Auraria Campus Design Guidelines

AURARIA HIGHER EDUCATION CENTER
COMMUNITY COLLEGE OF DENVER
METROPOLITAN STATE COLLEGE OF DENVER
UNIVERSITY OF COLORADO DENVER_Downtown Campus

900 AURARIA PARKWAY, DENVER, CO 80204-1894
CAMPUS BOX A, PO BOX 173361, DENVER CO 80217-3361

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Section 1: Introduction

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1.0 The Origin of the Auraria Campus
1.1 Auraria's overall vision and its vision for the physical plan
1.2 Auraria Campus *Master Plan Update 2007*
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1.6 Organization of the *Auraria Campus Design Guidelines*

1.0 The Origin of the Auraria Campus

The Auraria Campus is unique in many ways. The majority of the campus buildings and infrastructure was completed at one time in the early to mid 1970's. The campus was built to house three institutions: The University of Colorado Denver, Metropolitan State College of Denver, and the Community College of Denver. The campus is located on 151.5 acres just west of Downtown Denver.

The original main campus was built between 1973 and 1976 on the site of the historic town of Auraria. Although many of the buildings were demolished under an urban renewal project, a number of those of a historical nature were preserved. These remain on the campus today and house various campus functions. Examples of these are the 9th Street Park houses, the Mercantile, Tivoli, Saint Cajetan's Church, and the Emmanuel Gallery. Saint Elizabeth's Church remains on the campus and is still the home for a Roman Catholic parish. Several buildings not considered significant historically also became parts of the campus and housed campus support functions. Designed in compliance with a set of specific architectural standards, the original campus buildings were planned on a 30 x 30 foot grid that was superimposed over the entire site so as to provide an organizing framework for campus building. Many of the existing city streets were left in place and have been used for pedestrian walkways and service vehicle routes.

1.1 Auraria's overall vision[1] and its vision for the physical plan[2]

Auraria's overall vision emerges out of the campus's location at the core of the City of Denver and in the heart of the Metropolitan area. Not only is the campus located centrally, it also is only a ten-minute walk from Denver's financial district, its theater and convention district, and many of its most vibrant mixed-use neighborhoods. Auraria's vision is to become an integral part of and resource to this richly diverse community and to be an educator for thousands of residents of the metropolitan area; a source for new employment; and a center for learning and cultural activities for local, regional, and national audiences.

Auraria's vision for its physical plan is to develop a thoughtful relationship between the campus and its surrounding neighborhoods; to introduce new activities to the campus that are typical of central urban campus communities — residential living, office working, commercial trading, and retail selling — that, on the one hand, provide continuity within the urban framework of Downtown Denver and, on the other hand, acknowledge the existing boundaries of the campus; to deploy within the campus an urban perspective for the development of buildings and open spaces; to create identifiable neighborhoods for the Community College of Denver, Metro State, and UC Denver; and to create an

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[1] *AHEC Master Plan Update 2007*
[2] *AHEC Master Plan Update 2007*; *Downtown Area Plan 2007*

administrative structure to provide the capital investment necessary for the campus to meet new demand for education at each of the three institutions.

1.2 Auraria Campus *Master Plan Update 2007*[3]

The Master Plan for the Auraria Campus was updated in 2007. An extensive master planning effort was conducted in 2006-07 to address the changing nature of the commuter campus. Various activities caused the campus to take a closer look at its physical plan. Some of these factors were:

1. Private student housing projects outside the campus border;
2. An increasing student population with a shift to younger, more traditional college students;
3. An update to the Downtown Area Plan with a focus of making the campus a part of downtown;
4. FasTracks transit improvements were approved by voters in 2004 which would mean an increase of transit to the Auraria Campus;
5. A lack of state funding for the institutions on the Auraria Campus and for capital construction projects which impacts the academic environment.

The master planning effort resulted in a master plan that created a more urban environment with neighborhoods for each of the institutions. The plan establishes five principles to guide campus growth during 2007 - 2027:

1) To expand and intensify the campus to meet current and future space needs of the Community College of Denver, Metropolitan State College of Denver, and the University of Colorado Denver downtown campus in a way that is consistent with the physical quality and character of the Auraria campus.
2) To enhance the identity of the individual institutions without undermining the shared identity of the Auraria Campus.
3) To support the educational objectives of the three institutions by creating new opportunities for learning in buildings and outdoors.
4) To create strong physical and programmatic connections from the campus to Denver's core, transit systems, and regional park and parkways system.
5) To develop a plan that represents sustainable planning and design. [Here reference was made to Denver's *Greenprint Denver* Plan of July 2006. This plan articulates the missions and principles for sustainable growth and provides concrete direction for the governmental sector and clear guidance for the private sector.]

1.3 Public/Private Partnership and *AHEC Master Plan Update 2007*[4]

The Auraria Higher Education Center engaged in this Master Plan Update to address each institution's growth aspirations in the context of a vibrant urban campus that is a part of a growing downtown Denver. Integral to the master planning has been an analysis of how higher education institutions might benefit from public/private partnerships. Thus AHEC has sought to analyze how it might use its resources:

- to collaborate with the private sector to bring vibrancy to the campus;
- to support the academic mission; and
- to create additional financial resources for the three institutions.

1.4 Influence of the 2007 Downtown Area Plan

The 2007 Downtown Area Plan was a joint effort by the City and County of Denver and the Downtown Denver Partnership that sought to provide an updated framework for downtown following the 1986 plan. The plan reflects the community's vision for a livable, healthy, economically vibrant and exciting downtown. This planning effort was underway at the same time as the update to the Auraria Campus Master Plan. These planning efforts

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[3] *AHEC Master Plan Update 2007*
[4] *AHEC Master Plan Update 2007*

influenced each other to encourage a campus plan that was denser and provided better connectivity to downtown. Three of the seven transformative projects discussed in the Downtown Area Plan directly impact the campus. The projects are identified as:

- embrace adjacent neighborhoods through pedestrian, bike and transit connections;
- connecting Auraria through expanded physical and programmatic connections; and
- grand boulevards which seek to transform Speer, Colfax, Broadway, Park Avenue and Auraria Parkway into memorable, multimodal boulevards.

These design guidelines seek to implement the ideas found in both of these planning efforts to make the campus a more integral part of the downtown community.

1.5 Purpose of the *Auraria Campus Design Guidelines*

These design guidelines apply to the entire Auraria Campus.

The purpose of the design guidelines is:

- to provide guidelines for the ongoing design of the campus as a whole;
- to provide guidelines for the design of individual projects;
- promote a cohesive campus that allows for identity within the neighborhoods to evolve;
- to serve as a basis for design review of campus and individual projects; and
- to serve as a basis for the evolution of the guidelines themselves.

1.6 Organization of the *Auraria Campus Design Guidelines*

The Guidelines are organized in a number of Sections and an Appendix:

- 1.0 Introduction
- 2.0 Executive Summary
- 3.0 Principles
- 4.0 Character
- 5.0 Sustainability
- 6.0 Public Urban Space
- 7.0 Neighborhoods
- 8.0 Edges
- 9.0 Buildings
- 10.0 Site Furnishings
- 11.0 Security/Campus Safety
- 12.0 Design Review Process
- A.0 APPENDIX

Section 2: Executive Summary

Contents:

2.0 The Purpose of the Executive Summary

The Executive Summary is a guide to using the Campus Design Guidelines. It sets forth their guiding vision, their organization, and suggestions about how to use them.

2.1 The Vision Underlying the Guidelines

Auraria originally was envisioned as a park-like campus with free-standing, "pavilion" buildings. Today its institutions expect a considerable demand for additional space in the coming years. Since the physical campus is limited in land area, this new demand will have to be accommodated through an intensive development of the campus's land area rather than through the land area's being expanded beyond its present borders. More intensive development of this fixed land area calls for planning according to an urban campus model of streets, blocks, and squares rather than a traditional campus model of a park and pavilions.

The following examples illustrate the vision that underlies the Design Guidelines.
The vision is inspired by the traditional town form that once existed, not only on this campus site, but also throughout early America and Europe, and that once successfully supported realization of goals similar to those of our institutions today. The illustrations are conceptual examples to illustrate the principles and vision of the Design Guidelines. They are not intended to be literal or refined examples of design stylistically, climatologically, or tectonically.

CAMPUS STREET [SIXTEENTH STREET MALL, DENVER]

CAMPUS STREET [SIXTEENTH STREET MALL, DENVER]

CAMPUS STREET [BUDAPEST, HUNGARY]

CAMPUS BRIDGE TO ADJOINING NEIGHBORHOOD [LJUBLJANA, SLOVENIA]

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2
3 **CAMPUS SQUARE WITH CIVIC AND PHENOMENOLOGICAL LANDMARKS [ROME]**
4

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6 **CAMPUS STREET [LONDON]**
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9 **CAMPUS SQUARE WITH CIVIC AND PHENOMENOLOGICAL LANDMARKS [ROME]**
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CAMPUS GREEN [COLUMBIA UNIVERSITY]

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CAMPUS SQUARE WITH CIVIC AND PHENOMENOLOGICAL LANDMARKS [CHICAGO ART INSTITUTE]

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CAMPUS STREET WITH MARKET [SPLIT, CROATIA]

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CAMPUS GREEN WITH TEMPORARY THEATER [MASSACHUSETTS INSTITUTE OF TECHNOLOGY]

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CAMPUS SQUARE WITH CIVIC AND PHENOMENOLOGICAL LANDMARKS [COLUMBIA UNIVERSITY]

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BUILDING/CIVIC LANDMARK ON CAMPUS SQUARE [MASSACHUSETTS INSTITUTE OF TECHNOLOGY]

19   **BUILDING/CIVIC LANDMARK ON CAMPUS SQUARE [MASSACHUSETTS INSTITUTE OF TECHNOLOGY]**

38   **CAMPUS EDGE, GATEWAY, AND CAMPUS STREET [PRINCETON UNIVERSITY]**

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56   **CAMPUS STREET [GEORGETOWN UNIVERSITY]**

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CAMPUS SQUARE WITH CIVIC AND PHENOMENOLOGICAL LANDMARKS [GEORGETOWN UNIVERSITY]

20 THE VARIETY OF CAMPUS STREETS [MIT, GEORGETOWN, GEORGETOWN]

21
22
CAMPUS EDGE, GATEWAY, AND CAMPUS STREET [COLUMBIA UNIVERSITY]

2   CAMPUS SQUARE WITH CIVIC AND PHENOMENOLOGICAL LANDMARKS [NELSON-ADKINS MUSEUM]

16   CAMPUS GREEN WITH PHENOMENOLOGICAL LANDMARKS [NELSON-ADKINS MUSEUM]

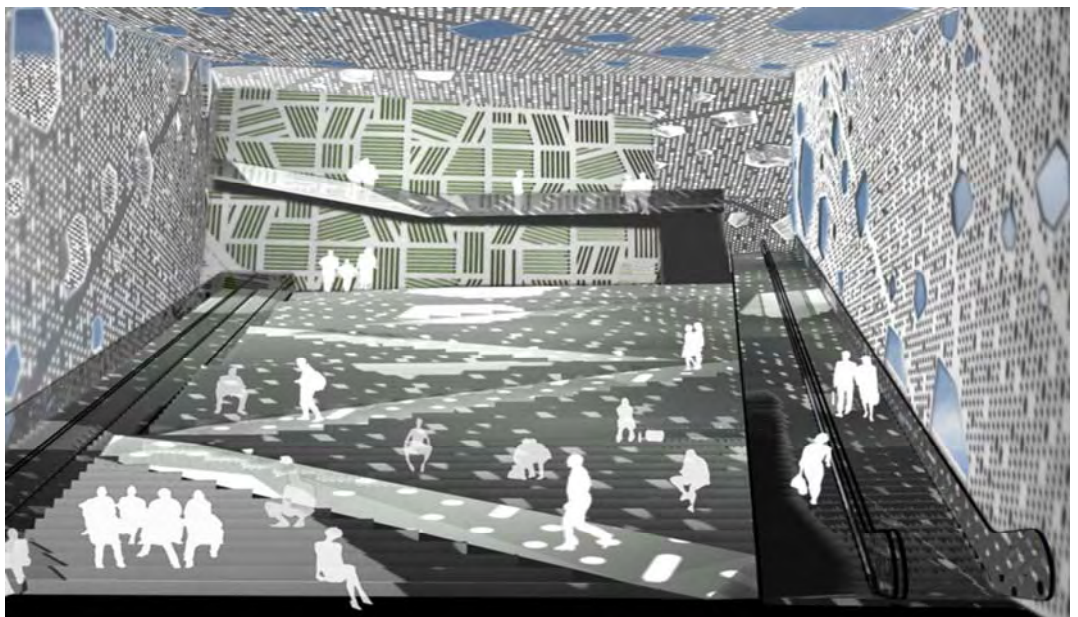39   CAMPUS SQUARES WITH CIVIC LANDMARK [NEW YORK UNIVERSITY, PRINCETON UNIVERSITY]
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2   **CAMPUS SQUARE AND CIVIC LANDMARK [PRINCETON UNIVERSITY]**
3

4
5   **CAMPUS SQUARE AS PHENOMENOLOGICAL LANDMARK [SAIL HYBRID CONGRESS HALL, BELGIUM]**
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CAMPUS SQUARE [UNIVERSITY OF ARIZONA, TUCSON]

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4
5   CAMPUS SQUARE [UNIVERSITY OF ARIZONA, TUCSON]

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COURTYARD WITH PHENOMENOLOGICAL LANDMARK [THE ALHAMBRA, GRANADA, SPAIN]

4
5
6

COURTYARD WITH PHENOMENOLOGICAL LANDMARK [CUADRA SAN XRISTOBÁL, MEXICO]

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8

CAMPUS SQUARE [UNIVERSITY OF ARIZONA, TUCSON]

CIVIC LANDMARK: A PLACE OF MEDITATION [THE ROOFLESS CHURCH, NEW HARMONY, INDIANA]

CIVIC LANDMARK: A PLACE OF MEDITATION [THE ROOFLESS CHURCH, NEW HARMONY, INDIANA]

It is in view of the need for the following elements that the Design Guidelines have been crafted for the campus.
- a higher population density on the campus;
- closer pedestrian connections to downtown;
- a more walkable city and campus;
- a stronger connection to our heritage; and
- a more sustainable campus environmentally, economically, and socially.

The campus has a vision to reconstruct more of the traditional town layout that once existed, not only on the campus site, but also throughout early America and Europe, and that once successfully helped to achieve similar goals. These principles of traditional town design are re-emerging nationally as essential ways of re-establishing walkable, vibrant, cities and towns. Many of the design guidelines in this document explain in more detail how and why these principles work. The Auraria Campus also has a legacy of buildings constructed on a 1970s design paradigm of free-standing pavilions surrounded by land (rather than buildings shaping continuous streets), of access primarily by automobile (rather than by walking down public streets), and of ground floor activities that turn their backs on the public realm (rather than pedestrian friendly views into exhibits, public activities, etc.). The design guidelines suggest ways to begin repairing some of these issues, and also propose ways of integrating the existing large-box buildings into a plan that leads towards smaller scale, smaller grain buildings on streets. Designers are encouraged to use these guidelines, both in general spirit and in particular detail, to help the campus evolve to its new paradigm based upon traditional town design.
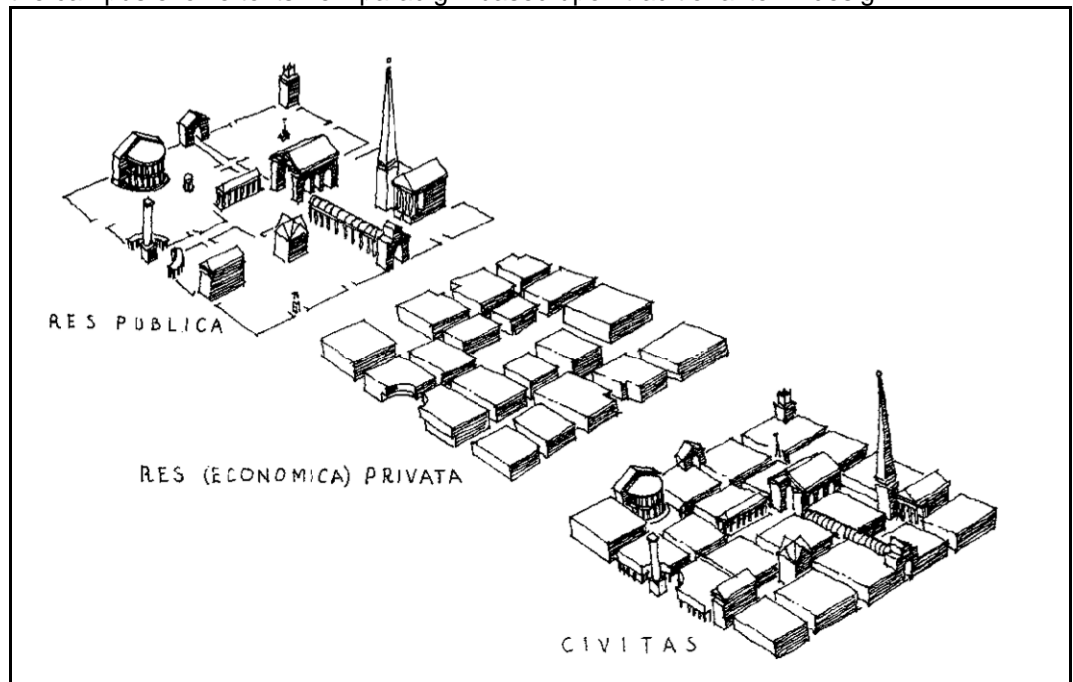
THE ESSENTIAL COMPONENTS OF THE TRADITIONAL CITY AS ILLUSTRATED BY LEON KRIER

In the traditional city or town, the public realm (*RES PUBLICA*) consists of streets, squares, and civic edifices interposed by a private realm (*RES PRIVATA*) of houses and places of commerce. Together these two realms combine to effect a civic expression (*CIVITAS*) of balance and clarity in the city or town as a whole. This hierarchical ordering of urban elements is fundamental to traditional cities and towns everywhere, regardless of culture and outward appearance. The vision for the Campus Guidelines derives from this traditional structure and from a desire to emulate the urban scale of streets, squares, and buildings found in the traditional city.

2.2 The Organizing Structure of the Guidelines
The Guidelines are organized in Sections by the following topics. Under each topic is a short synopsis of the content.

Section 1: Introduction
This section introduces the Auraria Campus Design Guidelines.
Discussion:
1.0 The Origin of the Auraria Campus
1.1 Auraria's overall vision and its vision for the physical plan

Section 2: Executive Summary

The Executive Summary presents an overview of the Guidelines from three perspectives: 1) their vision for the campus; 2) their organization; and 3) suggestions on how to use them. This is the place to begin a reading of the Guidelines.

Discussion

Section 3: Principles

This section summarizes the principles guiding the development of the Design Guidelines.

Section 4: Character

A primary purpose of the Design Guidelines is to help to shape the character of the campus in certain directions. A discussion of the character envisioned and sought for the Auraria Campus as a whole is conducted here:

Discussion:

Section 5: Sustainability

Within the international community it is commonly accepted that the single most pressing question of the 21st century is that of global sustainability:

- ***How can the life systems of the biosphere be sustained?***
  How can economic development and its resultants, environmental degradation and pathology, be undertaken so as to sustain rather than to degrade the life systems of the biosphere?

- ***How can human development be sustained?***
  How can personal, social, political, and religious fragmentation and their resultants, psychological stress and international conflict, be overcome, and oppositions joined in a sustainable unity that does not repress differences?

At the heart of the concept of sustainability is a fundamental set of values that is best stated as ***parallel care and respect for the ecosystem and for the people within the ecosystem.*** From this value set emerges the goal of sustainability: to achieve human and ecosystem longevity and well-being *together*. It is in this context that this section addresses environmental, economic, and social sustainability.

Discussion:

Guidelines:

Section 6: Public Urban Space
In light of the vision shaping these guidelines, this section is central and pivotal to the guidelines as a whole.
Discussion:
6.0 Introduction: Public Urban Space
6.1 Desired Character: Public Urban Space
Guidelines:

6.2 Design Guidelines: Public Urban Space
6.21 Design Guidelines: Public Urban Space: GENERAL
6.22 Design Guidelines: Public Urban Space: STREETS
6.23 Design Guidelines: Public Urban Space: SQUARES
6.24 Design Guidelines: Public Urban Space: GREENS
6.25 Design Guidelines: Public Urban Space: GATEWAYS
6.26 Design Guidelines: Public Urban Space: CONNECTIONS

Section 7: Neighborhoods
The *Auraria Higher Education Center Master Plan Update 2007* Plan proposes: *"To enhance individual institutional identity and provide a land use structure to guide AHEC campus growth, the Plan is organized into 'Neighborhoods.'" These are the Campus Core Neighborhood; an Institutional Neighborhood for each of CCD, Metro State, and UC Denver; the Urban District Neighborhood; and the Campus Village Neighborhood.* This section delineates principles, directions, and design guidelines for the shaping and design of these neighborhoods.
Discussion:
7.0 Introduction
7.1 Kevin Lynch's *Image of the City*: 5 Spatial Structures
7.2 Reintegrating Lynch's 5 Spatial Structures into a Whole Image for Auraria
Guidelines:

7.3   Design Guidelines: Neighborhoods
7.31 Design Guidelines: Edges
7.32 Design Guidelines: Paths
7.33 Design Guidelines: Nodes
7.35 Design Guidelines: Neighborhoods
7.4   Design Guidelines: Landmarks as Foci for Neighborhood Squares
7.41 Design Guidelines: Develop *Landmarks That Really Matters*
7.42 Design Guidelines: Two examples of *Landmarks That Really Matters*
7.43 Design Guidelines: Civic Landmarks
7.44 Design Guidelines: Examples of Civic Landmarks
7.45 Design Guidelines: Phenomenological Landmarks
7.46 Design Guidelines: Examples of Phenomenological Landmarks

Section 8: Edges
The perimeter boundaries of the campus where Auraria meets the surrounding neighborhoods of Denver are thought of as the campus "edges. This section addresses the design of those edges through a vision their being "***seams that join rather than walls that divide***".
Discussion:
8.0   Desired Character: Campus Edges
8.1   Discussion of the Intent Behind the Guidelines for Campus Edges
8.12 General
8.13 Campus Identity
8.14 Campus Edges Understood as Seams That Join rather than Walls That Divide
8.15 Porosity or Translucent Urbanism
8.16 Different Kinds of Porosity
Guidelines:

4.3   Design Guidelines for Each Edge of the Auraria Campus
4.31 Design Guidelines: Northwestern/Auraria Parkway Edge of Campus
4.32 Design Guidelines: Northeastern/Speer Boulevard Edge of Campus
4.33 Design Guidelines: Southern/Colfax Avenue Edge of Campus
4.34 Design Guidelines for Southwestern/Campus Village Edge of Campus

Section 9: Buildings
While the other sections of the Design Guidelines delineate guidelines for buildings and other elements in the context of the topic addressed in the particular section — Character, Sustainability, Edges, Public Urban Space, or Neighborhoods — this section delineates 1)

guidelines that are supplementary to and complementary of those in the other sections; and 2) documents specific guidelines for the materials and methods of construction of buildings.
Discussion:
9.0 Introduction
Guidelines:

9.1   Design Guidelines: Buildings_Supplementary to Other Sections
9.12 Design Guidelines: Buildings_Supplementary to 2.0 Character
9.13 Design Guidelines: Buildings_Supplementary to 3.0 Sustainability
9.14 Design Guidelines: Buildings_Supplementary to 4.0 Edges
9.15 Design Guidelines: Buildings_Supplementary to 5.0 Public Urban Space
9.16 Design Guidelines: Buildings_Supplementary to 7.0 Neighborhoods

Section 10: Site Furnishings

This section describes the type of elements that should be included in campus outdoor space — both in building courtyards and in campus common space.
Discussion:
10.0   Introduction
Guidelines:

10.1 Design Guidelines: Site Furnishings
10.2 Design Guidelines: Special Paving
10.3 Design Guidelines: Lighting
10.4 Design Guidelines: Landscaping
10.5 Design Guidelines: Signage
10.6 Design Guidelines: Parking

Section 11: Security/Campus Safety

The development of construction security design standards ensures that security-related desires are detailed in writing and clearly communicated to the design team (architects and planners) during the program design. They become the guide for physical, electronic and environmental security for each new campus building or facility. Environmental design guidelines are based upon the theory that, "the proper design and effective use of the built environment can lead to a reduction in the fear and incidence of crime, and an improvement in the quality of life." Guidelines in this category are intended to maximize opportunities for natural surveillance; to increase a sense of territorial control and identification of space; and to enhance natural access control.
Discussion:
11.0   Development of Security Design Guidelines
Guidelines:

11.1   Design Guidelines: Natural Surveillance
11.2   Design Guidelines: Territorial Reinforcement
11.3   Design Guidelines: Natural Access Control
11.4   Design Guidelines: Target Hardening
11.5   Design Guidelines: Maintenance
11.6   Design Guidelines: Specific Areas of Concern
11.7   Design Guidelines: Parking Garages

Section 12: Design Review Process

Design guidelines alone are not sufficient to ensure future development is compatible with the Auraria Campus' overall design. The Auraria Architectural Review Board (AARB) has been set up to review plans for the campus to ensure that they are in compliance with the Auraria Campus Design Guidelines. This section discusses the design review process.
Discussion:
12.0 Introduction
12.1 Membership of the Auraria Architectural Review Board
12.2 Projects Subject to Review
12.3 Coordination with Auraria Higher Education Center
12.4 Design Review Process - New Buildings or Facilities / Major Exterior Renovations
12.5 Design Review Process – Auraria Campus Master Plan / Institutional Neighborhood Plans
12.6 Permitting
12.7 Design Review Process Diagram
12.8 Amendments to the Design Guidelines

A: APPENDIX

The appendix is home for miscellaneous information supplementary to the Guidelines. The Appendix includes 1) A short discussion of the original AHEC Master Plan of 1973-1976; 2) A statement about Auraria and the three institutions — CCD, Metro State, and UC Denver — including the mission statements for each of these entities; 3) Some examples of Civic and Phenomenological Landmarks developed for specific squares by graduate students in the College of Architecture & Planning.

Appendix Sections:
I.   The Original AHEC Master Plan of 1973-1976
II. Auraria and the Three Institutions
III. Examples of Design of Campus Squares and Landmarks

2.3 The Organizing Structure of the Sections

Each Section of the Guidelines begins with a short table of contents. For the Sections denoting Design Guidelines (3.0, 4.0, 5.0, 6.0, 7.0) the first part of the Section presents a discussion of the theoretical thought behind the Guidelines; the Guidelines themselves are in the second part of the section. For example, on the first page of Section 5.0 Public Urban Space is a table of contents reproduced below. Here parts 5.1 and 5.2, a discussion of the theory underlying the section, are in black type; the Design Guidelines follow the discussion and are identified by being set in red type and within a box.

Contents:
Discussion:
6.0 Introduction: Public Urban Space
6.1 Desired Character: Public Urban Space
Guidelines:

6.2 Design Guidelines: Public Urban Space
6.21 Design Guidelines: Public Urban Space: GENERAL
6.22 Design Guidelines: Public Urban Space: STREETS
6.23 Design Guidelines: Public Urban Space: SQUARES
6.24 Design Guidelines: Public Urban Space: GREENS
6.25 Design Guidelines: Public Urban Space: GATEWAYS
6.26 Design Guidelines: Public Urban Space: CONNECTIONS

This organization provides a means to distinguish between the design guidelines themselves and the background thinking out of which they have been developed.

2.4 How to Use the Guidelines

As in the case of the organizing structure of the individual sections, the overall structure of the guidelines as a whole is best grasped through this brief review of its table of contents:

1   Introduction
2   Executive Summary
3   Principles
4   Character
5   Sustainability
6   Public Urban Space
7   Neighborhoods
8   Edges
9   Buildings
10   Site Furnishings
11   Security/Campus Safety
12   Design Review Process
A   APPENDIX

- **For a broad overview of the Guidelines**, it is suggested that you read the following sections in the order shown below:

1   Introduction
2   Executive Summary
3   Principles
4   Character

- **For a deeper understanding of the Guidelines**, it is suggested that you read the following sections in the order shown below:
  - 1   Introduction
  - 2   Executive Summary
  - 3   Principles
  - 6   Public Urban Space, placing your focus on the guidelines themselves (in red type)
  - 7   Neighborhoods, placing your focus on the guidelines themselves (in red type)
  - 8   Edges, placing your focus on the guidelines themselves (in red type)
  - 5   Sustainability, placing your focus on the guidelines themselves (in red type)
  - 9   Buildings, placing your focus on the guidelines themselves (in red type)
  - 10   Site Furnishings
  - 11   Campus Security/Safety
  - 12   Design Review Process

- **For a thorough understanding** of the Guidelines, it is suggested that you read the following sections in the order shown below:
  - 1   Introduction
  - 2   Executive Summary
  - 3   Principles
  - 4   Character
  - 6   Public Urban Space, placing your focus on the guidelines themselves (in red type)
  - 7   Neighborhoods, placing your focus on the guidelines themselves (in red type)
  - 8   Edges, placing your focus on the guidelines themselves (in red type)
  - 5   Sustainability, placing your focus on the guidelines themselves (in red type)
  - 9   Buildings, placing your focus on the guidelines themselves (in red type)
  - 10   Site Furnishings
  - 11   Campus Security/Safety
  - 12   Design Review Process
  - A   APPENDIX

- **If you are designing a campus building**, it is suggested that you read the following sections in the order shown below:
  - 1   Introduction
  - 2   Executive Summary
  - 3   Principles
  - 4   Character
  - 6   Public Urban Space, reading 1) the theory (in black type), 2) the guidelines
       In light of the central vision shaping these guidelines, this section is central and pivotal to the guidelines as a whole. It is especially important to be read and understood by building designers.
  - 7   Neighborhoods, reading 1) the theory (in black type), 2) the guidelines
  - 8   Edges, reading 1) the theory (in black type), 2) the guidelines
       Parts of the section on Edges are important for building designers to read even if their building is not situated on a campus edge. The discussion of translucent urbanism, or **porosity**, and its examples, are critical in addressing ways of shaping buildings to be more translucent or transparent, welcoming, and revealing of the activities within them.
  - 5   Sustainability, reading 1) the theory (in black type), 2) the guidelines
  - 9   Buildings, reading 1) the theory (in black type), 2) the guidelines
  - 11   Campus Security/Safety
  - 10   Site Furnishings
  - 12   Design Review Process

- **If you are designing a campus square**, it is suggested that you read the following sections in the order shown below:
  - 1   Introduction
  - 2   Executive Summary
  - 3   Principles
  - 4   Character
  - 6   Public Urban Space, reading 1) the theory (in black type), 2) the guidelines

In light of the central vision shaping these guidelines, this section is central and pivotal to the guidelines as a whole. It is especially important to be read and understood by urban designers.

7   Neighborhoods, reading 1) the theory (in black type), 2) the guidelines
8   Edges, reading 1) the theory (in black type), 2) the guidelines

Parts of the section on Edges are important for building designers to read even if their building is not situated on a campus edge. The discussion of translucent urbanism, or **porosity**, and its examples, are critical in addressing ways of shaping buildings to be more translucent or transparent, welcoming, and revealing of the activities within them.

5   Sustainability, reading 1) the theory (in black type), 2) the guidelines
9   Buildings, reading 1) the theory (in black type), 2) the guidelines
11   Campus Security/Safety
10   Site Furnishings
12   Design Review Process

- **If you are designing a building interior space or spaces where the building itself already is designed**, it is suggested that you read the following sections in the order shown below:

1   Introduction
2   Executive Summary
3   Principles
4   Character
6   Public Urban Space, reading 1) the theory (in black type), 2) the guidelines

In light of the central vision shaping these guidelines, this section is central and pivotal to the guidelines as a whole. It is especially important to be read and understood by architects, urban designers, and interior designers.

8   Edges, reading 1) the theory (in black type), 2) the guidelines

Parts of the section on Edges are important for building designers to read even if their building is not situated on a campus edge. The discussion of translucent urbanism, or **porosity**, and its examples, are critical in addressing ways of shaping buildings to be more translucent or transparent, welcoming, and revealing of the activities within them.

5   Sustainability, reading 1) the theory (in black type), 2) the guidelines
9   Buildings, reading 1) the theory (in black type), 2) the guidelines
11   Campus Security/Safety
12   Design Review Process

Section 3: Principles

The following principles have guided the development of the Campus Design Guidelines.

Principle: The campus as a whole is intended to be a setting for diverse communities of learners.

Principle: The campus as a whole is intended to be place of consolidation of similar but diverse programs in a single setting.

Principle: The campus as a whole is to be perceived, both from inside and outside, as having distinct boundaries or edges where it meets surrounding boulevards and neighborhoods. The edges are intended:
- to provide a sense of identity for the campus;
- to define the physical limits of the campus as <u>seams that join</u> rather than as <u>walls that divide</u>;
- to be developed in ways that preserve the integrity of the two sides brought together while allowing access between them;
- to join the two sides by simultaneously keeping out and letting through;
- to suggest the connectedness and dynamism between campus and neighborhoods as well as their complementarity;
- to create a sense of place;
- to contribute towards the campus's being a good neighbor
  - by buffering views of automobile parking;
  - by controlling nighttime illumination to prevent glare;
  - by providing a pedestrian-friendly street frontage through active, first-floor uses.

Such edge elements are for many people important organizing features in the city, particularly in their role of holding together generalized areas such as a college campus or the outline of a city by water or wall.

Principle: On the one hand, the campus as a whole is intended to be a place of unity and wholeness through the unifying elements of space, landscape, and orientation; on the other hand, the campus is to comprise unique, identifiable "neighborhoods" for each of its districts—the Campus Core, CCD, Metro State, UC Denver, and the Urban districts;
- the character of each neighborhood is to be compatible with the character of the campus as a whole and with those of the other neighborhoods;
- there should be a gradual rather than an abrupt transition between the character of one neighborhood and that of the next;
- within each neighborhood, public open space shall be located at the center of pedestrian activity, surrounded by destination places of social and academic activity;
- within each neighborhood, there shall be allowed a vertical identifying element for that neighborhood although such element cannot exceed the allowed height limits for campus buildings.

Principle: Individual buildings:
- are to be designed so as to avoid creating unusable outdoor open space except in those instances where a future building or building expansion is anticipated;
- are to be located in accordance with the overall vision of the Master Plan unless otherwise approved by the AHEC Board;
- are to be designed to support the tenets of the Master Plan.

Principles:
- Transform Speer Boulevard into a Grand Boulevard

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- Intensify campus development, particularly at its northeast corner, as recommended in the recently-completed *Auraria Master Plan*
- Link Auraria to Downtown by allowing efficient movement of pedestrians from the Auraria West light rail station through the campus and in to downtown via the Larimer Street alignment.
- Implement priority pedestrian improvements along Speer Boulevard and Auraria Parkway; specifically develop an improved crossing at Speer and Larimer.
- Support use of universal design principles where appropriate
- Buildings and outdoor spaces need to be designed to be usable and effective for everyone

Section 4: Character

Contents

4.0 Introduction

Character is a more general and a more concrete concept than *space*. On the one hand, it denotes a general, comprehensive atmosphere — the distinguishing qualities of a place. On the other hand, character has to do with the concrete form and substance of the space-defining elements. "Atmosphere" here is something that the human person *interprets* through their experience of a place — physically, cognitively, intuitively, and emotionally. We interpret the atmosphere of a place through our

- engaging the place <u>physically</u> (i.e., in San Francisco, climbing and descending the steep streets of the city);
- reflecting upon the place <u>cognitively</u> (i.e., in New York's Central Park, imagining the history and significance of Cleopatra's Needle, the 3400 year-old Egyptian obelisk and the oldest man-made object in the park);
- contemplating the place <u>intuitively</u> (i.e., under the Capitol Dome, absorbing the meaning of the Dome as a manifestation of the presence of the values we all share in our civic monuments; under the blue sky during the day, or the Milky Way at night, meditating upon the mystery and significance of existence. "The sky provides a natural metaphor for the way humans are never imprisoned in the here and now but are always 'beyond' themselves, ahead of themselves in expectation, behind themselves in memory, beyond time altogether when contemplating eternity. Such power of self-transcendence is part of the meaning of 'spirit'" and the 'spiritual', . . . "the ineliminable or ecstatic dimension of human being."[1]);
- experiencing the place <u>emotionally</u> (i.e., at the site of the place of the memory of memories — the Vietnam Memorial, the Holocaust Museum, Valley Forge, Antietam, Pearl Harbor, the World Trade Center, the gravesite of a lost child — coming to terms with the deep feelings that well up out of the depths of our memories).

Often <u>intuitive</u>, <u>emotional</u>, and sometimes <u>cognitive</u> aspects of human being are referred to individually or collectively as *spiritual*. The word <u>spiritual</u> is an adjective with two meanings:
1) of, relating to, or affecting the human spirit or soul as opposed to material or physical things: *I'm responsible for his spiritual welfare | the spiritual values of life.*
2) of or relating to religion or religious belief: *Iran's spiritual leader.*

Architecture provides for both physical shelter and spiritual order. Out of the ways in which it provides for these and out of the ways of life that actually are lived in any particular place at any historical moment emerges the *character* of the place. Any real *presence* is closely linked with a character. Different activities require places with different characters. A dwelling must be "sheltering and protective", an office "practical and efficient", a ballroom

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[1] Karsten Harries. *The Ethical Function of Architecture.* [Cambridge and London. MIT Press. 1997] p160.

"festive and celebratory", and a church "solemn and sacred". Landscapes possess character such as "barren" or "fertile" or "inviting" or "threatening". All places have character. Character also is a function of time. It may change with the seasons, the time of the day, and the weather — each of which yields different conditions of light.

The character of a place is strongly influenced by the materials and formal qualities of that place — its floor, its ceiling, its walls. Particularly important are the walls or lateral boundaries of the place that contribute decisively to determine the character of the *urban* environment. Usually the character of an urban place is most strongly influenced by the building facades that enclose and define the place. Are they close together or far apart? Are they orthogonally situated on a grid or are they curving, serpentine, and sinuous? Are they similar or dissimilar in height? What about their scale? A thirty-foot-long wall gives to the space it defines a sense of intimacy that is belied by a four-hundred-foot-long wall. And then there are the scale of the architectural details of such walls. Do these relate in their size, relief, and texture to people on the street? Are the walls themselves similar or dissimilar in material and color? Is their vertical dimension terminated by a cornice or overhang? Do they share similar motifs in the organization and pattern of their door and window openings? How are things made? Are they carefully crafted? Do they manifest permanence and longevity or are they obviously temporary and ephemeral? These are but a few of the material variables that influence our experience of a place's character. Then there are the less material determinants of character such as the level and quality of sound; fragrances and odors; numbers of people and the ways in which these people are behaving; the qualities of natural and artificial light; and so on.

What about the relation between man-made places and nature? Man-made places appear to relate to the natural world in three ways.
1) First, we want to make the natural structure more precise — we want to *visualize* our understanding of nature. In Denver, we build *in relation to* the wall of the front range of the Rocky Mountains to the west that defines our region. We always seek to heighten our awareness of the presence of "the mountains". Thus there are view corridors, overlooks, and "zen views".
2) Second, we seek to complement the given situation by adding what is "lacking". If we live in wide, open space, we seek to create enclosure; it we live in highly-enclosed space, we seek views and ways to the outside; if we find ourselves under the hot sun, we seek tree canopies for shade; if hard man-made surfaces dominate, we add complementary soft, natural plantings.
3) Third, we seek to *symbolize* our understanding of nature, including our understanding of ourselves. This implies that a meaning we experience is translated into another medium. A natural character such as our "big sky and bright sunlight", for example, is translated into a building or place whose properties somehow make that character manifest. Examples of this are the attention given to the framing of the sky by the cornices of the buildings forming a courtyard, or the emphasis upon making projections in the face of a wall so that our usually-present brilliant sunlight together with our moisture-free air will manifest themselves in sharply-defined shadow patterns.
These three relationships altogether imply that we *gather* the meanings experienced to create for ourselves an image of our world that underscores the existential meaning of this place for us.

The structure of a place is not a fixed state. Places change, sometimes very slowly and sometimes overnight. But this does not necessarily mean that the *spirit of place,* the *genius loci* also changes. A reasonably stable spirit of place is essential for human existence. But how is such stability compatible with the dynamics of flux and change? First, any place should have the "capacity" of receiving different "contents", naturally within certain limits. A place only fitted for one particular purpose soon would become useless. Secondly, a place may be "interpreted in different ways. To protect and conserve the spirit of a place means

to concretize its essence in ever new historical contexts. This history ought to be its "self-realization". What was there as possibilities at the outset, is uncovered through human action, illuminated and "kept" in works of architecture which are simultaneously "old and new". A place inevitably comprises properties having varying degrees of invariance. Since its founding in 1973 and during its subsequent, ongoing development, Auraria Campus and its character have evolved in ways that are now discussed under 4.1 Campus Character.

4.1 Campus Character

As discussed above, the character of a campus results from many conditions. In the end, a peoples' sense of the character of a place emerges out of their experiences of the place and their physical, mental, and spiritual interpretations of those experiences. We speak *the spirit of place,* or its *genius loci[2].*

How might we think of the character of the Auraria Campus? We can begin by addressing those more tangible and material qualities that influence character. The possibilities for each such condition span a range of opposites. For example, the possible condition of a campus's perimeter **edges** range:

- <u>from</u> edges that are distinct from the fabric of the adjoining city <u>to</u> edges that are integrated with the adjoining city;
- <u>from</u> edges that are opaque <u>to</u> edges that are transparent; and
- <u>from</u> edges that are uninviting and exclusive <u>to</u> those that are welcoming and inclusive.

