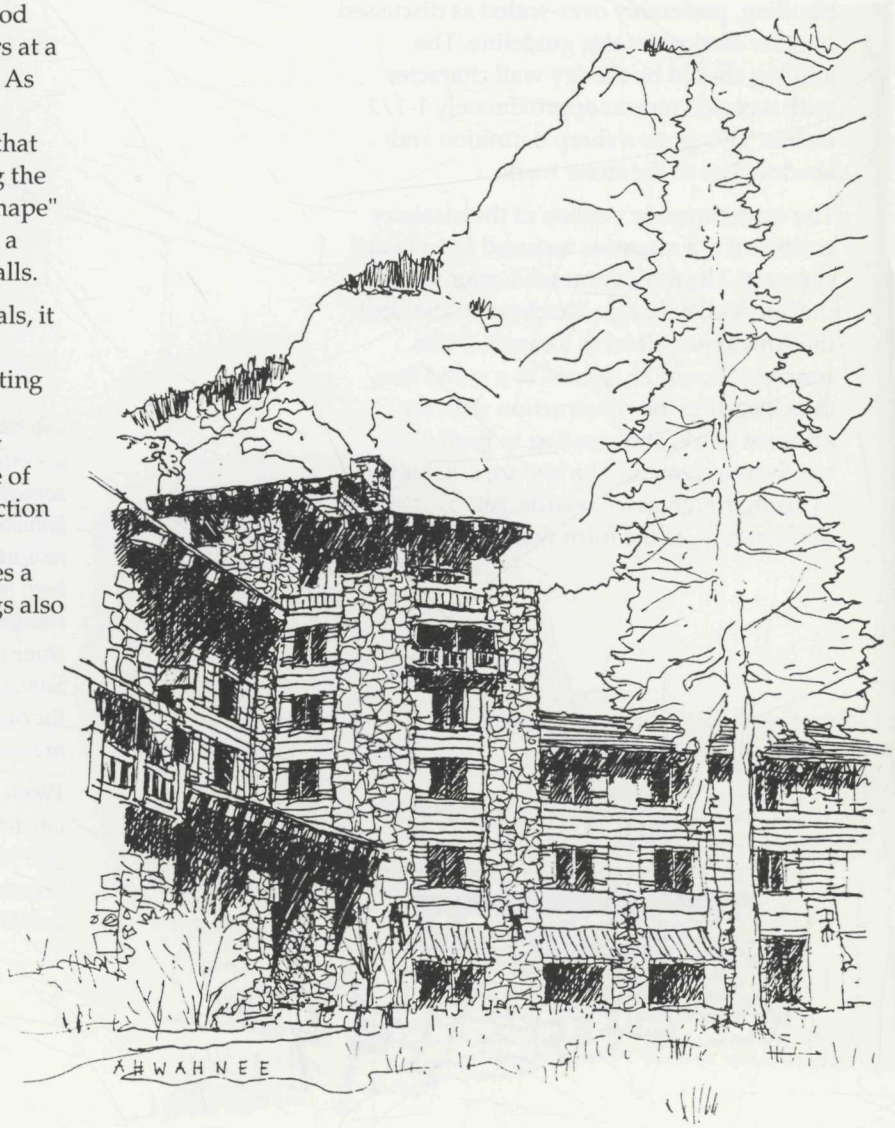
FAÇADE COMPOSITION

In rustic building, the façade contributes to but does not overwhelm the building's mass. The façade is strong yet simple so as not to detract from the roof and the ground. Unlike outer walls in urban buildings, the rustic wall is not the dominant element of a building.

A rustic building seems rooted in the earth. A rustic building does not sit lightly nor float upon the soil. The protected lower wall and the raised platform (see these Guidelines) are elements that make the wall seem to rest squarely upon and derive from the earth.

A change in wall materials from stone or concrete to lighter materials such as wood boards or wood timber structures occurs at a point between the ground and the roof. As the wall ascends, heavier, earthbound materials give way to lighter materials that appear to take on the task of supporting the mass of the roof. As discussed in the "Shape" Guideline, this façade transition creates a generally horizontal emphasis in the walls.

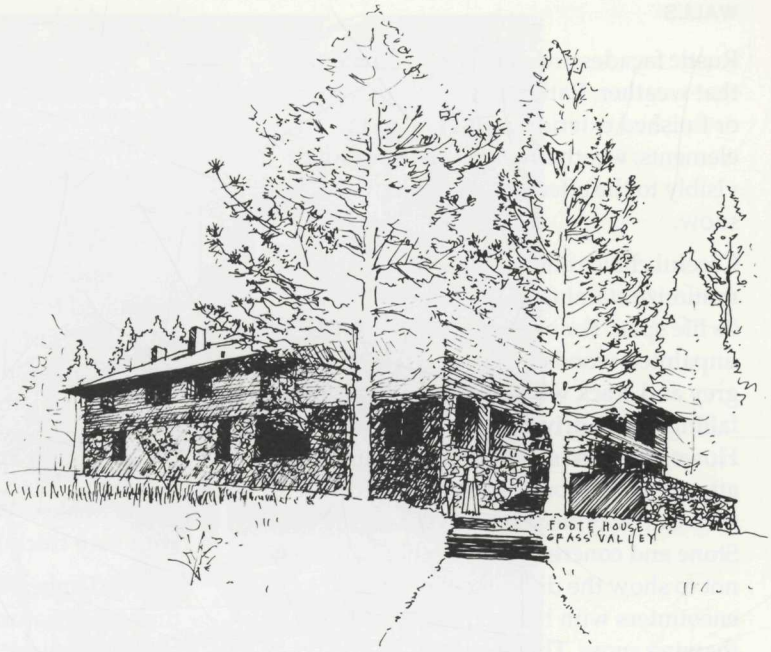
Though the wall may be of light materials, it is always significant as the boundary between the interior and the natural setting outside. Openings occupy only a minor proportion of a façade's wall area. They reinforce rather than trivialize the sense of enclosing walls. The snow or sun protection of wall openings by gabled entrances, balconies, arcades or trellises contributes a sense of robust scale. Protected openings also highlight the transition from interior to exterior spaces.

