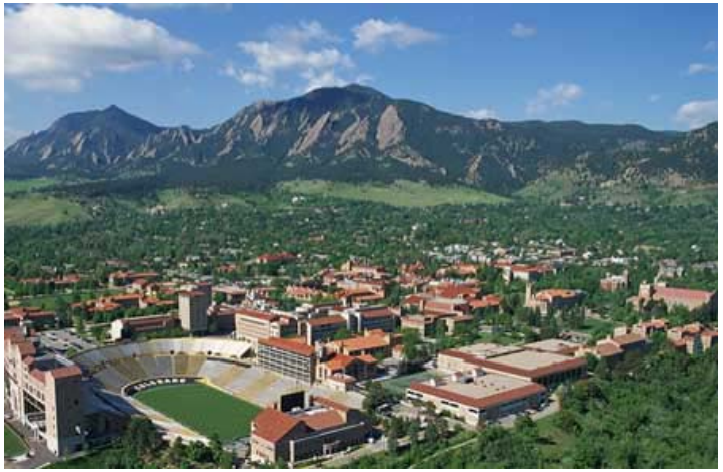
Design Guidelines

What are Design Guidelines?

- Institution Character
- Continuity of Fabric
- Accelerate Design Process, constrained options

CU-Boulder



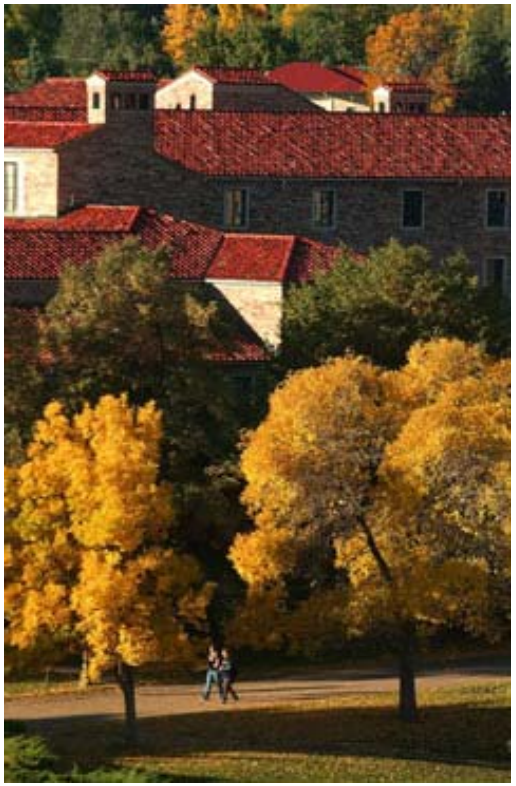
MIT

"Buildings on the campus reflect many styles, and the essential quality of the campus is one of buildings that speak in their own voice about their purposes and the era in which they were built. It is the landscape and public spaces that integrate these buildings into a coherent whole."

- Penn

"The principle of unified campus architecture rather than single-building exhibitionism is most important. The CU-Boulder campus is cut from whole cloth, never from patchwork parts."