Below is a table of such material conditions and their possible ranges:

4.2 Qualities Influencing A Campus's Character

- Edges: <u>Distinct From Adjoining City</u>—<u>Integrated With Adjoining City</u>
  <u>Opaque</u>—<u>Transparent</u>
  <u>Uninviting/Exclusive</u>—<u>Welcoming/Inclusive</u>
- Identity: <u>Weak</u>—<u>Strong</u>
- Urban Texture: <u>Separate Pavilions In Space</u>—<u>Continuous Field With Courtyards</u>
- Urban Texture: <u>Separate From Adjoining City</u>—<u>Integrated With Adjoining City</u>
- Bldg Heights: <u>2-3 Stories</u>—<u>3-6 Stories</u>
  <u>3-6 Stories</u>—<u>6 Stories+Towers</u>
  <u>6 Stories+Towers</u>—<u>6 Stories + Towers + Linear Bldgs Over Streets</u>
- Street Spaces: <u>2-Dimensional Paths</u>—<u>3-Dimensional Rooms</u>
  <u>Linear Axial</u>—<u>Meandering Organic</u>
  <u>Separated From Adjoining City</u>—<u>Integrated With Adjoining City</u>
- Street Walls: <u>Opaque</u>—<u>Transparent</u>
  <u>Gross Scale</u>—<u>Human Scale</u>
- Bldg Forms: <u>Homogenous</u>—<u>Heterogenous</u>
- Bldg Materials: <u>Homogenous</u>—<u>Heterogenous</u>
- Bldg Styles: <u>Traditional</u>—<u>Modern</u>—<u>Postmodern</u>[3]
  <u>Homogenous</u>—<u>Heterogenous</u>
- Lndscp Form: <u>Urban Formal</u>—<u>Natural Informal</u>

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[2] *Genus loci*: In Roman mythology a genius loci was the protective spirit of a place. It was often depicted as a snake. In contemporary usage, "genus loci" usually refers to a location's distinctive atmosphere, or a "spirit of place", rather than necessarily a guardian spirit. [Wikipedia]

[3] *Postmodern* here refers not to a specific style based upon the architecture of the past but rather to a late 20th-century style and concept in the arts, architecture, and criticism that represents a departure from modernism and has at its heart a general distrust of grand theories and ideologies as well as a problematical relationship with any notion of "art." Typical characteristics include a deliberate mixing of different artistic styles and media, the self-conscious use of earlier styles and conventions, and often the incorporation of images relating to the consumerism and mass communication of late 20th-century postindustrial society.

- Lndscp Texture: Separate From Adjoining City—Integrated With Adjoining City
- Human Uses: Segregated/Limited—Mixed/Unlimited
  Learning—Lrng/Livg/Shopg/Imaging/CelebratgVeneratg/Governg
- Temp'l Qlities: Min Hours Per Dy/Wk/Mo/Yr—Max Hours Per Dy/Wk/MoYear
  Day Quality—Night Quality—Day+Night Quality
  Low Quality (Day—Day+Night)—Hi Quality (Day—Day+Night)
  Weak Historical Memory—Strong Historical Memory
- Environ Qlities: Unsustainable Environmentally—Sustainable Environmentally
- Social Qlities: Unsustainable Socially—Sustainable Socially
- Security/Safety: Actually Insecure/Unsafe—Actually Secure/Safe
  Perceived As Insecure/Unsafe—Perceived As Secure/Safe
- Way Finding: Perceived As Labyrinthine—Perceived As Clear

Since its founding in 1973 and during its subsequent development, the Auraria Campus and its character have evolved and continue to evolve. Recognizing that the above list of considerations and range of possibilities never can *define* but only *point towards* a sense of a place's character, the following is an attempt to address the character of the Auraria Campus as experienced in its early years, today, and is it might be experienced in the future.

4.3 Qualities Influencing Auraria's Character During Its Early Years
The bold, blue type designates the qualities emphasized in a particular range.

- Edges: Distinct From Adjoining City—Integrated With Adjoining City
  Opaque—Transparent
  Uninviting/Exclusive—Welcoming/Inclusive
- Identity: Weak—Strong
- Urban Texture: Separate Pavilions In Space—Continuous Field With Courtyards
- Urban Texture: SeparateFrom Adjoining City—Integrated With Adjoining City
- Bldg Heights: 2-3 Stories—3-6 Stories
  3-6 Stories—6 Stories+Towers
  6 Stories+Towers—6 Stories+Towers+Linear Bldgs Over Streets
- Street Spaces: 2-Dimensional Paths—3-Dimensional Rooms
  Linear Axial—Meandering Organic
  Separated From Adjoining City—Integrated With AdjoiningCity
- Street Walls: Opaque—Transparent
  Gross Scale—Human Scale
- Bldg Forms: Homogenous—Heterogenous
- Bldg Materials: Homogenous—Heterogenous
- Bldg Styles: Traditional—Modern—Postmodern
  Homogenous—Heterogenous
- Lndscp Form: Urban Formal—Natural Informal
- Lndscp Texture: Separate From Adjoining City—Integrated With Adjoining City
- Human Uses: Segregated/Limited—Mixed/Unlimited
  Learning—Lrng/Livg/Shopg/Imaging/CelebratgVeneratg/Governg
- Temp'l Qlities: Min Hours Per Dy/Wk/Mo/Yr—Max Hours Per Dy/Wk/MoYear
  Low Quality(Day—Day+Night)—Hi Quality(Day—Day+Night)
  Weak Historical Memory—Strong Historical Memory
- Environ Qlities: Unsustainable Environmentally—Sustainable Environmentally
- Social Qlities: Unsustainable Socially—Sustainable Socially
- Security/Safety: Actually Insecure/Unsafe—Actually Secure/Safe
  Perceived As Insecure/Unsafe—Perceived As Secure/Safe
- Way Finding: Perceived As Labyrinthine—Perceived As Clear

4.4 Qualities Influencing Auraria's Character Today

The bold, blue type designates the qualities emphasized in a particular range.

- Edges: Distinct From Adjoining City—Integrated With Adjoining City
                  Opaque—Transparent
                  Uninviting/Exclusive—Welcoming/Inclusive
- Identity: Weak—Strong
- Urban Texture: Separate Pavilions In Space—Continuous Field With Courtyards
- Urban Texture: Separate From Adjoining City—Integrated With Adjoining City
- Bldg Heights: 2-3 Stories—3-6 Stories
                  3-6 Stories—6 Stories+Towers
                  6 Stories+Towers—6 Stories+Towers+Linear Bldgs Over Streets
- Street Spaces: 2-Dimensional Paths—3-Dimensional Rooms
                  Linear Axial—Meandering Organic
                  Separated From Adjoining City—Integrated With Adjoining City
- Street Walls: Opaque—Transparent
                  Gross Scale—Human Scale
- Bldg Forms: Homogenous—Heterogenous
- Bldg Materials: Homogenous—Heterogenous
- Bldg Styles: Traditional—Modern—Postmodern
                  Homogenous—Heterogenous
- Lndscp Form: Urban Formal—Natural Informal
- Lndscp Texture: Separate From Adjoining City—Integrated With Adjoining City
- Human Uses: Segregated/Limited—Mixed/Unlimited
                  Learning—Lrng/Livg/Shopg/Imaging/CelebratgVeneratg/Governg
- Temp'l Qlities: Min Hours Per Dy/Wk/Mo/Yr—Max Hours Per Dy/Wk/MoYear
                  Low Quality(Day—Day+Night)—Hi Quality(Day—Day+Night)
                  WeakHistoricalMemory—StrongHistoricalMemory
- Environ Qlities: Unsustainable Environmentally—Sustainable Environmentally
- Social Qlities: Unsustainable Socially?—Sustainable Socially
- Security/Safety: Actually Insecure/Unsafe—Actually Secure/Safe?
                   Perceived As Insecure/Unsafe—Perceived As Secure/Safe
- Way Finding: Perceived As Labyrinthine—Perceived As Clear

4.5 Qualities Likely to Influence the Campus's Character In the Future

The word *campus*, more than any other term, sums up the unique physical character of the American college and university. "When it was first used to describe the grounds of a college, probably at Princeton in the late eighteenth century, *campus* had simply its Latin meaning, a field, and described the green expansiveness already distinctive of American schools. Gradually the word assumed wider significance, until at most colleges it came to mean the entire property, including buildings, so that one could speak of an 'urban campus' that might possess nothing remotely resembling a field. In 1925, the German city planner Werner Hegemann, writing about America, defined *campus* for his countrymen as 'a piece of land covered with the buildings of an American university.' But beyond these purely physical meanings, the word has taken on other connotations, suggesting the pervasive spirit of a school, or its *genus loci*, as embodied in its architecture and grounds."[4]

But a place's character emerges for us not only out of the physical place but also out of the ways of life that are lived there. At Auraria these are most succinctly summarized as *campus life* ⎯ a life devoted to learning and related activities. The campus and its ways of

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[4] Paul Venable Turner. *Campus: an American Planning Tradition.* [New York/Cambridge. The Architectural History Foundation/MIT Press. 1984] p.3

life are architectural and cultural expressions of Colorado's commitment to coming generations. The word campus thus sums up [not only] the distinctive physical qualities of the American college, but also its integrity as a self-contained community and its educational and social ideals.[5]

Despite its continuity over the centuries, the American campus has experienced major changes in its form which reflect not only **evolving notions of architectural planning** but [also] **changing educational and social principles** as well."[6]   Both of these topics now will be addressed briefly in order to articulate those trends most likely to influence the Auraria Campus's character in the future.

4.6 Evolving Notions Of Architectural Planning Influencing Auraria
Since the founding of the Auraria Campus in 1973, notions about the physical qualities desirable appear to have changed significantly. Among these are:

- **FROM _commuter campus_ TO _urban campus_:** The "crisis of sustainability" and rising costs of energy are among causes of a shift from commuting to the campus to living on or immediately off campus. A new emphasis on public transportation is reducing the need to provide storage for automobiles on campus and underscoring the importance of developing a compact campus that is supportive of and conducive to walking.

- **FROM _neglect-of_ TO _concern-about_ sustainability:** Only recently has society become aware of the hazards of neglecting the biosphere and the noosphere.[7] While the concern for environmental sustainability is driving major changes in how physical things like buildings are made and operated, the concern for social and economic sustainability is catalyzing significant reflections on how physical places are supportive or destructive of human relationships — people and other people, people and the political, people and the biosphere. At the same time that we are learning, or more accurately _re_-learning, the fundamental principles for living together with the life systems of the biosphere, so also we are re-learning the fundamental principles for living together with each other in liberty, equality, and justice.

- **FROM _campus-as-park_ TO _campus-as-city_:** When the Auraria campus first was conceived, it was thought of, designed, and constructed in terms of spaciousness and openness to the world, in the manner of the American college campus park. In its early years the American tradition largely rejected the European tradition of cloister-like buildings in favor of separate buildings set in open green space. Today, many years later, with the urbanization of downtown and in view of the limited land that is available for future growth, the campus now is thought of as a dense, urban place, an extension of downtown Denver. This is not to say that it is imagined as being subsumed into the

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[5] _ibid.,_ P4

[6] _ibid.,_P4

[7] **biosphere and noosphere**: The **biosphere** is the part of the Earth, including air, land, surface rocks, and water, within which life occurs, and which biotic processes in turn alter or transform. From the broadest biophysiological point of view, the biosphere is the global ecological system integrating all living beings and their relationships, including their interaction with the elements of the lithosphere, hydrosphere, and atmosphere. This biosphere is postulated to have evolved, beginning through a process of biogenesis or biopoesis, at least some 3.5 billion years ago. For Teilhard de Chardin, the **noosphere** is best described as a sort of 'collective consciousness' of human-beings. It emerges from the interaction of human minds. The noosphere has grown in step with the organization of the human mass in relation to itself as it populates the earth. As mankind organizes itself in more complex social networks, the higher the noosphere will grow in awareness. This is an extension of Teilhard's Law of Complexity/Consciousness, the law describing the nature of evolution in the universe. Pierre Teilhard de Chardin, added that the noosphere is growing towards an even greater integration and unification, culminating in the Omega Point—which he saw as the goal of history.

matrix of the city for there is agreement that the campus be identifiable as entity in itself. There is also agreement that there be stronger urban linkages between the campus and downtown, and that the campus reflect the urban character of the Lower Downtown neighborhood. For example, the Metro State mission statement includes these phrases: *An urban-enriched education. Urban excitement, convenience, diversity, unmatched cultural and recreational opportunities—with a campus adjacent to downtown Denver, the city is our extended campus. You benefit from relationships with the businesses, organizations and people who drive the city's success.*

- **FROM _industrial society_ TO _network culture_:** With the ever-growing influence of telematics[8] in education, there are ongoing debates about the relationship between the material and the immaterial. "With the interfacing of the material and immaterial, information that is living combines with life that is informational to refigure structures and systems that have long been believed to constitute experience and thought as well as ground reality. In the midst of the network and webs that form and reform out bodies, minds, and worlds, endless questions arise: Where does the natural end and the artificial begin? Where is the limit of mind and body? Can the difference between the material and the immaterial any longer be clearly defined? Is there any reality that is not virtual or any virtuality that is not real? What is inside? What is outside? What is above? What is below? What is surface? What is depth? These distinctions do not merely disappear in synthetic unity but are reconfigured as endless interfaces which, though undeniably superficial, are nonetheless profound. Interfaces hide nothing but other interfaces."[9]

4.7 Changing Educational And Social Patterns Influencing Auraria
Since the founding of the Auraria Campus in 1973, educational and social principles appear to have changed significantly. Among these are:

- **FROM _stability and security_ TO _complexity and challenge_:** Since the campus was founded in 1973, society has moved from a time of relative stability and security into one of unprecedented complexity and challenge. What distinguishes this time is not so much change as such but rather the acceleration of the rate of change. "Everything moves faster and faster until speed becomes an end in itself. At this point all that is solid seems to melt away, creating a sense of vertigo that is welcomed by some as the end of false consciousness and denounced by others as catastrophic nihilism. For many people, confusion and uncertainty create a desire for simplicity that leads to a futile longing to return to basic values and foundational beliefs. In today's world, however, simplicity has become an idle dream that can no longer be realized. . . . [It] seems clear that development — personal as well as natural and historical — has a direction: things tend to move from lesser to greater complexity. The task we now face is not to reject or turn away from complexity but to learn to live with it creatively."[10]

- **FROM _autonomous higher education_ TO _networked business/technological education_:** "In 1999, Merrill Lynch issued a 193 page research document for its privileged investors entitled *The Book of Knowledge: Investing in the Growing Education and Training Industry.* The opening paragraph sets the stage for the analysis as follows: *The two trillion dollar global education and training industry is going through radical changes. Market forces are providing a catalyst to alter the traditional ways education is delivered. Megatrends such as demographics, the Internet, globalization,*

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[8] **telematics:** the branch of information technology that deals with the long-distance transmission of computerized information.
[9] Mark C. Taylor. *Hiding.* [Chicago and London. The University of Chicago Press. 1997] p.324]
[10] Taylor. *ibid.* pp3-4

branding, consolidation, and outsourcing all play major roles in this transformation. In the U.S. . . . . . education and training is a $740 billion dollar market. There are three leading areas of projected growth:

1) College students. The number of high school graduates will grow 22 percent from 2.5 million in 1995 to 3.1 million in 2008. In addition to this increase, a greater number of high school students will be attending college.

2) Lifelong education. Demand for education throughout one's career will combine with a growing retirement population to create unprecedented demand for education beyond traditional college years.

3) International students. While the number of foreign students studying in the United States has been increasing steadily, there is a huge demand that remains unmet."[11]

- **FROM *university culture* TO *business culture*:** Higher education today is no longer funded by the State of Colorado to the degree that it was in 1973. Thus institutions of higher education have become more entrepreneurial in working to generate their own funding. This, in turn, has allied them in significantly stronger relationships with the private sector in regional business and community partnerships intended to stimulate new programs, new revenue for higher education, and an improved local economy. But the difficulties of making this transition are daunting. "It is proving to be as hard for universities to adapt to business culture as it is for business to adapt to university culture. If higher education is to thrive in network culture, it is necessary to call into question many of the foundational principles upon which . . . colleges and universities have rested for more than two hundred years:

  Lower faculty/Higher faculties
  Useless/Useful
  Unprofitable/Profitable
  Pure/Applied
  Intrinsic value/Extrinsic value
  Nonprofit/For-profit
  Education/Entertainment
  Education/Business
  University/Marketplace
  Ivory tower/Real world

  When the walls separating these hierarchies become permeable screens, everything changes. While undeniable risks are involved in such changes, the greater risk lies in resisting change. Education is too important to remain confined within the walls where many people would like to keep it. College and universities are not, and should not be, autonomous institutions devoted to the cultivation of useless knowledge. To survive in a rapidly changing and increasingly competitive environment, it is necessary for educators and educational institutions to find ways to adapt quickly and effectively. Even while claiming to be independent, colleges and universities remain intricately implicated in a marketplace that is not limited to ideas. The task facing educational institutions is to find new ways to turn market forces to their own advantage without losing control of what they produce. The responsibility of educators is to prepare students for life and work in a world changing at warp speed by creatively shaping new educational spaces."[12]

- **FROM *monolithic* TO *pluralistic* culture:** Our population has become significantly more ethnically, socially, and culturally diverse. Consequently there is a much greater

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[11] Mark C. Taylor. *The Moment of Complexity: emerging network culture.* [Chicago. University of Chicago Press. 2003] pp235-236
[12] *ibid.* pp268-269.

emphasis in Colorado upon the providing access to higher education for undergraduate, graduate, and professional students with a greater-than-ever multicultural diversity.

- **FROM *disciplinary* TO *interdisciplinary* culture:** There is a new emphasis upon *interdisciplinary collaboration* in research and education. *Interdisciplinary* is a term that refers to the qualities of studies that cut across several established disciplines or traditional fields of study. This involves researchers, students, and teachers in the goals of connecting and integrating several academic disciplines, professions, or technologies, along with their specific perspectives, in the pursuit of a common task. Interdisciplinary approaches typically focus on problems felt by the investigators to be too complex or vast to be dealt with the knowledge and tools of a single discipline, for example, the epidemiology of AIDS or global warming. The term may be applied where the subject is felt to have been neglected or even misrepresented in the traditional disciplinary structure of research institutions, for example, women's studies or ethnic area studies.[13]

- **FROM *insular* TO *networked* learning environments:** The World Wide Web has brought online learning to the university. There are many people today who believe that "the technological developments of the last half-century are creating conditions for a revolution as profound and far-reaching as the industrial revolution. Information and telematic technologies are recasting the very social, political, economic, and cultural fabric of life."[14]

- **FROM *lack of awareness, indifference, and inaction* TO *awareness, concern, and action*:** As is discussed in Section 5.0 of these guidelines, it is only in recent years that society has become aware of the hazards of failing to pay attention to our neglect of both earth systems and human society. Just as concern for environmental sustainability is influencing how physical things like buildings contribute to or are harmful of the natural environment, so also concerns for social and economic sustainability are catalyzing reflection on how physical places contribute to or are harmful the human environment — people and people, people and government, people and nature. Concurrent with our re-learning the principles for living together with nature, we are re-learning the principles for living together. Just as we are continuing to discover the threats to humanity posed by our degradation of the biosphere and profligate use of energy — global warming; depletion of the ozone layer; destruction of tropical rainforests; and continued decline in biodiversity — so also we are continuing to experience the threats to human society posed by our inequality, injustice, and tyranny — war; weapons of mass destruction; extreme hunger and poverty; HIV/AIDS, Malaria, and other diseases; child mortality; and lack of education.

 Today in the United States, we are becoming increasingly aware that the liberty, equality, and justice that form the foundation for our way of life, and that we routinely take for granted, are in fact conferred on us by the tender plant that is our liberal republic, and that this plant must be continually cared-for and nourished. Dr. James McHenry described the scene as he and Ben Franklin left the Federal Convention of 1787 in Philadelphia as follows: "A lady asked Dr. Franklin, 'Well Doctor, what have we got, a republic or a monarchy?' 'A republic,' replied the Doctor, 'if you can keep it.' Almost two hundred years later, at the end of World War II, Robert Maynard Hutchins, then President of the University of Chicago, observed "The death of democracy is not likely to be an assassination from ambush. It will be a slow extinction from apathy, indifference, and undernourishment."

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[13] *Wikipedia*
[14] *ibid.*, p4

It is in the light of these <u>changing educational and social patterns</u>, together with their associated <u>evolving notions of architectural planning</u>, that the following qualities are expected to influence the character of the Auraria Campus in the coming years.

4.8 Qualities Expected to Influence Auraria's Character In the Coming Years

The bold, blue type indicates, within the particular range of qualities displayed, those qualities most likely to influence the overall physical character of the campus in future.

- Edges: Distinct From Adjoining City—Integrated With Adjoining City
                          Opaque—Transparent
                          Uninviting/Exclusive—Welcoming/Inclusive
- Identity: Weak—Strong
- Urban Texture: Separate Pavilions In Space—Continuous Field With Courtyards
- Urban Texture: Separate From Adjoining City—Integrated With Adjoining City
- Bldg Heights: 2-3 Stories—3-6 Stories
                          3-6 Stories—6 Stories+Towers
                          6 Stories+Towers—6 Stories+Towers+Linear Bldgs Over Streets
- Street Spaces: 2-Dimensional Paths—3-Dimensional Rooms
                          Linear Axial—Meandering Organic
                          Separated From Adjoining City—Integrated With Adjoining City
- Street Walls: Opaque—Transparent
                          Gross Scale—HumanScale
- Bldg Forms: Homogenous—Heterogenous
- Bldg Materials: Homogenous—Heterogenous
- Bldg Styles: Traditional—Modern—Postmodern
                          Homogenous—Heterogenous
- Lndscp Form: Urban Formal—Natural Informal
- Lndscp Texture: Separate From Adjoining City—Integrated With Adjoining City
- Human Uses: Segregated/Limited—Mixed/Unlimited
                          Learning—Lrng/Livg/Shopg/Imaging/CelebratgVeneratg/Governg
- Temp'l Qlities: Min Hours Per Dy/Wk/Mo/Yr—Max Hours Per Dy/Wk/MoYear
                          Low Quality(Day—Day+Night)—Hi Quality(Day—Day+Night)
                          Weak Historical Memory—Strong Historical Memory
- Environ Qlities: Unsustainable Environmentally—Sustainable Environmentally
- Social Qlities: Unsustainable Socially—Sustainable Socially
- Security/Safety: Actually Insecure/Unsafe—Actually Secure/Safe
                          Perceived As Insecure/Unsafe—Perceived As Secure/Safe
- Way Finding: Perceived As Labyrinthine—Perceived As Clear
- PubPrivatSectors:Unrecognized In Campus Character—Recognized In Campus Character
- Interdisciplinarity:Unrecognized In Campus Character—Recognized In Campus Character
- Network Culture: Unrecognized In Campus Character—Recognized In Campus Character
- Sustainabl Culture:Unrecognized In Campus Character—Recognized In Campus Character
- Western Tradition: Unrecognized In Campus Character—Recognized In Campus Character

Section 5: Sustainability

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Discussion:
Guidelines:

5.0 Introduction

Within the international community it is commonly accepted that the single most pressing question of the 21st century is that of global sustainability[1]:

- *How can the life systems of the biosphere be sustained?*
  How can economic development and its resultants, environmental degradation and pathology, be undertaken so as to sustain rather than to degrade the life systems of the biosphere?
- *How can human development be sustained?*
  How can personal, social, political, and religious fragmentation and their resultants, psychological stress and international conflict, be overcome, and oppositions joined in a sustainable unity that does not repress differences?

At the heart of the concept of sustainability is a fundamental set of values that is best stated as *parallel care and respect for the ecosystem and for the people within the ecosystem*. From this value set emerges the goal of sustainability: to achieve human and ecosystem longevity and well-being together. Seen in this way, the concept of sustainability is much more than environmental protection in another guise. It is a positive concept that has as much to do with achieving well-being for people and ecosystems as it has to do with reducing ecological stress or environmental impacts.

Both the Auraria Campus Master Plan and Design Guidelines were created in order to shape development of the campus in the coming years. Thus at Auraria a key word in the question of sustainability is *development*. What is *sustainable development*? Sustainable development has many meanings. A special report on sustainable development published by The Urban Land Institute addresses this question as follows. "*Sustainable* implies forever, perpetuity, constant rebirth and renewal, an inexhaustible system. *Development* connotes change, growth, expansion, production, movement. Both words speak of time, evolutionary processes, and constructive adaptation. But each word modifies the other. Development, to be sustainable, must somehow incorporate renewal that ensures the continuity of matter, resources, populations, and cultures. Sustainability, to incorporate development, must allow change and adaptation to new conditions. Today, the two ideas

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[1] The Brundtland Commission, formally the World Commission on Environment and Development (WCED), known by the name of its Chair Gro Harlem Brundtland, was convened by the United Nations in 1983. The commission was created to address growing concern "about the accelerating deterioration of the **human environment** and **natural resources** and the consequences of that deterioration for **economic and social development**." In establishing the commission, the UN General Assembly recognized that environmental problems were global in nature and determined that it was in the common interest of all nations to establish policies for sustainable development.

together speak of balancing economic and social forces against the environmental imperatives of resource conservation and renewal for the world of tomorrow."[2]

"That linkage between the works of humankind and the surrounding environment was articulated succinctly as early as 1864 when George Perkins Marsh observed, 'Man everywhere is a disturbing agent. Wherever he plants his foot, the harmonies of nature are turned to discords.' Almost a century later, Lewis Mumford reaffirmed Marsh's critique, writing that metropolitan growth 'is fast absorbing the rural hinterland and threatening to wipe out many of the natural elements favorable to life . . .'[3]

"During the 1960's and 1970's, concerns mounted worldwide over the degradation of fundamental environmental qualities. The global population was expanding explosively, more than tripling in the 20th century. Significant declines in air and water quality and biodiversity were documented in many parts of the world. The alarming destruction of tropical rainforests and the effect of greenhouse gases on the earth's atmosphere were often cited as indicators of the problems at hand. Looking forward, these trends foretold of serious threats to the sustainability of life on the planet.[4]

"These anxieties came to a head in 1987 with the work of the Brundtland Commission, which was formed by the United Nations. The commission's reports sounded a stern warning about the reality of the reduction in the earth's capacity to sustain life in the face of overwhelming growth in world population. **It called for major initiatives to reverse that decline by recognizing the intertwined relationships of <u>environmental conservation</u>, <u>economic prosperity</u>, and <u>social equity</u> — the essence of sustainable development.**[5]

"The commission defined sustainable development as '[d]evelopment which meets the needs of the present without compromising the ability of future generations to meet their own needs.'[6]

<u>Green development</u> is generally differentiated from <u>sustainable development</u> in that Green development prioritizes what its proponents consider to be environmental sustainability over economic and cultural considerations. Proponents of sustainable development argue that it provides a context in which to improve overall sustainability where cutting edge Green development is unattainable. For example, a cutting edge treatment plant with extremely high maintenance costs may not be sustainable in regions of the world with fewer financial resources. An environmentally ideal plant that is shut down due to bankruptcy is obviously less sustainable than one that is maintainable by the community, even if it is somewhat less effective from an environmental standpoint.[7]

Some research activities start from this definition to argue that the environment is a combination of nature and culture. The Network of Excellence "Sustainable Development in a Diverse World", sponsored by the European Union, integrates multidisciplinary capacities and interprets cultural diversity as a key element of a new strategy for sustainable development.

Still other researchers view environmental and social challenges as opportunities for development action. This is particularly true in the concept of sustainable enterprise that frames these global needs as opportunities for private enterprise to provide innovative and

[2] Douglas R. Porter. *The Practice of Sustainable Development.* [Washington, DC. Urban Land Institute. 2000] p.1
[3] *ibid.*
[4] *ibid.*
[5] *ibid.*
[6] *ibid.*
[7] *Wikipedia.* Sustainable development

entrepreneurial solutions. This view is now being taught at many business schools including the Center for Sustainable Global Enterprise at Cornell University and the Erb Institute for Global Sustainable Enterprise at the University of Michigan.

5.1 Broad Approaches to Sustainable Development

Despite differences, there are a number of common principles embedded in most charters or action programs to achieve sustainable development, sustainability, or sustainable prosperity. The differences between the programs lie in variations in emphasis arising out of different value sets. "Values vary greatly in detail within and between cultures, as well as between academic disciplines (e.g., between economists and ecologists). The introduction of social values to sustainability goals implies a much more complex and contentious debate, and those focused on ecological impacts tend to strongly resist non-ecological interpretations. Some people see at the heart of the concept of sustainability a vision of 'parallel care and respect for the ecosystem and for the people within'. From this vision there emerges the goal of sustainability: to achieve human and ecosystem longevity and well-being together. Others understand the concept of sustainability in more limited terms as concern about the ecosystem — conserving an ecological balance and avoiding depletion of natural resources

The majority of those who design buildings today have focused their effort along this narrower view. This is understandable in that buildings figure prominently in human influence on the natural environment.[8] Thus architects think primarily in terms of the environmental aspects of sustainable development, especially as these are 'visible, measurable, and weighable', ranging from improving air and water quality to reducing solid waste. The Leadership in Energy and Environmental Design (LEED) Green Building Rating System, developed by the U.S. Green Building Council (USGBC), provides a suite of standards for environmentally sustainable construction. Buildings that meet the LEED standards yield a fundamental reduction in environmental impacts in addition to many economic and occupant benefits. Such benefits go a long way for making a case for "green" building. It is important to note that these benefits are reaped by anyone who comes into contact with the project that includes owners, occupants and society as a whole.

However those who are involved in larger scale and more complex projects at the scale of urban design, city design, and urban & regional planning embrace a larger set of concerns and hold social and economic factors to be as important as environmental issues. For example, the Urban Land Institute reiterates the Brundtland Commission's definition of sustainable development as *development which meets the needs of the present without compromising the ability of future generations to meet their own needs.* "Expanding on this definition, the commission outlined five key principles of sustainability:
- Needs of the future must not be sacrificed to the demands of the present.
- Humanity's economic future is linked to the integrity of natural systems.
- The present world system is not sustainable because it is not meeting the needs of many, especially the poor.
- Protecting the environment is impossible unless we improve the economic prospects of the earth's poorest peoples.

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[8] " 'The building sector represents 40% of the nation's primary energy consumption--72% of electricity and 55% of natural gas--exceeding any other sector of the U.S. economy, including transportation and industry,' says DOE assistant secretary Alexander Karsner. And greenhouse gas emissions from U.S. buildings are nearly equal to the total greenhouse gas emissions from France, the U.K. and Japan combined." - Making Energy-Saving Buildings, Forbes.com, Kerry A. Dolan, 08.05.08, 8:00 PM ET

- We must act to preserve as many options as possible for future generations since they have the right to determine their own needs for themselves."[9]

A recently-published book[10] outlines a set of broad strategies for realizing environmental sustainability in urban systems:
- Increase sustainability through promoting [higher population] density.
- Integrate transportation and land use.
- Create sustainable neighborhoods — housing, car-free areas, locally-owned stores, walkable neighborhoods, and universal accessibility.
- Recognize and seek to realize the health and environmental benefits of linking people to nature, including walk-to open spaces, neighborhood stormwater systems and waste treatment, and food production.
- Design and construct high performance buildings and district energy systems.

Several examples of such broad approaches are summarized below.
National Renewable Energy Laboratory (NREL)
The National Renewable Energy Laboratory is the nation's primary laboratory for renewable energy and energy efficiency research and development. NREL's mission and strategy are focused on advancing the U.S. Department of Energy's and our nation's energy goals. The laboratory's scientists and researchers support critical market objectives to accelerate research from scientific innovations to market-viable alternative energy solutions. At the core of this strategic direction are NREL's research and technology development areas. These areas span from understanding renewable resources for energy, to the conversion of these resources to renewable electricity and fuels, and ultimately to the use of renewable electricity and fuels in homes, commercial buildings, and vehicles. The laboratory thereby directly contributes to our nation's goal for finding new renewable ways to power our homes, businesses, and cars.
NREL's R&D areas of expertise are:
- Renewable electricity
- Renewable fuels
- Integrated energy system engineering and testing
- Strategic energy analysis[11]

Environmental Protection Agency (EPA)
The EPA holds that "Sustainable development marries two important themes: that environmental protection does not preclude economic development and that economic development must be ecologically viable now and in the long run. Common use of the term "sustainability" began with the 1987 publication of the World Commission on Environment and Development report, Our Common Future. Also known as the Brundtland Report, this document defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." This concept of sustainability encompasses ideas, aspirations and values that continue to inspire public and private organizations to become better stewards of the environment and that promote positive economic growth and social objectives. The principles of sustainability can stimulate technological innovation, advance competitiveness, and improve our quality of life."[12]

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[9] Douglas R. Porter. *Ibid.,* p5
[10] Douglas Farr. *Sustainable Urbanism: Urban Design with Nature.* [Hoboken, NJ. John Wiley & Sons, Inc. 2007]
[11] http://www.nrel.gov/overview/
[12] http://www.epa.gov/sustainability/basicinfo.htm#what

The EPA recommends that individual communities plan their own future. An early step in this planning is to develop a vision statement. A vision is the overall picture of the character of the community sometime in the future. A Vision Statement is a formal description of that vision. It illustrates with words and images what a community hopes to realize through community participation, action planning and implementation. The Vision Statement is the starting point for action. An example of an outline for such a statement addresses three qualities: Economic Vitality, Environmental Integrity, and Sense of Community.

- Economic Vitality promotes a variety of jobs and economic activity within the community.
- Environmental Integrity fosters efficient use of resources and protects the quality and diversity of environmental systems upon which the community depends.
- Sense of Community encourages inclusive citizen participation, and respect for heritage and culture.

The Urban Land Institute (ULI)

The Urban Land Institute is a non-profit education and research institute that is supported and directed by its members. Its mission is "to provide responsible leadership in the use of land in order to enhance the total environment."

The ULI summarizes a broad approach to sustainable development:

- Conserving natural resources by minimizing the consumption of land (through compact development, for example) and maintaining and restoring existing environmental attributes of development sites;
- Developing sites and designing buildings to reduce the consumption of energy and nonrenewable materials and the production of waste, toxic emissions, and pollution;
- Using existing and renewable urban resources such as underused buildings and sites, infrastructural systems already in place, and historic neighborhoods and structures;
- Designing developments to enhance a community's sense of place, livability, and social and economic interaction;
- Choosing and designing development sites in ways that increase access to jobs, affordable housing, transportation choices, and recreational facilities;
- Creating developments that expand the diversity, synergism, and use of renewable resources in the operation and output of local economic activities.[13]

Rocky Mountain Institute (RMI)

Rocky Mountain Institute is an independent, entrepreneurial, nonprofit organization. Their mission statement is to "foster the efficient and restorative use of resources to make the world secure, just, prosperous, and life-sustaining. Our staff shows businesses, communities, individuals, and governments how to create more wealth and employment, protect and enhance natural and human capital, increase profit and competitive advantage, and enjoy many other benefits — largely by doing what they do far more efficiently. Our work is independent, nonadversarial, and transideological, with a strong emphasis on market-based solutions."

RMI brings a unique perspective to resource issues, guided by these core principles:

- Advanced Resource Productivity: Efficiency creates wealth. Using natural resources much more productively — efficiently — is both profitable and better for the environment. Indeed, integrative design often makes large resource savings work better and cost less than small ones.
- Systems Thinking: Whole-system design: optimizing not just parts, but entire systems.
- Positive Action: RMI's positive approach doesn't alienate business. We don't lobby, litigate, or harass those with whom we disagree. Rather than focusing on problems and assigning blame, we find better ways of meeting human needs that turn snowballing costs and problems into cascading savings and solutions.

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[13] Urban Land Institute, *ibid.* p.2

- Market-Oriented Solutions: RMI sees environmental problems as opportunities. We believe in working with markets, not against them. Our solutions achieve high leverage by harnessing competitive forces and the economic self-interest of firms and individuals. At the same time, we seek to correct market failures that needlessly pit human and corporate interests against those of the environment.
- End-Use/Least-Cost Approach: Paying attention to demand produces better solutions. The trick is to reframe the question as, "What are we trying to do, and what's the best and cheapest way to do it?"
- Biological Insight: Imitating nature increases efficiency. Using nature as mentor, model, and measure often yields superior design solutions that profitably eliminate waste, loss, and harm.
- Corporate Transformation: Sustainable practices offer corporations a competitive advantage. Our work particularly influences corporations because they possess the combination of skills, resources, agility, and motivation — profit — to address humanity's most pressing challenges. Natural Capitalism provides a comprehensive blueprint for this market-based transition.
- The Pursuit of Interconnections: A solution to one problem may lead to solutions for others. If you understand the hidden connections between energy, climate, water, agriculture, transportation, security, commerce, and economic and social development, then you can often devise a solution to one problem (such as energy) that will also create solutions to many other problems at no extra cost.
- Natural Capitalism: Companies can profit from the principles of natural capitalism. The core principles above form the backdrop for Natural Capitalism, a new and rapidly spreading business model that harnesses environmental performance as an engine of competitive advantage. Our activities are increasingly based on this thesis, detailed in the book *Natural Capitalism: Creating the Next Industrial Revolution.* (www.naturalcapitalism.org).

AmoryLovins/WilliamMcDonough/AlanAtkisson/HunterLovins: *The Natural Advantage of Nations*[14]

The authors provide an international perspective and the first of many blueprints for sustainability through efficiency. The authors and their numerous contributors make a compelling business case for the Triple Bottom Line, showing in multiple ways how enterprises benefit from paying attention to economic, social and ecological factors. Through theory and case studies, they show how companies can "pick off the low hanging fruit" of easy cost savings to invest in adaptations and innovations for the long term, dealing transparently and systemically with risk, uncertainty, and irreversibility.

Topics addressed in the book are:

- Ensuring appropriate valuation, appreciation, and restoration of nature.
- Integration of environmental, social, human, and economic goals in policies and activities.
- Equal opportunity and community participation/sustainable community.
- Conservation of biodiversity and ecological integrity.
- Ensuring inter-generational equity.
- Recognizing the global integration of localities.
- A commitment to best practice.
- No net loss of human capital or natural capital.
- The principle of continuous improvement.
- The need for good governance.

The Millennium Project[15]

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[14] Amory B. Lovins, William McDonough, Alan Atkisson, and Hunter Lovins. *The Natural Advantage of Nations: Business Opportunities, Innovation and Governance in the 21st Century.* [London. Earthscan Publications, Ltd. 2006]

The Millennium Project was commissioned by the United Nations Secretary-General in 2002 to develop a concrete action plan for the world to achieve the Millennium Development Goals and to reverse the grinding poverty, hunger and disease affecting billions of people.

The Millennium Development Goals are:

- Eradicate Extreme Hunger and Poverty
- Achieve Universal Primary Education
- Promote Gender Equality and Empower Women
- Reduce Child Mortality
- Improve Maternal Health
- Combat HIV/AIDS, Malaria and other diseases
- Ensure Environmental Sustainability
- Develop a Global Partnership for Development

5.2 Common Principles: Sustainability

The examples of the wide range of broad approaches to sustainability cited above illustrate a span from the highly focused strategies that focus on the conservation of energy to the broad approaches that would configure civilization and human activity so that society, its members, and its economies are able to meet their needs and express their greatest potential in the present, while preserving biodiversity and natural ecosystems. It can easily be seen that the definitions and metrics that might result could be prescriptive of political, philosophical, or religious values.

Despite differences, however, a number of common principles are embedded in most charters or action programs to achieve sustainable development, sustainability, or sustainable prosperity. These include:

- **Dealing transparently and systemically with risk, uncertainty, and irreversibility.**
- **Ensuring appropriate valuation, appreciation, and restoration of nature.**
- **Integrating environmental, social, human, and economic goals in policies and actions.**
- **Encouraging equal opportunity and community participation & sustainable community.**
- **Conserving biodiversity and ecological integrity.**
- **Ensuring inter-generational equity.**
- **Recognizing the global integration of localities.**
- **Committing to the best practices.**
- **Working towards there being no net loss of human or natural capital.**
- **Practicing the principle of continuous improvement.**
- **Recognizing and acting upon the need for good governance.**[16]

5.3 Common Principles: Sustainable Urbanism

Sustainable Urbanism is:
- **Walkable and transit-served urbanism** integrated with
- **High-performance buildings** and
- **High-performance infrastructure.**

Core values of sustainable urbanism are:
- **Compactness (density)** and
- **Biophilia (human access to nature)**

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[15] http://www.unmillenniumproject.org/
[16] *ibid.* Amory B. Lovins, William McDonough, Alan Atkisson, and Hunter Lovins. *The Natural Advantage of Nations*

The structure of traditional urbanism is synonymous with the framework of urbanism described in the charter to the Congress for the New Urbanism:

- **Neighborhoods:** Compact, pedestrian-friendly, and mixed use
- **Districts:** Compact, pedestrian-friendly, single use (college campus, industrial park)
- **Corridors:** Ranging from boulevards and rail lines to rivers and parkways, Corridors connect Neighborhoods and Districts**.**

Sustainable Urbanism emphasizes that the personal appeal and societal benefits of neighborhood living — meeting daily needs on foot — are greatest in neighborhoods that integrate five attributes:

- **Definition**
- **Compactness**
- **Completeness**
- **Connectedness**
- **Biophilia**

5.4 Design Guidelines: Sustainability

These guidelines for campus sustainability have been drawn out of the discussions in paragraphs 5.0–5.3 above and especially out of paragraphs 5.2 Common Principles: Sustainability and 5.3 Common Principles: Sustainable Urbanism.

Auraria and its three institutions contribute to the global environment and human well being in several important ways. Through their primary missions of research, education and outreach, their faculties have made significant advances in science, economics, public policy, medicine, public health, political science, philosophy, religion, urban and regional planning, urban design, architecture, and landscape architecture. These institutions' academic preeminence and respect throughout the nation and region also provide a considerable opportunity and responsibility to consider the example set by the economic, human health, and environmental performance of its campus. Auraria and its institutions also influence generations of students whose future behaviors and decisions are shaped by what they learn from their campus experience and the actions of the leaders of these institutions. As Auraria plans its future growth, these considerations should support planning decisions that reflect a balance of **environmentally**, **socially,** and **economically** responsible values.

Each of these values is reflected in the following Design Guidelines:
5.5 Design Guidelines: Environmental Sustainability
5.6 Design Guidelines: Social Sustainability
5.7 Design Guidelines: Economic Sustainability

5.5 Design Guidelines: Environmental Sustainability
5.51 Introduction: Environmental Sustainability

Environmental sustainability refers to the potential longevity of vital human ecological support systems, such as the planet's climatic system, systems of agriculture, industry, forestry, fisheries, and the systems on which they depend. In recent years, public discourse has led to a use of "sustainability" in reference to how long human ecological systems can be expected to be usefully productive. In the past, complex human societies have died out, sometimes as a result of their own growth-associated impacts on ecological support systems. The implication is that modern industrial society, which continues to grow in scale and complexity, will also collapse.