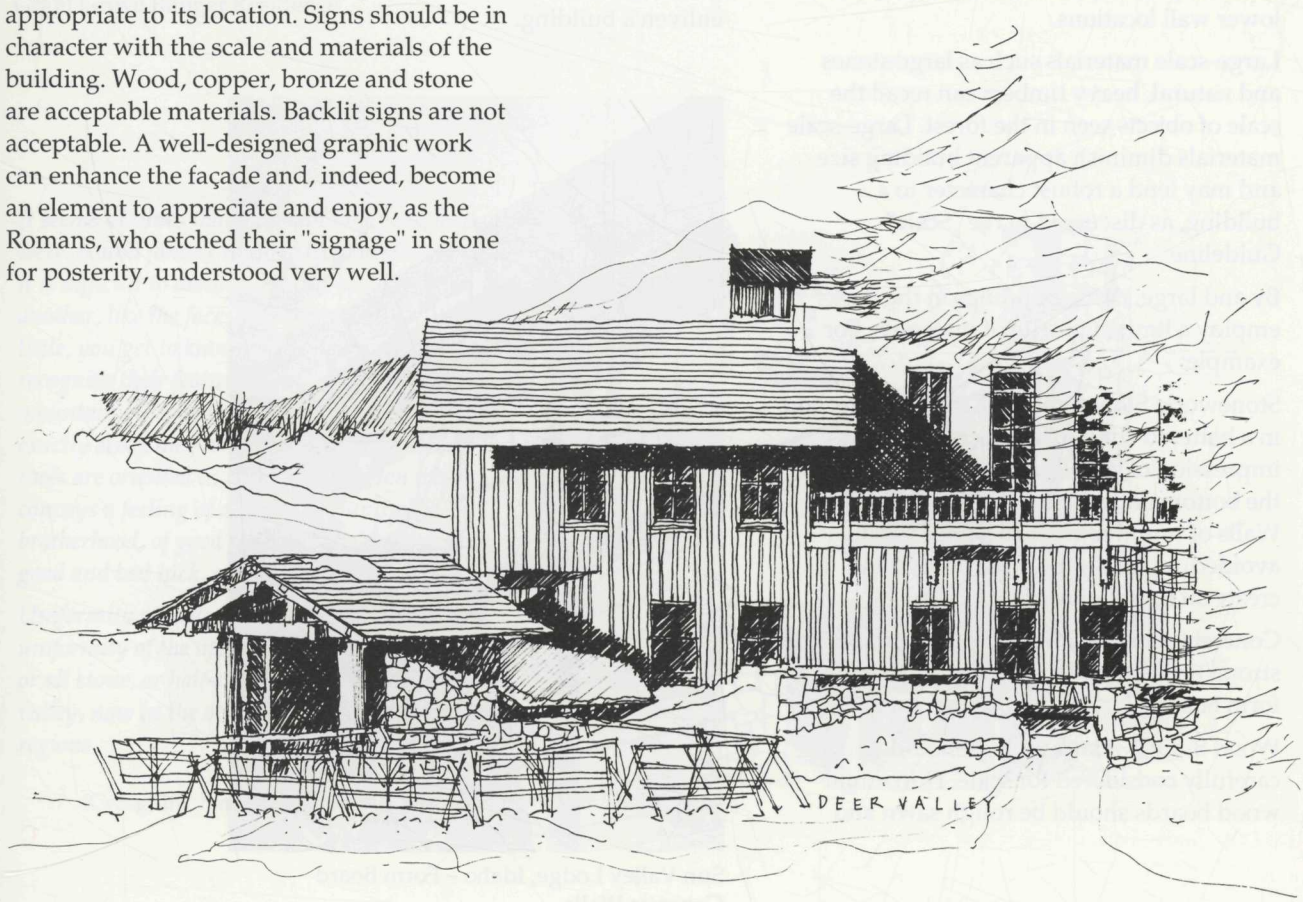


Wall openings reflect the scale of interior spaces. Public rooms that enjoy views or lead to exterior spaces may have relatively generous openings, while rooms for administrative or private functions have modest openings. In the forest, openings that let in the south sun may be more generous than openings to the north that receive little direct sunlight and may be exposed to colder winter winds.

The façade wall is secondary to the roof. Generally the façade wall sits under the roof's shadow and appears to carry the roof. For interest and scale, the wall may occasionally take a dominant stance, such as when a tall masonry flue or massive bay penetrates the roof.

Where signage is required, it should be designed as an integral part of the façade. The graphic work should be in scale with the adjacent elements of the building and be appropriate to its location. Signs should be in character with the scale and materials of the building. Wood, copper, bronze and stone are acceptable materials. Backlit signs are not acceptable. A well-designed graphic work can enhance the façade and, indeed, become an element to appreciate and enjoy, as the Romans, who etched their "signage" in stone for posterity, understood very well.





WALLS

Rustic façades are composed of materials that weather. Rather than having a painted or finished exterior indifferent to the elements, weathering materials respond visibly to the effects of sun, rain, wind, and snow.

Careful choice and location of materials can minimize staining of the façade and extend its life span. For example, unprotected, unpainted woods on lower walls become grey and crack where they are exposed to falling, wind-driven rain and thawing snow. However, these same woods become an attractive deep brown when placed where they can be protected by overhanging roofs. Stone and concrete, on the other hand, tend not to show the differences in their encounters with heavy or light rain and thawing snow. This makes stone and concrete prime candidates for unprotected, lower wall locations.

Large-scale materials such as large stones and natural, heavy timbers can recall the scale of objects seen in the forest. Large-scale materials diminish apparent building size and may lend a robust character to a building, as discussed in the "Scale" Guideline.

By and large, rustic buildings in the park employ a limited palette of materials. For example:

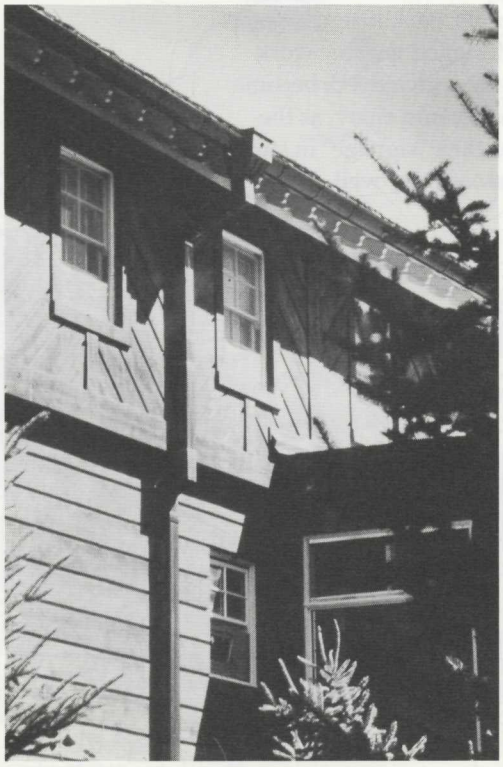
Stonework: Stones about 18 inches wide, laid in a battered configuration create an impression of stability, with larger stones to the bottom and smaller stones to the top. Walls of rounded river rocks are to be avoided, as they appear decorative and create an impression of instability.