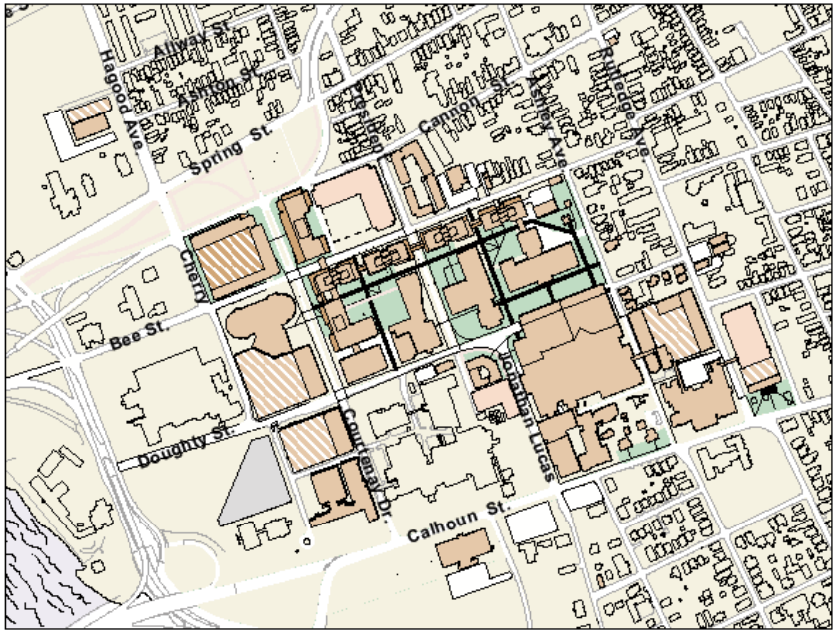
- CU-Boulder



Understanding the **language**

Landscape

- Existing campus plan
- Diagram of spaces
- Plant life and scale



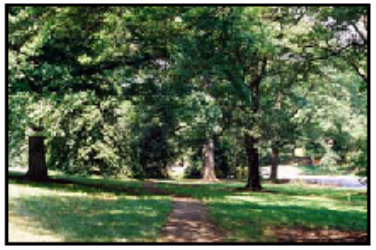
Open Spaces

Pedestrian Paths

Surface parking and cars have taken over the MUSC campus, creating an environment unfriendly to pedestrians. Additional parking decks at the perimeter of campus will replace central surface lots and remove many cars from through streets. A series of shaded, landscaped open spaces connected by a network of tree-lined paths will create a pedestrian-friendly environment, providing gathering spaces for the MUSC community. These defined garden spaces also present naming and funding opportunities for major donors.

1.3 Open Spaces - Existing & Proposed

MUSC



Landscape Character & Planting

Policy: *Planting design should consist predominantly of mass plantings of shrubs and groundcovers, native to the region, in arrangements that are simple in geometry and form, do not require significant maintenance, and are appropriate in scale for their specific context.*

Plant Life and Well-being

The appropriate use of vegetation in the built environment is a major influence on the quality of human life. Shrubs, herbaceous plant material, and trees filter pollutants in the air and water, mitigate wind and solar heat gain, stabilize soil to prevent or reduce erosion, and provide an aesthetic counterpoint to the built environment. These attributes are essential to balancing the effects of humans on the land. Furthermore, the native plants of a region provide some of the strongest cues to the unique identity of a place. In turn the creation of a healthy growing environment for the plants requires the collaboration of arborists, horticulturists, landscape architects, and native plant biologists.

Clemson

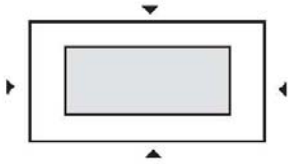
Building Types

- Data
- Diagram studies
- Imagery
- Historical documentation

ENCLOSED COURTYARD

NUMBER OF BUILDINGS IN THIS CATEGORY | 8
APPROXIMATE BUILDING FOOTPRINT SIZE |
Largest | 36,600sf Smallest | 3,300sf Average | 20,800sf

An apparently big and homogenous building that encloses a private yard as its central organizing space. The internal court is either open to the outside or glass enclosed. It can also be defined as a *"compact arrangements of linked structures forming enclosed or nearly enclosed courtyards, inward-turning and reclusive in nature."* —TURNER, P. 241

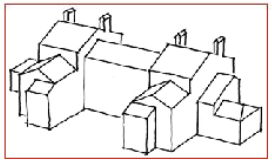


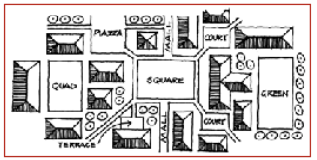
KIRKLAND HOUSE, XXXX

HILLES LIBRARY, 1

Harvard

Farrand Residence Hall appears as a complex building, but in fact it has only five repeating forms attached at each corner of a single central core building.