The implied preference would be for systems to be productive indefinitely, or be "sustainable." For example, "sustainable agriculture" would develop agricultural systems to last indefinitely; "sustainable development" can be a development of economic systems that last indefinitely, etc. A side discourse relates the term sustainability to longevity of

natural ecosystems and reserves (set aside for other-than-human species), but the challenging emphasis has been on human systems and anthropogenic problems, such as anthropogenic climate change, or the depletion of fossil fuel reserves.

5.52   Design Guidelines: Environmental Sustainability
Sustainable Site Development Guidelines: Environmental Sustainability

- **When possible, comply with *LEED for Neighborhood Development*[17].**

- **Maximize population densities.**

- **Maximize compact development.**

- **Ensure appropriate valuation, appreciation, and restoration of nature.**

- **Integrate environmental, social, human, and economic goals in design, policies, and actions.**

- **Encourage equal opportunity, community participation, and sustainable community.**

- **Conserve biodiversity and ecological integrity.**

- **Work towards there being no net loss of natural capital.**

- **Practice the principle of continuous improvement.**

- **Continue the campus tradition of planting trees.**

- **Consider future development of the Auraria Parkway Interchange triangle for growth of the public urban space of the campus.**

- **Engage Sustainable Urbanist Professionals who have the necessary understanding, commitment, leadership, experience, skills, and expertise to serve as consultants to Auraria.**

- **Encourage and plan for sustainable modes of transportation such as rail, bus, bicycle, and pedestrian. New pedestrian paths created by future development should tie in to the existing campus pedestrian system. Bike access through the campus should be addressed by providing logical bike routes that connect in to the larger Denver bike path system.**

- **Reduce overall water use. Of the total water used, maximize the use of non-potable water.**

- **Limit chemical and pesticide use.**

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[17] ***LEED for Neighborhood Development*** "builds upon the recognition of LEED for green buildings, but expands the focus beyond the scale of the individual building to address multiple buildings, infrastructure, and entire neighborhood-scale development. It is a voluntary leadership standard intended to define what constitutes smart, sustainable development. *LEED for Neighborhood Development* was developed through a unique partnership between the Congress for New Urbanism, the Natural Resources Defense Council (representing the Smart Growth movement), and the United States Green Building Council. Having started in development in 2003, the standard likely will be fully piloted and operational sometime in 2009." - Douglas Farr. *Sustainable Urbanism.* P54

- **Design and construct all new buildings and major building renovations to comply with *Leadership in Energy and Environmental Design* (LEED) silver standards or gold if funding is provided by the State of Colorado.**

- **Reduce the buildings need for energy through passive solar heating, use of building orientation and maximize delighting instead of artificial lighting where possible**

- **Include recycling bins throughout the campus and new buildings – use bins as specific in Section 10.0 Site Furnishings**

- **Provide**
  - **Bike/scooter parking – new buildings should provide a minimum of two additional racks**
  - **Climate-appropriate landscape methods and materials**
  - **Interior fixtures that address water conservation and energy efficiency**

5.6 Design Guidelines: Social Sustainability
5.61 Introduction: Social Sustainability

Social sustainability addresses the development of programs and processes that promote social interaction and cultural enrichment. It emphasizes protecting the vulnerable, respecting social diversity, and ensuring that priority is placed upon social capital.

Social sustainability relates to how we make choices that affect other humans in our "global community" -- Earth. It covers the broadest aspects of business operations and the effect that they have on employees, suppliers, investors, local and global communities and customers. Social sustainability is also related to more basic needs of happiness, safety, freedom, dignity, and affection.

One of the three interlocking circles of sustainable development (environmental, social, and economic) is labeled social equity (or sometimes social opportunity for advancement). The three-circle concept recognizes that reconciling economic development with sustainable environmental qualities is not enough; the social needs of the human inhabitants of the land must also be a part of the equation. For many Americans, this translates into quality-of-life factors — comfort, security, privacy, and access to common facilities for education, edification, and recreation. For many other Americans, however, the principal social concern is equity — equal access to opportunities for jobs, incomes, and education as well as to the benefits of livable communities.

The "polity" is the entity in which three things are brought into coordination as people live together: a shared purpose; a government they construe in order to exercise power justly while reaching for that purpose; and a physical setting which serves their purposes and facilitates their governing themselves.

At the core of a livable community are the ideals of liberty, equality, and justice. Liberty, equality, and justice are the aims of democracy, but democracy is fragile. During World War II the president of the University of Chicago, Robert Maynard Hutchins, worried that "the death of democracy is not likely to be an assassination from ambush. It will be a slow extinction from apathy, indifference, and undernourishment." Almost a century earlier Frederick Douglass reflected upon the undernourishment of democracy"

> *Those who profess to love freedom*
> *and yet deprecate agitation,*
> *are those who want crops*

without plowing.
This struggle may be a moral one,
or it may be physical,
but it must be a struggle.
Power concedes nothing without demand.
It never did,
and it never will.

Earlier still, Ben Franklin held:
Those who would trade liberty for security deserve neither.

. . . and in the Declaration of Independence, Thomas Jefferson wrote:
. . . whenever any Form of Government becomes destructive of these ends, it is
the Right of the People to alter or to abolish it, and to institute new Government,
laying its foundation on such principles and organizing its powers in such form, as
to them shall seem most likely to effect their Safety and Happiness.

In another place, Jefferson reflected again on the same ultimate truth:
The tree of liberty must be refreshed from time to time with the blood of patriots
and tyrants. It is its natural manure.

What does the above discussion have to do with Design Guidelines? Yale philosopher and thinker on architecture and the city, Karsten Harries, would respond by saying that "the very point of architecture is to let us take leave from the everyday, but only to return us to it, now with eyes more open and a greater awareness of what matters. What Heidegger says of the Greek temple, that it lets the god be present, has its analogue in the presence of God in every church, or the presence of shared values in civic monuments — think of the Capital, of the Washington, Jefferson, and Lincoln memorials, or of Civil War monuments. Architecture has an ethical function in that it calls us out of the everyday, recalls to us the values presiding over our lives as members of a society; it beckons us toward a better life, a bit closer to the ideal. One task of architecture is to preserve at least a piece of utopia, and inevitably such a piece leaves and should leave a sting, awaken utopian longings, fill us with dreams of another and better world."[18]

5.62 Design Guidelines: Social Sustainability
Sustainable Site Development Guidelines: Social Sustainability

- **Comply with the guidelines in the other sections of these Design Guidelines, especially Section 7.0: Public Urban Space. See the discussions here of the importance of the street, the square, the green, and the connections to adjoining neighborhoods.**

- **Recognize and act upon the need for good governance**

- **Design both indoor and outdoor spaces to encourage social interaction and dialogue.**

- **Foster awareness among those present on the campus of the values presiding over our lives as members of a democratic society.**

- **Preserve within the campus a piece of utopia where such a piece should leave a sting, awaken utopian longings, and fill us with dreams of another and better world.**

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[18] Karsten Harries. *The Ethical Function of Architecture.* [Cambridge and London. MIT Press. 1997]

- **Design campus elements with an eye to enhancing the community's sense of place, livability, and social and economic interaction.**

- **Choose and design sites in ways that increase access to jobs, affordable housing, transportation choices, and recreational facilities.**

- **Seek out many ways to enhance community. A unique source to stimulate your imagination is Christopher Alexander's *A Pattern Language.*[19] Here are provided only a handful of examples of this rich collection of ideas for enhancing the sense of community on the campus. The numbers and titles of the Patterns illustrated are taken directly from the book.**

    o **8. MOSAIC OF SUBCULTURES.** Enrich the cultures and subcultures of the campus by breaking the campus into a mosaic of small and different subcultures, each with its own spatial territory, and each with the possibility to create its own distinct life style. Ensure that the subcultures are small enough so that each person has access to the full variety of life styles in the subcultures near his own;
    o **13. SUBCULTURE BOUNDARY.** Separate neighboring subcultures with a swath of space of at least 200 feet. Along the seam between two subcultures build meeting places (shady lawns, benches, sitting walls, small squares, sidewalk cafes, etc.), shared functions touching each community;
    o **14. IDENTIFIABLE NEIGHBORHOOD.** People need an identifiable spatial unit to belong to. Create identifiable neighborhoods; mark the neighborhood by modest spatial gateways wherever main paths enter them, and by modest boundaries; give the neighborhood a visible center, perhaps a common or a green or a small public square;
    o **15. NEIGHBORHOOD BOUNDARY.** Encourage the formation of a boundary around each neighborhood to separate it from the neighborhoods next door. Place spatial "gateways" at those points where the access paths cross the boundary;
    o **24. SACRED SITES.** People cannot maintain their spiritual roots and their connections to the past if the physical world in which they live does not also sustain those roots. Therefore ask a large number of people which sites and which places make them feel the most contact with the area; which sites stand most for the important values of the past, and which ones embody their connection to the land. From what is learned, consider establishing a number of nuclei for "sacred sites" that can be embellished over time in ways which intensify their public meaning;
    o **25. ACCESS TO WATER.** People have a fundamental yearning to be near water. Provide access to water; in our arid climate, water is very precious, and thus this will not be easy to accomplish without imaginative consideration; for example, at the University of Arizona, landscape architect Michael Van Valkenburgh designed a "dry fountain" in order to collect water during local heavy rains, hold the water, and then to let it slowly evaporate; even when there is no water, there are the *memory and character* of water present at the dry fountain.
    o See *The Pattern Language* for over 200 additional catalysts for the imagination.

Sustainable Building Design Guidelines: Social Sustainability
- **Work to create <u>a sense of community</u> in campus buildings and in the spaces immediately adjoining them. This might be accomplished through a variety of architectural means:**
    o Gallerias

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[19] Christopher Alexander, Sara Ishikawa, Murray Silverstein, with Max Jacobson, Ingrid Fiksdahl-King, Shlomo Angel. *A Pattern Language: Towns, Buildings, Construction.* [New York. Oxford University Press. 1977]

- o Exhibition Places
- o Stairways
- o Courtyards
- o Loggias
- o Pergolas
- o Common rooms
- o Gardens and Sitting Walls
- o Rooftop Outlooks
- o Below-grade Inlooks
- o Pavilions
- o Gazebos
- o Porches
- o Niches
- o Observatories
- o Digital Screens
- o Digital Broadcasts to Handheld Computers

- **Raise peoples' levels of awareness of a *horizon of significance,* of what really *matters* in our lives; for example:**
  - o the patterns of history,
  - o the demands of nature,
  - o the needs of our fellow humans and other sentient beings,
  - o the duties of citizenship, and
  - o the call of the Divine
  - o or something else of this order that *matters* crucially

- **Support individual and communal experiences of <u>the natural world</u>, both objectively and subjectively. For example:**
  - o <u>Objectively</u>, through a scientific perspective, seeking to understand the nature of our world — the stars, the plants, the flowers, the birds, and everything around us — through our own cognitive faculties and through the eyes of the scientific community.

    Objective connections to the natural world might be offered through such common means as:
    - ❖ Windows that open so that one can hear the wind moving through the leaves of the trees outside, or the song of a bird, or the strident rhythms of a marching band;
    - ❖ Entire walls that open to the outdoors, as in the dining area of the North Classroom building galleria, so that there is a blurring of the differences between the natural and human-made worlds;
    - ❖ Exhibitions and demonstrations mounted and presented by students and faculty of Auraria's three institutions;
    - ❖ Sculptural constructs designed to intensify peoples' experiences of natural phenomena. At the University of Arizona, in the courtyard of the Aerospace and Mechanical Engineering Building, there is a "dry fountain" created by landscape architect Michael Van Valkenburgh. Constructed of large river rock, the fountain is dry much of the time. However at the times of Tucson's monsoon rains, the ways in which the water runs through the courtyard into the fountain, and the ways in which it percolates within the rocks long after the storm, provide students and faculty with heightened awareness of water and its physical and poetical qualities.

  - o <u>Subjectively</u>, through a spiritual perspective, seeking to engage the big questions about the meaning and purpose of life: Where did I come from? What will happen to

me when I die? What is my true nature? Am I only body? Or am I something else who has a body?

Subjective connections to the natural world might be offered through a large variety of gardens, gazebos, outlooks, and inlooks.

❖ Martin Heidegger writes about the phenomenology of human contact with the Earth[20]: *Earth is the serving bearer, blossoming and fruiting, spreading out in rock and water, rising up in plant and animal.*
  On the campus, there could be created a family of gardens, arbors, copses, and preserves within which one could be mindfully aware of the presence of Earth. For example: *The Garden of Abundance*, *The Arbor of The Fragrances*, *The Tree of the Winged,* and *The Clearing of Spectral Delights* ⸺ each might open us, in its own way, to the presence of Earth as the serving bearer, blossoming and fruiting, spreading out in rock and water, rising up in plant and animal.

❖ Heidegger also writes about human experiences of the Sky: *The Sky is the vaulting path of the sun, the course of the changing moon, the wandering glitter of the stars, the year's seasons and their changes, the light and dusk of day, the gloom and glow of night, the clemency and inclemency of the weather, the drifting clouds and the blue depth of the ether.*
  On the campus, there could a family of diverse public inlooks and outlooks from which to be mindfully aware of the presence of the Sky. For example: *The Inlook of the Sliding Shadow* would trace the vaulting path of the sun from black darkness to emergent glowingness to omnipotent brilliance, and from omnipotent brilliance to subsiding redness to abiding blackness; from east to west, from low to high, from north to south and south to north, from cool to hot and hot to cool, from solstice to equinox to solstice to equinox, and then around again in yet another cycle of the eternal present.

- **Support individual and communal experiences of <u>the human world</u>, both objectively and subjectively. For example:**
  o <u>Objectively</u>, through, anthropological, archaeological, sociological, psychological, physiological, political, artistic, musical, poetic, architectural, historical (and other) perspectives, seeking to understand the nature of ourselves as individuals and communities in history.

    Objective connections to the human world even now are offered on the campus through such common means as:
    ❖ Public exhibitions, lectures, performances, films, and readings.
    ❖ Impromptu performances, rallies, protests, speeches, and displays.
    ❖ Historical monuments and sculpture dedicated to keeping the memories alive of those events and people from the past that remain significant in the present and help us to imagine the future.
    ❖ Cultural monuments dedicated to renewing our memories of the great figures from the worlds of literature, painting, sculpture, music, and poetry. In New York's Central Park the collection of sculpture represents the most important artists and stylistic movements of nineteenth and twentieth century America. Neoclassicism, realism, Beaux-Arts monumentality, folk art, modernism, and conceptual art are all represented, as well as the breadth of American history

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[20] Martin Heidegger. "Building Dwelling Thinking", in *Poetry, Language, Thought.* Translated by Albert Hofstadter [New York. Perennial Classics. 2001]

from the Civil War to the Cold War, and a range of cultural figures from Beethoven to John Lennon and from the Ugly Duckling to Mother Goose.

❖ Simple gardens for impromptu memorials. In fall 2002, the public was invited to Central Park to participate in a bulb planting dedicated to the memory of the World Trade Center victims.

Subjective connections to the human world might be offered through a variety of places designed to enhance our experiences of the human condition.

- **Support individual and communal experiences of <u>the Divine</u>. For example:**
  On the campus, there could be ordered a family of holy places for mortals to contemplate the divinities, their presence and their absence, their approaching and their withdrawing, their appearing and their disappearing, and to meditate in Silence in the presence of the Mystery. Additionally, since St. Elizabeth's remains a functional church, surrounding buildings must recognize its importance in the greater community fabric and celebrate its continued use as a place of worship.

- **Support individuals' interaction with each other in community.**

- **Make the walls of buildings, both exterior walls and interior walls, "porous" [see Section 4.0 Edges] so that people may become aware of what is happening within the various departments of the three institutions on campus.**

- **Seek out many ways to enhance community in buildings. A unique source to stimulate your imagination is Christopher Alexander's *A Pattern Language*.[21] Here are provided only a handful of examples of this rich collection of ideas for enhancing the sense of community in campus buildings. The numbers and titles of the Patterns illustrated are taken directly from the book.**
  - **43. UNIVERSITY AS A MARKETPLACE.** Establish the university as a marketplace of higher education. As a social conception, this means that the university is open to people of all ages, on a full-time, part-time, or course-by-course basis. Anyone can offer a class. Physically the university marketplace has a central crossroads where its main buildings and offices are, and the meeting rooms and labs ripple out from this crossroads — at first concentrated in small buildings along pedestrian streets and then gradually becoming more dispersed and mixed with the town.
  - **44. LOCAL TOWN HALL.** To make the political control of local functions real, establish a small town hall for each community of 7,000, and even for each neighborhood; locate it near the busiest intersection in the community. Give the building three parts: an arena for public discussion, public services around the arena, and a space to rent out to ad hoc community projects.
  - **45. NECKLACE OF COMMUNITY PROJECTS.** Allow the growth of small shop-size spaces around the local town hall, land any other appropriate community building. Front these shops on a busy path, and lease them for a minimum rent to ad hoc community groups for political work, trial services, and advocate groups. No ideological restrictions.
  - **66. HOLY GROUND.** In each community and neighborhood, identify some sacred site as consecrated ground, and form a series of nested precincts, each marked by a gateway, each one progressively more private, and more sacred, than the last, the innermost a final sanctum that can only be reached by passing through all the outer ones.

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[21] Christopher Alexander, Sara Ishikawa, Murray Silverstein, with Max Jacobson, Ingrid Fiksdahl-King, Shlomo Angel. *A Pattern Language: Towns, Buildings, Construction.* [New York. Oxford University Press. 1977]

- o **70. GRAVE SITES.** Allocate pieces of land throughout the community as grave sites — corners of greens, sections of paths, gardens, beside gateways — where memorials to people who have died can be ritually placed with inscriptions and mementoes which celebrate their life. Give each grave site an edge, a path, and a quiet corner where people can sit. By custom, this is hallowed ground.
- o **80. SELF-GOVERNING WORKSHOPS AND OFFICES.** Encourage the formation of self-governing workshops and offices of 5 to 20 workers. Make each group autonomous — with respect to organization, style, relation to other groups, hiring and firing, work schedule. Where the work is complicated and requires larger organizations, several of these work groups can federate and cooperate to produce complex artifacts and services.
- o **82. OFFICE CONNECTIONS.** To establish distances between departments, calculate the number of trips per day made between each two departments; get the "nuisance distance' from the graph [see Pattern 82 in the book]; then make sure that the physical distance between the two departments is less than the nuisance distance. Reckon one flight of stairs as about 100 feet, and two flights of stairs as about 300 feet.
- o **88. STREET CAFÉ.** Encourage local cafes to spring up in each neighborhood. Make them intimate places, with several rooms, open to a busy path, where people can sit with coffee or a drink and watch the world go by. Build the front of the café so that a set of tables stretch out of the café, right into the street.
- o **90. BEER HALL.** Somewhere in the community at last one big place where a few hundred people can gather, with beer and wine, music, and perhaps a half-dozen activities, so that people are continually criss-crossing from one to another.
- o **99. MAIN BUILDING.** For any collection of buildings, decide which building in the group houses the most essential function — which building is the soul of the group, as a human institution. Then form this building as the main building, with a central position and higher cornice line. Even if the building complex is so dense that it is a single building, build the main part of it higher and more prominent than the rest, so that the eye goes immediately to the part which is the most important.
- o **100. PEDESTRIAN STREETS.** Arrange buildings so that they form pedestrian streets with many entrances and open stairs directly from the upper stories to the street, so that even movement between rooms is outdoors, not just movement between buildings.
- o **101. BUILDING THOROUGHFARE.** Wherever density or climate force the main lines of circulation indoors, build them as building thoroughfares Place each thoroughfare in a position where it functions as a shortcut, as continuous as possible with the public street outside, with wide open entrances. And line its edges with windows, places to sit, counters, and entrances which project out into the hall and expose the buildings' main functions to the public. Make it wider than a normal corridor — at least 11 feet wide and more usually 15 to 20 feet wide; give it a high ceiling, at least 15 feet, with a glazed roof if possible and low places along the edge. If the street is several stories high, then the walkways along the edges, on the different stories, can be used to form the low places.
- o **102. FAMILY OF ENTRANCES.** When a person arrives in a complex of offices or services or workshops, there is a good chance that he will experience confusion unless the whole collection is laid out before him, so that he can see the entrance to the place where he is going. Lay out the entrances to form a family. This means: 1. They form a group, are visible together, and each is visible from all the others. 2. They are all broadly similar, for instance all porches, or all gates in a wall, or all marked by a similar kind of doorway.
- o **110. MAIN ENTRANCE.** Place the main entrance of the building at a point where it can be seen immediately from the main avenues of approach and give it a bold visible shape which stands out in front of the building.

o **112. ENTRANCE TRANSITION.** Buildings with a graceful transition between the street and the inside are more tranquil than those which open directly off the street. Make a transition space between the street and the front door. Bring the path which connects street and entrance through this transition space, and mark it with a change of light, a change of sound, a change of direction, a change of surface, a change of level, perhaps by gateways which make a change of enclosure, and above all with a change of view.

o **115. COURTYARDS WHICH LIVE.** Place every courtyard in such a way that there is a view out of it to some larger open space; place it so that at least two or three doors open from the building into it and so that the natural paths which connect these doors pass across the courtyard. And, at one edge, beside a door, make a roofed verandah or a porch, which is continuous with both the inside and the courtyard.

o **118. ROOF GARDEN.** Make parts of every roof system usable as roof gardens. Make these parts flat, perhaps terraced for planting. Place the roof gardens at various stories, and always make it possible to walk directly out onto the roof garden from some lived-in part of the building.

o **119. ARCADES.** Consider the fact that arcades — covered walkways at the edge of buildings, which are partly inside, partly outside — play a vital role in the way that people interact with buildings. Wherever paths run along the edge of buildings, build arcades, and use the arcades, above all, to connect up the buildings to one another, so that a person can walk from place to place under the cover of the arcades.

o **122. BUILDING FRONTS.** Building set-backs from the street, originally invented to protect the public welfare by giving every building light and air, have actually helped greatly to destroy the street as a social space. On no account allow set-backs between streets or paths or public open land and the buildings which front on them. The set-backs do nothing valuable and almost always destroy the value of the open areas between the buildings. Build right up to the paths; change the laws in all communities where obsolete by-laws make this impossible. And let the building fronts take on slightly uneven angles as they accommodate to the shape of the street.

o **125. STAIR SEATS.** Wherever there is action in a place, the spots which are the most inviting are those high enough to give people a vantage point and low enough to put them into action. In any public place where people loiter, add a few steps at the edge where the stairs come down or where there is a change of level. Make these raised areas immediately accessible from below, so that people may congregate and sit to watch the goings-on.

o **127. INTIMACY GRADIENT.** Unless the spaces in a building are arranged in a sequence which corresponds to their degrees of privateness, the visits made by strangers will always be a little awkward. Lay out the spaces of a building so that they create a sequence which begins with the entrance and the most public parts of the building, then leads into the slightly more private areas, and finally into the most private domains.

o **128. INDOOR SUNLIGHT.** If the right rooms are facing south, a building is bright and sunny and cheerful; if the wrong rooms are facing south, the building will be dark and gloomy. Place the most important rooms along the south edge of the building, and spread the building out along the east-west axis. Fine tune the arrangement so that the proper rooms are exposed to the southeast and the southwest sun. For example: give the common area a full southern exposure.

o **129. COMMON AREAS AT THE HEART.** Create a single common area for every social group. Locate it at the center of gravity of all the spaces the group occupies, land in such a way that the paths which go in and out of the building lie tangent to it.

o **130. ENTRANCE ROOM.** At the main entrance to a building, make a light-filled room which marks the entrance and straddles the boundary between indoors and

outdoors, covering some space outdoors and some space indoors. The outside part may be like an old-fashioned porch; the inside like a hall or sitting room.

o **131. THE FLOW THROUGH ROOMS.** As far as possible, avoid the use of corridors and passages. Instead, use public rooms and common rooms as rooms for movement and for gathering. To do this, place the common rooms to form a chain, or loop, so that it becomes possible to walk from room to room — and so that private rooms open directly off these public rooms. In every case, give this indoor circulation from room to room a feeling of great generosity, passing in a wide and ample loop around the building, with views of inside and outside attractions.

o **132. SHORT PASSAGES.** Keep passages short. Make them as much like rooms as possible. Make them generous in shape, and always give them plenty of light; the best corridors and passages of all are those which have windows along an entire wall.

o **133. STAIRCASE AS A STAGE.** A staircase is not just a way of getting from one floor to another. The stair is itself a space, a volume, a part of the building; and unless this space is made to live, it will be a dead spot and work to disconnect the building and tear its processes apart. Place the main stair in a key position, central and visible. Treat the whole staircase as a room, or, if it is outside, as a courtyard. Arrange it so that the stair and the room are one, with the stair coming down around one or two walls of the room. Flare out the bottom of the stair with open windows or balustrades and with wide steps so that people coming down the stair become part of the action in the room while they are still on the stair, and so that people below will naturally use the stair for seats.

o **134. ZEN VIEW.** The archetypal zen view occurs in a famous Japanese house, which gives this pattern its name. If there is a beautiful view, don't spoil it by building huge windows that gape incessantly at it. Instead, put the windows which look onto the view at places of transition — along paths, in hallways, in entry ways, on stairs, between rooms. If the view window is correctly placed, people will see a glimpse of the distant view as they come up to the window or pass it: but the view is never visible from the places where people stay.

o **135. TAPESTRY OF LIGHT AND DARK.** In a building with a uniform light level, there are few "places" which function as effective settings for human events. This happens because, to a large extent, the places which make effective settings are defined by light. Create alternating areas of light and dark throughout the building, in such a way that people naturally walk toward the light, whenever they are going to important places: seats, entrances, passages, places of special beauty, and make other areas darker to increase the contrast.

o **142. SEQUENCE OF SITTING SPACES.** Put a sequence of graded sitting spaces throughout the building, varying according to their degrees of enclosure. Enclose the most formal ones entirely, in rooms by themselves; put the least formal ones in corners of other rooms, without any kind of screen around them; and place the immediate one with a partial enclosure around them to keep them connected to some larger space, but also partly separate.

o **147. COMMUNAL EATING SPACE.** Give every institution and social group a place where people can eat together. Make the common meal regular event. In particular, start a common lunch in every work place, so that a genuine meal around a common table (not out of boxes, machines, or bags) becomes an important, comfortable, and daily event with room for invited guests.

o **148. SMALL WORK GROUPS.** Break institutions into small, spatially identifiable work groups, with less than half a dozen people in each. Arrange these work groups so that each person is in at least partial view of the other members of his own group; and arrange several groups in such a way that they share a common entrance, food, office equipment, drinking fountains, and bathrooms.

o **150. A PLACE TO WAIT.** In places where people end up waiting, create a situation which makes the waiting a positive experience. Fuse the waiting with some other

activity — newspaper, coffee, games; something which draws people in who are not simply waiting. And also the opposite: make it a place which can draw a person waiting into a reverie; quiet, a positive silence.

o **151. SMALL MEETING ROOMS.** The larger meetings are, the less people get out of them. Make at least 70 per cent of all meeting rooms really small — for 12 people or less. Locate them in the most public parts of the building, evenly scattered among the workplaces.

o **160. BUILDING EDGE.** Make sure that you treat the edge of the building as a "thing", a "place", and a zone with volume to it, not a line or interface that has no thickness. Crenelate the edge of buildings with places that invite people to stop. Make places that have depth and a covering, places to sit, lean, and walk, especially at those points along the perimeter which look onto interesting outdoor life.

o **161. SUNNY PLACE.** The area immediately outside the building, to the south — that angle between its walls and the earth where the sun falls — must be developed and made into a place which lets people bask in it. Inside a south-facing court, or garden, or yard, find the spot between the building and the outdoors which gets the best sunlight. Develop this spot as a special sunny place — make it the important outdoor room, a place to work in the sun, or a place for a swing and some special plants, a place to sunbathe. Be very careful indeed to place the sunny place in a position where it is sheltered from the wind. A steady wind will prevent you from using the most beautiful place.

o **162. NORTH FACE.** Consider how best to address the outdoor area on the building's north face. Is there a way to make the area in shade beneficial to those who will use it? If not, consider making the north face of the building a cascade which steps down to the ground so that the sun which normally would cast a long shadow to the north strikes the ground immediately beside the building.

o **164. STREET WINDOWS.** A street without windows is blind and frightening, and it is equally uncomfortable to be in a building which bounds a public street with no window at all on the street. Where the building runs along a street, build windows with window seats, looking out onto the street.

o **165. OPENING TO THE STREET.** The sight of action is an incentive for action when people can see into spaces from the street, their world is enlarged and made richer; there is more understanding; and there is the possibility for communication and learning. In any public space which depends for its success on its exposure to the street, open it up, with a fully opening wall which can be thrown wide open, and if it is possible, include some part of the activity on the far side of the pedestrian path, so that it actually straddles the path, and people walk through it as they walk along the path.

o **168. CONNECTION TO THE EARTH.** A building feels isolated from the nature around it unless its floors are interleaved directly with the earth that is around it. Connect the building to the earth around it by building a series of paths and terraces and steps around the edge. Place them deliberately to make the boundary ambiguous — so that it is impossible to say exactly where the building stops and the earth begins.

o **179. ALCOVES.** Make small spaces at the edge of any common room, usually no more than 6 feet wide and 3 to 6 feet deep and possibly much smaller. These alcoves should be large enough for two people to sit, chat, or play and sometimes large enough to contain a desk or table.

o **180. WINDOW PLACE.** Everybody loves window seats, bay windows, and big windows with low sills and comfortable chairs drawn up to them. In every room where people spend any length of time during the day, make at least one window into a "window place".

o **190. CEILING HEIGHT VARIETY.** A building in which the ceiling heights are all the same is virtually incapable of making people comfortable. Vary the ceiling heights continuously throughout the building, especially between rooms which open into

each other, so that the relative intimacy of different spaces can be felt. In particular, make ceilings high in rooms which are public or meant for large gatherings (10 to 12 feet), and lower in rooms for smaller gatherings (7 to 9 feet), and very low in rooms or alcoves for one or two people (6 to 7 feet).

o **194. INTERIOR WINDOWS.** Windows are most often used to create connections between the indoors and the outdoors. But there are many cases where an indoor space needs a connecting window to another indoor space. Put in fully glazed fixed windows between rooms which would become dead because they have too little action in them and where inside rooms are unusually dark.

o **197. THICK WALLS.** Consider the possibility that some of the walls in the building can be thick, can occupy a substantial volume — even actual usable space — and need not be merely thin membranes which have no depth. Decide where these thick walls ought to be.

5.7 Design Guidelines: Economic Sustainability
5.71 Introduction: Economic Sustainability

"For the first time in over a century, a connection between sustainability and economic sustainability has evolved. It is a response to the emergence of the knowledge economy. In the former industrial economy, which dominated from the mid-19th century until the 1970's, that connection did not exist. In fact, unsustainable economic development practices were responsible for economic expansion. Smokestacks came to symbolize progress and job growth. We sacrificed quality of life and environmental protection to earn a living. The industrial era tradition of total separation of land uses is reflected in today's sprawl, which is the most visible reminder of our outdated thinking. Today we are having a difficult time accepting the notion that the connection between economic growth and sustainability is not only beneficial but also essential for both the environment and the bottom line."[22]

"The knowledge economy encourages recognition of long-term value of development and distinctive developed places associated with sustainable natural surroundings. Workers in the knowledge economy value high-quality living and working environments; they are increasingly attracted to thriving urban neighborhoods and to business locations in revitalized employment centers. They and their families enjoy the benefits of conserved natural spaces. They pay greater attention to the cost effects of development — on natural resources, on public services such as transportation and utilities, and on social and economic interactions. To respond to these interests, we must cultivate economic paradigms that support sustainable forms of development, including approaches to financing private development that recognizes the long term value of development and public fiscal policies that reflect the cost differentials of delivering services to conventional versus sustainable development."[23]

Among the leaders in the new paradigm of economic sustainability are Paul Hawken, Amory Lovins, and L. Hunter Lovins. In their book *Natural Capitalism: Creating the Next Industrial Revolution*[24]*,* they see the world's economy as being within the larger economy of natural resources and ecosystem services that sustain us. This implies that we should attribute value to things as disparate as human intelligence, cultures, hydrocarbons, minerals, trees, and microscopic fungi. They argue that only through recognizing this essential relationship with the earth's valuable resources can businesses, and the people

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[22] Christopher Leinberger. "The Connection between Sustainability and Economic Development". In Douglas R. Porter. *The Practice of Sustainable Development.* [Washington, DC. Urban Land Institute. 2000] p53
[23] *ibid.*
[24] Paul Hawken, Amory Lovins, L. Hunter Lovins. *Natural Capitalism. Creating the Next Industrial Revolution.* [Boston. Little, Brown and Company. 1999]

they support, continue to exist. The book has many practical suggestions for companies interested in a sustainable future. The authors hold that the "next industrial revolution" depends on the espousal of four central strategies: "the conservation of resources through more effective manufacturing processes, the reuse of materials as found in natural systems, a change in values from quantity to quality, and investing in natural capital, or restoring and sustaining natural resources".

Traditional capitalism, they argue, has always neglected to assign monetary value to its largest stock of capital — the natural resources and ecosystem services that make possible all life and all economic activity. Natural capitalism, in contrast, takes a proper accounting of all of these costs. As a first step toward a solution to environmental loss, it advocates *resource productivity* — doing more with less, wringing up to a hundred times as much benefit from each unit of energy or material consumed. Natural capitalism also redesigns industry on biological models that result in zero waste, shifts the economy from the episodic acquisition of goods to the continual flow of value and service, land prudently invests in sustaining and expanding existing stores of natural capital.

Components of Sustainable Economic Development
"In the long run, conventional development is unsustainable in many respects, from fiscal subsidies to environmental damage. Ultimately, though, it hurts business, especially given that business decisions are increasingly driven by quality-of-life considerations. More than ever, quality of life is dependent upon environmental, sociopolitical, and economic sustainability. Eventually communities will conclude that investing in education, parks, and pedestrian-oriented places is a far better economic development decision than subsidizing sprawl and the relocation of companies. No one provided subsidies to attract new companies to Seattle, Portland, Austin, or Silicon Valley."[25]

"So what is the new model that will allow for [economically] sustainable development? The new model must contain a variety of elements that are environmentally sustainable, [socio-politically sustainable], financially sustainable at the project level, and fiscally sustainable for local governments. The model must also appeal to a rapidly-changing market and provide business with a place that draws knowledge workers and in turn attracts corporate investment. What results from a sustainable development model is an upward spiral of self-reinforcing elements that are both synergistic and self-sustaining."[26]

The basic components of sustainable economic development appear to be:
1. Eliminating sprawl.
2. Allocating and charging for the real costs of providing the basic elements of infrastructure: transportation, energy, communications, water, storm and sanitary sewer, refuse removal. By far the most important infrastructure need is transportation, but a detailed analysis of each element should be conducted in order to arrive at methods of accounting and charging for the true costs of these services.
3. Obtaining long-term financing. Modifying the method of evaluating capital investment decisions away from short-term to long-term considerations is probably the most important 'soft' technology for promoting sustainable development. In making capital allocation decisions, the private sector uses a methodology whose unintended short-term bias discourages innovative investments in sustainable development as well as in smart growth and new urbanism projects.
4. Matching appropriate investors to appropriate investments. The investors most likely to re-evaluate their approach to real estate development are charitable foundations. Motivated by the environmental and social impacts of sprawl, many of the nation's largest foundations, including MacArthur, Rockefeller, Surdna, Packard, Hewlett,

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[25] Christopher Leinberger. *Ibid.* p59
[26] *ibid.*

Mellon, and Hines are now focusing on the new urbanism, smart growth, and sustainable development.

5. Evaluating the long-term fiscal effects of development as part of strategic planning.
6. Recognize that business sustainability attracts knowledge workers. Knowledge workers, particularly Gen Xers, are demanding a high quality of life. Perhaps the most important issue for knowledge workers is how to capture more time. The loss of time to commuting is one of the most irksome issues for them.
7. Providing long-term public investments in education, open space, and urbane places to live and work.
8. Recognizing that sustainable development is the most efficient and effective means of economic development. There is no longer a tradeoff. What is good for the environment the knowledge economy is good for the economy.[27]

5.72 Design Guidelines: Economic Sustainability

- **Design with concerns for human needs, environmental impacts, cultural vision, and social remediation.** Sustainable buildings must be designed to conserve resources but, in the end, must also inspire, inform, and motivate their occupants to think differently about their relationships to each other and to the environment that surrounds them.

- **Design for the long term.** This goal implies that greater intellectual and economic resources will be required from the outset when compared with conventional cost-driven projects although greater economies will be realized over the long term.

- **Design "intergenerational", "loft type" buildings for long-term, on-going adaptive re-use.** Consider the model of the LoDo warehouse, designed more like "a mitten than a glove", for a "loose-fit" to accommodate many diverse activities over time rather than a "tight-fit" to specific activities today.

- **Consider further integrating housing into the campus.** For example, consider designing some buildings that could accommodate residential student and faculty living units in the future.

- **On the one hand, design buildings for efficient use of space as well as effective employment of the materials and methods of construction; on the other hand, design buildings for long-term use.**

- **Whenever possible use locally-available materials, methods of construction, and equipment.**

- **Design to maximize the use of Auraria's valuable land and infrastructure resources.**

- **Design to maximize the benefits of human, natural, and economic resources.** For example, the use of higher quality materials properly designed and detailed generally reduces long-term maintenance costs. To optimize building performance, a comprehensive operations manual should be provided to occupants to detail the design and operation, maintenance, and trouble-shooting procedures for all significant systems and components. A planned and integrated maintenance program can help to realize the full potential of energy-efficiency measures as well as to prevent problems that can lead to "sick building syndrome".

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[27] Christopher Leinberger. *Ibid.* p66

- **Consider pre-occupancy commissioning of buildings.** Commissioning is a systematic process for verifying adherence to design specifications and intent. It is usually accomplished through continuous adherence to a written program of testing, approvals, and acceptances throughout the design and construction process.

- **Seek out many ways to enhance economic sustainability in buildings. A unique source to stimulate your imagination is Christopher Alexander's *A Pattern Language*.[28] Here are provided only a handful of examples of this rich collection of ideas for enhancing the economic sustainability of campus buildings. <u>They are intended not to be taken literally but to serve as pointers to the principles underlying economy in building</u>. The numbers and titles of the Patterns illustrated are taken directly from the book.**
  - **205. STRUCTURE FOLLOWS SOCIAL SPACES**
  - **210. FLOOR AND CEILING LAYOUT**
  - **211. THICKENING OF OUTER WALLS**
  - **212. COLUMNS AT THE CORNERS**
  - **213. FINAL COLUMN DISTRIBUTION**
  - **214. ROOT FOUNDATIONS**
  - **215. GROUND FLOOR SLAB**
  - **216. BOX COLUMNS**
  - **217. PERIMETER BEAMS**
  - **218. WALL MEMBRANES**
  - **219. FLOOR-CEILING VAULTS**
  - **220. ROOF VAULTS**
  - **221. NATURAL DOORS AND WINDOWS**
  - **222. LOW SILL**
  - **223. DEEP REVEALS**
  - **224. LOW DOORWAY**
  - **225. FRAMES AS THICKENED EDGES**
  - **226. COLUMN PLACE**
  - **227. COLUMN CONNECTION**
  - **228. STAIR VAULT**
  - **229. DUCT SPACE**
  - **230. RADIANT HEAT**
  - **231. DORMER WINDOWS**
  - **232. ROOF CAPS**
  - **233. FLOOR SURFACE**
  - **234. LAPPED OUTSIDE WALLS**
  - **235. SOFT INSIDE WALLS**
  - **236. WINDOWS WHICH OPEN WIDE**
  - **237. SOLID DOORS WITH GLASS**
  - **238. FILTERED LIGHT**
  - **239. SMALL PANES**
  - **240. HALF-INCH TRIM**
  - **241. SEAT SPOTS**
  - **242. FRONT DOOR BENCH**
  - **243. SITTING WALL**
  - **244. CANVAS ROOFS**
  - **245. RAISED FLOWERS**
  - **246. CLIMBING PLANTS**
  - **247. PAVING WITH CRACKS BETWEEN THE STONES**

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[28] Christopher Alexander, Sara Ishikawa, Murray Silverstein, with Max Jacobson, Ingrid Fiksdahl-King, Shlomo Angel. *A Pattern Language: Towns, Buildings, Construction.* [New York. Oxford University Press. 1977]

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- o **248. SOFT TILE AND BRICK**
- o **249. ORNAMENT**
- o **250. WARM COLORS**
- o **251. DIFFERENT CHAIRS**
- o **252. POOLS OF LIGHT**
- o **253. THINGS FROM YOUR LIFE**

Section 6: Public Urban Space

Contents
Discussion:
6.0   Introduction: Public Urban Space
6.1   Desired Character: Public Urban Space
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6.2 Design Guidelines: Public Urban Space
6.21 Design Guidelines: Public Urban Space: GENERAL
6.22 Design Guidelines: Public Urban Space: STREETS
6.23 Design Guidelines: Public Urban Space: SQUARES
6.24 Design Guidelines: Public Urban Space: GREENS
6.25 Design Guidelines: Public Urban Space: GATEWAYS
6.26 Design Guidelines: Public Urban Space: CONNECTIONS

6.0 Introduction: Public Urban Space
The campus's public urban space is an extension of the city's grid of public streets,
squares, and parks. This space is that of the **public** realm where people may freely
assemble, interact, and move about. The space is **urban** — characteristic of a city or town,
and especially characteristic of the spatial and scalar qualities of Lower Downtown. On the
campus, public urban space encompasses:

- **Streets** are the linear urban thoroughfares which bring people together in axial space,
  form relationships, provide access/egress to/from indoor and outdoor places, and
  serve as places for formal and informal activities.
- **Squares** are the public spaces at the heart of the campus's *Institutional
  Neighborhoods.* They are modeled on the traditional town square — an open area
  commonly found in the heart of a traditional town and used for community gatherings.
  Other names for such squares are civic center, city square, urban square, market
  square, public square, *plaza* (from Spanish), *piazza* (from Italian), and *place* (from
  French).
- **Greens** are the common open areas serving a variety of outdoor campus activities
  such as athletics, community events, and resting/relaxing/studying/meditating. The
  green is traditionally at a central location and provides an open-air meeting place for
  the people of a community, for example at times of celebration, or for public
  ceremonies. The green on the Speer side of Tivoli has been used in recent years for
  graduation events.
- **Gateways** are the formal entrances to the campus from the adjoining neighborhoods.
  They are important elements in defining the campus as a distinct precinct within the
  city. The design of clear campus "edges" (see Section 8, Guidelines for Design of
  Campus Edges) is a major means to establish the campus as a precinct. These edges
  will be reinforced and made more distinct and vivid if the paths which enter it are
  marked by gateways where they cross the boundary.
- **Connections** are the formal linkages established to connect the campus to the
  adjoining neighborhoods. The connections are a major means to realizing a strong
  connection to and from the campus and the city's core, transit system, and regional
  park and parkway system.