Concrete: Concrete walls can taper and have strong textural patterns from rough sawn form boards.

Wood Siding: Board widths should be carefully considered for scale. Horizontal wood boards should be rough sawn and have a thickness creating an appropriate shadow line where the boards overlap. Vertical boards may be laid flush (tongue and grooved), overlapped, or battened. Vertical boards can be rough sawn or fine resawn for variety. Battens cut from thicker 1-1/2" stock produce deeper shadow lines that may work well on some façades. In contemporary construction, trim pieces fabricated from 2 x 6 or 8's rather than from 1 x 4's for trimming out edges and openings may enhance and give a special scale and quality to an otherwise mundane wall. The Cabin Creek residences use this kind of applied trim to excellent effect.

Wood Shakes: Wood shakes should be sawn with very thick 1" butts.

Heavy Timber Construction: Resawn heavy timbers or natural logs stripped of bark (not trimmed poles); when combined into working column, lintel and truss elements enliven a building.



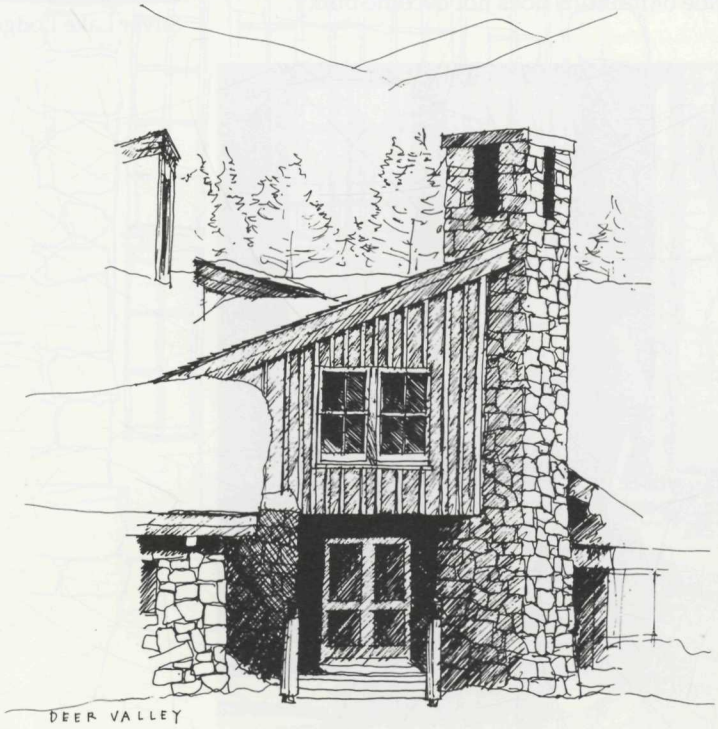
Sun Valley Lodge, Idaho – Form Board Concrete Walls

Grant Grove Ranger Residence

It seems at times that a certain village is, as it were, bound forever to some fixed aesthetic laws: it is difficult to distinguish one building from another, like the faces in a crowd, then, little by little, you get to know them one by one, and you recognize their features. But, at first sight, mountain villages look as if their houses were all exactly alike, they have the same roofs and all the roofs are oriented in the same direction which conveys a feeling of active community life, of brotherhood, of good fellowship, of solidarity in good and bad luck.

Uniformity of style is also conveyed by the uniformity of the materials employed: all timber, or all stone, or half-timber prevail now in one valley, now in the other, or, even, in whole regions.

(Cereghini, *Building in the Mountains*, p. 45)



WINDOWS AND DOORS

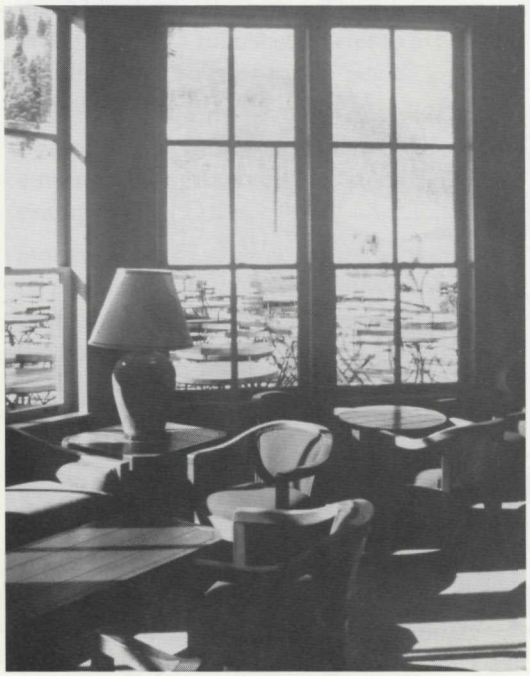
Windows

Arrangement and form of windows are related to both the interior and exterior of the building (see Façade Composition). Window pattern and cut-up are the elements of the building through which the outdoor environment is seen. The scale and pattern of the cut-up establishes a visual screen. From the interior, the window pattern is the reference of enclosure for the occupant. Seen from the exterior, this pattern can establish the reference of human scale for the building.

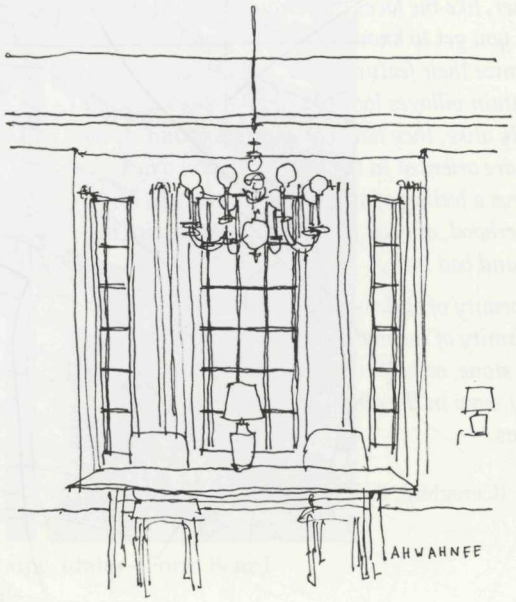
The established form in Sequoia is applicable mainly to small buildings. Large buildings require a hierarchy of scale in windows. In small buildings such as cabins, use wood windows similar to those used in the Sequoia rustic style.