Buildings and open space should align in ways that produce a variety of campus outdoor rooms.

Guidelines

- Begin each new building with symmetry in plan, although asymmetrical ideas can be introduced when necessary. Use an assemblage of repeating and overriding forms for interest and economy of costs.
- Site each building or complex as a complementary insert into the campus facilities master plan. Respect neighboring structures and surrounding open spaces, including view and circulation corridors. Minimize footprints to conserve scarce building sites.
- Plan roofs that are gabled and hipped cascading down from the higher building forms to the edges of buildings. Respect the human scale, particularly at ground levels.
- Ideally, plan for a floor plate width that could capture cross ventilation and sunlight. Spread out building forms from a central core, creating pleasant courtyards and forecourts. Limit size of wall openings reflecting less need for daylight in a high plains climate.
- Emulate previous themes, but avoid direct copying. Shed, pavilion, and flat roofs over more simple forms can be added effectively to the Tuscan Vernacular style, stretching the visual experience while reflecting a contemporary functionality.

CU-Boulder

Materials

- Imagery
- Precedents

CONCRETE

While little of the Harvard campus is concrete, the builings that are concrete are highly visible: the Carpenter Center, the Holyoke Center, the Science Center, Peabody Terrace, the Mather Tower, and Gund Hall. The oldest and largest example of concrete architecture on campus is Harvard Stadium.

GLASS

Glass as a building material has not been used frequently on campus. The absence of glass, in fact, might be telling in terms of the character of the campus architecture, with its earthiness and severity. Glass is often a material of celebration, light, and lightness. The most notable examples on campus are Gund Hall, with its glass roof for providing light to the studio area, and the Harvard Business School Chapel.

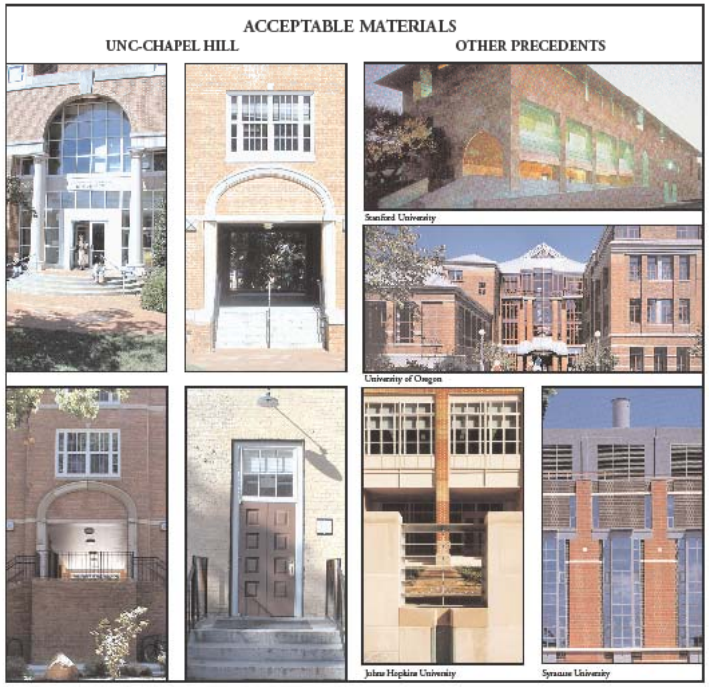
HILLES LIBRARY, 1966

GUND HALL, 1972

MCKAY LABORATORY, 1952

GUND HALL, 1972

Harvard



Acceptable Materials:

Brick
- Limestone or precast trim is encouraged.
- Any variety in brick colors should be subtle.
- Any brick patterns should be subtle.
- There should be no excessive striping or patterning.
- A mix of bonds (flemish, running, etc.) should be encouraged.
- Stacked bond should be discouraged.

Limestone

Architectural Precast

Wood

Cast-in-place concrete, metal panel, "utility" brick and glass block are generally discouraged as materials for exterior walls. Curtain walls may be used at special areas such as a hospital concourse or large public lobbies.