## 6.1 Desired Character: Public Urban Space
See:
- Section 4 Character, especially Qualities Expected to Influence Auraria's Character in
  the Coming Years
- Section 5 Sustainability, especially Social Sustainability.

6.2 Design Guidelines: Public Urban Space
6.21 Design Guidelines: Public Urban Space: GENERAL

- **Define the campus as a precinct by creating strong perimeter edges with a hierarchy of entrance gateways.**
  See also Section 8 Edges
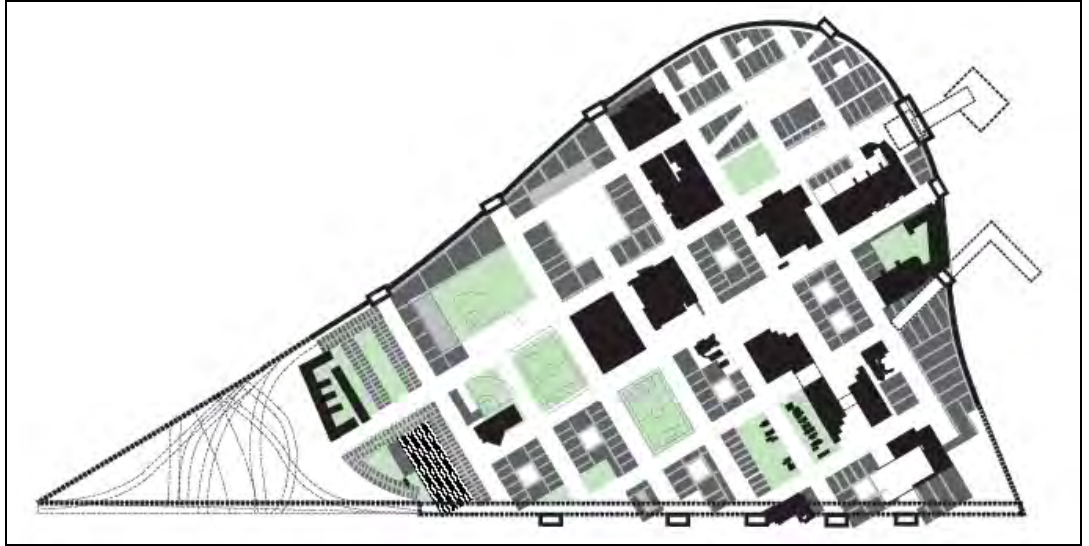
Buildings being designed along a campus edge shall conform to geometry of that edge. Along Auraria Parkway and Speer Boulevard, the edges are gently curved. Along Colfax Avenue, the edge is jagged. Along Colfax, consider locating linear residential structures above the light rail right of way, parallel to Colfax.

- **Create positive outdoor space**

Outdoor spaces that are merely "left over" between buildings will generally not be used. Fundamentally, there are two very different kinds of outdoor space: negative space and positive space. Outdoor space is negative when it is shapeless, the space which is merely "left-over" when buildings are placed on the land. An outdoor space is positive when it has a distinct and definite shape, as definite as the shape of a room, and when its shape is more important than the shape of the buildings that surround it. In the above diagram of

1 Wiesbaden — where buildings are indicated as black and space as white — the upper half
2 of the city has mostly negative outdoor space, whereas the lower half has positive outdoor
3 space. [The lower half is the old, medieval city; the upper half was similar to the lower half
4 until it was destroyed by carpet-bombing during World War II. When it was built anew, it
5 was built of individual buildings *in* space rather than of blocks of buildings *shaping* space.]

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7 When the Auraria Master Plan (left) and LoDo and downtown (right) are diagrammed as a
8 network of positive outdoor spaces, they appear as shown below.
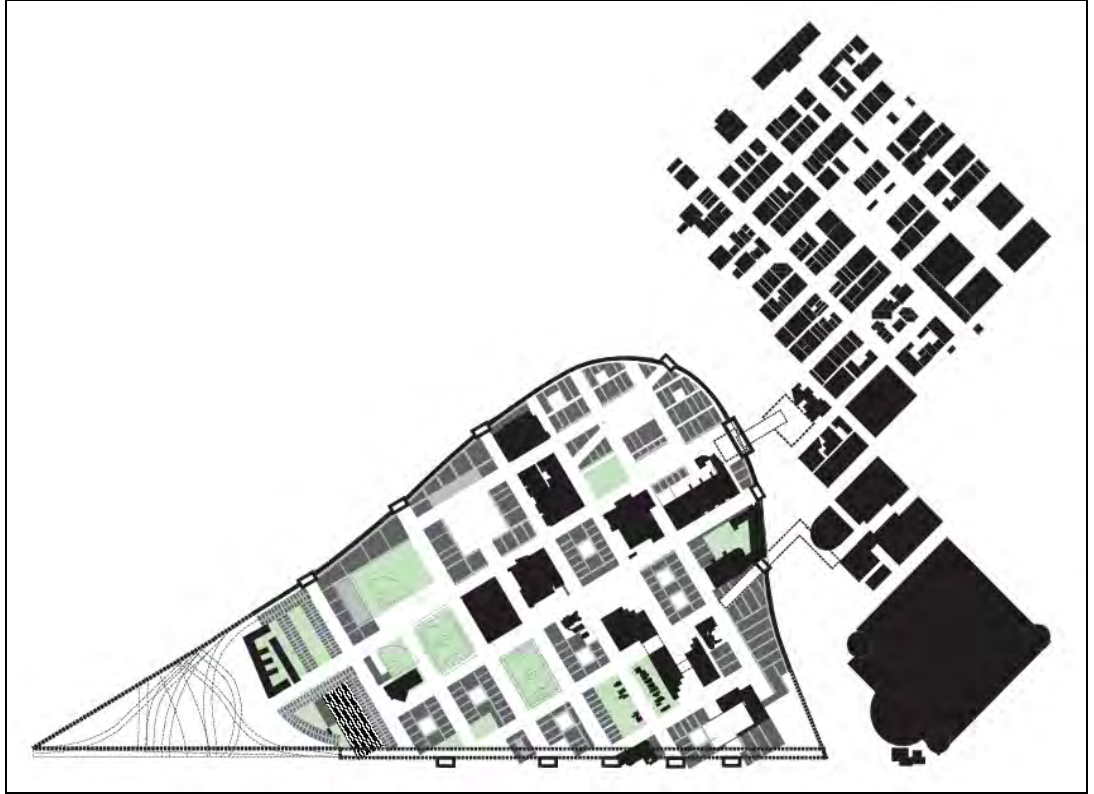
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10 Here buildings are not to *be* positive figural objects but rather to *define* positive figural
11 space. In Larimer Square (below), for instance, the buildings are aligned to form two walls,
12 one on each side of the street, which walls in turn form the sides of the public urban space
13 of the street. This urban space is composed not only by walls but by a floor and a ceiling.
14 The floor is the ground plane articulated in street and sidewalk. The ceiling plane is implied
15 by the cornice line of the wall of buildings and by the suspended decorative lighting or
16 banners that often cover the street.

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1   • **Connect adjoining buildings. Do not provide setbacks between buildings.**
2   **When locating a new building adjacent to an existing one, form the new**
3   **building as a continuation of the older one. Do this in ways that shape**
4   **the positive urban space of the public realm.**

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7   • **A critical step in creating appropriate public urban space is that of**
8   **realizing an appropriate scale for the particular space. Many of today's**
9   **building programs require large, massive buildings. Consider Lower**
10   **Downtown's warehouse buildings as a model for adapting the scale of**
11   **today's large buildings to the more intimate scale desired for Public**
12   **Urban Space. LoDo's smaller scale buildings are party wall buildings that**
13   **often are joined together to provide space for large programs. Therefore,**
14   **design large, new buildings in the scale of lines or clusters of smaller**
15   **buildings. Wherever possible, translate the building program into a**
16   **"building complex". At higher densities, a single building can be treated**
17   **as a building complex if its important parts are selected and made**
18   **identifiable while still being part of one three-dimensional fabric.**

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- **Create a main entrance gateway in the campus edge into the campus from Larimer Street in Lower Downtown. Create a secondary entrance gateway at Lawrence Street.**
  See also Section 8 Edges
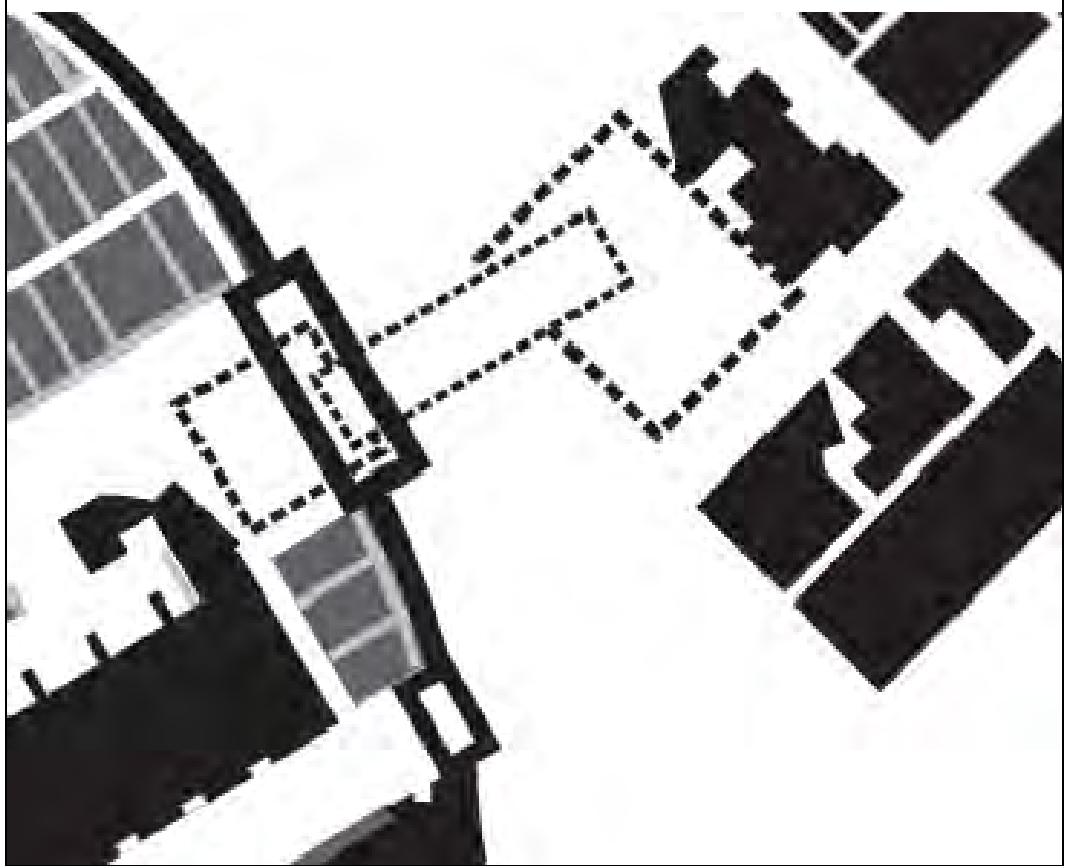
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- **Create tertiary entrance gateways in the campus edge at other key points around the perimeter.**
  See also Section 8 Edges
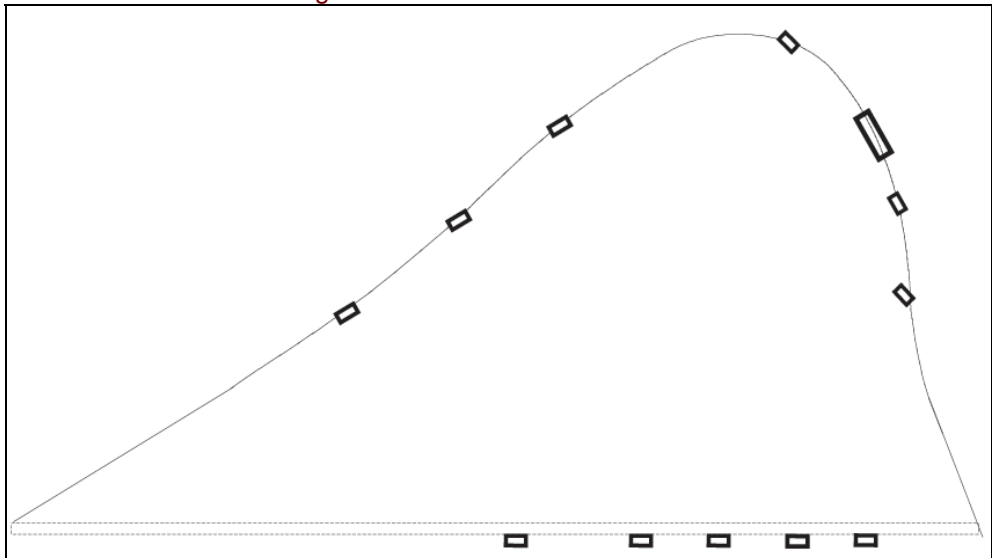
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- **Consider future development of the Auraria Parkway Interchange triangle for growth of the public urban space of the campus.**

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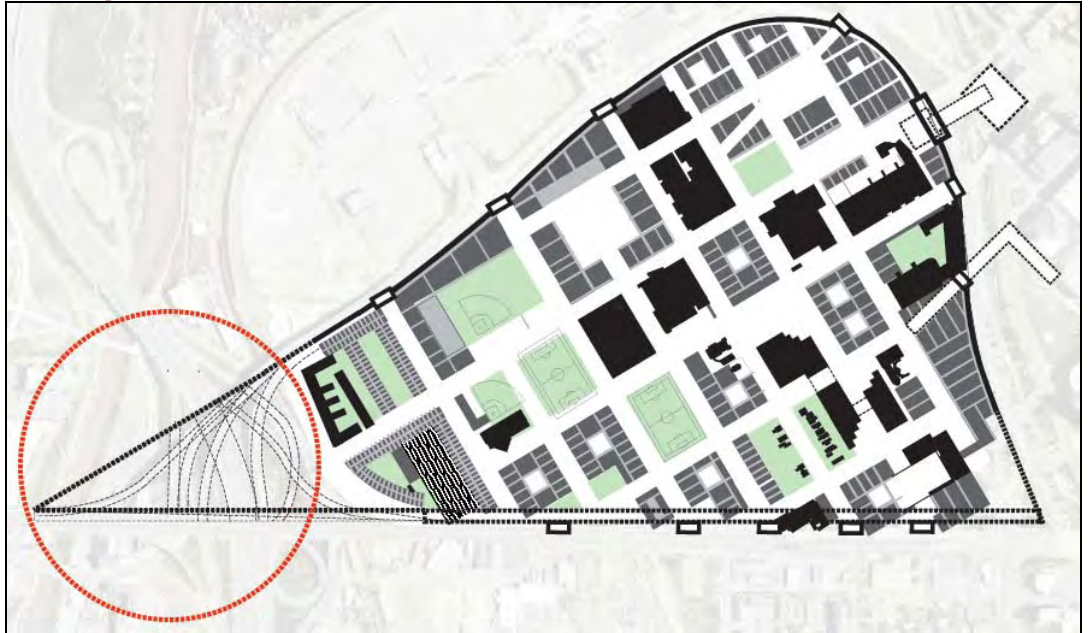
- **In shaping Public Urban Space, create a hierarchy of space. Whatever space you are making, try to accomplish two things. First, make at least one smaller space that looks into it and forms a natural back for it. Second, place it, and its openings, so that it looks into at least one larger space.**

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- **Design For Denver's Climate**
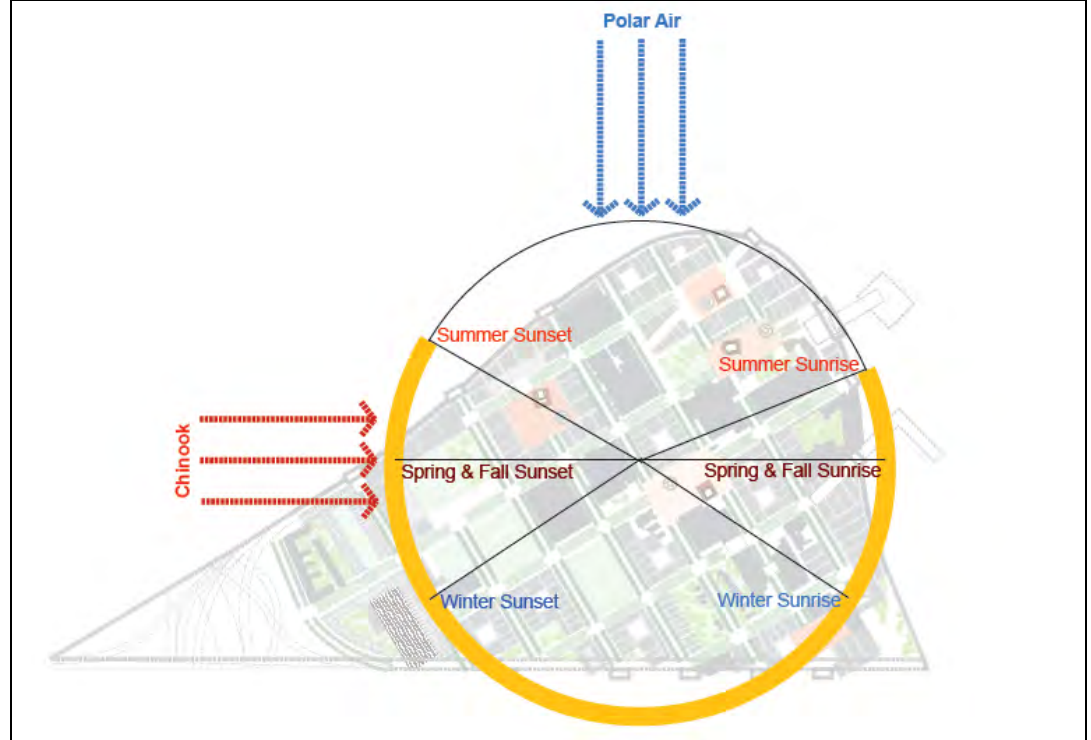
The best urban space is comfortable to be in, as least as comfortable as it can be for our local setting. Urban space ought to offer warmth or sunlight when it is cool and shade and coolness when it is hot. It ought to offer reasonable protection from the elements without trying to avoid or negate the natural environment. It is a contextual requirement for good urban space. Good urban space also gives shelter from the wind, especially in the winter.

Consider the guidelines offered in these patterns from Christopher Alexander's *Pattern Language*[1]**:**
105. SOUTH-FACING OUTDOORS
107. WINGS OF LIGHT
128. INDOOR SUNLIGHT
135. TAPESTRY OF LIGHT AND DARK
161. SUNNY PLACE
162. NORTH FACE
163. OUTDOOR ROOM

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[1] Christopher Alexander, Sara Ishikawa, Murray Silverstein, with Max Jacobson, Ingrid Fiksdahl-King, Shlomo Angel. *A Pattern Language: Towns, Buildings, Construction.* [New York. Oxford University Press. 1977]

6.22 Design Guidelines: Public Urban Space: STREETS
General

A major purpose of streets is communication and unfettered access to property. Streets moderate the form and structure and comfort of urban communities. Their sizes and arrangements afford or deny light and shade and they may have the effect of focusing attention and activities on one or many centers, at the edges, along a line, or they may simply not direct one's *attention to anything in particular. The three major streets that lead that lead from the Piazza del Popolo* in Rome give focus to that city in a unique and unforgettable way. So do Michigan Avenue in Chicago, Princes Street in Edinburgh, and Fifth Avenue along Central Park in New York.

Streets allow people to be outside. They are places of social and cultural encounter. Louis Kahn once said that the street is the place of agreement. The street also is a place of movement: to watch, to listen, to pass, in a current of movement of people: of fleeting faces and forms, brief encounters, changing gaits and postures and endless variations of dress. It is possible to stand or sit on the side and watch the parade. The parade is not always pleasant, not always smiles or greetings or lovers walking hand in hand. There are cripples and beggars and people with abnormalities, and, like the lovers, they can give pause for reflection and thought. Everyone can use the street. Being on the street and seeing people it is possible to meet them, ones you know and ones you don't. The street, of course, is a place not only to see but to be seen. Sociability is a large part of why cities exist and streets are a major, if not the only public place, for that sociability to develop. At the same time, the street is a place to be alone, to be private, to wonder what it was once like, and to imagine what it will be like a century or more in the future. It is a place for the mind to wander, triggered by something over there or up above or by something totally internal.

The street, especially on an urban university campus, is a political space. It is on Lawrence Street that colleagues discuss the impending increase in student fees or the visit to Denver of the Democratic National Convention or the actions of the administration in relation to the threat of global warming. Marshall Berman writes of Nevsky Prospekt in his fascinating book, *All That Is Solid Melts Into Air.* "On September 1, 1861, a mysterious horseman raced full speed up the Nevsky Prospekt, flinging leaflets around and behind him as he disappeared. The impact of this gesture was sensational, and the whole city was soon discussing the horseman's message, a proclamation addressed 'To The Younger Generation'. The message was simple and shockingly fundamental:

> We do not need either a Tsar, an Emperor, the myth of some lord, or the purple which cloaks hereditary incompetence. We want at our head a simple human being, a man of the land who understands the life of the people and who is chosen by the people. We do not need a consecrated Emperor, but an elected leader receiving a salary for his services.

"Three weeks later, on September 23, the crowd on Nevsky saw something even more amazing, perhaps the one thing that this street had never seen before: a political demonstration. A group of hundreds of students (the 'younger generation') moved across the Neva from the university and marched up the street to the rector's house. They were protesting a series of new administrative regulations that would bar students and faculty from holding any sort of meetings and — far more devastating — would abolish scholarships and stipends (thus shutting off the flood of poorer students who had been pouring into the university in recent years), thereby making higher education once again the caste privilege it had been under Nicholas I. The demonstration was spontaneous, the mood was gay, and the group was sympathetically regarded by the crowd on the street. Here is how a participant remembered it years later:

> A sight like it had never been seen. It was a wonderful September day . . . . In the streets the girls, who were just beginning to go to university, joined in, together with a number of

young *raznochintsy* who knew us or merely agreed with us . . . . When we appeared on the Nevsky Prospekt, the French barbers came out of their shops, and their faces lit up, and they waved their arms cheerfully shouting, *'Revolution! Revolution!'*

"That night, the government — haunted, no doubt, by those French barbers' cries — arrested dozens of students, including delegates who had been promised immunity. This began months of turmoil on Vasilevsky Island, in and around the university: student and faculty strikes, lockouts and police occupations, mass expulsions, firings and arrests, and finally the closing of the university for two years. After September 23 the young militants kept away from the Nevsky and the center of the city. When they were driven out of the university quarter, they dropped from sight, to form a sophisticated network of underground groups and cells. Many left Petersburg for the countryside, where they sought to follow Herzen's advice and 'go to the people' though this movement did not pick up momentum for another decade. Others left Russia altogether, to pursue their studies in Western Europe, notably in Switzerland, generally in the faculties of science and medicine. Life on the Nevsky returned to normal; it would be more than a decade before the next demonstration there. Nevertheless, for one fleeting moment, Petersburgers had had a taste of political confrontation in the city's streets. These streets had been defined irrevocably as political space. The Russian literature of the 1860's would strive to imaginatively fill that space.[2]

The people of cities understand the symbolic, ceremonial, social, and political roles of streets, not just those of movement and access. Regularly, if they are aware of what is being planned, they protest widenings as well as new streets, particularly if the improvements will mean dislocation of people or more traffic in their neighborhoods. On the other hand, proposals to improve existing streets to make them 'great' places are common and are regularly approved by voters who tax themselves accordingly.

What makes a great street? What is it that such a street should *do*? In his comprehensive book, *Great Streets*, Allan B. Jacobs has sage, practical answers. "First and foremost a great street should help make community: should facilitate people acting and interacting to achieve in concert what they might not achieve alone. Accordingly, streets that are accessible to all, easy to find and easy to get to, would be better than those that are not. The best streets will be those where it is possible to see other people and to meet them; all kinds of people, not just of one class or color or age. The criterion would work at many geographic scales, from citywide to neighborhood, which opens the possibility of *types* of great streets. Great neighborhood streets would be the foci for people of a smaller geographic area than of a city, conceivably as an area as small as the street itself. A great street would be a most desirable place to be, to spend time, to live, to play, and to work, at the same time that it markedly contributes to what a city should be. Streets are settings for activities that bring people together.[3]

"A great street is physically comfortable and safe. A great street might be cooler, shadier than another street on a hot summer day and therefore more pleasant to be on. There would be no sudden, unexpected gusts of wind off buildings. If there are many people there should not be so many as to make it difficult or uncomfortable to walk; it should not provoke a sense of confinement. Physical safety is another matter, and it can mean many things; but the general concern is relatively straightforward. One shouldn't have to worry about being hit by a car or truck or about tripping on the pavement or about some other physical thing built into the street. Lurking human threats to safety? Robbers and muggers? No, that is not the subject here: no recommendations for doing away with trees or permitting only small trees to discourage molesters, no prohibition of set-back entryways

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[2] Marshall Berman. *All That Is Solid Melts Into Air; The Experience of Modernity.* [New York. Penguin Books. 1988] pp. 214-215
[3] Allan B. Jacobs. *Great Streets.* [Cambridge. MIT Press. 1995] p.8

that can hide thieves. Light, by all means, to see the way and to see others, land ramps rather than steps where helpful for the comfort and safety of the handicapped and the elderly, but no sanitizing of streets to avoid societal misfits.[4]

"The best streets encourage participation. People stop to talk or maybe they sit and watch, as passive participants, taking in what the street has to offer. Demonstrations are possible. For over 15 years on the main street of Curitiba, Brazil, a long, long strip of paper has been laid on the pavement every Saturday morning, held down by wooden sticks every meter or so, thereby creating hundreds of individual white paper surfaces. Children that come are offered a brush and paint, and they do pictures as parents and friends watch. Social or economic status is not a requirement for joining in, only desire. Participation in the life of a street involves the ability of people who occupy buildings to add something to the street, individually or collectively, to be a part of it. That contribution can take the form of signs or flowers or awnings or color, or in altering the buildings themselves. Responsibility, including maintenance, comes with participation.[5]

Finally, the truly great street is one that is representative: it is the epitome of type; it can stand for others; it is the best. To have achieved that status, it will have to have been put together well, artfully.[6]

Design Guidelines: Public Urban Space: STREETS
- **Recognize and Respond in Design to the Hierarchy of Campus Streets**
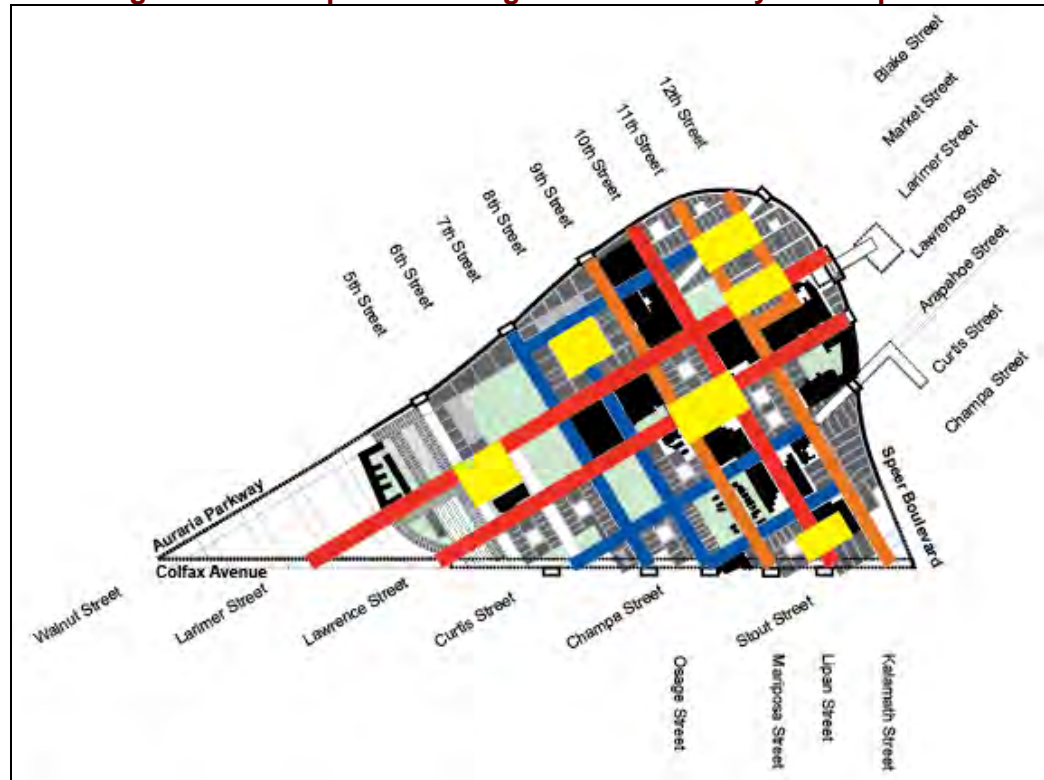
Yellow: Campus Neighborhood Squares
Red: Primary Streets
Orange: Secondary Streets
Blue: Tertiary Streets

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[4] *ibid.* P.9
[5] *ibid.* P.9
[6] *ibid.* P.9

1　　When the campus was founded, Lawrence Street and 10th Street were the primary streets.
2　　Their crossing was at the heart of this early campus and represented the center of campus
3　　activity. Today, 35 years later, as the campus has expanded and now continues to expand,
4　　the new parts of the campus have been developed and will continue to develop. In
5　　addition, it is becoming apparent, from the recent master planning work (2007) and recent
6　　studies of pedestrian movement, that the primary connection of the campus to downtown
7　　Denver ought to be along the Larimer Street axis, and that secondary connections are to
8　　be envisioned at Lawrence and Arapahoe/Curtis Streets. Altogether these developments,
9　　along with the 2007 Master Plan, suggest that the above hierarchy of importance of the
10　　campus streets serve to guide decisions about their design.
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12　　　　● **NE/SW Streets are to have three parallel rows of shade trees**
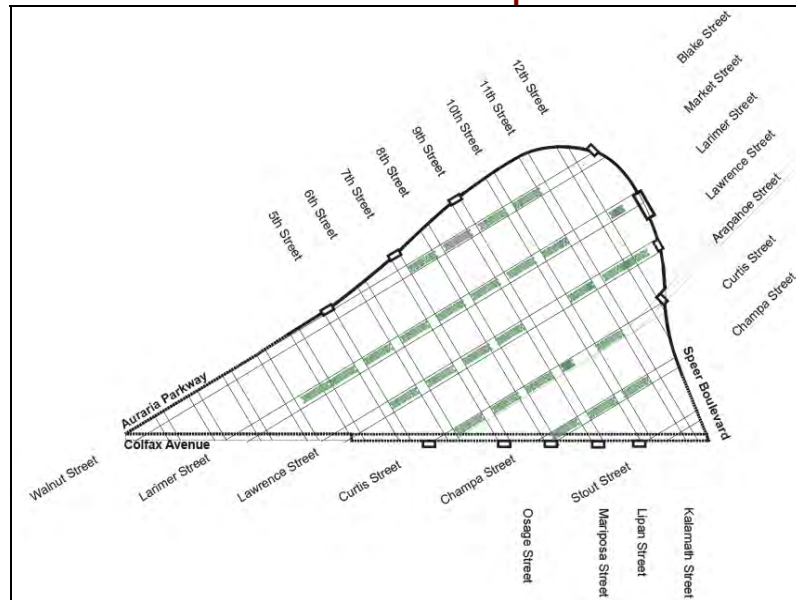
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15　　　　● **NW/SE Streets are to have two parallel rows of shade trees**
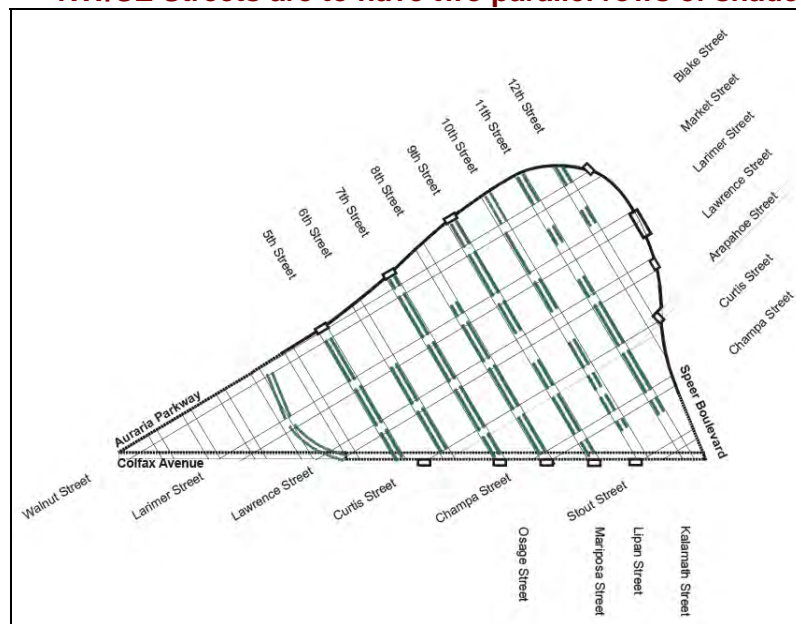
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- **Continue the Campus Tradition of Planting Trees**

Given a limited budget, the most effective expenditure of funds to improve a street would probably be on trees. Trees can transform a street more readily than any other physical improvement. Moreover, for many people, trees are the most important single characteristic of a good street. Perhaps these reflections shed light on the wisdom at Auraria in placing such a great emphasis upon the planting of trees over the last 35 years.

Trees can do many things for a street and city, not the least of which is the provision of oxygen, and of shade for comfort. Green is psychologically restful and agreeable as a color. Trees move and thereby they modulate the light. In terms of helping streets to function effectively, when planted in lines along a curb or even *in* the traffic way, they can effectively separate pedestrians from machines, machines from machines, and people from people. The trunks and branches create a screen, sometimes like a row of columns, that gives a transparent but distinct edge. Between pedestrian and auto paths they can be a safety barrier for the former. Put a line of trees one lane *into* a street, as has been done in many European streets, to make a parking lane for example, and that lane becomes a part of the pedestrian realm while still functioning as a place to park cars. Even a few trees along the curb of a busy traffic street can have an impact if they are spaced closely enough together.

Continued observation of trees on the best streets allows for the strong conclusion that deciduous trees are more often appropriate than evergreens. Deciduous trees permit sunlight to reach the street in winter when it is either most needed or at least a problem. Their leaf patterns are almost always less dense than those of non-deciduous trees and the leaves move more, subject to even the slightest of wind changes; they permit light — mottled, moving light — to penetrate to the pedestrian, and this quality is characteristic of the best streets.

To be effective, street trees need to be reasonably close together. If one objective is to create a line of columns that separates visually and psychologically one pathway from another, and if a further objective is to provide a canopy of branches and leaves to walk under, then the trees have to be planted close enough to achieve these objectives. The close spacing may be more critical to creating a line that separates because a canopy can often be achieved under a variety of spacings. When walking along a line of trees, it is desirable to be able to see between them, particularly between the first one or two, directly ahead, but also to be aware that one is indeed walking along a line, that the next tree and the following ones form a distinct boundary — a plane. In practice the most effective tree spacing is from 15 to 25 feet apart. On streets where the spacing reaches 30 feet or more, such as at Mills College in Oakland, there are likely to be four rows of trees, or two to a side. The trees along Monument Avenue in Richmond, Virginia reach 36 feet apart but there are four rows. It is possible to find many reasons to plant trees further than 25 feet apart — their health, a need to avoid having their branches overlap, the required distances between light poles or parking meters — but they don't seem to hold up in practice when spacing of trees is measured along the best streets. Branches of trees along the *Ramblas* and *Avenue Montaigne* and the *Ringstrasse*, to name but three of many, overlap, and these trees have been around a long time. The plane trees along the *Viale Manlio Gelsomini* in Rome may be that street's only saving grace, land their spacing is often only 15 to 18 feet. If there is a rule of thumb to be learned from the best streets, it is that closer is better.

- **Squares shall be predominate over streets**

These squares are intended to serve as the heart of the neighborhoods as represented in the Auraria Campus 2007 Master Plan. This diagram is not meant to dictate the exact location of the squares but instead to focus on their necessity for creating a vibrant campus.

- **Intersections shall be predominate over streets**

Considerations and Guidelines for the Design of the Streets Themselves[7]
- **Design Streets that are Well-Defined**

Good streets have *definition*. They have boundaries, usually walls of some sort or another, that shape the public urban space of the street — they communicate clearly where the edges of the street are that set the street apart, that keep the eyes on the street, that make it a place.

Streets are defined in two ways: vertically, which has to do with the height of buildings or walls along the street; and horizontally, which has most to do with the length of and spacing between whatever is doing the defining. There is also definition that may occur at the ends of a street, which is both horizontal and vertical. Usually it is the buildings that are the defining element, sometimes walls, sometimes trees, sometimes trees and walls together, and always the floor.

Regarding vertical dimensions, it is a matter both of proportion and of absolute numbers. The wider a street becomes, the more mass or height it takes to define it, until at some point the width can be so great that real street definition is lost. For example, it has been observed that when the small dimensions of places exceed 450 feet, spatial definition is weak and becomes more that of a field than a plaza.

Hans Blumenfeld and H. Maertens are concerned with urban scale and principally with defining what can be meant by human scale. Basing their work on physiological optics and experience, they use distances at which they report it is possible to recognize people (human scale) and distances at which facial expressions can be perceived (intimate human scale), together with angles at which objects can be perceived clearly, to judge the scale of buildings. They conclude that a building height of three stories (approximately 30 feet) and

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[7] Many of the points discussed here are from Allan B. Jacobs's book, *Great Streets.* [Cambridge. MIT Press. 1995] pp. 270-

building width of 36 feet, with a street width of 72 feet, are the maximum dimensions for a
building of *human scale.* The smaller *intimate scale* requires a building height of 21 feet, a
building width of 24 feet, land a street width of 48 feet.

Here are two important points to recognize.
1. Human scale and street definition are not necessarily the same thing.
2. Applied to a street, the above conclusions would apply mostly to looking directly across
    a street, not along one.

Thus Maertens and Blumenfeld develop a measurement that relates to the person walking
along the street, not only looking *across* it. They conclude that generally, buildings are
likely to provide a sense of definition when height-to-horizontal distance ratios are 1:4
when the viewer is looking at a 30 degree angle to the right or the left of the long axis of
the street. Put another way, if, walking along a street on its left side, you turn your head
about 30 degrees to the right, a rather normal and unforced thing to do, and if the building
height across the street where your vision intersects with it is one-fourth the horizontal
distance to that point, then it is likely that you will sense that the street is defined, albeit
somewhat weakly.
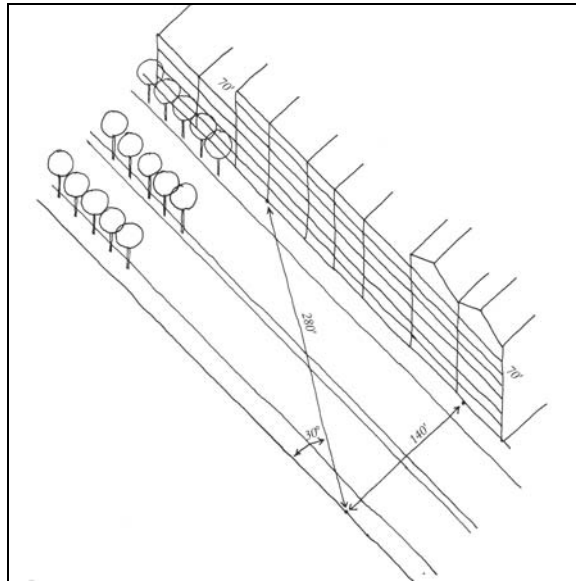
At height to distance ratios of 1:3.3 there always seem to be definition, and at 1:2 definition
is strong. As the ratios get smaller, to 1:5 and beyond, there is not a sense that the street is
being defined. Looking straight ahead or slightly skewed to the right or left, the eyes tend to
focus on discrete points and a sense of street definition is hard to come by, unless the
street actually does end in some way, such as at a crossing street. This may account for
why focal points — obelisks, fountains, statues — or crossing streets that provide street
endings are important to creating a sense of place. The 1:4 ratio at the 30 degree angle
translates into a street cross section design ratio of one (height) to two (width).

These dimensions and ratios seem more appropriate to the dynamic nature of street
experience, which takes place while one is moving and generally in perspective views.

- **Design Elements in the Streets that Engage the Eyes/Mind**
Great streets require physical characteristics that help the eyes do what they want to do,
must do: move. Every good street has this quality.

Some of the physical characteristics that help the eyes to move and which should be considered in any development adjacent to a street are:

- Facades with many separate windows or doors or surface changes
- Surfaces themselves that move: people, leaves, signs
- Surface complexity. Hong Kong street signs, for example, can be so demanding and insistent as to negate the street entirely and make the environment disorienting, even where the street plan is straightforward. Complexity with some holistic content, on the other hand, permits orientation.
- Trees are special in that they move; if light filters through them, casting moving shadows on the walls, so much the better.
- People on streets do what the trees do: they move; moving people help to make good streets
- Buildings do not move. Light, though, moves over them, and the surfaces change, in lightness, darkness, and shadow, and therefore in color. Complex building facades over which light can pass or change make for better streets than do more simple ones.