Use wood windows divided into small lights when single glazing is possible. When double glazing is required by energy conservation standards, be careful that the scale of muntins does not become bulky.

Silver Lake Lodge, Deer Valley



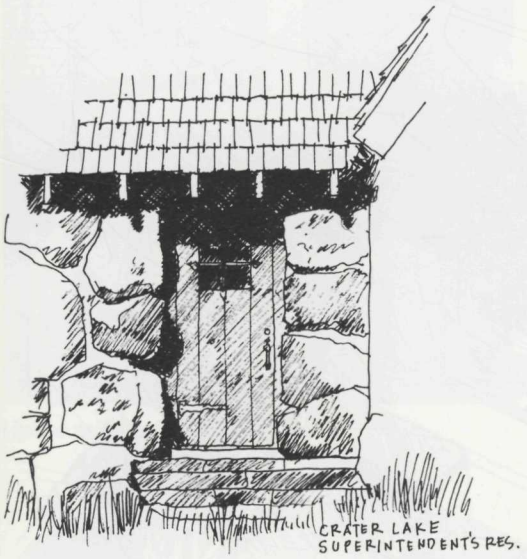
Interior, Snow Park Lodge, Deer Valley

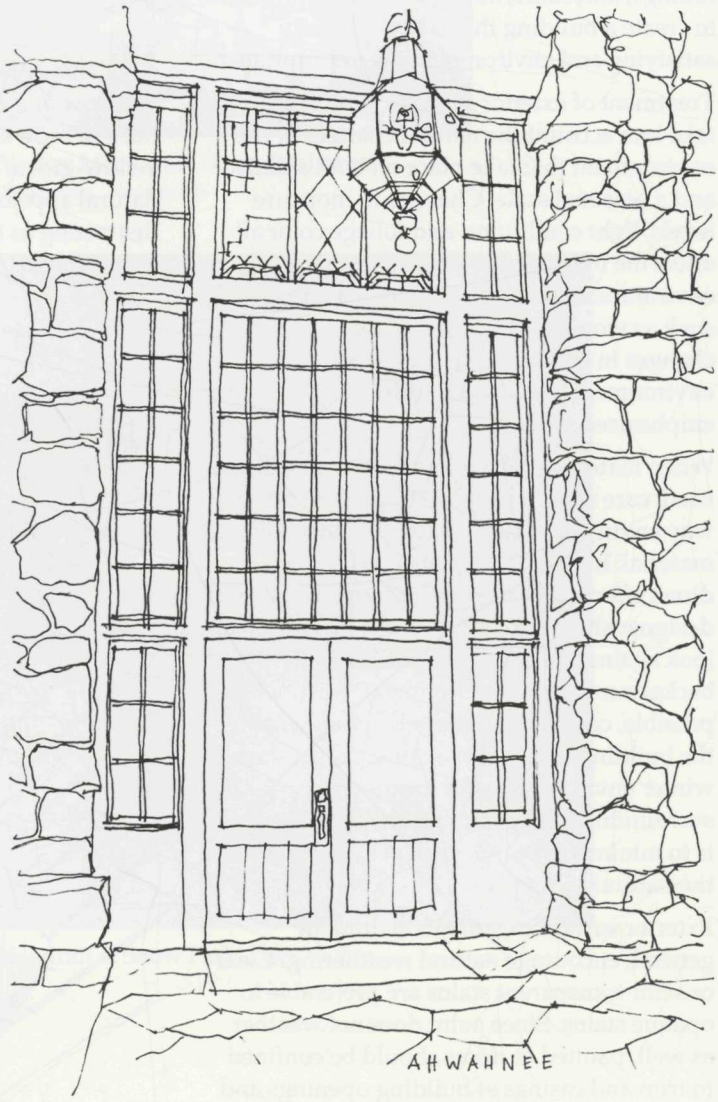


Doors

The entrance door is a crucial element in the experience of a building not only because it controls access to the building but also because passing through a handsome door can be a special experience in itself. Overscaling, moldings, frames, paneling and hardware are details that can give the door character.

Doors should be protected from the elements by recessed alcoves, porches, or arcades. A weathered, unfinished door imparts a strong rustic character. Finishing a door with paint or clear sealant can also make the door a special accent. The treatment should be appropriate to the location, character and use of the building.





ARCHITECTURAL DETAILS AND COLOR

Responding to the necessities of a rigorous natural environment, alpine architecture emphasizes simple massing and shapes. There is still opportunity, however, for detailing of functional elements that can contribute variety and interest to the building. Chimneys, roof framing exposed under soffits, beams and brackets, the form and profile of masonry elements, size of columns and attendant connections, balcony railings, and stairs, all provide opportunities to create a building that is both visually satisfying and environmentally appropriate.

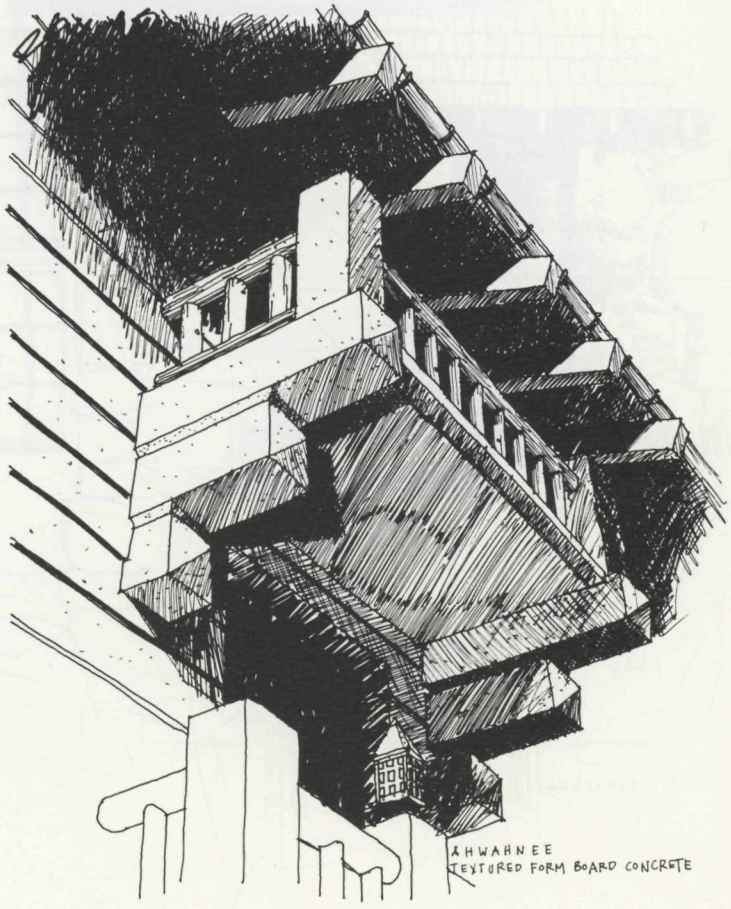
Treatment of exterior surfaces should always take into account the natural changes of the environment that take place on both a daily and a seasonal scale. Changes in moisture levels, light conditions, and foliage color all affect the built as well as the natural environment. In general, natural materials such as wood and stone respond to such changes in the same way that the environment does, and should be emphasized.