Stucco (No synthetic stucco)

Trim - Granite - Slate - Limestone - Precast - Wood - Metal

Roofs - Slate (1st choice) - Asphalt shingle (high quality) - Tile - Standing seam metal (painted or natural)

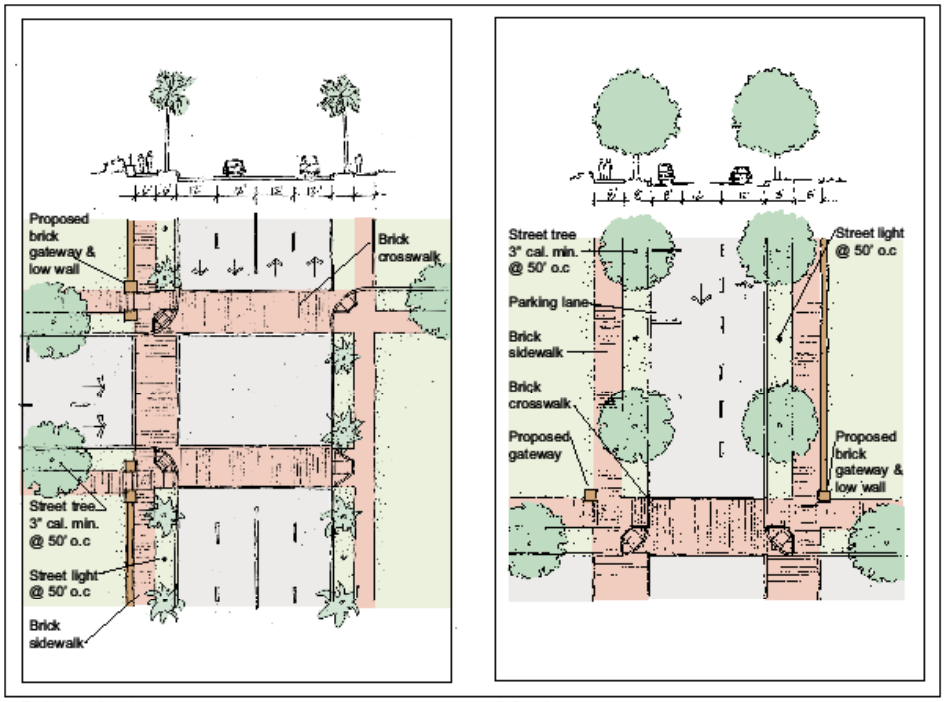
Details - chimneys, dormers, light fixtures, downspouts, signage, etc.