A look at cross sections of two different buildings along the *Via Cola di Rienzo* in Rome is instructive. The neoclassical building, with a total of six floors, has six major breaks in its facade from ground to roofline cornice line, balcony, detail at top of windows, etc. — and four other less major breaks — sills, for example; while the post-World War II building has two major breaks, at the top and just above the commercial ground floor, and no minor breaks. (A major break in this case is considered a significant protrusion from the facade, more than six inches, that creates a shadow line or band on the facade, and a less major break is something smaller in size, like a sill, that protrudes and can cast a shadow.) Horizontally, in a distance of 150 feet, then neo-classical facade has 14 distinctly separate windows on each of the top five stories, each with a cap and a sill and with shutters that move (each of which has as many as 30 separate slats) and create breaks when they are perpendicular to or otherwise out from the facade. The newer building has one major horizontal break and the nine windows are set into the walls, with no frames or no other break around them on the wall. Looking more carefully at a major facade break in another complex building — in this case a belt course above a window, but not including the window — one can see 18 to 20 separate surfaces. Each one modulates light. Even then, none of the surfaces are absolutely smooth, so on each surface light changes. The exercise here is not for the purpose of extolling older design styles at the expense of more recent, usually less complex ones, but simply to observe that with more surfaces there are more chances for light to change and attract the eyes.

For example, below are two modern buildings that have many of the qualities of complexity advocated.

- The above discussion does not explain the countless streets with detailed facades of many surfaces that are every bit as uninteresting and non-eye-catching as the negative example of the modern building described. All of which is to say that this business of light and surfaces and physical qualities that engage the eyes is a complicated one.

- What of streets at night? Much that was visible during the day disappears. The eyes may have less to look at. They become focused, usually at a lower level than during the day, where the lights are: streetlights, signs, and store windows. Streets are different at night. They may almost cease to exist, or they may exist only at night, because of the light and what it says to the eyes. The *Paseo de Gracia* (Barcelona), *Boulevard Saint-Michel* (Paris), and *Strøget* (Copenhagen) in winter stand out at night.

- **Design for Transparency (see also Section 8 Edges: Porosity)**

The best streets have about them a quality of transparency at their edges, where the public realm of the street and the less public, often private, realm of property and buildings meet. One can see or have a sense of what is behind whatever it is that defines the street; one senses an invitation to view or know, if only in the mind, what is behind the street wall.

Usually it is windows and doors that give transparency. On commercial streets, they invite you in, they show you what is there and, if there is something to buy, they entice you. On the best shopping streets there may be a transition zone between the street and the actual shop doorways, a zone of receding show windows and space for outside displays that are welcome attention-getters. Doorways do the same, with or without glass. They take you in, psychologically. They let you know, even if you cannot see, that something is inside. The more doorways the better. The best streets are replete with entryways, as little as 12 feet apart.

It is not only a matter of windows or glass or doorways. There are windowed buildings at street level in most cities that offer nothing but blinds or draperies or screens that one senses have never been opened and never will be. In every American city there is the black glass or mirror glass bank or office building that is more ominous than a fortress.

- **Design Buildings that are Mutually Complementary**
Overwhelmingly, the buildings on the best streets "get along with each other". They are not the same but they express respect for one another, most particularly in height an in their overall design *parti*. Buildings along the best streets are generally of a similar height. There are rarely big jumps or drops. On the streets with lower buildings of two to five stories, the variations are rarely more than one or two domestically scaled floors. Above that, to seven or eight stories, the differences are usually also one or two stories, rarely three. Even then, building heights may not be so different; a tall three-story building can be very much like a four-story one in height. Every now and then there is a church or corner tower that is significantly different from the norm, but these are exceptions: buildings of special symbolic significance, or whose height is purposeful on the street, marking a turn or a corner.

It is not necessarily the time of building or the similarity of style that accounts for the design complementarity of buildings along the best streets. Rather, it is a series of characteristics, all of which are rarely present on any one street, but where there are a sufficient number of them present to express regard and respect for one another and for the street as a whole. The variables are:

- Materials
- Color
- Cornice lines and belt courses
- Building sizes
- Window openings and their details
- Entrances
- Bay windows
- Porches
- Overhangs
- Shadow lines
- Details

A common architectural style is not to be discarded just because it may result in sameness of buildings. Formulae and prescriptions, however, are difficult to come by. Caution and individual assessment through careful consideration of general design guidelines are better ways of determining what it is that holds the buildings together.

- **Design For Appropriate Maintenance**

Care of trees, materials, buildings, and all the parts that make up a street is essential. People would prefer to be on well-maintained rather than poorly-maintained streets. But maintenance is more than a matter of keeping things clean and in good repair. It involves the use of materials that are relatively easy to maintain and street elements for which there is some history of caring.

- **Design for Quality of Construction and Design**

Since quality of design is the very subject of this set of guidelines, in this paragraph the focus is upon something more particular. For the most part, it has to do with workmanship and materials and how they are used. There are streets that have all of the characteristics

that are found to be present in the very best streets in the world and yet are not sufficient to be called good streets. Quality, or rather the lack of quality, is often the reason.

All the best maintenance in the world will not make a wobbly line straight or a skewed line vertical. Nor will it cur a sloppy putty seal, make a muddy color come to life, nor make right a wrong tree. These are matters of materials, workmanship, and design, all with the qualifier "high-quality" before them when it comes to good streets.

There is no such thing as poor-quality or low-quality materials, only problems with how materials are used. Materials that in a given situation will have to take a lot of wear and tear but are not capable of doing so usually have a negative effect. "Thin" materials — such as "brick" paving that is not really made of brick but one-quarter-inch-thick made-to-look-like-brick substitute — almost always appear to be exactly what they are. Concrete walks or pavers might have been less expensive and more appropriate. Anodized aluminum poles or rails or surfaces are not bronze or steel or iron, and if they are used as substitutes that, too, will show poorly. The opportunities for inappropriate use of materials are endless. It is less a matter of money than of choice.

Workmanship is at least in part a matter of cost. Better workmanship may cost more than less good work. Nonetheless, it too shows, particularly when it is pervasive. There is a sense of shabbiness attached to a street where things that are supposed to align regularly do not, or where there is sloppy painting or poor joinery.

Design is a part of all of this, not only workmanship and materials. A simple, thin vertical pipe that holds a streetlight may appear elegant on a drawing but is not likely to remain vertical very long on the street without something at the base, usually something heavy and wider than the pipe, to keep it that way. It helps to understand the history of the design of details, of those on buildings as well as those commonly used in the public way. It is a strong basis for design quality.

Quality is often associated with money, and the implications may be that only communities that can afford them can have good streets. This is specious reasoning, for there are many good streets that are not or have not ever been wealthy peoples' streets. Here it is appropriate materials and care that are at issue in the making of the best streets and in the public urban realm those should be standard.

- **Consider the guidelines offered in these patterns from Christopher Alexander's *Pattern Language*[8]:**
  30. ACTIVITY NODES
  31. PROMENDADE
  32. SHOPPING STREET
  33. NIGHT LIFE
  34. INTERCHANGE
  43. UNIVERSITY AS A MARKETPLACE
  44. LOCAL TOWN HALL
  46. MARKET OF MANY SHOPS
  51. GREEN STREETS
  54. ROAD CROSSING
  55. RAISED WALK
  56. BIKE PATHS AND RACKS

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[8] Christopher Alexander, Sara Ishikawa, Murray Silverstein, with Max Jacobson, Ingrid Fiksdahl-King, Shlomo Angel. *A Pattern Language: Towns, Buildings, Construction.* [New York. Oxford University Press. 1977]

59. QUIET BACKS
63. DANCING IN THE STREETS
69. PUBLIC OUTDOOR ROOM
87. INDIVIDUALLY OWNED SHOPS
88. STREET CAFE
89. CORNER GROCERY
92. BUS STOP
93. FOOD STANDS
94. SLEEPING IN PUBLIC
100. PEDESTRIAN STREET
101. BUILDING THOROUGHFARE
102. FAMILY OF ENTRANCES
112. ENTRANCE TRANSITION
114. HIERARCHY OF OPEN SPACE
119. ARCADES
120. PATHS AND GOALS
121. PATH SHAPE
122. BUILDING FRONTS
123. PEDESTRIAN DENSITY
124. ACTIVITY POCKETS
125. STAIR SEATS
126. SOMETHING ROUGHLY IN THE MIDDLE
160. BUILDING EDGE
161. SUNNY PLACE
162. NORTH FACE
163. OUTDOOR ROOM
164. STREET WINDOWS
165. OPENING TO THE STREET
168. CONNECTION TO THE EARTH
171. TREE PLACES
192. WINDOWS OVERLOOKING LIFE
207. GOOD MATERIALS
211. THICKENING THE OUTER WALLS
241. SEAT SPOTS
243. SITTING WALL

6.23 Design Guidelines: Public Urban Space: SQUARES

Squares are the public spaces at the heart of the campus's *Institutional Neighborhoods*. They are modeled on the traditional town square — an open area commonly found in the heart of a traditional town and used for community gatherings. Other names for such squares are civic center, city square, urban square, market square, public square, *plaza* (from Spanish), *piazza* (from Italian), and *place* (from French).

- **Squares are to be carefully-formed, clearly-defined, positive outdoor spaces (see guideline in this section for Positive Outdoor Space)**

Shown in the above diagram as gridded, red figures, the six squares represented here form the centers for the campus as a whole and each of the four campus neighborhoods.

The general design guidelines for the squares are similar to those for the streets. The special design guidelines for each square in particular are described in Section 7 Neighborhoods.

Consider the guidelines offered in these patterns from Christopher Alexander's *Pattern Language*[9]:

24. SACRED SITES
26. LIFE CYCLE
27. MEN AND WOMEN
30. ACTIVITY NODES
61. SMALL PUBLIC SQUARES
63. DANCING IN THE STREET
69. PUBLIC OUTDOOR ROOM
88. STREET CAFE
94. SLEEPING IN PUBLIC
98. CIRCULATION REALMS
104. SOUTH-FACING OUTDOORS
106. POSITIVE OUTDOOR SPACE
108. CONNECTED BUILDINGS
114. HIERARCHY OF OPEN SPACE
115. COURTYARDS WHICH LIVE
119. ARCADES
122. BUILDING FRONTS
123. PEDESTRIAN DENSITY
124. ACTIVITY POCKETS
125. STAIR SEATS
126. SOMETHING ROUGHLY IN THE MIDDLE
160. BUILDING EDGE
161. SUNNY PLACE
162. NORTH FACE
164. STREET WINDOWS
166. GALLERY SURROUND
171. TREE PLACES
192. WINDOWS OVERLOOKING LIFE
207. GOOD MATERIALS
211. THICKENING THE OUTER WALLS
226. COLUMN PLACE
241. SEAT SPOTS
243. SITTING WALL
245. RAISED FLOWERS
246. CLIMBING PLANTS

6.24 Design Guidelines: Public Urban Space: GREENS

Greens are the common open areas serving a variety of outdoor campus activities such as athletic games, community events, and resting/relaxing/studying/meditating. The green is traditionally at a central location and provides an open-air meeting place for the people of a community, for example at times of celebration, or for public ceremonies. The green on the Speer side of Tivoli has been used in recent years for graduation events.

- **Greens are to provide a spatial contrast and relief to the dense public urban space envisioned for the campus as a whole. Greens also are to**

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[9] Christopher Alexander, Sara Ishikawa, Murray Silverstein, with Max Jacobson, Ingrid Fiksdahl-King, Shlomo Angel. *A Pattern Language: Towns, Buildings, Construction.* [New York. Oxford University Press. 1977]

serve diverse formal outdoor activities such as athletic games, community events, and campus ceremonies as well as informal outdoor activities such as individual and group resting, relaxing, studying, and meditating. Some greens may be programmed for outdoor class meetings. These ought to be in areas close to a building and somewhat separate from the more active greens.

- **Plant shade trees in informal groupings on those greens not requiring open, unobstructed athletic playing fields**

Consider the guidelines offered in these patterns from Christopher Alexander's *Pattern Language*[10]:

26.   LIFE CYCLE
27.   MEN AND WOMEN
60.   ACCESSIBLE GREEN
67.   COMMON LAND
69.   PUBLIC OUTDOOR ROOM
72.   LOCAL SPORTS
94.   SLEEPING IN PUBLIC
106. POSITIVE OUTDOOR SPACE
114. HIERARCHY OF OPEN SPACE
122. BUILDING FRONTS
160. BUILDING EDGE

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[10] Christopher Alexander, Sara Ishikawa, Murray Silverstein, with Max Jacobson, Ingrid Fiksdahl-King, Shlomo Angel. *A Pattern Language: Towns, Buildings, Construction.* [New York. Oxford University Press. 1977]

161. SUNNY PLACE
162. NORTH FACE
164. STREET WINDOWS
171. TREE PLACES
173. GARDEN WALL
174. TRELLISED WALK
176. GARDEN SEAT
177. VEGETABLE GARDEN
192. WINDOWS OVERLOOKING LIFE
207. GOOD MATERIALS
211. THICKENING THE OUTER WALLS
241. SEAT SPOTS
243. SITTING WALL
245. RAISED FLOWERS
246. CLIMBING PLANTS
247. PAVING WITH CRACKS BETWEEN THE STONES

6.25 Design Guidelines: Public Urban Space: GATEWAYS

Gateways are the formal entrances to the campus from the adjoining neighborhoods.
They are important elements in defining the campus as a distinct precinct within the city.

- **The design of clear campus "edges" (see Section 8, Guidelines for Design
  of Campus Edges) is a major means to establish the campus as a
  precinct. These edges will be reinforced and made more distinct and vivid
  if the paths that enter it are marked by gateways where they cross the
  boundary.**

**For the design of the gateways, consider the guidelines offered in these
patterns from Christopher Alexander's *Pattern Language*:**
14. IDENTIFIABLE NEIGHBORHOOD
15. NEIGHBORHOOD BOUNDARY
17. RING ROADS
53. MAIN GATEWAYS
98. CIRCULATION REALMS
110. MAIN ENTRANCE
112. ENTRANCE TRANSITION

6.26 Design Guidelines: Public Urban Space: CONNECTIONS

- **Connections** are the formal linkages established to connect the campus to the adjoining neighborhoods. The connections are a major means to realizing a strong connection to and from the campus and the city's core, transit system, and regional park and parkway system.

Here five different types of connections are deemed to be important. From left to right on the above diagram, Connections

- to the City-At-Large **via RTD's Light Rail System** and stations at the Campus Village and at Colfax at Auraria;
- to the Adjoining Neighborhoods **via crosswalks** (Auraria Parkway at 5th, 7th, and 9th Streets; Speer Blvd. at Lawrence Street; Colfax Avenue at 5th, 7th, 9th, and 10th Streets);
- to Lower Downtown **via a View Corridor** from 14th and Larimer (Old City Hall View Plane to the Tivoli Tower and the Front Range beyond;
- to Larimer Square and Lower Downtown **via a yet-to-be-conceived strong connection** across Speer Blvd. at Larimer Street; and
- to the Denver Arts Complex at **via a yet-to-be-conceived strong connection** across Speer Blvd. at Arapahoe Street.

Each of these is discussed next.

- **Connect the campus to the City-at-Large via RTD's light rail lines.**

RTD's light rail line passes through the western end of the campus. There presently is the Colfax at Auraria Station (at Lipan) and there is to be a station adjacent to the Campus Village that will be accessible by pedestrians via Larimer and Lawrence Streets.

- **For the design of the areas at and around the light rail stations, consider the guidelines offered in these patterns from Christopher Alexander's** *Pattern Language***:**

16. WEB OF PUBLIC TRANSPORTATION
20. MINI-BUSES
30. ACTIVITY NODES
34. INTERCHANGE
92. BUS STOP
119. ARCADES

- **Connect the campus to the adjoining neighborhoods via crosswalks (Auraria Parkway at 5th, 7th, and 9th Streets; Speer Blvd. at Lawrence Street; Colfax Avenue at 5th, 7th, 9th, and 10th Streets)**

The crosswalks at Auraria Parkway ought to be maintained. The crosswalk at Arapahoe Street should be improved by having it well marked on both sides of Speer. The crosswalks to the south across Colfax must be studied carefully; they all may not be required. A number of them are shown here to underscore the importance placed on the value of connecting the campus to the residential neighborhoods to the south.

- **For the design of the crosswalks, consider the guidelines offered in these patterns from Christopher Alexander's _Pattern Language_:**
52. NETWORK OF PATHS AND CARS
53. MAIN GATEWAYS
54. ROAD CROSSING
55. RAISED WALK
61. SMALL PUBLIC SQUARES
92. BUS STOP
93. FOOD STANDS

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- **Connect Lower Downtown to the Campus from 14th and Larimer via the Old City Hall View Plane to the Tivoli Tower and to the Front Range beyond.**

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- **Connect the campus to Larimer Square and Lower Downtown via a yet-to-be-conceived strong connection across Speer Blvd. at Larimer Street.**
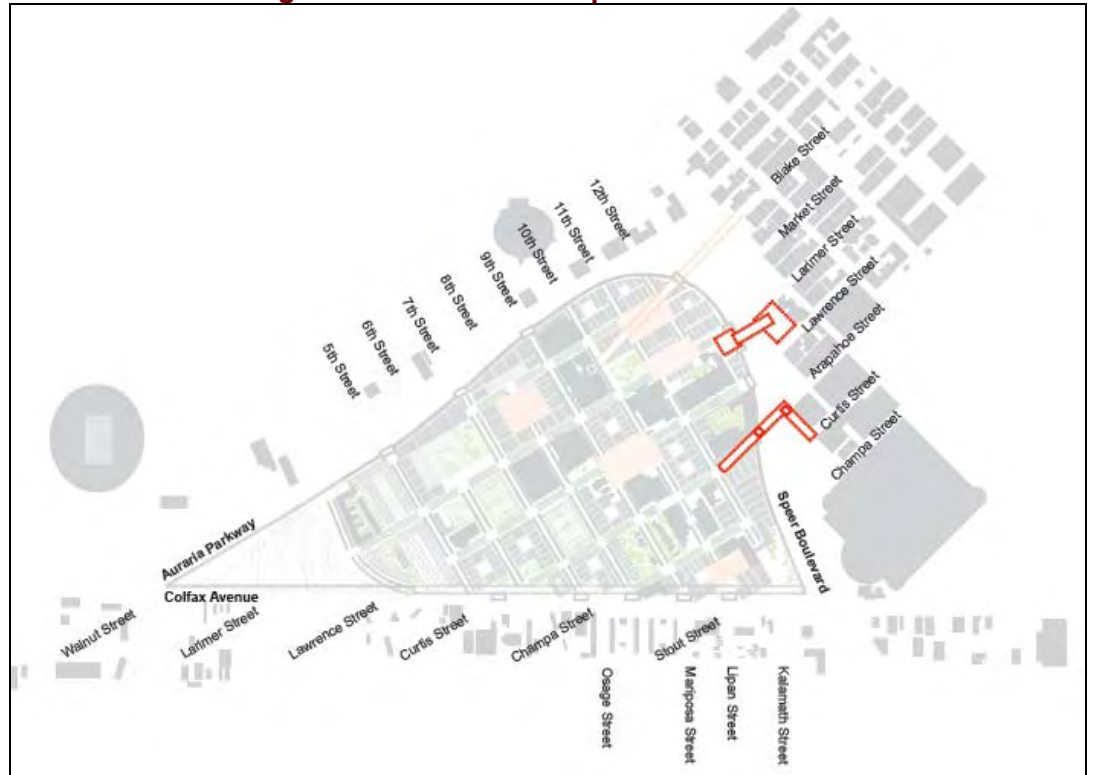
The 2007 Auraria Master Plan recommends that the main entrance to the campus to be at Larimer Street. A subsequent study (12 March 2008) by Space Syntax of likely pedestrian movement reinforces this recommendation:

- **Important Activity Nodes:** The busiest location in the study area is at the intersection of 10th and Lawrence Streets (peaking at nearly 2,000 pph between 8:00AM and 10:00AM, averaging 900 pph over the entire day). Larimer Square is the most important activity node outside of the campus (peaking at 500 pph and averaging 350 pph over the entire day).
- **Important Axes:** Lawrence Street on campus is the most important east-west axis, but activity levels drop sharply after Speer Boulevard. 10th Street north-south is an important secondary axis on campus. Larimer Street east of Speer Boulevard is the most important axis off campus. It experiences strong and consistent use on campus as well. 14th Street north-south is an important secondary axis off campus.
- **Important Entrances:** The Larimer Street entrance receives more use over a greater period of time than the Lawrence Street entrance (peaking at 350 pph, averaging approximately 220 pph vs. 180 pph on Lawrence Street).

Thus the main entrance to the campus ought to be connected in the most clear, direct, and positive manner to Larimer Square. This is a difficult challenge and involves many complex physical, legal, and jurisdictional issues. Ideas for detailed study include:

- **A *Ponte Vecchio* solution**. This refers to the medieval bridge over the Arno River, in Florence, Italy, noted for still having shops built along it, as was once common. Butchers initially occupied the shops; the present tenants are jewelers, art dealers and souvenir sellers. This idea proposes not a mere bridge across Speer from Larimer to Auraria but a combination building/street/bridge that would, in some manner, continue Larimer Square over into the campus. In such an idea, the formal main gateway entrance to the campus would be on the LoDo side of Speer rather than on the campus itself.

- **A Garden/Creek Level Solution.** This refers to an idea where the present courtyard and garden/terraces on the creek side of the UC Denver Building would become an entrance courtyard to the campus. There would be an outdoor bridge across the creek at this level. This would lead to a high quality indoor arcade that would pass beneath the eastbound lanes of Speer and give access directly into the Auraria Campus.

- **A more formal and fully-developed crosswalk solution across Speer.** This solution would be a further development of the present grade level connection across the present Larimer Street bridge over Speer. Might the bridge be closed to automobile traffic and made into a pedestrian amenity? Might Speer be narrowed at the

1   crosswalk? This solution would be similar to connections across some of Europe's
2   grand boulevards, or similar to the Triple Bridge across the Ljubljanica River in
3   Ljubljana, Slovenia. Here the strategy was to bring both sides of the river closer
4   together *psychologically* by bringing the buildings on each side as close to the river as
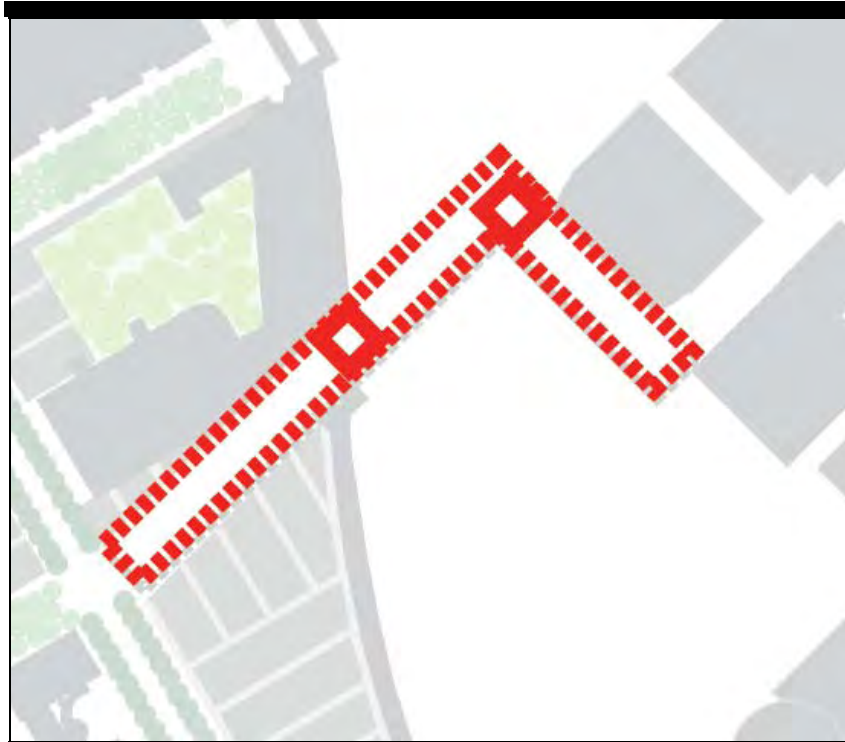5   possible and then connecting them with a short but wonderful bridge that is a work of
6   architecture in itself.

- **Connect the campus to the Denver Arts Complex at via a yet-to-be-conceived strong connection across Speer at Arapahoe Street.**

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2   This connection would be via cross walks and the bridge to the lawn in front of the Denver
3   Arts Complex and then up the grand stair to the Galleria.

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Section 7: Neighborhoods

Contents

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7.1   Kevin Lynch's *Image of the City*: 5 Spatial Structures
7.2   Reintegrating Lynch's 5 Spatial Structures into a Whole Image for Auraria
Guidelines:

7.0 Introduction

One of the objectives of the *Auraria Higher Education Center Master Plan Update 2007* is to "Enhance the identity of the individual institutions without undermining the shared identity of the Auraria Campus."[1] The 2007 Plan proposes a major means to realize this objective: "To enhance individual institutional identity and provide a land use structure to guide AHEC campus growth, the Plan is organized into 'Neighborhoods':

- Campus Crossroads
- Institutional Neighborhoods ⸺ CCD, Metro State, and UC Denver
- Urban District
- Campus Village"[2]

This section of the Design Guidelines delineates principles, directions, and suggestions for the shaping and design of these Neighborhoods. But first we will look at the *Update 2007* Plan's vision for the neighborhoods.

"The ***Campus Crossroads* neighborhood** is located at the intersection of the main east-west and north-south pedestrian spines (the Lawrence Street and 10th Street). In this neighborhood ⸺ the heart of the campus ⸺ academic, student life, cultural, and private developments come together. The Campus Crossroads represents the core vision of the Auraria experience ⸺ shared facilities operated to serve the needs of the campus's three main academic institutions.[3]

"The ***Institutional Neighborhoods*** provide the opportunity for the administrative center of each institution to have a distinctive and recognizable character ⸺ through a combination of architecture, signage, and exterior treatments ⸺ while maintaining a level of visual continuity for the larger Auraria campus. As is the current practice, new construction of academic buildings in these neighborhoods will equitably share academic space through common scheduling; however the neighborhoods provide opportunities for each institution to provide specialized academic space that is unique to their particular program. In addition, the neighborhoods offer distinct 'addresses' for each of the institutions ⸺ each

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[1] *Auraria Higher Education Center Master Plan Update 2007,* p13
[2] *ibid.*, p27
[3] *ibid.*

related to one of the significant perimeter streets. The CCD neighborhood is located in the vicinity of the South Classroom [Building] along Colfax Avenue. Metro State's neighborhood is located along the Auraria Parkway just west of the Tivoli building. Building on its presence in the North Classroom [Building], UC Denver's neighborhood is focused around Larimer Street to provide easy connections to their buildings across Speer Boulevard.[4]

"The **Urban District** **neighborhood** hosts public/private partnership developments, providing AHEC and its institutions with financial resources previously unrealized and changing the character of the campus to become a genuine part of the larger urban fabric. This neighborhood, bounded by Speer Boulevard and Auraria Parkway, is envisioned to attract private investment in activities that support needs and interests of the AHEC community. Lower Downtown (LoDo), the adjacent neighborhood to the northeast of this District, inspires the style and character of architecture and urban design envisioned for this District. The Urban District is expected to accommodate up to 2 million gross square feet of private investment with a mix of uses.[5]

"Finally, creation of the **Campus Village** **neighborhood** at the west of the campus builds on the strengths of recent and planned investments in student housing and a relocated light rail transit station to create a hub of activity. This district is intended to provide housing options, campus support space, student service activities, and recreation and athletics facilities serving the campus population as well as demand generated by activity around the Auraria West light rail station. The plan transforms the existing area largely defined by surface parking into an athletics complex and residential village (along with additional institutional uses) with clearly marked, safe pedestrian paths to the core of the campus.[6]

7.1 Kevin Lynch's *Image of the City*: 5 Spatial Structures

What is a *neighborhood*? The *American Heritage Dictionary* defines it as "A district or area with distinctive characteristics". *Webster's Revised Unabridged Dictionary* defines *neighborhood* as "1. The quality or condition of being a neighbor; the state of being or dwelling near; proximity. *Then the prison and the palace were in awful neighborhood.* 2. A place near; vicinity; adjoining district; a region the inhabitants of which may be counted as neighbors; as, he lives in my neighborhood. 3. The inhabitants who live in the vicinity of each other." Neighborhoods are often social communities with considerable face-to-face interaction among members. In everyday usage, *neighborhood* is very close to *vicinity.* But *vicinity* does not commonly denote so close a connection as *neighborhood*. A *neighborhood* is a more immediately *vicinity*. The houses immediately adjoining a square are in the *neighborhood* of that square; those which are somewhat further removed are also in the *vicinity* of the square.[7]

But the meaning of the word *neighborhood* is not quite so simple as it might seem. As is the general case with the meaning of any word, meanings do not exist independently of the context in which they arise. In the structural revolution in linguistics anticipated by Sassure and developed by Lévy-Strauss, the meaning of signs is a function of their systematic relations and not their seeming reference. This . . . does not abolish reference but refigures it in terms of the interplay of words rather than the association between a word and a referent of a different order.[8]

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[4] *ibid.*

[5] *ibid.,* p29

[6] *ibid.*

[7] *Webster's Revised Unabridged Dictionary*, © 1996, 1998 MICRA, Inc

[8] Mark C. Taylor. *The Moment of Complexity; Emerging Network Culture.* [Chicago. University of Chicago Press. 2003] p67

The significance of this for our consideration of the design guidelines for campus neighborhoods lies in the fact that just as it is in our understanding of linguistics, so also is it in the case of our experience of cities. In his groundbreaking book, *The Image of the City,* Kevin Lynch writes about the complex interrelatedness of city elements: "At every instant, there is more than the eye can see, more than the ear can hear, a setting or a view waiting to be explored. In the city, nothing is experienced by itself, but always in relation to its surroundings, the sequences of events leading up to it, the memory of past experiences. Washington Street set in a farmer's field might look like the shopping street in the heart of Boston, and yet it would seem utterly different. Every citizen has had long associations with some part of his city, and his image is soaked in memories and meanings."[9]

"Moving elements in a city, and in particular the people and their activities, are as important as the stationary physical parts. We are not simply observers of this spectacle, but are ourselves a part of it, on the stage with the other participants. Most often, our perception of the city is not sustained, but rather partial, fragmentary, mixed with other concerns. Nearly every sense is in operation, and the image is the composite of then all.[10]

In his book Lynch considers the visual quality of the American city by studying the mental image of that city which is held by its citizens. He concentrates especially on one particular visual quality: the apparent clarity or 'legibility' of the cityscape. By this he means the ease with which its parts can be recognized and can be organized into a coherent pattern. Just as this printed page, if it is legible, can be visually grasped as a related pattern of recognizable symbols, so a legible city would be one whose districts or landmarks or pathways are easily identifiable and readily grouped into an overall pattern. It is in the context of this overall pattern that the idea of ***neighborhood*** derives its meaning and identity and quality. It is in this context that Lynch explores how humans *orient* themselves in cities and come to *identify* with them. The following argument is from his book.

First he holds that an environmental image may be analyzed into three components:
- identity
- structure
- meaning

Although it is useful to abstract these for analysis, it must be remembered that in reality they always appear together. A workable image requires first the identification of an object, which implies its distinction from other things, its recognition as a separable entity. This is called **identity**, not in the sense of equality with something else, but with the meaning of individuality or oneness. Second, the image must embody a **structure** — the spatial or pattern relation of the object to the observer and to other objects. Finally, this object must have some **meaning** for the observer, whether physical, intellectual, or spiritual. Meaning is also a relation, but quite a different one from spatial or pattern relation.

Thus an image useful for making an exit requires the recognition of a door as a distinct entity, of its spatial relation to the observer, and its meaning as an opening for getting out. These are not separable. The visual recognition of a door is interwoven together with its meaning as a door. It is possible, however, to analyze the door in terms of its identity of form and clarity of position, considered as if they were prior to its meaning.
Such an analytic feat might be pointless in the study of a door, but not in the study of the urban environment. The question of meaning in the city is a complex one. Group images of meaning are less likely to be consistent at this level than are the perceptions of entity and relationship. Meaning, moreover, is not so easily influenced by physical manipulations as are these other two components. If it is our purpose to build cities for the enjoyment of vast

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[9] Kevin Lynch. *The Image of the City.* [Cambridge and London. MIT Press. 1960. Eleventh Printing 1973] p1
[10] *ibid.* p2

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numbers of people of widely diverse backgrounds — and cities which will also be adaptable to future purposes — we may even be wise to concentrate on the physical clarity of the image and to allow meanings to develop without our direct guidance. The image of the Manhattan skyline may stand for vitality, power, decadence, mystery, congestion, greatness, or whatever you will, but in each case that sharp picture crystallizes and reinforces the meaning. So various are the individual meanings of a city, even while its form may be easily communicable, that it appears possible to separate meaning from form, at least in the early stages of analysis. Lynch's study thus concentrates on the **identity** and **structure** of city images.

If an image is to have value for orientation in the living space, it must have several qualities. It must be sufficient, true in a pragmatic sense, allowing the individual to operate within his environment to the extent desired. The map, whether exact or not, must be good enough to get one home. It must be sufficiently clear and well integrated to the economical and mental effort: the map must be readable. It should be safe, with a surplus of clues so that alternative actions are possible and the risk of failure is not too high. If a blinking light is the only sign for a critical turn, a power failure may cause a disaster. The image should be open-ended, adaptable to change, allowing the individual to continue to investigate and organize reality: there should be blank spaces where he can extend the drawing for himself. Finally, it should in some measure be communicable to other individuals. The relative importance of these criteria for a "good" image will vary with different persons in different situations; one will prize an economical and sufficient system, another an open-ended and communicable one.

Lynch then identifies the basic spatial structures which are the objects of human orientation: **paths, edges, districts, nodes,** and **landmarks**. The perceived interrelationship of these elements constitutes an "environmental image". He asserts that "a good environmental image gives its possessor an important sense of emotional security." In this context, all cultures have developed "systems of orientation" — spatial structures that facilitate the development of a good environmental image." "The world may be organized around a set of focal points, or be broken into named regions, or be linked by remembered routes." Often these systems of orientation are based on or derived from a given natural structure. Where the system is weak, the image-making becomes difficult, and man feels "lost". "The terror of being lost comes from the necessity that a mobile organism be oriented to its surroundings." To be lost is the opposite of the feeling of security which distinguishes dwelling. The environmental quality which protects man against getting lost Lynch calls "imageability", which means that "that shape, color, or arrangement which facilitates the making of vividly identified, powerfully structured, highly useful mental images of the environment.

He asserts that "There seems to be a public image of any given city which is the overlap of many individual images. Or perhaps there is a series of public images, each held by some significant number of citizens. Such group images are necessary if an individual is to operate successfully within environment and to cooperate with his fellows. Each individual picture is unique, with some content that is rarely or never communicated, yet it approaches the public image, which, in different environments, is more or less compelling, more or less embracing.

"This analysis limits itself to the effects of physical, perceptible, objects. There are other influences on imageability, such as the social meaning of an area, its function, its history, even its name. These will be glossed over, since the objective here is uncover the role of form itself. It is taken for granted that in actual design form should be used to reinforce meaning, not to negate it.

"The content of the city images . . . which are referable to physical forms can be conveniently classified into five types of elements. Indeed, these elements may be of more general application, since they seem to reappear in many types of environmental images.

1. *Paths* are the channels along which the observer customarily, occasionally, or potentially moves. They may be streets, walkways, transit lines, canals, or railroads. People observe the city while moving through it, and along these paths the other environmental elements are arranged and related.

Lynch's studies have furnished much information about the visual character of the element types. Some of those most relevant for **Paths (and thus for Neighborhoods)** in the Design Guidelines are documented here:

- Concentration of a special use or activity along a street may give it prominence in the eyes of observers.
- Characteristic spatial qualities strengthen the image of particular paths such as narrowness, strong symmetry or asymmetry (New York's Fifth Avenue along Central Park), or openness to or shelter from the sky.
- Special facade characteristics are important for path identity.
- Proximity to special features of the city could also endow a path with increased importance.
- Occasionally paths are important for largely structural reasons. Boston's Massachusetts Avenue as an intersector of many confusing streets made it a major city element.
- It is important that paths, once identified, have continuity as well is an obvious functional necessity. The requirement is that the actual pavement go through; the continuity of other characteristics although somewhat less important, are important as well. Examples are continuity of planting, facades, setbacks, lighting, and paving.
- Strategic terminal points are also important to intelligibility of a path. The 16th Street Mall in Denver is terminated at one end by the mast of the Millennium Bridge and at the other by the dome of the State Capitol Building, and 17th Street at one end by Union Station and at the other by the silver mast of the Amoco Building.
- In both of the above examples, there is also another important characteristic — end-from-end differentiation.
- Once a path has directional quality, it may have the further attribute of being scaled: one may be able to sense one's position along the total length, to grasp the distance traversed or yet to go. Features which facilitate scaling usually confer a sense of direction as well. Most often scaling is accomplished by a sequence of known landmarks or nodes along the path. The marking of identifiable regions as a path enters and leaves and enters them also constitutes a powerful means of giving direction and scaling to a path. In Boston, Charles Street entering Beacon Hill from the Common, and Summer Street entering the shoe and leather district on the way to South Station are examples of this effect.
- When more than one path is considered, then the path intersection becomes vital since it is the point of decision. The simple perpendicular relationship is easiest to handle.
- A few important paths may be imaged together as a simple structure, despite any minor irregularities, as long as they have a consistent general relationship to one another. At Auraria, the structure of path linkages between Larimer and Lawrence Streets are especially important, particularly in the vicinity of the main entrance gateway to the campus at Speer Boulevard.
- A large number of paths may be seen as a total network when repeating relationships are sufficiently regular and predictable. The Auraria Campus is a good example of this with its regular grid of streets and intersections. At the same time, however, this very regularity can make it difficult to distinguish one path from another. This concern can be addressed if the streets in one direction are distinguished from those in the other by characteristic differences in spatial, landscape, paving, or lighting qualities.

2. *Edges* are the linear elements not used or considered as paths by the observer. They are the boundaries between two phases, linear breaks in continuity: shores, railway cuts, edges of development, walls. They are lateral references rather than coordinate axes. Such edges may be barriers, more or less penetrable, which close one region off from another, or they may be seams, lines along which two regions are related and joined together. These edge elements, although probably not as dominant as paths, are for many people important organizing features, particularly in the role of holding together generalized areas, as in the outline of a city by water or wall.

Lynch's studies have furnished much information about the visual character of the element types. Some of those most relevant for **Edges (and thus for Neighborhoods)** in the Design Guidelines are documented here:

- Those edges seem strongest which are not only visually prominent but also continuous in form and impenetrable to cross movement.
- The Auraria campus is situated on a triangular "peninsula" formed by three arterial streets. Due to the three distinct, directionally-shifted street grids (Auraria Grid, Downtown Grid, Denver Grid) and great widths of these arterial streets, the intensity of vehicular traffic on each, and the fact that the majority of people cross over these edges only at the downtown (Larimer, Lawrence) many people are unable to interconnect the campus and the Pepsi Center neighborhood or the campus and the Lincoln Park neighborhood in any concrete way. In a similar manner, but for different reasons, the neighborhood in the tip of the campus triangle is a highly indistinct image to most of us, at its best. It is the zone of the highway interchange, a no-man's land, a "region beyond the barbed wire".
- Edges such as those at Auraria, whether of railroads, topography, throughways and arterials, or distinct boundaries tend to define the campus edges but to fragment the larger urban environment. As indicated above, some of the most unpleasant edges seem to be mentally erased.
- The disruptive power of strong edges must be reckoned with.
- While continuity and visibility are crucial, strong edges are not necessarily impenetrable. Many edges can be uniting seams rather than isolating barriers. Lynch gives the example of how the wide Cambridge Street in Boston divides two regions sharply but keeps them in some visual relation. Beacon Street, the visible boundary of Beacon Hill along the Common, acts not as a barrier but as a seam along which the two major areas are clearly joined together. Charles Street at the foot of Beacon Hill both divides and unites, leaving the lower area in uncertain relation to the hill above. Charles Street carries heavy traffic but also contains the local service stores and special activities associated with the Hill. It pulls residents together by attracting them to itself. It acts ambiguously either as a linear node, edge, or path for various people at various times.
- Edges are often paths as well. Where this is so, and where the ordinary observer is not shut off from moving along the path (as on Boston's Central Artery, for example), then the circulation image seems to be the dominant one. The element is usually pictured as a path, reinforced by boundary characteristics.
- Elevated railways and elevated roadways are examples of what might be called overhead edges. The elevated railway which rings Central Chicago forms what is known there as "The Loop"; it is understood as the old center of the city.
- Edges, like paths, may also have directional qualities. The Charles River edge in Boston, for example, has the obvious side-from-side differentiation of water and city, and the end-from-end distinction provided by Beacon Hill. Most edges have little of this quality, however.
- It is difficult to think of Chicago without picturing Lake Michigan. It would be interesting to see how many Chicagoans would begin to draw a map of their city by putting down something other than the line of the lakeshore. Here is a magnificent example of a visible edge, gigantic in scale, that exposes an entire metropolis to view. In Denver, at

a much greater distance from the city itself than is the lake in Chicago but at a much larger scale in relation to the city than that lake, is the Front Range of the Colorado Rockies. The Rockies form the western edge of our entire region and thus, at the regional scale, act here in a manner similar to that of Lake Michigan in Chicago.

3. *Districts* are the medium-to-large sections of the city, conceived of as having two-dimensional extent, which the observer mentally enters "inside of", and which are recognizable as having some common, identifying character. Always identifiable from the inside, they are also used for exterior reference if visible from the outside. Many people structure their city to some extent in this way, with individual differences as to whether paths or districts are the dominant elements. It seems to depend not only upon the individual but also upon the given city.