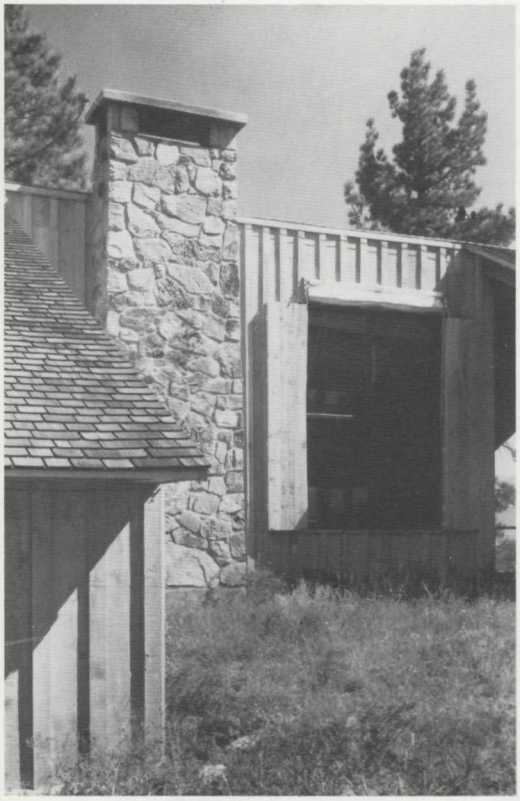
When materials such as metal or concrete are used, care should be taken to account for the way environmental changes will affect the material. In addition to considering such direct effects as weathering of surfaces, the designer should consider how a material will look against the changing seasonal background of the environment. As much as possible, colors and materials should enable the building to blend in against both a stark winter environment and the green surroundings of spring. As always, the goal is to minimize the intrusion of structures into the natural setting.

Exterior surface treatments should, in general, encourage natural weathering. Clear or semi-transparent stains are preferable to opaque stains. Since paint does not weather as well, painted surfaces should be confined to trim and casings at building openings and protected locations such as galleries, porches and roof soffits. In painting new buildings or repainting existing buildings, color should be National Park Service brown. Accents should be just that – they should harmonize with the base color, and be confined to small surfaces.

Roof materials may be natural or fire treated. They should be left alone to react to the weathering process. Metal flashings, cappings, vents, and other roof details should be of natural weathering metals such as copper or zinc alloy combinations.

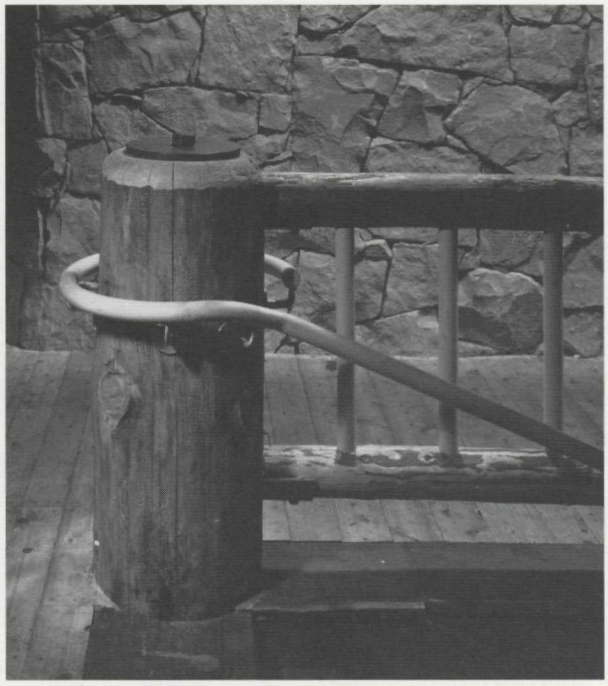
Natural weathered roof materials are most desirable. Where metal roofing is necessary, color should be National Park Service brown. Window and door trim should also be in hues of brown or dark green. Lime green and yellow-green, although inspired by their natural appearance in tree lichen, are distracting as trim colors, and their use is discouraged.





House at Lake Tahoe

Parsons Memorial Lodge, Tuolumne Meadows, Yosemite



Handrail at Snow Park, Deer Valley

RAISED PLATFORM BASE

For small or temporary structures, it is appropriate to design post and pier foundation walls that do not disturb the existing grade. This method of construction allows the natural grade and land form to continue past the structure without the cut and fill elements that are a disruption to the natural land form.

The space under these structures is enclosed by open wood lath or vertical spaced board skirting if the building is less than 300 sq. ft. If the building is greater than 300 sq. ft., a continuous foundation is required.

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PARKING

See draft of *Landscape Architectural Detail Study, Generals Highway* for examples of appropriate landscape details.