UNC-Chapel Hill

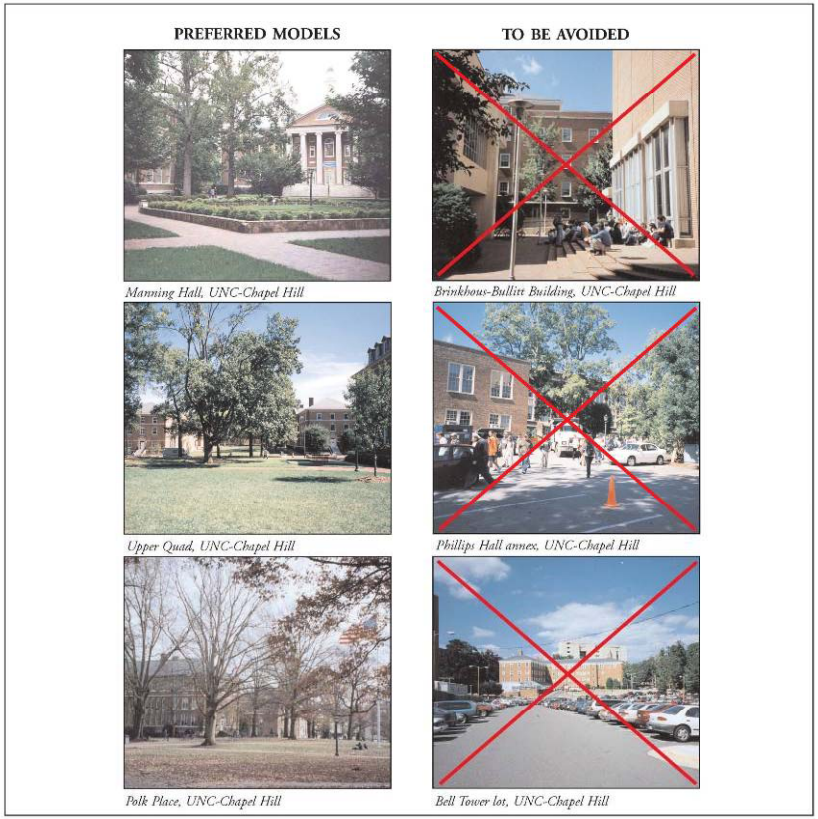
Building the **vocabulary**

Landscape

- Scale
- Plant Species
- Set Standard



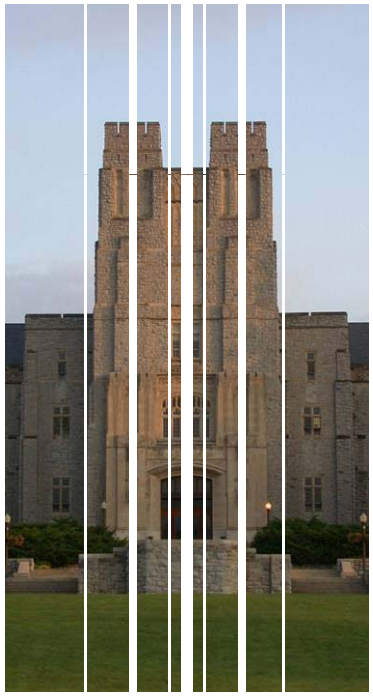
MUSC

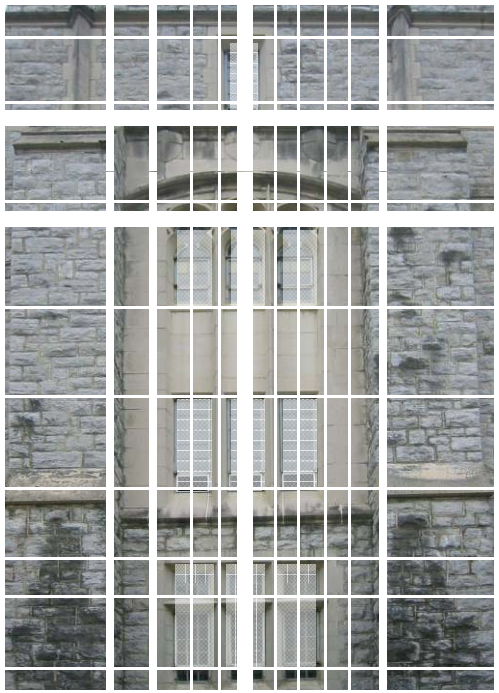


UNC-Chapel Hill

Buildings

- Proportion
- Geometry
- Sustainability





VA Tech

Sustainability Criteria

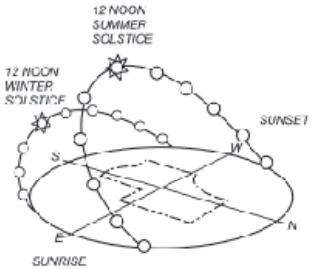
Issues regarding sustainability are addressed in detail in *Stanford University Guidelines for Sustainable Buildings* (2002) and should be integrated into the design of Stanford buildings in consort with these guidelines are followed.