Lynch's studies have furnished much information about the visual character of the element types. Some of those most relevant for **Districts Paths (and thus for Neighborhoods)** in the Design Guidelines are documented here:

- Although the Auraria Campus is itself a district, Lynch's discussion of districts for the Design Guidelines is especially relevant for the shaping of the campus neighborhoods.
- Districts can be recognized internally and occasionally can be used as external references as a person goes by or toward them. Many persons that Lynch interviewed took care to point out that Boston, while confusing in its path pattern even to the experienced inhabitant, has, in the number and vividness of its differentiated districts, a quality that quite makes up for it. As one person put it, "Each part of Boston is different from the other. You can tell pretty much what area you're in."
- Jersey City has its districts too, but they are primarily ethnic or class districts with little physical distinction. Los Angeles is markedly lacking in strong regions, except for the Civic Center area.
- When asked which city they felt to be a well-oriented one, one subject mentioned several, but Manhattan was unanimously cited.
- In some Boston interviews, the districts were the basic elements of the city image.
- The physical characteristics that determine districts are thematic continuities which may consist of an endless variety of components: texture, space, form, detail, symbol, building type, use, activity, inhabitants, degree of maintenance, topography. In a closely built city such as Boston, homogeneities of facade — material, modeling, ornament, color, skyline, especially fenestration — were all basic clues in identifying major districts. The clues were not only visual ones: noise was important as well. At times, indeed, confusion itself might be a clue, as it was for the woman who remarked that she knows she is in the North End as soon as she feels she is getting lost.
- Usually, the typical features of a district were imaged and recognized in a characteristic cluster, the thematic unit. The Beacon Hill image, for example, included steep narrow streets; old brick row houses of intimate scale; inset, highly maintained, white doorways; black trim; cobblestones and brick walks; quiet; and upper class pedestrians. The resulting thematic unit was distinctive by contrast to the rest of the city and could be recognized immediately. In other parts of central Boston, there was some thematic confusion. It was not uncommon to group the Back Bay with the South end, despite their very different use, status, and pattern. This was probably the result of a certain architectural homogeneity, plus some similarity of historical background. Such likenesses tend to blur the city image.
- A certain reinforcement of clues is needed to produce a strong image. All too often there are a few distinctive signs, but not enough for a full thematic unit. Then the region may be recognizable to someone familiar with the city, but it lacks any visual strength or impact. Such, for example, is Little Tokyo in Los Angeles, recognizable by its population and the lettering on its signs but otherwise indistinguishable from the general matrix. Although it is a strong ethnic concentration, probably known to many people, it appeared as only a subsidiary portion of the city image.

- Yet social connotations are quite significant in building regions. A series of street interviews indicated the class overtones that many people associate with different districts. Most of the Jersey City regions are class or ethnic areas, discernable only with difficulty for the outsider. Both Jersey City and Boston have shown the exaggerated attention paid to upper-class districts and the resulting magnification of the importance of elements in those areas. District names also help to give identity to districts even when the thematic unit does not establish a striking contrast with other parts of the city, and traditional associations can play a similar role.
- When the main requirement has been satisfied, and a <u>thematic unit</u> that contrasts with the rest of the city has been constituted, the degree of internal homogeneity is less significant, especially if discordant elements occur in a recognizable pattern. Small stores on street corners establish a rhythm on Beacon Hill that one subject perceived as part of her image. These stores in no way weakened her non-commercial image of Beacon Hill but merely added to it. Subjects would pass over a surprising amount of local disagreement with the characteristic features of a region.
- Districts have various kinds of boundaries. Some are hard, definite, and precise. Such is the boundary of the Back Bay at the Charles River or at the Public Garden. All agreed on this exact location. Other boundaries may be soft or uncertain, such as the limit between downtown shopping and the office district, to whose existence and approximate location most people would testify. Still other regions have no boundaries at all, as does the South End for many of our subjects.
- District edges seem to play a secondary role: they may set limits to a district, and may reinforce its identity, but they apparently have less to do with constituting it. Edges may augment the tendency of districts to fragment the city in a disorganizing way. A few people sensed disorganization as one result of the large number of identifiable districts in Boston: strong edges, by hindering transitions from one district to another, may add to the impression of disorganization. This finding is especially important to the thinking about creating neighborhoods and districts on the Auraria campus. It suggests that encouraging gradual transitions from one neighborhood to another are to be favored over attempting to create clearly defined boundaries between them.
- The type of district which has a strong core, surrounded by a thematic gradient which gradually dwindles away, is not uncommon. Sometimes, indeed, a strong node may create a sort of district in a broader homogeneous zone, simply by "radiation", that is, but the sense of proximity to the nodal point. These are primarily reference areas, with little perceptual content, but they are useful organizing concepts, nevertheless.

4. *Nodes* are points, the strategic spots in a city into which an observer can enter, and which are the intensive foci to and from which he is traveling. They may be primarily junctions, places of a break in transportation, a crossing or convergence of paths, moments of shift from one structure to another. Or the nodes may be simply concentrations, which gain their importance from being the condensation of some use or physical character, as a street-corner hangout or an enclosed square. Some of these concentration nodes are the focus and epitome of a district, over which their influence radiates and of which they stand as a symbol. They may be called cores. Many nodes, of course, partake in the nature of both junctions and concentrations. The concept of node is related to the concept of path, since the junctions are typically the convergence of paths, events on the journey. It is similarly related to the concept of district, since cores are typically the intensive foci of districts, their polarizing center. In any event, some nodal points are to be found in almost every image, and in certain cases they may be the dominant feature.

Lynch's studies have furnished much information about the visual character of the element types. <u>Some of those most relevant for **Nodes (and thus for Neighborhoods)** in the Design Guidelines are listed here</u>:

- Although nodes are conceptually small points in the city image, they may in reality be large squares, or somewhat extended linear shapes, or even entire central districts when the city is being considered at a large enough level. Indeed, when conceiving the environment at a national or an international level, then the whole city may become a node.
- The junction, or place of break in transportation, has compelling importance for the city observer. Because decisions must be made at junctions, people heighten their attention at such places and perceive nearby elements with more than normal clarity. This tendency is confirmed so repeatedly that elements located at junctions may automatically be assumed to derive special prominence from their location. The perceptual importance of such locations shows in another way as well. When subjects are asked where on a habitual trip they first felt a sense of arrival in downtown Boston, a large number of people singled out break-points of transportation as the key places. In a number of cases, the point was at the transition from a highway to a city street; in another case, the point was at the first railroad stop in Boston (Back Bay Station) even though the subject did not get off there. The transition from one transportation channel to another seems to mark the transition between major structural units.
- The nodes can be important even when the physical form is shapeless and slippery, as it is in Journal Square in Jersey City.
- Railway stations are almost always important city nodes. In theory, even ordinary city intersections are nodes, but generally they are not of sufficient prominence to be imaged as more than the incidental crossing of paths. The image cannot carry too many nodal centers.
- The other type of node, the thematic concentration, also appears frequently. Pershing Square in Los Angeles was a strong example, being perhaps the sharpest point of the city image, characterized by highly typical space, planting, and activity. Olvera Street and its associated plaza was another case. Boston had quite a number of examples, among them the Jordan-Filene corner and Louisburg Square. The Jordan-Filene corner acts secondarily as a junction between Washington Street and Summer Street, and it is associated with a subway stop, but primarily it is recognized by the subjects interviewed as being the very center of the center of the city. It is the "100 per cent" commercial corner, epitomized to a degree rarely seen in a large American city, but culturally very familiar to Americans. It is a core: the focus and symbol of an important region.
- Louisburg Square is another thematic concentration, a well-known quiet residential open space, redolent of the upper-class themes of the Hill, with a highly-recognizable fenced park. It is a purer example of a concentration than is the Jordan-Filene corner, since it has no transfer point at all, and is only remembered by the interviewees as being "somewhat inside" Beacon Hill. Its importance as a node is out of all proportion to its function.
- Nodes may be both junctions and concentrations, as is Jersey City's Journal Square, which is an important bus and automobile transfer and is also a concentration of shopping. Thematic concentrations may be the focus of a region, as in the Jordan-Filene corner, and perhaps Louisburg Square. Others are not foci but are isolated special concentrations, such as Olvera Street in Los Angeles.
- A strong physical form is not absolutely essential to the recognition of a node: witness Journal Square and Scollay Square. But where the space has some form, the impact is much stronger. The node becomes memorable. If Scollay Square had a spatial shape commensurate with its functional importance, it would undoubtedly be one of the key features of Boston. In its present form, it cannot be remembered in any concrete way. It gets such epithets as run-down or disreputable.
- A node like Copley Square, on the contrary, which is of less functional importance and has to handle the angled intersection of Huntington Avenue, was very sharply imagined, and the connections of the various paths are eminently clear. It is easily identified, principally in terms of its unique individual buildings: the Public Library, Trinity Church, the Copley Plaza Hotel, and the sight of the John Hancock Building. It is less of a

spatial whole than a concentration of activity and of some uniquely contrasting buildings.

- Nodes such as Copley Square, Louisburg Square, or Olvera Street, had sharp boundaries, identifiable within a few feet. Others, such as the Jordan-Filene corner, were only the highest peak of some characteristic that had no sharp beginning. In any event, the most successful node seemed both to be unique in some way and at the same time to intensify some surrounding characteristic.
- Nodes, like districts, may be introverted or extroverted. Scollay Square is introverted. It gives little directional sense when one is in it or its environs. The principal direction in its surroundings is toward it or away from it; the principal locational sensation on arrival is simply "here I am". Boston's Dewey Square, on the other hand, is extraverted. General directions are explained, land connections are clear to the office district, the shopping district, and the waterfront.
- Many of these qualities may be summed up by the example of a famous Italian node: the *Piazza San Marco* in Venice. Highly differentiated, rich and intricate, it stands in sharp contrast to the general character of the city and to the narrow, twisting spaces of its immediate approaches. Yet it ties firmly to the major feature of the city, the Grand Canal, and has an oriented shape that clarifies the direction from which one enters. It is within itself highly differentiated and structured: into two spaces (*Piazza* and *Piazzeta*) and with many distinctive landmarks (*Duomo, Palazzo Ducale, campanile, Libreria*). Inside, one feels always in clear relation to it, precisely micro-located, as it were. So distinctive is this space that many people who have never been to Venice will recognize its photograph immediately.

5. *Landmarks* are another type of point-reference, but in this case the observer does not enter within them, they are external. They are usually a rather simply-defined physical object: building, sign, store, or mountain. Their use involves the singling-out of one physical element from a host of possibilities. Some landmarks are distant ones, typically seen from many angles and distances, over the tops of smaller elements, and used as radial references. They may be within the city or at a distance that for all practical purposes they symbolize as a constant direction. Such are isolated towers, golden domes, and great hills. Even a mobile point, like the sun, whose motion is sufficiently slow and regular, may be employed. Other landmarks are primarily local, being visible only in restricted localities and from certain approaches. These are the innumerable signs, storefronts, trees, doorknobs, and other urban detail, which fill in the image of most observers. They are frequently-used clues of identity and even of structure, and seem to be increasingly relied-upon as a journey becomes more and more familiar.

Lynch's studies have furnished much information about the visual character of the element types. Some of those most relevant for **Landmarks (and thus for Neighborhoods)** in the Design Guidelines are listed here:

- Since the use of landmarks involves the singling out of one element from a host of possibilities, the key physical characteristic of this class is singularity, some aspect that is unique or memorable in the context. Landmarks become more easily identifiable, more likely to be chosen as significant, if they have a clear form; if they contrast with their background; and if there is some prominence of spatial location. Figure-background contrast seems to be the principal factor. The background against which an element stands out need not be limited to immediate surroundings: the grasshopper weathervane at Faneuil Hall, the gold dome of the State House, or the peak of the Los Angeles City Hall, are landmarks that are unique against the background of the entire city.
- In another sense, subjects interviewed might single out landmarks for their cleanliness in a dirty city (the Christian Science buildings in Boston) or for their newness in the old city (the chapel on Arch Street). The Jersey City Medical Center is as well known for its little lawn and flowers as for its great size. The old Hall of Records in the Los Angeles

Civic Center is a narrow, dirty structure, set at an angle to the orientation of the other civic buildings, and with an entirely different scale of fenestration and detail. Despite its minor functional or symbolic importance, this contrast of siting, age, and scale makes it a relatively well-identified image, sometimes pleasant, sometimes irritating. It was several times reported to be "pie-shaped", although it is perfectly rectangular. This is evidently an illusion of the angled siting.

- Spatial prominence can establish elements as landmarks in either of two ways: by making the element visible from many locations (the John Hancock Building in Boston, the Richfield Oil Building in Los Angeles), or by setting up a local contrast with nearby elements, i.e., a variation in setback and height. In Los Angeles, on 7th Street at the corner of Flower Street, is an old, two-story gray wooden building, set back some ten feet from the building line, containing a few minor shops. This took the attention and fancy of a surprising number of those interviewed. One even anthropomorphized it as the "little gray lady". The spatial setback and the intimate scale is a very noticeable and delightful event, in contrast to the great masses that occupy the rest of the frontage.

- Location at a junction involving path decisions strengthens a landmark. The Telephone Building at Boston's Bowdoin Square was used, for example, to help people to stay on Cambridge Street. The activity associated with the element may also make a landmark: an unusual case of this was the Symphony Hall in Los Angeles. The auditorium was the very antithesis of visual imageability: housed in rented quarters in a nondescript building, whose sign simply says "Baptist Temple", it is completely unrecognizable to the stranger. Its strength as a landmark seems to derive from the contrast and irritation felt between its cultural status and its physical invisibility. Historical associations, or other meanings, are powerful reinforcements, as they are for Faneuil Hall or the State House in Boston. Once a history, a sign, or a meaning attaches to an object, its value as a landmark rises.

- Distant landmarks, prominent points visible from many positions, were often well-known, but only people unfamiliar with Boston seemed to use them to any great extent in organizing the city and selecting routes for trips. It is the novice who guides himself by reference to the John Hancock Building and the Custom House.

- The *Duomo* of Florence is a prime example of a distant landmark: visible from near and far, by day or night; unmistakable; dominant by size and contour; closely related to the city's traditions; coincident with the religious and transit center; paired with its campanile in such a way that the direction of view can be gauged from a distance. It is difficult to conceive of the city without having this great edifice come to mind.

- But local landmarks visible only in restricted localities, were much more frequently employed in three cities that Lynch studied in some detail. They ran the full range of objects available. The number of local elements that became landmarks appears to depend as much upon how familiar the observer is with his surroundings as upon the elements themselves. Unfamiliar subjects usually mentioned only a few landmarks in office interviews, although they managed to find many more when they went on field trips. Sounds and smells sometimes reinforced visual landmarks, although they did not seem to constitute landmarks by themselves.

- Landmarks may be isolated, single events without reinforcement. Except for large or very singular marks, these are weak references, since they are easy to miss and require sustained searching. The single traffic light or street name demands concentration to find. More often, local points were remembered as clusters, in which they reinforced each other by repetition, and recognizable partly by context.

- A sequential series of landmarks in which one detail calls up anticipation of the next and key details trigger specific moves of the observer, appear to be the standard way in which these people traveled through the city. In such sequences, there were trigger cues that confirmed the observer in decisions gone by. Additional details often helped to give a sense of nearness to the final destination or to intermediate goals. For emotional security as well as functional efficiency, it is important the sequences be fairly continuous, with no long gaps, although there may be a thickening of detail at nodes.

The sequence facilitates recognition and memorization. Familiar observers can store up a vast quantity of point images in familiar sequences, although recognition may break down when the sequence is reversed or scrambled.

7.2 Reintegrating Lynch's 5 Spatial Structures into a Whole Image for Auraria

Lynch's five elements of place describe how people experience the city and develop mostly unconscious images that then provide them with the means to form mental structures of that experience. *None of the element types isolated in the above analysis exist in isolation in the real case.* **Neighborhoods** are structured with **nodes**, defined by **edges**, penetrated by **paths**, sprinkled with **landmarks**. Elements regularly overlap and pierce one another.

Lynch emphasizes that the elements described here are simply the raw material of the environmental image at the city scale. They must be patterned together to provide a satisfying form, a spirit of place. The preceding summaries have discussed to some degree the groupings of similar elements such as nets of paths, clusters of landmarks, and mosaics of districts. The next step is to consider the interaction of pairs of unlike elements.

Such pairs may reinforce one another and resonate so that they enhance each other's power, or they may conflict and destroy themselves. A great landmark may dwarf and throw out of scale a small district at its base. Properly located, another landmark may fix and strengthen a core; placed off-center, it may only mislead, as does the John Hancock Building in relation to Boston's Copley Square. A large street, with its ambiguous character of both edge and path, may penetrate and thus expose a region to view, while at the same time disrupting it. A landmark feature may be so alien to the character of a district as to dissolve the regional continuity, or it may, on the other hand, stand in just the contrast that intensifies that continuity.

Neighborhoods, in particular, which tend to be of larger size than the other elements, contain within themselves, and thus are related to, various **paths**, **nodes**, and **landmarks**. These other elements not only structure the region internally, they also intensify the identity of the whole by enriching and deepening its character.

7.3 Design Guidelines: Neighborhoods

If this analysis begins with the differentiation of the data into these 5 Spatial Structures, then it must end with their reintegration into the whole image. That is the purpose of the <u>Design Guidelines: Neighborhoods.</u>

Edges:
- Design Buildings to define Edges as "porous membranes" (See Section 8 Edges).
- Design Gateways to penetrate Edges at strategic entrance points to campus.

Paths:
- Design grid of campus streets based upon Auraria's present street grid. (Paths).
- Design grid of campus streets (Paths) to connect with Gateways in perimeter Edge.
- Design Buildings to define Streets (Paths) as Positive Outdoor Spaces (see Section 6, Public Urban Space, beginning on page 6-2, *Positive Outdoor Space*.
- Design Buildings to reinforce the emerging character of each street (See Hierarchy of Campus Streets, Section 6 Public Urban Space)

Nodes:
- Design strong Nodes in the form of squares at the heart of each Neighborhood.
- The strong Node at the heart of each Neighborhood will be the most influential of the 5 basic structures to establish the initial character of that Neighborhood

Landmarks:
- Design Landmarks for each Node/Square (See 7.4 Design Guidelines: Landmarks as Foci for Neighborhood Squares)
- Each Node/Square shall have two Landmarks: 1) Civic Landmarks; and 2) Phenomenological Landmarks (See 7.4 Design Guidelines: Landmarks as Foci for Neighborhood Squares). *Or*, each square shall have a Civic Landmark and the square itself shall be designed so as to enhance the phenomenological experience of those who pass through or inhabit the square.

Neighborhoods:
- These combinations of the 5 basic Spatial Structures will form the initial character and identity of the Neighborhoods.

• The character and identity of the Neighborhoods will evolve over time through the many decisions made by their inhabitants and the random events of history.

7.31 Design Guidelines: Edges

• **Design Buildings to define Edges as "porous membranes" (See Section 8 Edges).**
• **Design Gateways to penetrate Edges at strategic entrance points to campus.**
Those edges seem strongest which are not only visually prominent but also continuous in form and impenetrable to cross-movement. Auraria is located on a triangular "peninsula" formed by three arterial streets. Due to the three distinct, directionally-shifted street grids (Auraria Grid, Downtown Grid, Denver Grid) and great widths of these arterial streets, the intensity of vehicular traffic on each, and the fact that the majority of people cross over these edges only at the downtown (Larimer, Lawrence) many people are unable to mentally relate the campus to the Pepsi Center neighborhood or the campus to the Lincoln Park neighborhood in any concrete way. In a similar manner, but for different reasons, the neighborhood in the tip of the campus triangle is a highly indistinct image to most of us, at its best. It is the zone of the highway interchange, a no-man's land, a "region beyond the barbed wire". The potentially disruptive power of strong edges can be refigured as uniting seams rather than as isolating barriers. This can be accomplished by designing them to be "porous membranes" (See Section 8 Edges) as well as by forming within them, at strategic points, gateway entrances to and from the surrounding neighborhoods. Edges can also function as paths where the ordinary observer is not shut off from moving along the path. In such instances, the circulation image rather than the edge image then seems to be the dominant one: the edge is pictured as a path, reinforced by boundary characteristics. Elevated railways and elevated roadways are examples of what might be called overhead edges. Finally, the Rocky Mountains form the western edge of our entire region and thus, at the regional scale, act in a manner similar to that of Lake Michigan in Chicago. Consider developing high points with views to the Rockies — the edge of our region.

7.32 Design Guidelines: Paths

- **Design grid of campus streets based upon Auraria's present street grid.**
- **Design grid of campus streets to connect with Gateways in perimeter Edge.**
- **Design Buildings to define Streets as positive outdoor spaces.**
- **Design Buildings to reinforce the character of each street (See Hierarchy of Campus Streets, Section 6 Public Urban Space)**

Consider concentrations of special uses or activities along the streets that will give them prominence in the eyes of observers. Characteristic spatial qualities that strengthen the image of particular paths are narrowness, strong symmetry, or asymmetry. Special facade characteristics are important for path identity. Proximity to special features of the city — such as Larimer Square — also will endow a path with increased importance. Strategic terminal points and end-from-end differentiation are important to the intelligibility of a path. Once a path has directional quality, it may have the further attribute of being scaled: one may be able to sense one's position and gain a sense of direction along the total length, to grasp the distance traversed or yet to go. Most often scaling is accomplished by a sequence of known landmarks or nodes along the path. A few important paths may be imaged together as a simple structure, despite any minor irregularities, as long as they have a consistent general relationship to one another. At Auraria, the structure of path linkages between Larimer and Lawrence Streets is especially important, particularly in the vicinity of the main entrance gateway to the campus at Speer Boulevard. A large number of paths may be seen as a total network when repeating relationships are sufficiently regular and predictable. The Auraria Campus is a good example of this, with its regular grid of streets and intersections. At the same time, however, this very regularity can make it difficult to distinguish one path from another. This concern can be addressed if the streets in one direction are distinguished from those in the other by characteristic differences in spatial, landscape, paving, or lighting qualities.

7.33 Design Guidelines: Nodes

• **Design strong Nodes in the form of squares at the heart of each Neighborhood.**
• **The strong Node at the heart of each Neighborhood will be the most influential of the 5 basic structures to establish the initial character of that Neighborhood.**

Although nodes are conceptually small points in the city image, they may in reality be large squares, or somewhat extended linear shapes. The transportation junction, or place of break in transportation, has compelling importance for the city observer. Because decisions must be made at such junctions, people heighten their attention there and perceive nearby elements with more than normal clarity. This tendency is confirmed so repeatedly that elements located at junctions may automatically be assumed to derive special prominence from their location. The other type of node, the thematic concentration, also appears frequently. Pershing Square in Los Angeles is a strong example, being perhaps the sharpest point of the city image, characterized by highly typical space, planting, and activity. Olvera Street and its associated plaza is another case. Boston has quite a number of examples, among them the Jordan-Filene corner and Louisburg Square. Nodes may be both junctions and concentrations, as is Jersey City's Journal Square, which is an important bus and automobile transfer and is also a concentration of shopping. A node like Copley Square is easily identified, principally in terms of its unique individual buildings: the Public Library, Trinity Church, the Copley Plaza Hotel, and the sight of the John Hancock Building. It is less of a spatial whole than a concentration of activity and of some uniquely contrasting buildings. Nodes such as Copley Square, Louisburg Square, or Olvera Street, have sharp boundaries, identifiable within a few feet. Others, such as the Jordan-Filene corner, are only the highest peak of some characteristic that had no sharp beginning. In any event, the most successful node seems both to be unique in some way and at the same time to intensify some surrounding characteristic. Many of these qualities may be summed up by the example of a famous Italian node: the *Piazza San Marco* in Venice. Highly differentiated, rich and intricate, it stands in sharp contrast to the general character of the city and to the narrow, twisting spaces of its immediate approaches. Yet it ties firmly to the major feature of the city, the Grand Canal, and has an oriented shape that clarifies the direction from which one enters. It is within itself highly differentiated and structured: into two spaces (*Piazza* and *Piazzeta*) and with many distinctive landmarks (*Duomo*, *Palazzo Ducale*, *campanile*, *Libreria*). Inside, one feels always in clear relation to it, precisely micro-located, as it were. So distinctive is this space that many people who have never been to Venice will recognize its photograph immediately.

7.34 Design Guidelines: Landmarks

- **Design Landmarks for each Node/Square Square (See 7.41 Design Guidelines: Landmarks as Foci for Neighborhood Squares)**
- **Each Node/Square shall have at least two Landmarks: 1) a Civic Landmark; and 2) a Phenomenological Landmark. *Or*, each square shall have 1) a Civic Landmark and 2 the square itself shall be designed so as to enhance the phenomenological experience of those who pass through or inhabit the square.**

Since the use of landmarks involves the singling out of one element from a host of possibilities, the key physical characteristic of this class is singularity, some aspect that is unique or memorable in the context. Landmarks become more easily identifiable, more likely to be chosen as significant, if they have a clear form; if they contrast with their background; and if there is some prominence of spatial location. Figure-background contrast seems to be the principal factor. The background against which an element stands out need not be limited to immediate surroundings: the grasshopper weathervane at Faneuil Hall, the gold dome of the State House, or the peak of the Los Angeles City Hall, are landmarks that are unique against the background of the entire city. In another sense, subjects interviewed might single out landmarks for their cleanliness in a dirty city (the Christian Science buildings in Boston) or for their newness in the old city (the chapel on Arch Street). The Jersey City Medical Center is as well known for its little lawn and flowers as for its great size. The old Hall of Records in the Los Angeles Civic Center is a narrow, dirty structure, set at an angle to the orientation of the other civic buildings, and with an entirely different scale of fenestration and detail. Despite its minor functional or symbolic importance, this contrast of siting, age, and scale makes it a relatively well-identified image, sometimes pleasant, sometimes irritating. Spatial prominence can establish elements as landmarks in either of two ways: by making the element visible from many locations or by setting up a local contrast with nearby elements, i.e., a variation in setback and height. Location at a junction involving path decisions strengthens a landmark. **Historical associations, or other meanings, are powerful reinforcements**, **as they are for Faneuil Hall or the State House in Boston. Once a history, a sign, or a meaning attaches to an object, its value as a landmark rises.** The *Duomo* of Florence is a prime example of a distant landmark: visible from near and far, by day or night; unmistakable; dominant by size and contour; closely related to the city's traditions; coincident with the religious and transit center; paired with its campanile in such a way that the direction of view can be gauged from a distance. It is difficult to conceive of the city without having this great edifice come to mind. But local landmarks visible only in restricted localities were much more frequently employed in three cities that Lynch studied in some detail. They ran the full range of objects available. The number of local elements that became landmarks appears to depend as much upon how familiar the observer is with his surroundings as upon the elements themselves. A sequential series of landmarks in which one detail calls up anticipation of the next and key details trigger specific moves of the observer, appear to be the standard way in which these people traveled through the city. In such sequences, there were trigger cues that confirmed the observer in decisions gone by. Additional details often helped to give a sense of nearness to the final destination or to intermediate goals. For emotional security as well as functional efficiency, it is important the sequences be fairly continuous, with no long gaps, although there may be a thickening of detail at nodes.

7.35 Design Guidelines: Neighborhoods

- **These combinations of the 5 basic Spatial Structures will form the initial character and identity of the Neighborhoods.**
- **The character and identity of the Neighborhoods will evolve over time through the many decisions made by their inhabitants and the random events of history.**

Neighborhoods are the basic elements of a campus image. The physical characteristics that determine neighborhoods are thematic continuities which may consist of an endless variety of components: texture, space, form, detail, symbol, building type, use, activity, inhabitants, degree of maintenance, topography. In a closely built city or campus, homogeneities of facade — material, modeling, ornament, color, skyline, especially fenestration — are all basic clues in identifying major neighborhoods. The clues are not only visual ones: noise or confusion are important as well. The typical features of a neighborhood are imaged and recognized in a characteristic cluster, the thematic unit. The Beacon Hill image in Boston includes steep narrow streets; old brick row houses of intimate scale; inset, highly maintained, white doorways; black trim; cobblestones and brick walks; quiet; and upper class pedestrians. The resulting thematic unit is distinctive by contrast to the rest of the city and can be recognized immediately. Neighborhood names also help to give the neighborhood an identity even when the thematic unit does not establish a striking contrast with other parts of the campus. When asked which city they felt to be a well-oriented one, Manhattan was unanimously cited. In Boston, neighborhoods are understood as the basic elements of the city image. When the main requirement has been satisfied, and a thematic unit that contrasts with the rest of the city has been constituted, the degree of internal homogeneity is less significant, especially if discordant elements occur in a recognizable pattern. Neighborhoods have various kinds of boundaries. Some are hard, definite, and precise. Such is the boundary of the Back Bay at the Charles River or at the Public Garden. Other boundaries may be soft or uncertain, such as the limit between downtown shopping and the office district. Still other regions have no boundaries at all. Neighborhoods edges seem to play a secondary role: they may set limits to a neighborhood and may reinforce its identity, but they apparently have less to do with constituting it. Edges may augment the tendency of neighborhoods to fragment the city in a disorganizing way. A few people sensed disorganization as one result of the large number of identifiable neighborhoods in Boston: strong edges, by hindering transitions from one neighborhood to another, may add to the impression of disorganization. The type of neighborhood that has a strong core, surrounded by a thematic gradient which gradually dwindles away, is not uncommon. Sometimes, a strong node may create a sort of neighborhood in a broader homogeneous zone, simply by "radiation", that is, by the sense of proximity to the nodal point.

7.4 Design Guidelines: Landmarks as Foci for Neighborhood Squares

In summary, in **Design Guidelines: Neighborhoods** it is recommended:

1) First, that neighborhoods be established around strong cores — focal point nodes that are in the form of traditional urban squares, and

2) Second, that these focal point nodes or urban squares be given their strength through the placement in them of a Civic Landmarks and a Phenomenological Landmark [or, each square shall have a Civic Landmark and the square itself shall be designed so as to enhance the phenomenological experience of those who pass through or inhabit the square] that are singular, carry meaning and significance, have a clear form, are memorable, contrast with their background, and are located prominently within the square.

In many cities the type of neighborhood with this form of a strong core often is surrounded by a "thematic gradient" that gradually diminishes towards the neighborhood's perimeter. The strong node creates around itself a sense of neighborhood simply by "radiation" — a sense of proximity to the focal nodal point. The essential characteristic of a landmark is its singularity and its contrast with its context or background. The object is more remarkable if it has a clarity of overall form as in the case of a column, dome, or sphere, as well as a richness of detail, texture, or content (for example, symbolic or historic content). The landmark becomes stronger yet if it is visible over an extended range of time and distance. If identifiable from near and far, while moving rapidly or slowly, and by night or day, it then can become a stable anchor for the perception of the complex and shifting world.

Image strength rises when the landmark coincides with a concentration of association. If the distinctive building is the scene of an historic event or if it evokes an association with the ideals of the culture, then it becomes a landmark indeed.

Single landmarks, unless they are dominant ones, are likely to be weak references by themselves. Their recognition requires sustained attention. If they are clustered, however, they reinforce each other in a more additive way. For example, the landmarks may be arranged in a continuous sequence, so that a whole journey is identified and made comfortable by a familiar succession of detail. The confusing streets of Venice become traversable after one or two experiences, since they are rich in distinctive details, which are soon sequentially organized. Less usually, landmarks may be grouped together in patterns, which in themselves have form, and may indicate by their appearance the direction from which they are to be viewed. The Florentine landmark pair of dome and campanile dance about each other in this way.

7.41 Design Guidelines: Develop *Landmarks That Mark What Really Matters*

The potential power of landmarks to shape individual and community life ought not be wasted upon meaningless or trivial subjects, especially on a university campus. Think of such diverse, prominent, significant, and meaningful landmarks as the Lincoln Memorial, the Liberty Bell, the Vietnam Memorial, the Holocaust Memorial, Colorado's State Capitol Building, Trinity Church, the Cathedral of the Immaculate Conception, Saint Johns' Cathedral, Saint Elizabeth's Church, Nelson's Column, the Statue of Liberty, and the Hungarian Freedom Park and its memorial to the 1956 Hungarian Revolution.
Therefore develop landmarks that will form the focal strength of Auraria's neighborhoods in ways that will raise peoples' levels of awareness of human culture's horizon of significance — of *what really matters* in our lives; for example:
• the patterns of history,
• the demands and delights of nature,
• the needs of our fellow humans and other sentient beings,
• the duties of citizenship,
• the call of the Divine, or
• something else of this order that matters crucially.

7.42 Design Guidelines: Two Examples of *Landmarks that Mark What Really Matters*

Within the international community it is commonly accepted that the single most pressing question of the 21st century is that of global sustainability[11]:

- ***How can the life systems of the biosphere be sustained?***
  How can economic development and its resultants, environmental degradation and pathology, be undertaken so as to sustain rather than to degrade the life systems of the biosphere?

- ***How can human development be sustained?***
  How can personal, social, political, and religious fragmentation and their resultants, psychological stress and international conflict, be overcome, and oppositions joined in a sustainable unity that does not repress differences?

Both parts of this question really matter. Both parts of this question are discussed at length in **Section 5 Sustainability**. The two examples of *Landmarks That Mark What Really Matters* are intended to address the two parts of the question of sustainability.

1) **Civic Landmarks** are based upon the hope that the democracy envisioned in the *Declaration of Independence* and *Constitution of the United States of America* marks the most promising direction for a long-term and sustainable human development. Frequent contact with Civic Landmarks by people in their everyday lives can raise their levels of awareness and appreciation of the importance of democratic ideals and practices and, most important, their levels of commitment to participating in and supporting democratic processes.

2) **Phenomenological Landmarks [or squares that are themselves designed to enhance people's experience of the lifeworld)** are based upon the hope that the deep ecology[12] envisioned in *Arne Næss's doctrine of biospheric egalitarianism* marks the most promising direction for a long-term and sustainable development of humanity understood as *a part of* rather than *in opposition to* nature. Frequent contact with Phenomenological Landmarks by people in their everyday lives can raise their levels of awareness of and love for the life world and, most importantly, their levels of commitment to living in harmony with that world.

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[11] **The Brundtland Commission**, formally the World Commission on Environment and Development (WCED), known by the name of its Chair Gro Harlem Brundtland, was convened by the United Nations in 1983. The commission was created to address growing concern "about the accelerating deterioration of the **human environment** and **natural resources** and the consequences of that deterioration for **economic and social development**." In establishing the commission, the UN General Assembly recognized that environmental problems were global in nature and determined that it was in the common interest of all nations to establish policies for sustainable development.
[12] **Deep ecology** is a recent branch of ecological philosophy that considers humankind an integral part of its environment. Deep ecology places greater value on non-human species, ecosystems, and processes in nature than established environmental and green movements. Deep ecology has led to a new system of environmental ethics. The core principle of deep ecology as originally developed is Arne Næss's doctrine of biospheric egalitarianism — the claim that, like humanity, the living environment as a whole has the same right to live and flourish. Deep ecology describes itself as "deep" because it persists in asking deeper questions concerning "why" and "how" and thus is concerned with the fundamental philosophical questions about the impacts of human life as one part of the ecosphere, rather than with a narrow view of ecology as a branch of biological science, and aims to avoid merely utilitarian environmentalism, which it argues is concerned with resource management of the environment for human purposes.
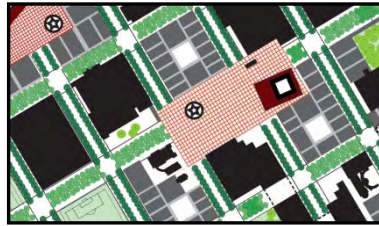
⬡ Civic Landmark

⬡ Phenomenological Landmark

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7.5 Design Guidelines: Civic Landmarks

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The American city[13] is in many ways an example of the classical city. Only the classical tradition distinguishes between the city and the settlement and places the civic life above that of the market. The forms that both city and market can take are diverse, ranging from

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[13] The following discussion of politics, the polity, the city, the civic, and the civic building types is drawn from Carroll William Westfall and Robert Jan Van Pelt. *Architectural Principles in the Age of Historicism.* [New Haven and London. Yale University Press. 1991], Chapter Four, "Building Types" and Chapter Eight, "Cities".

what in other contexts might be called nations and in still others nothing more than a cub-scout pack. The world "polity" refers to the place within which political life can be lived. The polity is unique among formalized societies because only politics embody the most important thing in the lives of a people, namely the authority of a government organizing the political lives of people who aspire to live justly and nobly and therefore happily. Authority here means the lawful exercise of power, so in speaking of authority one is also speaking of power. In both the traditions and the *Constitution of the United States*, the distribution and exercise of authority requires the consent of the governed. Because that consent can be given and used for a variety of purposes, there will be a variety of governments:
• some are closer to the market and other similar arrangements in their purposes;
• others are those with the more important purposes that only the most important institutions make possible;
• all of them satisfy at least the normative[14] standards found in the Constitution and administered through the federal government which is itself restrained by the same normative standards.

In the United States, then, we can find the classical city in a broad range of polities — from, say, a bicycle club and a condominium association to a university, a municipality, a county, or a state, all culminating in the federal government. What scale of entity is intended when using the term "city", "polity", or even "state" cannot be determined on the basis merely of seeing the word. What is intended depends on the context within which the term in used.

Thus it is possible to define the polity in general as that of serving the purposes of its citizens while providing justice in their administration of authority, order in the arrangement of their affairs, and <u>beauty in the form of the parts and whole of the physical architectural and urban entity housing it</u>. This leads to a useful and flexible way of defining a polity:

A polity is an entity in which three things are brought into coordination as people live together:
1. *a shared purpose,*
2. *a government they construe in order to exercise power justly while reaching for that purpose, and*
3. *<u>a physical setting</u> which serves their purposes and facilitates their governing themselves*.

This definition contains a necessary hierarchic order beginning with <u>the people</u> and ending with <u>the polity</u> as a **legal** and, finally, a **physical** entity.

The physical setting that serves the purposes of a democratic people can be understood as a diagram of the political constitution. The diagram is composed of physical things and of the means designers and builders use to dispose them within space so that the rational connection between the civic and the urban can be put to the service of citizens. Prominent among these urban components are:
1. Building Types

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[14] **normative**: In philosophy, normative statements affirm how things should or ought to be, how to value them, which things are good or bad, which actions are right or wrong. Whether or not a statement is normative is logically independent of whether it is verified, verifiable, or popularly held. <u>Normative</u> is usually contrasted with <u>positive</u> (i.e. descriptive, explanatory, or constative) when describing types of theories, beliefs, or propositions. <u>Examples of normative claims</u> are: "children should eat vegetables", "smoking is bad", and "those who would sacrifice liberty for security deserve neither". Positive statements are falsifiable statements that attempt to describe reality. <u>Examples of positive statements</u> are, "vegetables contain a relatively high proportion of vitamins", "smoking causes cancer", and "a common consequence of sacrificing liberty for security is a loss of both" are positive claims. *Stanford Encyclopedia of Philosophy*

2. Architectonic Means
3. Building Components

These three classes of urban components form the basis for the design of **Civic Landmarks**.

1. Building Types

Political activity is the area in which men search for an accommodation between the *is* found in circumstances and the *ought* discovered in ethics. The three great divisions of political activity — legislating, administering, and judging — have in common their dependence on confronting the disorder of the unpredictable, time-bound, unique circumstances with the logic of morals found in the principles of justice. This commonality is not activity but an aspiration and a claim for authority. The aspiration gives rise to a broad range of activities. The building types serving political activities do not represent those activities directly. Rather, they arise from the deepest and most fundamental purposes of those activities, one of which is that of providing a means of acting on the aspiration to live well politically, the other by providing a seat for the authority that binds the members of a polity.

- **Theater:**
  The first of these political building types is the *theatrum* (theater). The *theatrum* acknowledges that one of the most important political purposes, indeed the essence of politics, is aspiring to live the good life, a purpose that takes the form of joining with others in actively imagining things as being other than they are and predicting actions on the attempt to make them that way. See example on the following pages.

- **Regia:**
  Related to the *theatrum* is the *regia* (regia). This is the place where a governing political authority resides. Any body claiming authority in the governing of affairs may use a *regia.* See example on the following pages.

The place religious activities occupy in a city is established by the constitution. Essential for something to be called a religious activity is its capacity to allow the participant to acknowledge that there is something superior to himself which he cannot explain and whose hold he cannot resist. The two religious purposes that define building types are described next.

- **Tholos:**
  One purpose promotes veneration by allowing a person to be hushed and reverent in the presence of that which is superior to himself: veneration calls for a *tholus* (tholos). See example on the following pages.

- **Templum:**
  The other purpose is to celebrate that superiority with others; celebrating requires formal worship and calls for a *templum* (temple). The religious uses of these types are clear enough — as, for example, in the tholos form for the tomb, baptistery, and shrine and the temple form for fanes, houses of gods, and basilican churches. Similarly, in a purely secular realm, when something is to be venerated, for example a political hero or the idea of union, a tholos is still the appropriate building type, as in the rotunda of the United States Capitol Building or at the Jefferson Memorial in Washington. Similarly, a temple form can be found in a central greensward as occurs when graduates, faculty, and honored guests process through it as at the Lawn in Thomas Jefferson's University of Virginia or when dedicated citizens congregate for a special occasion at the Lincoln Memorial or for the quadrennial inauguration occurring at the Capitol end of the great Mall in the capital.

At times these various forms are *combined*. For example, in the United States Capitol Building or in Colorado's Capitol Building there is found the **tholos** form flanked by two **regia** — the legislative chambers of the Senate and the House of Representatives. The **temple** form is deployed to shape the entrance to the Capitol.

2. Architectonic Means

Encompassed within this category is whatever it is that design manipulates to produce coherence in the assemblage of physical components forming the polity. Some of them are aspects of architectural design that are equally serviceable in urban design. Some are found in the nature of things and still others are in the realm of convention. The following is by no means a complete catalogue of architectonic means but their character if things in this class can be grasped by considering some examples.

- **A regulating and controlling axis for actual and virtual movement or for the alignment of physical elements.**
- **An enclosed and defined open area such as a square or piazza.**
- **A reserved strip, or a place where some public purpose is served by forbidding or disallowing buildings.**
- **Controlled relationships in the placement of things.**
- **Hierarchic differentiation in artifice.**

3. Building Components

The third class of components composing the polity is that of things rather than means. They have much in common with actual buildings and may even be worked into the design of buildings, but they are built to serve special functions rather than particular purposes arising from the polity's arrangements and institutions. This removes them from the control of the normative building types and puts their design entirely within the realm of convention. This conventional status gives their use a great flexibility in both architectural and urban design. They can join with utilitarian components to flesh out the building types. They might stand free of actual buildings. They might be material accessories to various of the architectonic means. They will always serve the political purposes embodied in the polity's constitution, playing the role in urban form that ornament and decoration play in architectural form. As with the architectonic means, no complete catalogue of the building components can be made but a brief listing and description of some of the most familiar of them can indicate their range.

- **<u>Tower:</u>**
  Towers hold bells, display clocks, provide targets for the eye, furnish lookouts over prospects, proclaim power, and mark authority. They may be freestanding, but more

commonly they will be incorporated into a building that otherwise follows the normative standards of a type.