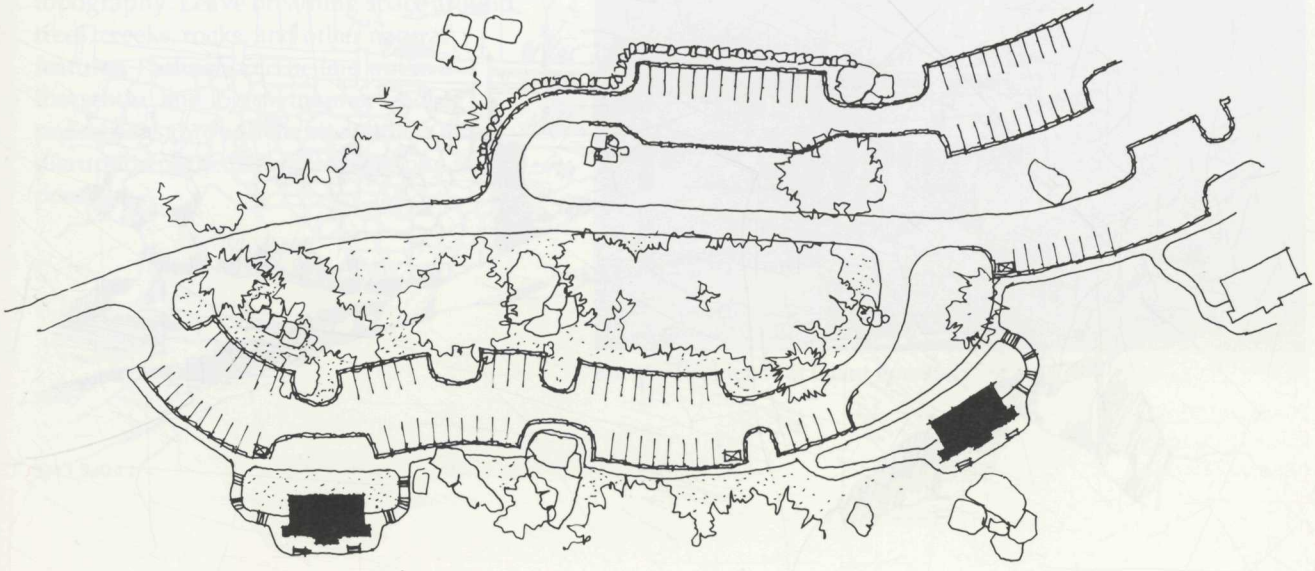
Parking is potentially the most damaging of all manmade intrusions into the natural environment. Parking design must be a well-thought-out endeavor.

Locate parking areas away from the view. Parked automobiles should not be visible upon entering a site, nor should they detract from important views from within a building. Break lots up into smaller elements by providing a primary lot close to the building entrance, connected to one or more well-screened overflow lots.

Layout should conform to existing topography, stands of trees, and rock outcrops. Define edges and confine pedestrian access to walkways to prevent damage to surrounding natural landscape. While such criteria may create difficulties for snow removal, a thoughtful design will balance the need for parking and make snow removal possible. Linear, unobstructed paths for snow removal equipment, with storage areas for snow, should be provided wherever it is possible without damage to the topography. Snow removal will also be facilitated by avoiding the construction of unnecessary curbs and hard-to-reach areas.

Parking should be located on the flattest available land to minimize the need for grading. When grading is necessary, cuts and fills must be kept to a minimum and cuts should be sealed by rock work to limit the impact of the work. Drainage in parking areas should take into account passengers access to the vehicle as well as the overall drainage concept of the parking area.

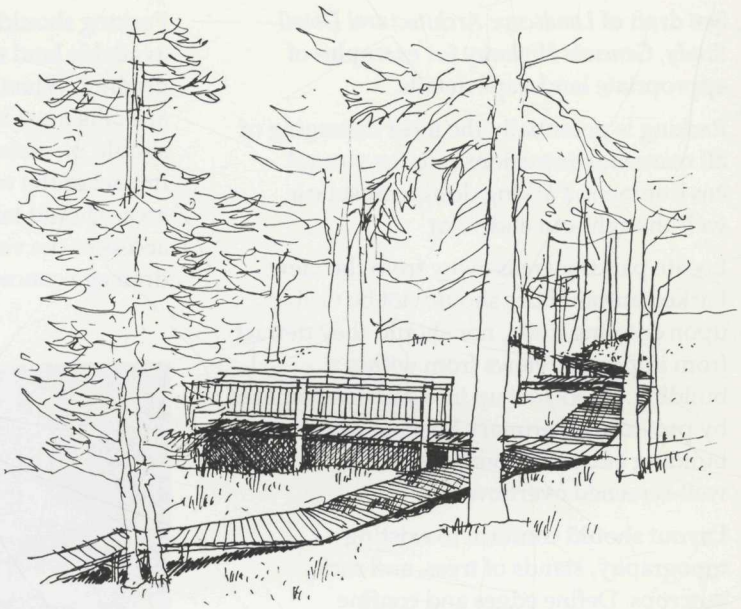
A Previous Era's Approach to Parking at Paradise Inn