Lyman Hall sunscreens, 1997
(Tanner Leddy Maytum Stacy)

Solar Orientation

Buildings should be sited and designed to take maximum advantage of sunlight and natural ventilation, in order to enhance user comfort and energy conservation. Whenever possible, the following criteria should be addressed in order to take advantage of a building's orientation on its site:

- A shade/shadow analysis must be submitted for review during the design review process; the impact of this analysis should be reflected in the design landscaping and surrounding activity areas, as well as the affect on adjacent facilities.
- Shading devices such as building sunscreens, louvers, or façade articulation must be regarded in the overall building design.
- Use of landscape screening such as deciduous trees or trellises to allow control of the sun at various times of the year should be considered.
- Outdoor activity areas should be located with southern or southwestern exposure to take maximum advantage of the sun.



Solar Orientation

Stanford

Materials

- Establish parameters
- Measurements

Roofs

Special attention should be paid to the arrangement and design of the roof and its various elements. Roofs should be organized and designed as carefully as the other primary exposures of the building. Equipment must be placed within enclosures well integrated with the roofscape.

The major roof form should be sloped at an angle of 27–30 degrees and should have an overhang (eave) proportional to its size and height (2'-6"–4'-0" generally).

Secondary portions of roofs may have a flat-roofed area to accommodate mechanical equipment or scientific instruments, in visually unobtrusive areas.

Roof slopes normally will continue around all corners (hipped rather than shed or gable roofs).

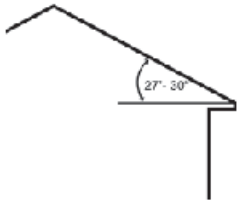
Stacks

Exhaust and plumbing stacks should be grouped and incorporated into the architectural composition of the building they serve. When large in circumference, stacks should be articulated to reduce their scale.

As the stacks will be visible from a distance, it is important that they be designed with a certain degree of uniformity, so that the overall image from a distance is composed.

Placement and configuration of buildings and exhaust stacks should recognize that while prevailing winds are from the northwest, open air flow paths should be created and stagnant air pockets eliminated. (Note: All stacks should extend above each building's boundary layer and will be subject to wind tunnel analysis.)

Kimball Hall roof overhang, 1991 (BAR)

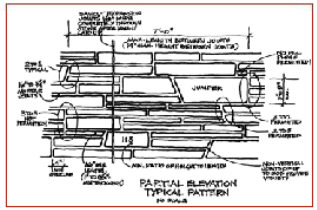


Roof Slope

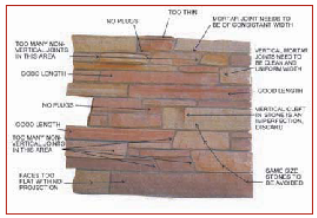
Moore Building roof stack, 2000 (Pei Cobb Freed and Partners)

Stanford

A closeup detail photo of a typical sandstone wall.



Masons perched on building scaffolds work from a graphic sketch serving as a recipe of how to lay a standard campus sandstone wall.



A typical critique of a sandstone wall.

Sandstone Wall Guidelines

- Obtain locally quarried sandstone through stone suppliers who stockpile custom order quantities and colors specific to each project.
- Specify colors and mix (pinks, reds, buffs, and others) that are responsive to surrounding campus buildings. Use a stain face stone wherever practical.
- Determine the pattern of laid-up walls in terms of scale and sizes of stone that reflect the magnitude of the project's walls. Follow the general pattern and accompanying notes, at left, and at www.colorado.edu/architect.
- Lay up stone with the fractured face extending various distances from the vertical mortar wall line. Clip back ends of stone that extend well out from the vertical mortar line.
- Strike corners of walls to a straight vertical line top to bottom.
- Generally, keep stone lengths generous, always more than a foot in length and as long as practical to fit the desired pattern. Avoid any stone less than a 1:3 height to length ratio. Usually, limit stone to a 7" to 8" maximum thickness.
- Insert windows in walls to be consistent in arrangement, form, and function to this climate. Specify black window frames with limestone or sandstone heads, jambs, and sills. Select window glazing that is overall colorless with minimum tinting, especially at ground level where pedestrians circulate. Refer to the Leadership in Energy and Environmental Design (LEED) standards for further information.

CU-Boulder