- **Platform:**
  Among platforms are paved planes in an open area and bibs marking off the area immediately adjacent to a building from the space they front.

- **Wall, Colonnade, or Arcade:**
  These architectural motifs can be used to define a reserved strip, frame an open area, or perform some other kind of useful task that is unconnected to their role in giving material embodiment to building types.

- **Gateway:**
  Whether filling a breach in a wall or standing free, gateways perform particular tasks, perhaps functional ones defined by arrangements[15], as for example fortified gates, perhaps commemorative ones connected with institutions, as for example triumphal arches.

- **Parterre, Greensward, and Bosket:**
  From nature come various kinds of collections of living things that can be used as if they belonged to the same class of material used in actual buildings and building components. To be part of an urban setting artifice must clearly be seen as the cause of the form they take, unless they are confused with that which lies outside the polity, in the empty, uncivilized wilderness.

7.51 Design Guidelines: Examples of Civic Landmarks

The following are *examples* of Civic Landmarks. They are presented as guidelines in the form of spurs to the imaginations of those who will design them.

The Theater
The building of the theater as a civic landmark acknowledges that one of the most important political purposes, indeed the essence of politics, is aspiring to live the good life, a purpose that takes the form of joining with others in actively imagining things as being other than they are and predicting actions on the attempt to make them that way. The example shown below is the Greek Theater in Denver's Civic Center. One can easily imagine versions of this that manifest these qualities but are significantly more modest in scope. Important here is that there is a natural place for people to gather around performers and for performers to help their audience to imagine thing as being other than they are so that they might work to bring about much-needed change.

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[15] **arrangements**: "Arrangements build settlements while institutions build polities. An arrangement facilitates activities intended to accomplish a utilitarian task. Examples are markets, departments of public works, and hotels where non-citizens take up temporary residence. An institution is the enduring form given through custom, practice, tradition, or law to a principled activity that a group of people undertake in common; its most distinctive characteristic is that it accounts for the moral character of a people. A judicial system is the most obvious example. A system of education that includes attending to the moral character of citizens is another." - Carole Westfall. *Architectural Principles in the Age of Historicism.* Chapter Two, "Politics".
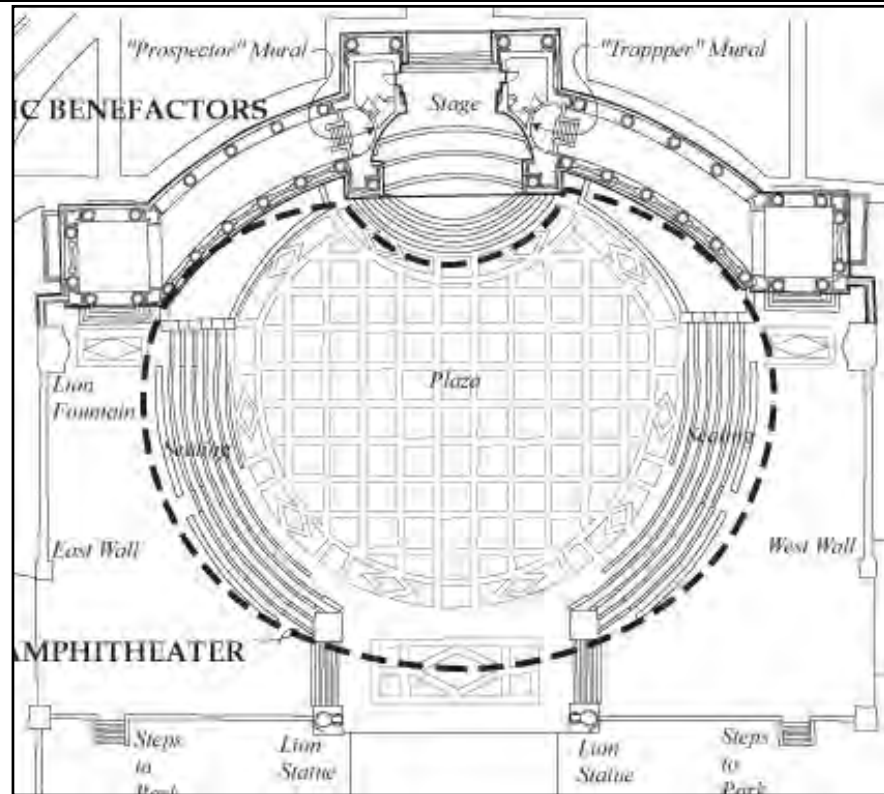
The Tholos

Essential for something to be called a religious activity is its capacity to allow the participant to acknowledge that there is something superior to himself which he cannot explain and whose hold he cannot resist. The Tholos promotes veneration by allowing a person to be hushed and reverent in the presence of that which is superior to himself. In this example, a walled courtyard with a tholos at its focus serves as a place of meditation. At Auraria students are often heard to say that there is not quiet place to go to be able to be away from the "busy-ness" of running from class to class. A modest walled courtyard with an evocative point of focus could serve a place to rest in quiet, a place to meditate, or a place to pray.

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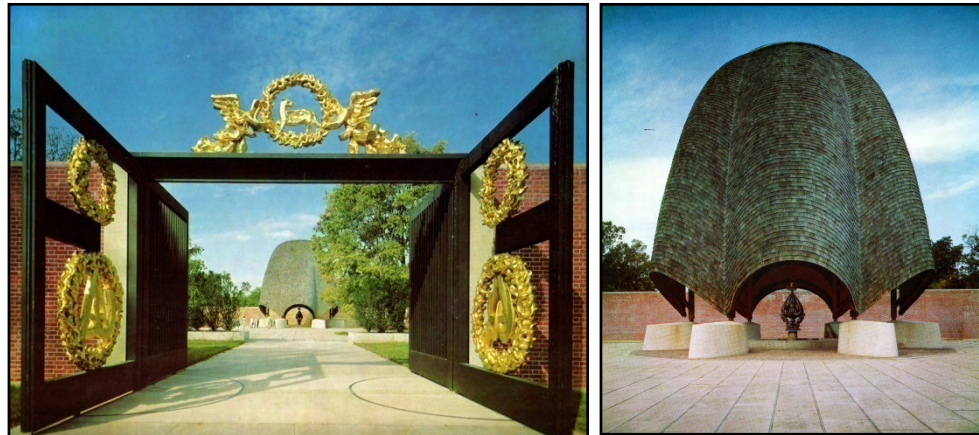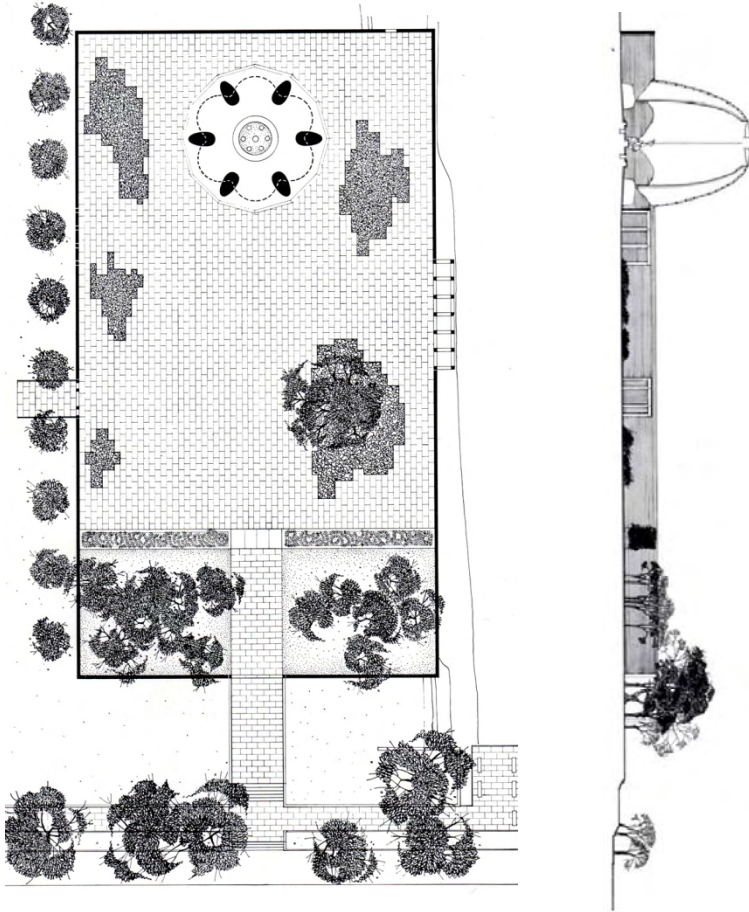
The Regia

Related to the Theater is the Regia. This is the place where a governing political authority
resides. Any body claiming authority in the governing of affairs may use a Regia. On the
Auraria Campus this could be the place of the Student Government and Faculty Assembly.
What better place for such activities than a public square? The example shown here is a
City Council Chamber set within the main public square of a major American city.
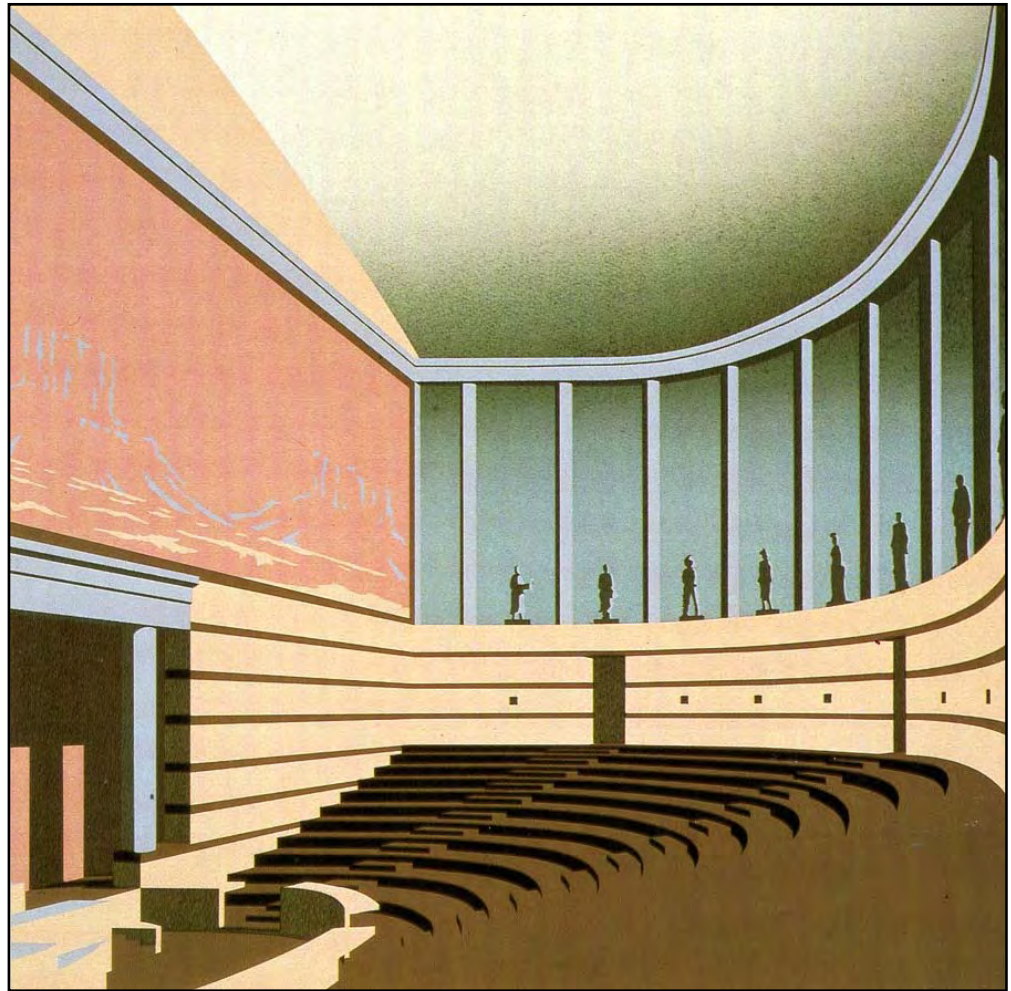
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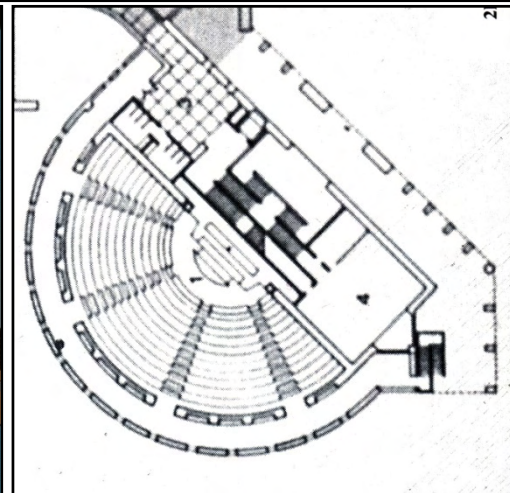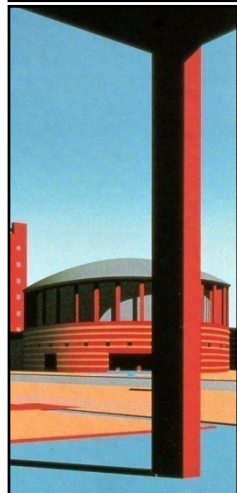
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7.6 Design Guidelines: Phenomenological Landmarks

There are special times in almost everyone's experience when the world is perceived afresh: perhaps early on a winter's morning, following a snowfall, as the sun glistens silently on still white; perhaps after an early summer rain followed by the sense of damp earth and new growth; perhaps in the night of late August:

> *The night-wind of August*
> *Is like an old mother to me.*
> *It comforts me.*
> *I rest in it,*
> *As one would rest,*
> *If one could,*
> *Once again —*
> *It moves about quietly*
> *And attentively.*
> *Its old hands touch me.*
> *It breath touches me.*
> *But sometimes its breath is a little cold,*
> *Just a little,*
> *And I know*
> *That it is only the night-wind.*
>   - Wallace Stevens, "The Night-Wind of August", *Opus Posthumous*

Or, again, perhaps at the end of the day in a small Midwest town:
It's not what they brag about, the lilacs and the green tile dome on the city hall, and the Greek pillars on the bank. No, it's what happens after the sun goes down, and the vapor lights on the tall aluminum poles over the highway come on. Do you think I am raving? . . . . . . You know; the sky is still brilliant, but the evening is coming . . . and for the first five minutes or so the vapor lamps have a color . . . and the thing is so magic when it happens it is enough to make you dizzy. Everything on the earth is a sort of gray by then, yes, lilac gray, and there are shadows down the streets, but there, while the sky is changing, those lights are the most beautiful thing in the United States! And you know? Its all an accident! They don't know how beautiful the light is.[16]

In *For an Architecture of Reality* Michael Benedikt reflects upon such experiences as "times [when] our perceptions are not at all sentimental. They are, rather, matter of fact, neutral and undesiring — yet suffused with an unreasoned joy at the simple at the simple correspondence of appearance and reality, at the evident rightness of things as they are. It

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[16] Paul Horgan. *Whitewater* (New York. Farrar Straus Giroux. 1970) p163. Cited in Michael Benedikt. *For an Architecture of Reality.* (New York. Lumen Books. 1987)

is as though the sound and feel of a new car door closing with a *kerchunk!* were magnified and extended to dwell in the look, sound, smell, and feel of all things."[17]

The discipline of phenomenology offers ways for people enter more directly into mindful contact with their everyday lived reality in the life-world. Phenomenology studies human life as it is lived in the direct, unreflective contact with the phenomena of the world in which we are embedded. It is usually characterized as a way of *seeing* rather than as a set of doctrines. It is based on the premise that reality consists of objects and events as they are perceived in human consciousness and not of anything that is independent of human consciousness. It implies that such direct, unreflective contact with the phenomena of the world offers us a more primal contact with ultimate reality than can the indirect, reflective contact provided us by symbols.

The **Phenomenological Landmarks** (understood as a Landmark situated within a square or where the square itself is designed to enhance people's experience of the life world) are intended to be places where people may be likely to experience the phenomena of the world life-world — "the things themselves" — in this direct and immediate way. Just as the **Civic Landmarks** are meant to be places where campus inhabitants and visitors can be reminded and inspired by the ideals that underlie a democratic way of life, the **Phenomenological Landmarks** are designed to be settings where people might step away from the busy-ness of their everyday lives and be reconnected with the natural life patterns that underlie life itself. This is not only a self-sufficient good, a good-in-itself without any further purpose, but it is also potentially a good that might lead to certain people experiencing an epiphany in the goodness and beauty of all that is. There are many who believe that a major cause of our abuse of nature is our distancing of ourselves from nature in technological society and that this distancing has led to our neglect of nature.

Publication of the second World Conservation Strategy by the *International Union for the Conservation of Nature and Natural Resources (IUCN)* occurred in 1991, under the title "Caring for the Earth". A draft of this document contained a brief statement outlining "the elements of a world ethic of sustainability." This world ethic focuses both on human relations among people and on human relations with nature, recognizing that the liberation of nature and the liberation of people are fatefully intertwined. There are two reasons for this view. First, the ongoing deterioration of the environment and non-sustainable consumption of resources destroys the possibilities for long-term economic advance in the underdeveloped world and denies opportunity to all future generations. Second, the ideas, attitudes, and values that lead to an abuse of nature are very closely related to those that cause the oppression of women, children, the poor, minorities, racial groups, and religious groups. For the world ethic of sustainability, the cause of democratic humanism is one with the cause of global environmentalism.

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[17] Michael Benedikt. *For an Architecture of Reality.* (New York. Lumen Books. 1987) p2

## 7.61 Design Guidelines: Examples of Phenomenological Landmarks

The following are *examples* of Phenomenological Landmarks. They are presented as guidelines in the form of spurs to the imaginations of those who will design them. The guidelines are presented through Martin Heidegger's phenomenological categories of the *Fourfold — EARTH* and *SKY*, *DIVINITIES* and *MORTALS.*

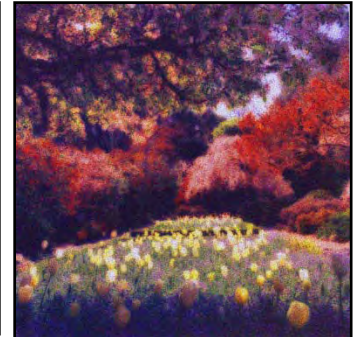*EARTH is the serving bearer, blossoming and fruiting, spreading out in rock and water, rising up in plant and animal.*[18]

The Garden of Abundance, *The Arbor of The Fragrances*, and *The Clearing of Spectral Delights* each might, in its own way, open us to the presencing of EARTH as the serving bearer, blossoming and fruiting.
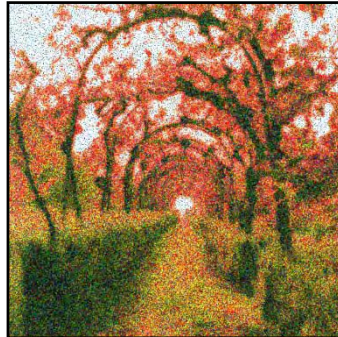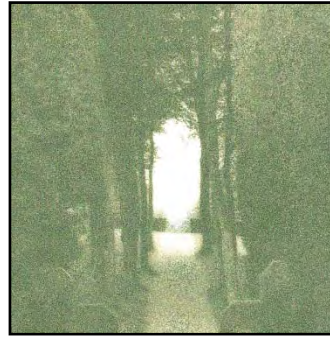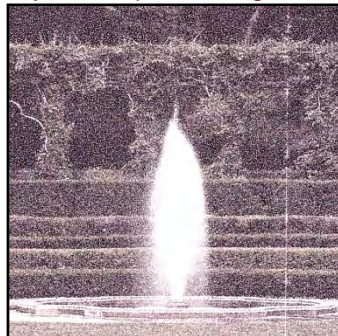

The Garden of Abundance   *The Arbor of The Fragrances*   *The Clearing of Spectral Delights*

The Fountain of the Aquifer and *The Lake of the Glacier* each might open us, in its own way, to the presencing of Earth as spreading out in rock and water

The Fountain of The Aquifer   *The Lake of the Glacier*

The Preserve of the Forest and *The Tree of the Winged* each might, in its own way, open us to the presencing of EARTH as the rising up of plant and animal.


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[18] The text in blue is from "Building Dwelling Thinking", Martin Heidegger. *Poetry, Language, Thought.* . Translated by Albert Hofstadter [New York.Perennial Classics. 2001]

The Preserve of The Forest The Tree of the Winged   The Tree of the Winged

SKY is the vaulting path of the sun, the course of the changing moon, the wandering glitter of the stars, the year's seasons and their changes, the light and dusk of day, the gloom and glow of night, the clemency and inclemency of the weather, the drifting clouds and the blue depth of the ether.

The Inlook of the Sliding Shadow will trace the vaulting path of the sun from black darkness to emergent glowingness to omnipotent brilliance, and from omnipotent brilliance to subsiding redness to abiding blackness; from east to west, from low to high, from north to south and south to north, from cool to hot and hot to cool, from solstice to equinox to solstice to equinox, and then around again in yet another cycle of the eternal present.
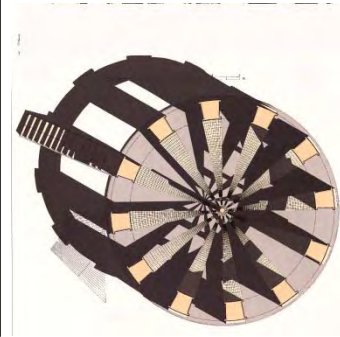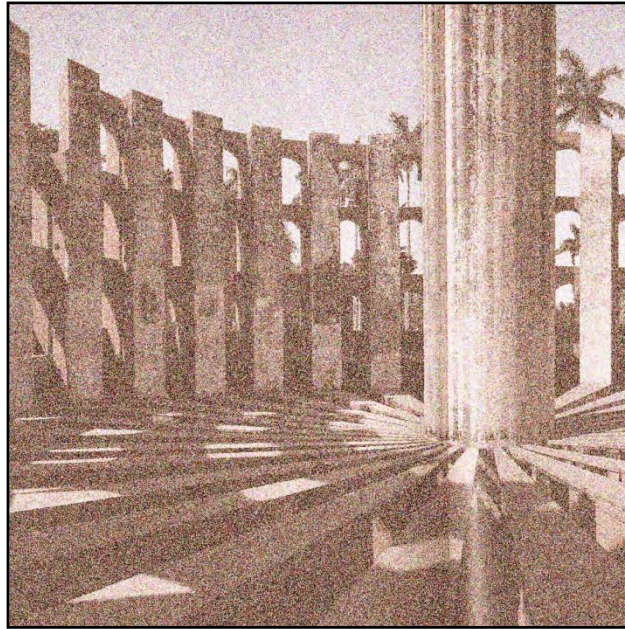
The Inlook of the Sliding Shadow

The Outlook and The Inlook of the Lunar Rhythms might open us to mindful brooding upon the phases of the moon   -   its absence, its re-appearance, its transformations, and its withdrawal   -   and to our soulful relatedness to this age-old companion of mortal existence.
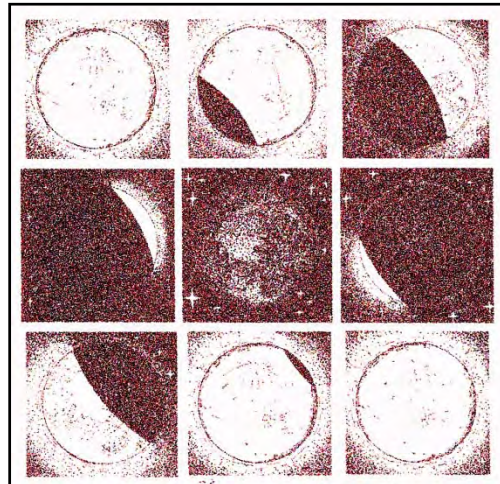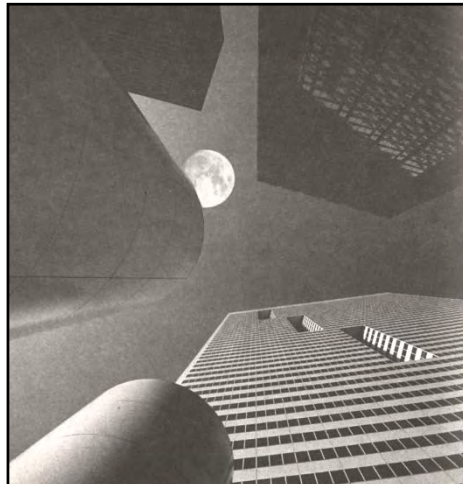
*The Outlook and The Inlook of the Lunar Rhythms*

1   ***The Inlook of the Four Seasons*** might engage mortals both in the immediate particularity
2   as well as in the eternal cyclicality of the seasons of the year - the cool, moist sprouting
3   of Spring, the hot, buzzing flourishing of Summer, the windy, brisk passing-away of fall,
4   and the cold, darkly-brooding wonder of winter's death and promise.
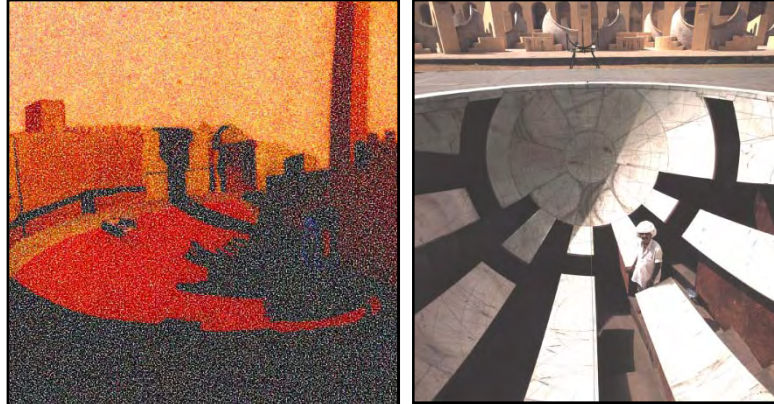
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6   *The Inlook of the Four Seasons*
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8   Closely related to ***The Inlook of the Four Seasons*** could be ***The Inlook of the Four***
9   ***Times*** – morning, afternoon, evening, night - the eternal rhythms of our diurnal being -
10   the emerging, rising, exhilarating light of dawn; the steady, ascending, triumphal victory of
11   the light of noon; the slow, descending, mournful dying of the light of dusk; the departed
12   but remembered light of night; and the unseen but hoped-for light of approaching dawn.
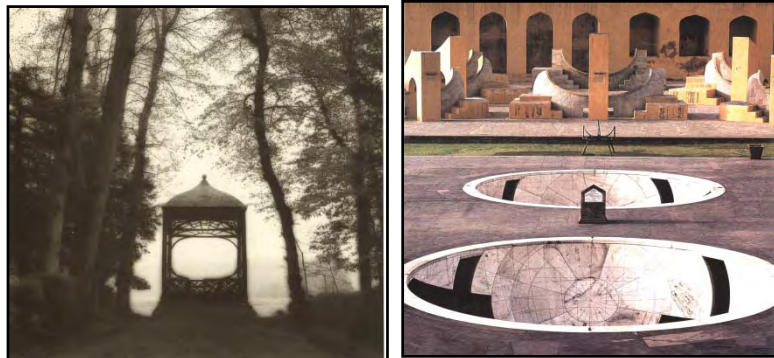
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14   *The Inlook of the Four Times*
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16   ***The Inlook of the Swirling Sky*** might open us to mindfulness of the clemency and
17   inclemency of the weather, the silent drifting and shifting of the clouds, the blue depth of
18   the ether, and the clear air of our rhythmic breathing - in—and—out, in—and—out, in—
19   and—out.

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21   *The Inlook of the Swirling Sky*

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The Outlook of the Cosmic Unity might create for us an opening, through the upward-
pointing, polished lens of Earth's Great Skydome, out into the limitless cosmos, the
wandering glitter of the galaxies, the vastness of the infinite, the ineffable Mystery of Being.

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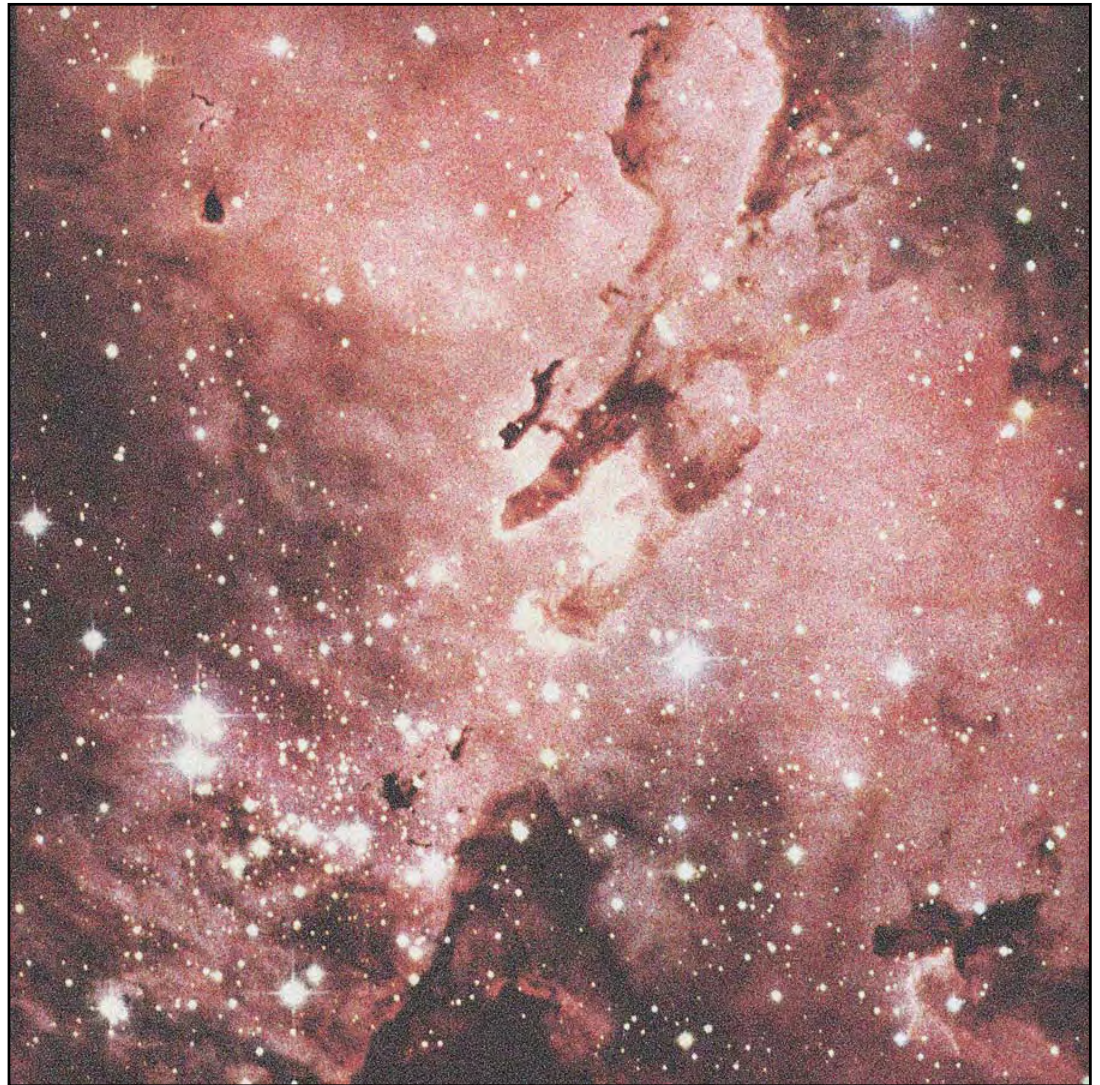
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7   *The Outlook of the Cosmic Unity*
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The DIVINITIES are the beckoning messengers of the godhead. Out of the holy sway of the godhead, the god appears in his presence or withdraws into his concealment.

The House of the Mother and the Father is the place of the feminine and the masculine, but especially the place of well-founded Earth, mother of all. I will read to you now a great hymn, likely first sung over 3,000 years ago. This is the beautiful and awe-filled Homeric Hymn To Earth, Mother of All. *"I will sing of well-founded Earth, mother of all, eldest of all beings. She feeds all creatures that are in the world, all that go upon the goodly land, and all that are in the paths of the seas, and all that fly: all these are fed of her store. Through you, O queen, men are blessed in their children and blessed in their harvests, and to you it belongs to give means of life to mortal men and to take it away. Happy is the man whom you delight to honor! He has all things abundantly: his fruitful land is laden with corn, his pastures are covered with cattle, and his house is filled with good things. Such men rule orderly in their cities of fair women: great riches and wealth follow them: their sons exult with ever-fresh delight, and their daughters in flower-laden bands play and skip merrily over the soft flowers of the field. Thus is it   with those whom you honor, o holy goddess, bountiful spirit. hail, mother of the gods, wife of starry heaven; freely bestow upon me for this my song substance that cheers the heart!"*

The House of the Mother and the Father

The Place of the Mystery is the place that is no place and the place that is every place, the place of the Mysterious One who "has filled the world with beauty and ugliness, joy and

1 suffering, goodness and evil, truth and untruth, justice and injustice: *Open our eyes to*
2 *behold your gracious hand in all your works; that rejoicing in your whole creation, we may*
3 *learn to serve you with gladness and singleness of heart. I will sing of You, O Great*
4 *Mystery, Serendipitous Creativity, most excellent, most magnificent, most abundant and*
5 *grand.*

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7 *The Place of the Mystery*
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20 ***The Sanctuary of Silence and Light*** will be a place of listening, listening, listening, with
21 readiness to hear. **Listen now** to Mark C. Taylor's anguished poem of listening:

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2 *It calls*
3 *Calls daily*
4 *Calls nightly*
5 *Calls from without*
6 *Beginning or end.*

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8 *A whisper so feint*
9 *A rustle so slight*
10 *A murmer so weak*

11

12 *When to respond*
13 *Where to respond*
14 *How to respond*
15 *To a call that approaches (from) beyond*
16 *Without ever arriving*

17

The Sanctuary of Silence and Light

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21 ***The MORTALS are the human beings. They are called mortals because they can die.***
22 ***To die means to be capable of death as death. Only man dies, and indeed***
23 ***continually, as long as he remains on earth, under the sky, before the divinities.***

The Place of the Generations would be dedicated to the coming together of the different generations to experience together and individually the character of their journey through time, from birth to death. An example of ***The Place of the Generations*** is The Bethesda Terrace in New York's Central Park. The Bethesda Terrace is a place where the young can engage the old, and can begin to acquire the wisdom to be capable of death as death, and to develop the use and practice of this capacity so that they might have a good death. The Terrace is a place where the aged can renew their vitality in the exuberance and challenge of the young, and where the young can gain glimpses of age, and where they are able look forward to their approaching death, not as the empty nothing, not as the goal, not as the blind staring toward the end, but rather as the time when their life journey would be fulfilled and completed in wholeness and plentitude and gratitude.

The Place of the Generations

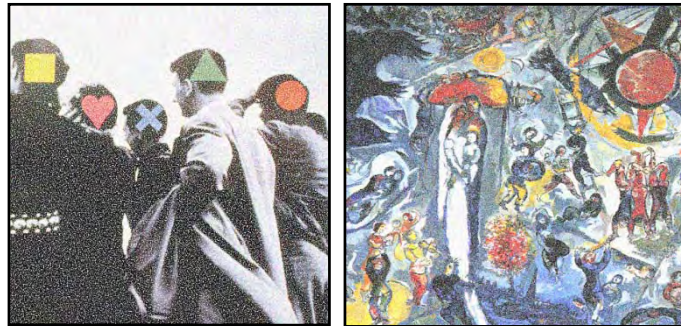*ary**The Forum of the Great Conversation*** would be a meeting place for men and women, parents and children, for a seeking, through discussing and debating and meditating upon the that, the what, the how, the why, and the wherefore of EARTH and SKY, DIVINITIES and MORTALS.

The Forum of the Great Conversation

The Site of The Memory of Memories would be a locale where those who have passed on would be remembered through their own memories.

The Site of The Memory of Memories

Here would be the markers of their lives and their deaths, their works and their days, their triumphs and their failures, their creations and their destructions. Here would be the place of continuity between the dead and the living.

Here would be the place of rebirth and renewal of the living dead through their contact with the dead who are still living…………………..

………and……..…***The Place of the Dead***……….…… ***The Place of the Dead*** would be the ground of mystery in that space that is between mortality and immortality, between flesh and Spirit, between time and eternity.

The Place of the Dead

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Section 8: Edges

Contents

8.0 Desired Character: Campus Edges

Principle: The **campus** as a whole shall be perceived, both from inside and from outside, as having distinct boundaries or edges at its perimeter where it meets the surrounding boulevards, neighborhoods, or districts. These edges are intended:

- to provide a sense of identity for the campus;
- to define the physical limits of the campus in the form of seams that join rather than as walls that divide;
- these seams that join the campus and its surrounding districts are to be developed in ways that, on the one hand, preserve the integrity of the two sides brought together while, on the other hand, allow access between them through permeable membranes;
- rather than, on the one hand, attempting to dismantle boundaries, or, on the other hand, seeking to protect, fortify, or secure these boundaries, the seams that join are intended to join by simultaneously keeping-out and letting-through;
- to suggest, on the one hand, the connectedness and dynamism between campus and neighborhoods as well as, on the other hand, the principle of their complementarity;
- to create a sense of place;
- to contribute towards the campus's being a good neighbor
  - by buffering views of automobile parking;
  - by controlling nighttime illumination to prevent glare;
  - by providing a pedestrian-friendly street frontage through active, first-floor uses.
  - by being aware of and responding accordingly to the importance of the design of the campus as it presents itself to the many people in tall buildings in downtown Denver —in regard to the view planes; to the continuity of the color of roofs; to controlling glare; and to similar concerns that might arise for people who are not looking at the campus edges from the street level but at the campus as a whole from far above the street level. Such edge elements are for many people important organizing features in the city, particularly in their role of holding together generalized areas such as a college campus or the outline of a city by water or wall.

8.1 Discussion of the Intent Behind the Guidelines for the Design of Campus Edges

8.12 General

In accordance with the principle stated above in paragraph 4.1, the following are design guidelines for all building, landscape, and lighting elements at the campus edges.

8.13 Campus Identity
The word *Identity* means **"the fact of being who or what a person or thing is"**. Here is
Auraria Campus's vision of what it *intends to be*:
- It intends to be an educator for thousands of residents of the metropolitan area.
- It intends to be a source for new employment in the city and that will contribute to the
  campus's growth and the city's prosperity.
- It intends to be a center for learning and cultural activities that will serve a local,
  regional, and national audience.

8.14 Campus Edges Understood as <u>Seams That Join</u> rather than <u>Walls That Divide</u>;
A major means to manifest the Auraria Campus's desired identity at the campus perimeter
is to design the campus edges to be <u>seams that join</u> rather than <u>walls that divide</u>.

8.15 Porosity (Translucent Urbanism)
The urban phenomenon of <u>seams that join rather than walls that divide</u> has been described
by urbanist Nan Ellin as ***translucent urbanism*** or ***porosity****,* "an urban condition that
allows some seepage but not free flow. Walls—both real and symbolic—preclude a
translucent urbanism. Such a lack of porosity occurs around shopping malls, walled or
gated communities, and schools that do not share facilities with the surrounding
neighborhoods. At the other end of the continuum, too much porosity also precludes
translucency. This is apparent in big-box retail stores where a variety of uses blend
together indiscriminately or in the sprawling suburbs where, as Gertrude Stein famously
remarked about Oakland, California, there is 'no there there.'"[1]

8.16 Different Kinds of Porosity[2]
Ellin writes that in both instances—too little porosity or too much porosity—there is a
diminishment of the quality of life. There are different *kinds* of porosity depending upon
what is permitted to seep through and what is not.
- Visual Porosity
- Functional Porosity
- Provisional Porosity
- Temporal Porosity
- Historic Porosity
- Ecological Porosity
- Circulatory Porosity
- Administrative Porosity
- Spatial Porosity or Programmatic Porosity
- Urban Porosity
- Gateway Porosity

Each of these now is now discussed.

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[1] Nan Ellin. *Integral Urbanism.* [New York. Routledge. 2006] p.62
[2] The following discussion of porosity is based upon Nan Ellin's chapter, <u>Porosity</u>, in *Integral
Urbanism,* pp 60-94.

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Visual Porosity

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3   Visual porosity allows one to *see* through but not *move* through an edge. The most
4   common example is that of the large shop window that allows those on the street to peer in
5   and those inside to gaze out onto the street. Visual porosity may also allow us to see only
6   partially, due to a screening device, scrim, landscaping, or other means. During the 1950's
7   and 1960's it was common to use concrete pattern blocks to create walls that allow one to
8   see through but not move through them. More recently this has been accomplished
9   through metallic wire mesh screens, slatted wood, sandblasted or frit glass, or various
10 forms of grid materials. In the North Classroom Building, on the axis of Larimer Street, the
11 architects used a grid of glass block to create a visually porous wall between Larimer
12 Square in LoDo and the campus.

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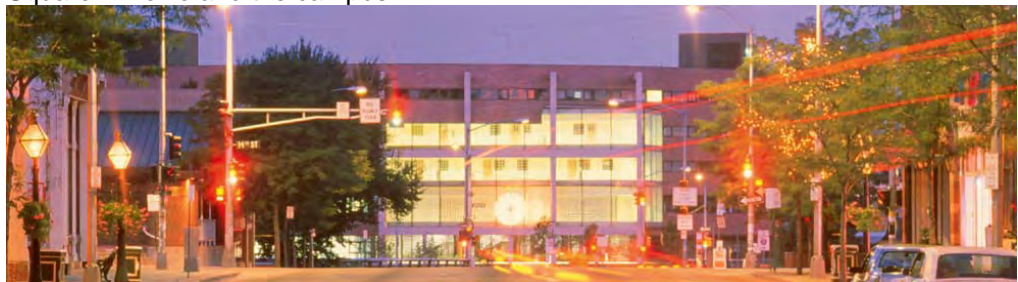
Functional Porosity

Functional porosity allows access to a place or modulates one's relationship with it. The inverse of visual porosity, functional porosity is found in proscenium theaters with their 'stage left and stage right' or at the entrance to airport bathrooms, In both cases, staggered scene drops or walls permit free entry while ensuring privacy through visual opacity. At the urban scale, functional porosity can be achieved through 'permeable building edges' that combine with porticos, arcades, windows, and outdoor seating.