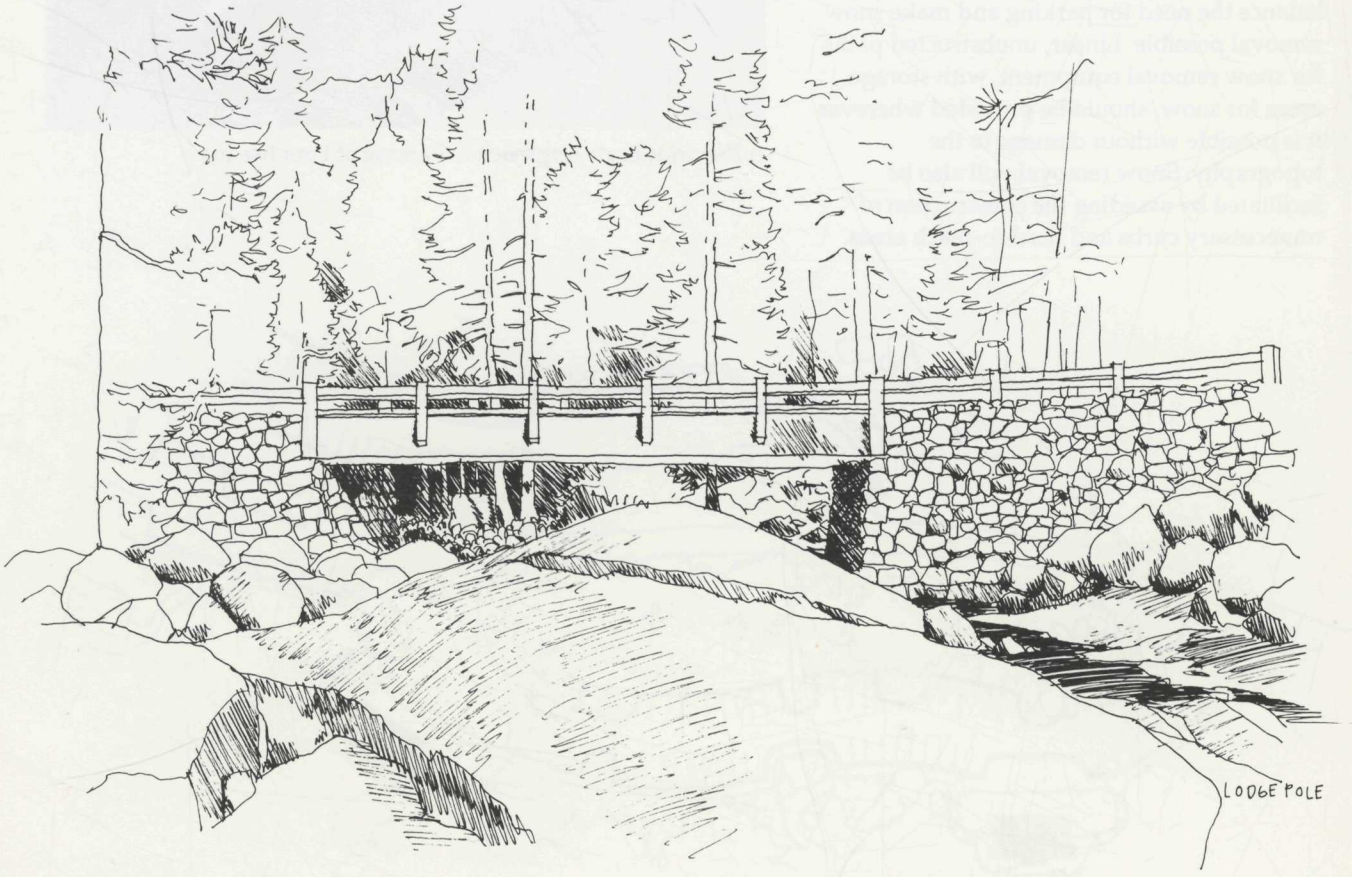


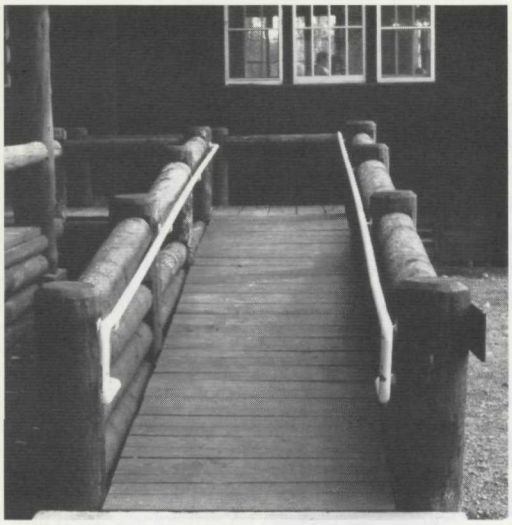
WALKWAYS, STEPS AND RAMPS

Walkways are an intrusion into the natural landscape. Spare no effort to minimize damage to the landscape, both ecological and visual. Respect for the natural environment is expressed in the thoughtful placement and character of walkways. In the design and installation of ramps and walkways conformity with Federal standards on handicapped accessibility must be achieved without sacrificing the principle of minimal intrusion. The design of ramps, railings and other devices should be such that they are an integral part of the landscape and building.

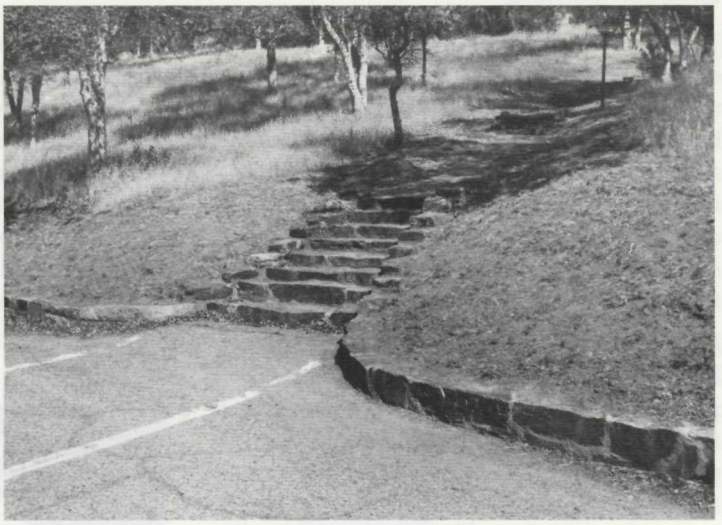
Avoid interrupting natural drainage wherever feasible. Where a swale or creek must be crossed, use a raised bridge. Where access to a delicate landscape is to be provided, use raised walkways.





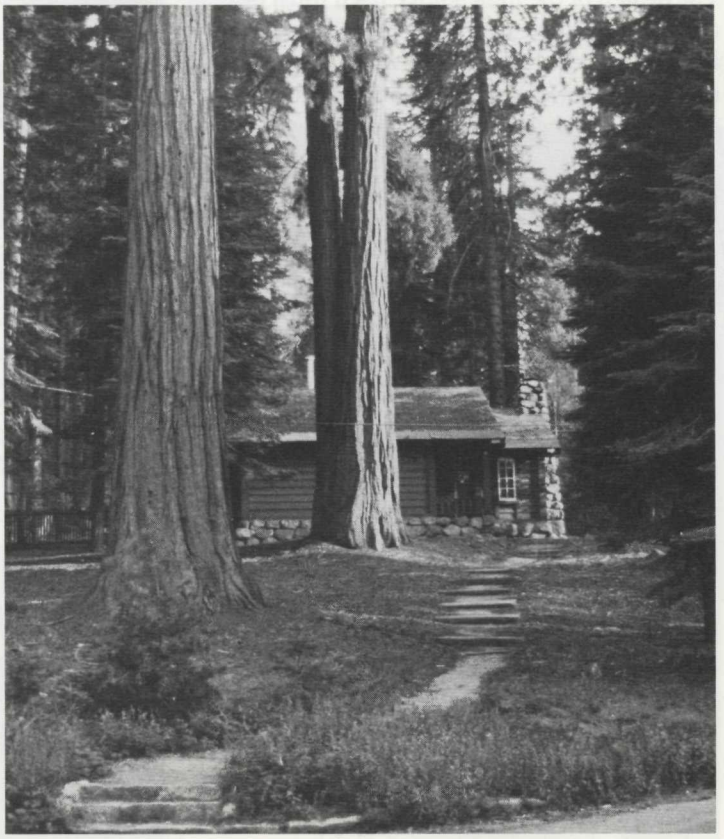


Handicap Ramp at Yellowstone National Park



Walkway and Steps at Ash Mountain Headquarters

Nature should be allowed to dominate. Paths should generally follow contours of existing topography. Leave breathing space around trees, creeks, rocks, and other natural features. Paths should be laid out in a thoughtful and logical manner leading pedestrians through the site with as little disruption of the natural topography as possible.



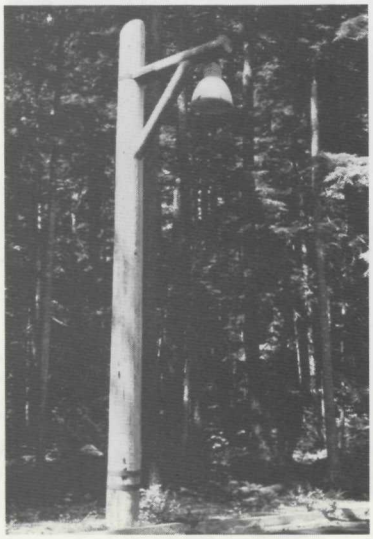
Ranger Residence at Giant Forest

EXTERIOR LIGHTING

The goals for exterior lighting should be discretion and subtlety. Illuminate only what needs to be lit for safe movement between buildings and their attendant services, such as parking. Care should be exercised with interior lighting so that light does not spill out from windows onto surrounding spaces, nor should the interior light source be seen from afar.

In parking areas consider that the auto headlights are an element in lighting the parking area. The fixed lighting elements in the parking lot should locate entrances to the parking area, and the passenger's path from the parking lot to the destination should be lighted by shielded walk lights adequate for guidance and direction.

The design of the light source itself must be appropriate to the task of rustic character. Metal surfaces should blend with their surroundings with close attention to color selection. The height of the fixture should be appropriate to the functional cone of the light, keeping in mind that the goal is not to illuminate the entire parking lot, but to announce entrances, and achieve safety in movement.



Street Lighting at Newhalem Campground. North Cascades National Park

Buildings should confine exterior lighting to entrances, arcades, walkways, and service areas. It is important that the source of all lighting be shielded from view. The intensity of illumination should not be a distraction from the enjoyment of night in the park. Where safety or design require the illumination of pathways, for example, low lights such as step lights should be introduced.

Pedestrian Walk to Amphitheater at Newhalem Campground. North Cascades Natonal Park

SERVICE YARDS, WALLS AND FENCES

Service functions by their very nature create traffic and noise that should be confined and concealed from the public view.

Some park structures give hint of their designers' long dalliance in cities, where architectural design has become a matter of one façade. It should be remembered that park buildings will be viewed from all sides, and that design cannot be lavished on one elevation only. All four elevations will be virtually front elevations, and as such merit careful study. Admittedly, one side of major park buildings will always provide for service, and while enclosures on park areas are to be deplored and only installed where necessary, a palisade or some other suitable enclosure on this side of the building should completely screen all service operations.

(Good, *Park Structures and Facilities*, p. 5)

Where possible:

Service yards should be connected to main roads by separate driveways. Keep service vehicles away from main entrances.

Service yards should be concealed and separated from the natural landscape with walls or fences. Utility functions such as panel boards, propane tanks and meters should also be screened and kept within the confines of the service yard.

Consolidate service functions such as trash storage and removal, shipping and receiving, maintenance operations, etc., into one service yard.

New Wall at Clover Creek

GRADING AND DRAINAGE

The existing natural setting must be preserved during and after site and building construction. Existing grades and drainage patterns are a fundamental part of that natural setting.

The construction process can be more destructive to the land than the building itself. As stated in the National Park Service Standard Specifications (Division One), construction zones, material stockpiling areas, and construction vehicle access and parking areas must all be confined to fixed, designated areas. Use barricades and barriers to protect trees, plants and landscape features to be preserved.

New grading plans must be sensitive to, blend in with and preserve where possible, the natural landforms and features of the area. Grading and construction practices that disturb natural features promote erosion and require extensive revegetation.

Careful fitting of roads, parking, and buildings to sites can minimize grading and excavation. Cut and fills should be minimal, with naturally rounded tops and toes of slopes to diminish erosion. There should be no grade changes within the drip line of any trees to be preserved.

Retaining Wall at Clover Creek

A site's natural drainage pattern is the result of its topography and vegetation. Wherever possible, this drainage pattern should be preserved.

Improper drainage affects not only the development at hand but also adjoining sites, and must be avoided.

Surface drainage systems such as swales, culverts and retention basins are preferable to closed, underground systems. Where underground systems must be used, release points must be designed to prevent erosion.

Stone Culvert in Sequoia National Park

REVEGETATION

Since it is the goal of national park architecture to blend in with the natural environment, it is important that every attempt be made to minimize damage to natural vegetation. It is especially important that native seedling and sapling trees be protected, since they represent the future of the forest. When damage cannot be avoided, revegetation must be undertaken to restore the natural scene.

To the greatest extent possible, revegetation should recreate the earlier character of the site. Indigenous plants should be used, and care should be taken to preserve the genetic purity of the stand. This means that only plants descended from those in the vicinity should be used in revegetation projects. The National Park Service maintains a native plant nursery in Sequoia and Kings Canyon National Parks. This is the preferred source for revegetation specimens.

New plant materials should respect existing planting patterns. Trees, shrubs and ground cover are usually found in groups of similar species, rather than alone or with a number of other species. blending new plantings into existing landscape means that all traces of construction-wrought damage will vanish in a few years.

The introduction of buildings into the natural environment will itself lead to changes that must be taken into account during revegetation planting. It is particularly critical to understand the relationships between snow disposition and human activity. Revegetation plans must anticipate heavy snow loading locations resulting from roof sloughing or snow removal.

Water is a scare resource within the parks, and planting materials must be selected that will not require regular watering on a permanent basis. Temporary watering limited to one or two seasons is acceptable.

See "Grading and Drainage" for a discussion of minimizing damage to the natural landscape during construction. The National Park Service can supply lists of appropriate species for use in particular settings.

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As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural and cultural resources. This includes fostering wise use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people. The department also promotes the goals of the Take Pride in America campaign by encouraging stewardship and citizen responsibility for the public lands and promoting citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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