Provisional Porosity

Provisional porosity allows access temporarily. Tours such as those giving us access to these ancient Sumerian sculptures, or *Doors Open Denver,* or the *Dora Moore House Tour* are examples of provisional porosity.

Temporal Porosity

Temporal porosity is found when a place is transformed over time. Examples are parking lots, plazas, and parks transformed into farmers' markets; street-fronts penetrated by sidewalk cafés.

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Historic Porosity

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3 Historic porosity preserves artifacts of the past while building anew. The Ninth Street Park,
4 while not on a campus edge, is an example of historic porosity. St. Elizabeth's Church,
5 along the Speer Boulevard edge, is another example.
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Ecological Porosity

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9 Ecological porosity integrates nature and natural processes into the built environment.
10 Where it penetrates the Speer edge of the campus, the tree-lined Lawrence Street Mall is
11 an example of ecological porosity. Pervious paving surfaces allow the infiltration of nature
12 while producing a comfortable walking surface. Such surfaces also can provide long-term
13 ecological dividends, decreasing the heat island effect and reducing storm water runoff.
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Circulatory Porosity

Circulatory porosity is found where the street, sidewalk, and parking are not clearly defined and are used in a number of ways depending upon the need. Examples are found in places where the car and people easily coexist in "shared streets".

Administrative Porosity occurs when administrative units collaborate with each other to consolidate and conserve resources. In search of greater efficiencies and synergies, these collaborations are growing as in, for example, "joint-use schools" sharing visual and performing arts spaces with the public and public libraries blending with community and recreational centers. The realm of higher education also is becoming more "permeable" with emphases on service learning, "social embeddedness", "responsive Ph.D.s, "situated cognition" (learning while doing rather than learning and then doing), internships and apprenticeships, and other similar practices. Philosopher and social critic Mark C. Taylor advocates piercing the walls of universities to render them screens that will allow what is outside to come in and what is inside to come out.
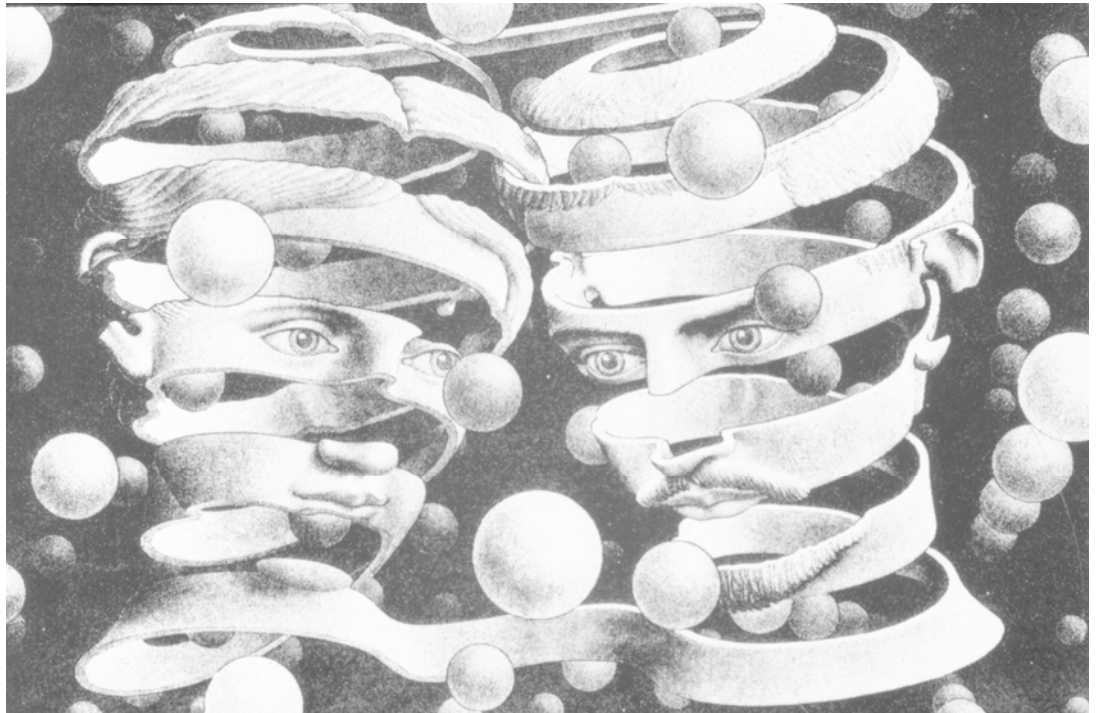
Spatial Porosity or Programmatic Porosity occurs when activities seep into each other as in the "hybrid building" [3] — the combination of multiple functions within a single structure. The house over the store, the apartment above the bridge, and the Roman bath are all examples of the tradition of combining two or more functions within the walls of a single structure. For the hybrid building, there appear to be two basic categories of program — thematic and disparate. Both are based on the combination and integration of the programmatic parts.

- Thematic combinations cultivate the dependency between the parts and encourage the interaction of elements. Thematic combinations also tend to emphasize a singleness of function between the various assembled elements. In the Dade County Courthouse and Miami City Hall, the traditionally related building types of the city hall, courthouse, and jail were combined into one structure. Universities and hospitals have also come under the influence of thematic hybrid programs. University of Pittsburgh's Cathedral of Learning concentrates libraries, lecture halls, classrooms, laboratories, and health facilities under one roof. New York Hospital included dwelling units for the interns as well as lounges and a gymnasium in addition to the more standard hospital functions. The *Ponte Vecchio* in Florence is a bridge, street, apartment complex, and shopping center.

- Disparate combinations allow pieces to exist in a mutual, if often uneasy alliance, emphasizing the fragmented, often schizophrenic aspect of society and of the period. A church, for example, could benefit by adding commercial functions. In the Chicago Temple, income produced by the rental of office space in the tower above the sanctuary supported the church's work. Theaters, such as Chicago's Auditorium Building frequently supplemented their income by taking advantage of the perimeter and overhead space on the centrally-located sites.
  Other disparate combinations fostered a symbiotic relationship. A common mix was the placement of apartments upon a commercial base, thus situating the commercial near the surface transportation and placing apartments within fresh air and sunlight. The Olympic Tower and Park Tower in New York City combined apartments over offices. Similarly the Terrace Plaza located hotel rooms above a seven story base of department stores, and the Downtown Athletic Club placed the hotel rooms atop a thirteen story athletic club.

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[3] The discussion of hybrid buildings is based upon: Joseph Fenton. *Hybrid Buildings* [New York and San Francisco. . Pamphlet Architecture No. 11. 1985. Foreward by Steven Holl.

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Urban Porosity is spatial porosity at the scale of the city or campus, achieved when permeable membranes separate and unite buildings from and with the surrounding physical and cultural landscape. This occurs, for instance, when cafés or bookstores or libraries spill out onto the streets, providing a linkage with the city while also drawing in potential customers or patrons. Architectural strategies for realizing urban porosity include the penetration of indoors with outdoors and buildings with cityscapes. Integration also occurs at a deeper level when arts or cultural institutions spin webs of relationships with local communities and seek diverse audiences by offering a range of programming and by physically sharing spaces.

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Gateway Porosity

Gateway porosity refers to the porosity manifested by the formal, symbolic openings within the perimeter boundary of a place that serve as primary, formal means of marking the entrance and of providing access or entry to that place. In *A Pattern Language,* Christopher Alexander's pattern 53, "*MAIN GATEWAYS*", the pattern is introduced as follows: *. . . at various levels in the structure of the town, there are identifiable units. There are neighborhoods, clusters, communities of work, and many smaller building complexes ringed around some realms of circulation. All of them get their identity most clearly from the fact that you pass through a definite gateway to enter them — it is this gateway acting as a threshold that creates this unit. Any part of a town — large or small — which is to be identified by its inhabitants as a precinct of some kind, will be reinforced, helped in its distinctness, marked, and made more vivid, if the paths which enter it are marked by gateways where they cross the boundary. A boundary around an important precinct, whether a neighborhood, a building complex, or some other area, is most critical at those points where paths cross the boundary. If the point where the path crosses the boundary is invisible, then to all intents and purposes the boundary is not there. It will be there, it will be felt, only if the crossing is marked. And essentially, the crossing of a boundary by a path can only be marked by a gateway. That is why all forms of gateway play such an important role in the environment.*

A gateway can have many forms:
- *a literal gate,*
- *a bridge,*
- *a passage between narrowly-separated buildings,*
- *an avenue of trees* [Lawrence Street Pedestrian Mall]
- *a gateway through a building* [North Classroom Building]
All of these have the same function. All of them are "things" — not merely holes or gaps, but solid entities.

Make the gateways solid elements, visible from every line of approach, enclosing the paths, punching a hole through a building, creating a bridge or sharp change of level — but above all make them "things", in just the same way specified for MAIN ENTRANCE (110), but make them larger. Whenever possible, emphasize the feeling of transition for the person passing through the gateway, by allowing change of light, or surface, view, crossing water, a change of level — ENTRANCE TRANSITION (112). In every case, treat the main gateway as the starting point of the pedestrian circulation inside the precinct — CIRCULATION REALMS (98) . . .

Porosity: Conclusion

In each of the above examples of porosity, a combination of concealment and revelation renders the two-way relationship between a precinct and the city accessible, interesting, and lively. Ellin quotes literary critic Walter Benjamin as attributing the organic quality of Naples, Italy in 1924 to "its porosity of old and new, enduring and fleeting, public and private, sacred and profane, interior and exterior, hidden and apparent."

In Denver, Auraria's planners and architects, through their design of individual projects, can contribute to the shaping of each campus edge through carefully-crafted porosities appropriate to its particular boundary condition. Each project design team can contribute to the design of its particular campus boundary so that it might serve as *a seam that joins rather than as a wall that divides* the campus and the city.

8.2 Design Guidelines for Each Edge of the Auraria Campus

Each campus edge is unique in its setting — its location and spatial character (present and projected) — and in its potential to serve as *a seam that joins rather than a wall that divides* the campus and the city.

8.21 Design Guidelines: Northwestern/Auraria Parkway Edge of Campus
- Spatial Character Today:
  - Campus Side: The edge is spatially undefined above the ground plane; the major edge space-defining element is the parking garage at 9th Street and Auraria Parkway. A more minor definer of space along this edge is the black fence along the border of Parking Lot D that serves to separate the campus from the sidewalk.
  - Space Between The Two Sides: Approximately 230 feet (building edge to building edge) separate the two sides of the Auraria Parkway space between the campus and the city. The Auraria Parkway comprises 3 traffic lanes plus 1 turning lane in the northwest direction; a center median of approximately 22 feet; and 3 traffic lanes plus 1 turning lane in the southeast direction.
  - City Side: Edge is spatially undefined except between Speer Boulevard and 9th Street where a discontinuous row of small buildings partially defines the street edge. The very large-scale Pepsi Center is set back a significant distance from the Auraria Parkway, on the 10th Street axis. It does not contribute to the definition of the street edge. From the campus, it does form a northwestern terminus to the 10th Street axis.
- Spatial Character in Master Plan:
  - Campus Side: The edge is spatially defined between the western edge of the campus (5th Street) and the Recreation Field (7th Street). The edge is spatially defined by buildings between 7th Street and Speer Boulevard.
  - Space Between The Two Sides: Assumption: No Change from that of today.
  - City Side: Unknown.

Potential:
- To spatially define the Auraria Parkway edge of the campus
- To bring the campus and city edges closer together
- To develop the city side for off-campus but campus-related activities   — such as joint use automobile parking
- To define this edge of the campus as a porous boundary and improve the pedestrian experience along Auraria Parkway

Therefore:
- From Speer Boulevard to 7th Street:
  - The street edge of buildings shall follow and define the curving edge of Auraria Parkway; consider a thin building between the Parking Garage and the Auraria Parkway that would have a strong visual porosity.
  - Develop porosities of buildings defining street edge

- Visual Porosity oriented toward people in automobiles on Auraria Parkway
  - Depending upon nature of future development on city side of Auraria Parkway, develop additional porosities.
  - At 7th Street, develop a Main Vehicular Gateway Entrance into the campus. See Section 3.33, Gateway Porosity.
- From 7th Street westward along Recreation Fields
  - Develop formal rows of trees to define street edge; consider a row or rows of trees extended from Speer Boulevard westward to west edge of campus.
- From Recreation Fields to west edge of campus
  - At the northwest end of the Campus Village, the Auraria Parkway ramps up between 5th and 7th Streets and is above the Village development. At grade there is currently a parking lot under the viaduct adjacent to the Invesco Field light rail station. Beyond this two sets of railroad tracks cross Walnut Street. The addition of a future building in what is now Lot W will help to provide an edge. An improved streetscape is needed all along the southern edge of Walnut Street as a pedestrian entry to the campus for those living at Campus Village.

8.22 Design Guidelines: Northeastern/Speer Boulevard Edge of Campus

- <u>Spatial Character Today</u>:
  - <u>Campus Side</u>: The edge is poorly-defined spatially above the ground plane: the buildings are "pavilion" buildings set back a significant distance from the Speer edge, thereby creating a suburban oasis on the edge of downtown. The North Classroom Building manifests a campus presence and entrance from Larimer Square. Southeasterly from the city and along Speer, the tower of St. Elizabeth's Church is a historic marker *and* a symbol of the sacred. The tower is on the axis of Arapahoe Street.
  - <u>Space Between The Two Sides</u>: The distance between the northwestern edge of the campus where it first meets Speer and the face of the building fronts on the city side is approximately 600 feet; from the clock on the North Classroom Building to the UC Denver Building (Dravo) 650 feet; from the campus curb of Speer to the entrance to the Galleria of the Denver Arts Center 580 feet. Speer is 4 lanes (plus 1 turning lane) in each direction. From Auraria Parkway to Lawrence the Cherry Creek channel is located on the city side of Speer; from Lawrence south the channel (approximately 230 feet wide) is situated between Speer's northbound and southbound lanes.
  - <u>City Side</u>: Between Blake and Champa Streets the buildings on the city side are of a scale similar to those on the campus. Between Champa and Welton Streets, the enormous scale of the Denver Convention Center dwarfs all other buildings in the area, including those on the campus side. The edge of the city is stepped: in the first such step, its face between Blake and Larimer steps out to the face of the UC Denver Building; in the second step it steps out to the face of the Lawrence Street Condominium building; in the third step it steps out to the face of the Denver Arts Complex; and in the fourth step it steps out to the face of the Denver Convention Center.
- <u>Spatial Character in Master Plan</u>:
  - <u>Campus Side</u>: The edge is well-defined by the line of building faces set back approximately 50 feet from Speer[4]. The building faces are aligned with one another and follow the double curve of Speer. The Main Entrance Gateway is

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[4] Note: When the science building addition was designed, it was determined to place the building about 50 feet back from the curb. While Speer is a designated parkway, this section does not have a setback. City staff have said the 50 foot setback is because that area is counted as right-of-way. The campus should work with Denver on determining why the right-of-way line is so far behind the back of curb.

implied at Larimer by a break in the line of building faces at the concrete frame/glass block/clock facade of the North Classroom Building. A secondary Entrance Gateway, not for pedestrian access but more as a view corridor for visual and historical porosity, is proposed between LoDo and Tivoli along the Blake Street alignment. A second, secondary Entrance Gateway is implied by the form of the break in the building fronts at the Lawrence Street Mall. A third, secondary Entrance Gateway is implied at Arapahoe where the space created by street and building edges is directed to focus on the tower of Saint Elizabeth's Church.

- o Space Between The Two Sides: There have been many proposals over the years to bridge the gap between the city and campus sides, including lowering Speer and bridging over it; lowering the land on both sides of Speer so that the land and pedestrian movement can pass beneath it; relocating Speer to one side of the channel or the other; and so forth. At the present time, there do not appear to be any plans to modify Speer. On the other hand, as mentioned above, the Master Plan for the Campus proposes moving the campus edge significantly towards Speer and the city (see above). The Master Plan also suggests building footprints for private development in the open spaces at the corner of Auraria Parkway and Speer and between Blake Street, Larimer Street, Speer Boulevard, and 14th Street. If these proposals were to be realized, the gap between the campus and city sides along this stretch of Speer would be significantly reduced, to the benefit of both sides.[5]
  - o City Side: See above paragraph, Space Between The Two Sides.
- Comments: The space between the edge of the campus and the edge of the city is a very dynamic one, physically and politically. It is dynamic physically for all of the reasons noted above; it is dynamic politically because there are so many interest groups involved in the making of any decisions that would reduce the gap between and improve the connection of the edges of the campus and the city.

Potential:
- To bring the campus and city edges closer together
- To define a strong spatial edge of the campus by following the Master Plan
- To create stronger and more obvious gateways between campus and city
- To increase the porosity of the campus edge

Therefore:
- From Auraria Parkway to Blake:
  - o Recognize spatial importance in urban design of CAMPUS CORNERS.
  - o AT NORTH CORNER OF CAMPUS: Collaborate with developer of parcel at corner of Auraria Parkway and Speer so as to best realize the potential for this corner of the campus.
  - o Develop a strong View Gateway (Gateway, Visual, and Historic Porosities) into the campus to Tivoli following the Old City Hall View plane; look for opportunities to realize this gateway according to the guidelines established under Section 3.33, Gateway Porosity. In gateway design, distinguish between "View Gateways" and "Entrance Gateways".
  - o Develop porosities of buildings defining Speer edge
    - ▪ Visual Porosities oriented toward both towards both people on foot and people in automobiles
    - ▪ Functional, Provisional, Temporal, Ecological, Circulatory, Spatial, Programmatic Porosities at and around Entrance Gateways

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[5] Note: However, any changes to the existing Speer Boulevard alignment would very costly and take a number of years to implement. Given those realities and that the campus is unable to make changes to Speer on its own, the campus seeks to improve the streetscape and building frontage along Speer Boulevard. This will help provide activity closer to the road and sidewalk than what exists today, creating a more urban environment.

- From Auraria Parkway to Lawrence:
  - Develop the Main Entrance Gateway (See Section 4.23, Gateway Porosity) from city to campus at Larimer Street
  - Develop a Secondary Entrance Gateway (See Section 4.23, Gateway Porosity) from city to campus at Lawrence Street Mall
  - Develop porosities of buildings defining Speer edge
    - Visual Porosities oriented toward both towards both people on foot and people in automobiles
    - Functional, Provisional, Temporal, Ecological, Circulatory, Spatial, Programmatic Porosities at and around Pedestrian Gateways
    - New buildings and additions, except for any structures used solely for residential occupancy, shall incorporate transparent glass for at least 40% of the linear frontage of the first floor along Speer Boulevard
    - Buildings should have at least one pedestrian entrance along Speer.
- From Lawrence to Colfax:
  - Develop a Secondary Entrance Gateway (See Section 4.23, Gateway Porosity) at Arapahoe Street. Collaborate with the City and with the Denver Arts Complex to establish strong pedestrian links between the Galleria of the Denver Performing Arts Complex and the Auraria Campus.
  - Develop porosities of buildings defining Speer edge
    - Visual Porosities oriented toward both towards both people on foot and people in automobiles
    - Functional, Provisional, Temporal, Ecological, Circulatory, Spatial, Programmatic Porosities at and around Pedestrian Gateways
    - New buildings and additions, except for any structures used solely for residential occupancy, shall incorporate transparent glass for at least 40% of the linear frontage of the first floor along Speer Boulevard.
    - Buildings should have at least one pedestrian entrance along Speer.
    - New buildings shall not block the view of St. Elizabeth's Church tower along the Arapahoe Street alignment.
  - Recognize the spatial importance in urban design of CAMPUS CORNERS.
  - At the SOUTHEAST CORNER OF CAMPUS collaborate with City and neighbors so as to best realize the potential for this corner of the campus.

8.23 Design Guidelines: Southern/Colfax Avenue Edge of Campus
- Spatial Character Today:
  - Campus Side: The edge is poorly-defined spatially above the ground plane. The buildings are "pavilion" buildings situated diagonally to the Colfax. Due to the meeting along Colfax of two city street grids the city's cardinal grid (parallel to the cardinal directions) and the Auraria Campus's diagonal grid (approximately parallel to Cherry Creek) — the campus buildings present their corners to Colfax rather than their faces; this results in a jagged street edge on the campus side.
    The campus directly engages Colfax, its defining street, for less than half the length of its southern edge. At 7th/Osage, approximately four blocks west of Kalamath, Colfax Avenue becomes a ramp up to the Colfax Viaduct. At this ramp, Colfax loses its character as a street and becomes a road.[6] From the

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[6] **street vs. road:** A **street** is a public thoroughfare in the built environment. It is a public parcel of land adjoining buildings in an urban context, on which people may freely assemble, interact, and move about. A street can be as simple as a level patch of dirt, but is more often paved with a hard, durable surface such as concrete, cobblestone or brick. Portions may also be smoothed with asphalt, embedded with rails, or otherwise prepared to accommodate non-pedestrian traffic.
The word "street" is still sometimes used colloquially as a synonym for "**road**", but city residents and urban planners draw a crucial modern distinction: a road's main function is transportation, while streets facilitate public interaction. Examples of streets include pedestrian streets, alleys, and city-

ramp and the viaduct, people in automobiles can overlook the southwestern part of the campus, today allocated almost entirely to parking lots. Adjoining the campus under the viaduct is a neighborhood of light industrial activities. Additionally, the campus does not engage the Colfax at Auraria light rail station — one of two stations serving the campus with trains arriving every 5-10 minutes during weekdays.

Space Between The Two Sides: The distance between the two sides of Colfax (from the line of corners of the campus buildings to the line of building faces on the city buildings) is approximately 150 feet. Colfax has three traffic lanes (plus turning lanes) in each direction and is approximately 90 feet wide, curb to curb. In addition to this street width, on the campus side there is an additional space of 40 to 60 feet devoted to the RTD's light rail right-of-way. Along this right-of-way is a light rail station at the south end of 10th Street (campus), between Mariposa and Lipan Streets (city).

- o City Side: Across Colfax from the campus to the south, the city side comprises a line of commercial and light industrial buildings and their associated parking lots. Many of these parking lots directly front on Colfax, further separating pedestrians from the buildings. Most of these buildings are much smaller in scale than the campus buildings across the street. One block south of these buildings is Denver's Lincoln Park Neighborhood, comprising single and multi-family residential residences.
- Spatial Character in Master Plan:
    - o Campus Side: The Master Plan proposes that several new buildings be located along the south edge of the campus. Of the new buildings proposed for the south edge of the campus, the one located farthest to the east (immediately east of 7th Street) is organized and situated on the Auraria grid while the others are organized and situated on both Auraria and city grids, thus allowing their southern walls to align with the street and thereby creating a stronger street edge than do those buildings which, being situated only on the Auraria grid, present only their southern *corners* to face the street. A curved building is proposed for the southwestern corner of the campus in order to make the spatial transition from the city grid to the Auraria grid.
    - o Space Between The Two Sides: Assumption: No Change from that of today.
    - o City Side: Unknown
- Comments:
    - o Colfax's 90 foot width of eight lanes (6 traffic and 2 turning lanes) when added to the 40 to 60 foot width of the light rail right-of-way space result in a significant gap separating the campus from the Lincoln Park Neighborhood. In light of Auraria's objectives to serve the Denver community and to define the physical limits of the campus in the form of seams that join rather than as walls that divide, means ought to be sought to better link the campus and Lincoln Park.
    - o The scale of buildings on the campus edge is significantly greater than that of those on the city edge. Means ought to be sought that could mediate between and limit this disparity.

Therefore:

- At 7th Street (Osage Street on city side), develop a Main Vehicular Gateway Entrance into the campus. See Section 4.23, Gateway Porosity. There should be opportunities in this area to develop a kiss-n-ride —— areas that allow for the easy dropping-off and picking-up of the campus population via automobile. It should be visible from the Colfax and 7th Street intersection, but not to impede pedestrian movement.

center streets too crowded for road vehicles to pass. Conversely, highways and motorways are types of roads, but few would refer to them as streets.

- Develop an edge condition more suitable to joining rather than to dividing the campus from the neighboring community: alternative means to doing so include:
  - Locate a series of small-scaled structures on the campus side within the triangular residual spaces created by the overlapping of the Auraria and city grids;
  - Develop student housing in the air space over the light rail right-of-way;
  - Work with the City of Denver and/or CDOT to encourage the redesign of Colfax with median strips, tree plantings, parking lanes, and pedestrian crosswalks with "bulb-outs".
  - Encourage creating more pedestrian-friendly uses and building transparency along the area fronting the Colfax at Auraria light rail station as those building areas are redeveloped.
  - Develop a pedestrian entry point along Colfax and 10th Street (campus) to provide a more welcoming and active environment for light rail users.
  - Develop porosities of buildings defining the Colfax edge
    - Visual Porosities oriented toward both towards both people on foot and people in automobiles
    - Functional, Provisional, Temporal, Ecological, Circulatory, Spatial, Programmatic Porosities at and around Entrance Gateways
- Recognize the spatial importance in urban design of CAMPUS CORNERS.
  - AT NORTH CORNER OF CAMPUS: Develop the corner of Colfax and Kalamath so as to best realize the potential for this corner of the campus. Create a main focal point for both the Auraria Campus and the Community College of Denver neighborhood at this location —— people should be aware that they have arrived at the campus. Today this area is almost a no man's land and provides a barrier to entry.
- Develop secondary Pedestrian Gateways into the campus at 9th (Mariposa) and 10th (Lipan) streets; look for opportunities to realize this gateway according to the guidelines established under Section 4.23, Gateway Porosity.

8.24 Design Guidelines for Southwestern/Campus Village Edge of Campus

- Spatial Character Today:
  - Campus Side: A the very west end and corner of the campus is the Campus Village housing complex for students. With the exception of the Campus Village, much of this end of the campus is allocated to surface parking lots. Immediately to the west of the Campus Village is a parking lot for the housing. Campus Village is separated from the Auraria Campus by campus parking and RTD rail lines. On the west end of Campus Village is a heavy freight railroad right-of-way.
  - Space Between The Two Sides: In the space between the rail right-of-way west of the Campus Village is Interstate Highway 25 and the highway's Colfax (US40)/Auraria Parkway ramp system. This significant highway interchange comprises a set of interrelated on-ramps and off-ramps supported on structural columns at various elevations above the ground plane. The interchange occupies the airspace over approximately 40 to 50 acres of land.
  - City Side: On the city side, west of the campus, is the Platte River. Immediately across the river is the Invesco Field at Mile High complex, a large stadium facility used primarily for football games.
- Spatial Character in Master Plan:
  - Campus Side: The present Campus Village is planned to be expanded both eastward and southward, along with possible public/private development to activate 5th Street and the Auraria West light rail station. This station will be relocated from its existing location adjacent to the Administration Building to behind the existing Printing and Distribution Center building (to the west of 5th Street) with the West Corridor project. The Colfax station will remain in its existing location.

- o <u>Space Between The Two Sides</u>: There is presently no proposal for change in this space.
- o <u>City Side</u>: There is presently no proposal for change on the city side.

Therefore

- Encourage active uses in the first floor of buildings along 5th Street — be they for academic or private uses.
- Work to create a plaza and entrance area when the light rail station is moved from its existing location. It should be visible from the Lawrence Street alignment and provide safe pedestrian connections for those walking east across 5th Street. Provide an entrance transition here so that light rail passengers experience their arrival at the Auraria Campus. Look at opportunities for signage that can make passengers aware of institutional programs and events.
- New buildings should be located along 5th Street as envisioned in the Master Plan with parking either screened from the pedestrian sidewalk within the buildings or located between the building and the rail right-of-way.
- Buildings should have a minimum of one pedestrian entrance along 5th Street and/or Walnut Street depending on their location. The Administration Building's orientation and first floor character along 5th Street should be avoided in all new construction. This is an example of what *not* to do.

Section 9: Buildings

Contents
Discussion:
6.0 Introduction
Guidelines:

6.0 Introduction
The other sections of the Design Guidelines delineate guidelines for **buildings** and other elements in the context of the topic addressed in the particular section — Character, Sustainability, Edges, Public Urban Space, or Neighborhoods. This section delineates guidelines that are supplementary to and complementary of those in the other sections.
4.0 Character
5.0 Sustainability
8.0 Edges
6.0 Public Urban Space
7.0 Neighborhoods

A fundamental principle underlying the guidelines for the design of campus **buildings** is as described in Section 4, that the character of the Auraria Campus is changing from one of "suburban park" to one of "urban district". Thus campus **buildings** ought no longer to be designed, as in the past, to be primary, free-standing, foreground pavilions set in a park; rather, they ought to be designed today to form and support the physical structure for the public realm — the urban campus edges described in Section 8 — along Speer Boulevard, Auraria Parkway, and Colfax — as well as the public urban spaces described in Section 6 — the campus's streets, squares, green, gateways, and connections to the surrounding city. In other words, campus **buildings** are to be designed to define strong edges around the perimeter of the campus and to create positive outdoor spaces within the campus itself. **Buildings** also are to be designed as delineated in Section 5 so as to support the lifeworld[1] to be sustainable — environmentally, socially, and economically.

6.1 Design Guidelines: Buildings_Supplementary to Other Sections
The following guidelines for the design of buildings are not intended to supplant but rather to supplement those delineated in the other sections.

6.11 Design Guidelines: Buildings_ Supplementary to 2.0 Character
In Section 4 Character, the meanings underlying the tabulation on Page 4-10 of *Qualities Expected to Influence Auraria's Character In the Coming Years* are, for the most part, self-evident. Several which may not be clear are:
PubPrivatSectors: UnrecognizedInCampusCharacter—RecognizedInCampusCharacter
Interdisciplinarity: UnrecognizedInCampusCharacter—RecognizedInCampusCharacter
NetworkCulture: UnrecognizedInCampusCharacter—RecognizedInCampusCharacter
SustainablCulture: UnrecognizedInCampusCharacter—RecognizedInCampusCharacter

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[1] **Lifeworld**: noun Philosophy: All the immediate experiences, activities, and contacts that make up the world of an individual or corporate life. The lifeworld may be conceived as a universe of what is self-evident or given, a world that subjects may experience together. The concept has its origin in biology and cultural Protestantism: it is used in philosophy and social sciences, particularly sociology. The concept emphasizes a state of affairs in which *the world is experienced*, *the world is lived*.

WesternTradition: UnrecognizedInCampusCharacter—RecognizedInCampusCharacter

The bold, blue type designates the qualities that are desired to emerge in the character of the Auraria Campus in the coming years. Although individual designers indubitably will have the resources necessary to address thinking about, discussing, and designing **buildings** to address these qualities, the following suggestions are offered.

- PubPrivatSectors: UnrecognizedInCampusCharacter—RecognizedInCampusCharacter
  The private sector is not recognized in the campus character of today (2008). One would imagine that it will be exemplified, where appropriate on the campus, in the design of **buildings** by:
  o Visual transparency that would provide passers-by a glimpse the activities happening or things being done within the buildings.
  o Aural transparency, to some degree, that would allow passers-by to hear the sounds of music in a music store, the complexities of group conversations of people dining in a café, the laughter of those enjoying a comedy in a storefront theater.
  o Olfactory transparency that would offer passers-by to perceive the aroma of freshly-baked bread or freshly-ground coffee of a pastry shop.
  o Signs and other graphics
  o Displays
  o An architecture that is characterized by elements normally found in commercial design, manifested through, for example, display lighting (the *Crate & Barrel* in Denver's Cherry Creek neighborhood), sidewalk café seating (*Starbucks*, *The Market*), or distinctive construction design and detailing (Hans Hollein's 1965 *Retti Candle Shop* in Vienna.

- Interdisciplinarity: UnrecognizedInCampusCharacter—RecognizedInCampusCharacter
  Interdisciplinarity refers to the coming together of more than one branch of knowledge as in *an interdisciplinary research program*. In many ways interdisciplinary learning is a major purpose of the bringing-together of many disciplines on a university campus. Interdisciplinary learning can be observed today (2008) on "Main Street" in the King Center where students rehearsing *Hamlet* can be observed collaborating with students building sets, sewing costumes, wiring lighting, and creating posters. Interdisciplinary learning also can be observed in UC Denver's Department of Architecture's design studios where not so long ago a visitor happened upon students boxing, under the tutelage of a professional boxing coach, in a regulation-sized boxing ring, while their colleagues looked on. The studio's semester project was a building for a boxing club. An architect's need to thoroughly understand the requirements of his or her client, both the identified client and the unidentified ones, was recognized and supported by the studio instructor who helped his students understand the world through the eyes of the boxer and the boxing coach.

- NetworkCulture: UnrecognizedInCampusCharacter—RecognizedInCampusCharacter
  Might our new network culture be reflected in the architecture of **buildings** through digital screens, both outside and inside, which manifest in their imagery the activities underway in real time within various parts of the building? Might network culture be made manifest in computer terminals wherein students can "tune-in" on events underway not only in the building but in other parts of the world? Might parts of the building's material façade occasionally dissolve into digital immateriality? Might the limits of the campus and its buildings and places now become blurred as the "campus" gradually becomes more "telematic"? Might the use of handheld computers begin to change the ways in which people experience and interact with the campus and its buildings and places?

- SustainableCulture: UnrecognizedInCampusCharacter—RecognizedInCampusCharacter

1	Unfortunately the word "sustainable" is understood by many people only its more limited
2	meanings as these relate to our concerns with the sustainability of the natural
3	environment, the biosphere. The Design Guidelines address sustainable culture in its
4	more expanded meaning to comprise not only the natural environment but also society
5	and culture, including politics and economics. See Section 3.0 Sustainability.

- WesternTradition: UnrecognizedInCampusCharacter—RecognizedInCampusCharacter
There likely is no more important quality forming the campus character than the
recognition and celebration of the values presiding over our lives as members of a
democratic society. *Although the good life certainly has to do with jobs, incomes, comfort,*
education, and privacy, our Western Tradition reveals that it has to do with much more
than these. Our shared history teaches us that the good life is the one of successfully
being oneself where the individual may perfect herself or himself according to her or his
nature. It is the life in which the individual, living in a community, may aspire to reach the
normative[2] in politics and in building [building (edifying) both one's self and one's
community]. It is the life in which she does the possible while aspiring to do the best. But
neither the individual person nor the community as a whole can pursue this life without
the support of the polity.

The "polity" is the entity in which three things are brought into coordination as people live
together: a shared purpose; a government they construe in order to exercise power justly
while reaching for that purpose; and a physical setting which serves their purposes and
facilitates their governing themselves.

For the individual person and for the community as a whole to live lives of happiness in
an age of pluralism, they must possess the liberty to seek out and construct this life for
themselves, free from others' visions of such a life being imposed upon them, free from
injustice, and free from war and domestic turmoil.

To these ends, the Constitution of the United States of America was established by the
Founders "in Order to form a more perfect Union, establish Justice, insure domestic
Tranquility, provide for the common defense, promote the general Welfare, and to secure
the blessings of Liberty. This is our "shared purpose". The Constitution also established
the government we construe in order to exercise power justly while striving to reach that
shared purpose.

At the core of a livable community are the ideals of liberty, equality, and justice. Liberty,
equality, and justice are the aims of democracy. But democracy is fragile. During World
War II the president of the University of Chicago, Robert Maynard Hutchins, worried that
"the death of democracy is not likely to be an assassination from ambush. It will be a slow
extinction from apathy, indifference, and undernourishment." Almost a century earlier
Frederick Douglass reflected upon the undernourishment of democracy":

Those who profess to love freedom

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[2] **normative**: In philosophy, normative statements affirm how things should or ought to be, how to value them, which things are good or bad, which actions are right or wrong. Whether or not a statement is normative is logically independent of whether it is verified, verifiable, or popularly held. Normative is usually contrasted with positive (i.e. descriptive, explanatory, or constative) when describing types of theories, beliefs, or propositions. Examples of normative claims are: "children should eat vegetables", "smoking is bad", and "those who would sacrifice liberty for security deserve neither". Positive statements are falsifiable statements that attempt to describe reality. Examples of positive statements are, "vegetables contain a relatively high proportion of vitamins", "smoking causes cancer", and "a common consequence of sacrificing liberty for security is a loss of both" are positive claims. *Stanford Encyclopedia of Philosophy*

and yet deprecate agitation,
are those who want crops
without plowing.
This struggle may be a moral one,
or it may be physical,
but it must be a struggle.
Power concedes nothing without demand.
It never did,
and it never will.

Earlier still, Ben Franklin held:
Those who would trade liberty for security deserve neither.

. . . and in the Declaration of Independence, Thomas Jefferson wrote:
. . . whenever any Form of Government becomes destructive of these ends, it is
the Right of the People to alter or to abolish it, and to institute new Government,
laying its foundation on such principles and organizing its powers in such form,
as to them shall seem most likely to effect their Safety and Happiness.

In another place, Jefferson reflected again on the same ultimate truth:
The tree of liberty must be refreshed from time to time with the blood of patriots
and tyrants. It is its natural manure.

What does this have to do with Design Guidelines for the Auraria Campus?
Yale philosopher and thinker on architecture and the city, Karsten Harries, would respond by saying that "the very point of architecture is to let us take leave from the everyday, but only to return us to it, now with eyes more open and a greater awareness of what matters. What Heidegger says of the Greek temple, that it lets the god be present, has its analogue in the presence of God in every church, or the presence of shared values in civic monuments — think of the Capital, of the Washington, Jefferson, and Lincoln memorials, or of Civil War monuments. Architecture has an ethical function in that it calls us out of the everyday, recalls to us the values presiding over our lives as members of a society; it beckons us toward a better life, a bit closer to the ideal. One task of architecture is to preserve at least a piece of utopia, and inevitably such a piece leaves and should leave a sting, awaken utopian longings, fill us with dreams of another and better world."[3]
Thus the elements that shape the character of the Auraria Campus must always comprise those institutions of, monuments to, and reminders about the great traditions and values that form the bedrock of democratic life.

6.12 Design Guidelines: Buildings_ Supplementary to Section 5 Sustainability

In Section 5 Sustainability, under Social Sustainability, the following guidelines, among others, for **buildings** are introduced:
• Design Guidelines: Create a sense of community
• Design Guidelines: Raise levels of awareness of a *horizon of significance*
• Design Guidelines: Support individual and communal experiences of the natural world.
The word "sustainable" often is understood only its more limited meanings relative to the sustainability of the natural environment. The Design Guidelines in Section 5 Sustainability address sustainable culture in its more expanded meaning to comprise:
• Design Guidelines: Environmental Sustainability
• Design Guidelines: Social Sustainability
• Design Guidelines: Economic Sustainability

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[3] Karsten Harries. *The Ethical Function of Architecture.* [Cambridge and London. MIT Press. 1997]

See **Section 5_Sustainability** for many design guidelines for buildings.

6.13 Design Guidelines: Buildings_ Supplementary to Section 8 Edges
The campus as a whole is intended to be perceived, both from inside and from outside, as having distinct boundaries or edges at its perimeter where it meets the surrounding boulevards, neighborhoods, or districts. These edges are intended to provide a sense of identity for the campus; to define the physical limits of the campus in the form of seams that join rather than walls that divide; to allow access through them via porous membranes. The Design Guidelines in Section 8 Edges provide direction for the design of **buildings** as porous membranes. They also delineate design criteria for **buildings** that will be located on any one or more of the three edges of the campus.
See **Section 8_Edges** for many design guidelines for buildings.

6.14 Design Guidelines: Buildings_Supplementary to Section 6 Public Urban Space
A major function of **buildings** is to form the Public Urban Space outlined in Section 6 — the campus's streets, squares, greens, gateways, and connections to the surrounding city.

- **Create positive outdoor space** (Section 6 Public Urban Space)
Outdoor spaces that are merely "left over" between buildings will generally not be used. Fundamentally, there are two very different kinds of outdoor space: negative space and positive space. Outdoor space is negative when it is shapeless, the space which is merely "left-over" when buildings — generally viewed as positive — are placed on the land. An outdoor space is positive when it has a distinct and definite shape, as definite as the shape of a room, and when its shape is more important than the shape of the buildings which surround it.

- **Connect adjoining buildings.** (Section 6 Public Urban Space)
Do not provide setbacks between buildings. When locating a new building adjacent to an existing one, form the new building as a continuation of the older one. Do this in ways that shape the positive urban space of the public realm.

- **A critical step in creating public urban space is that of realizing an appropriate scale for the particular space.** (Section 6 Public Urban Space)
Many of today's building programs require large, massive buildings. Consider Lower Downtown's warehouse buildings as a model for adapting the scale of today's large buildings to the more intimate scale desired for Public Urban Space. LoDo's smaller scale buildings are party wall buildings that often are joined together to provide space for large programs.

- **Therefore, design large, new buildings in the scale of lines or clusters of smaller buildings. Wherever possible, translate the building program into a "building complex". At higher densities, a single building can be treated as a building complex if its important parts are selected and made identifiable while still being a part of one three-dimensional fabric.**
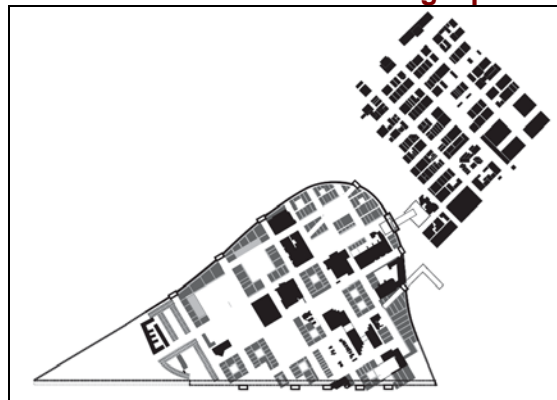
1 **The North Classroom Building is here used as an example of one of today's building**
2 **programs that required a large, massive building. Considering Lower Downtown's**
3 **warehouse buildings as models for adapting the scale of a large building such as**
4 **the North Classroom Building to the more intimate scale desired for the Auraria**
5 **Campus's Public Urban Space, the drawings below explore how this might be**
6 **accomplished. LoDo's smaller scale buildings are party wall buildings that often are**
7 **joined together to provide space for large programs.**
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10 The North Classroom Building is illustrated in the very center of the above diagram as a
11 black figure—an existing building; dark gray figures illustrate future buildings. Light gray
12 lines on a dark gray building show that the building is to be made up of a number of smaller
13 building masses. But the North Classroom Building does not meet such a criterion; it is one
14 very large building.
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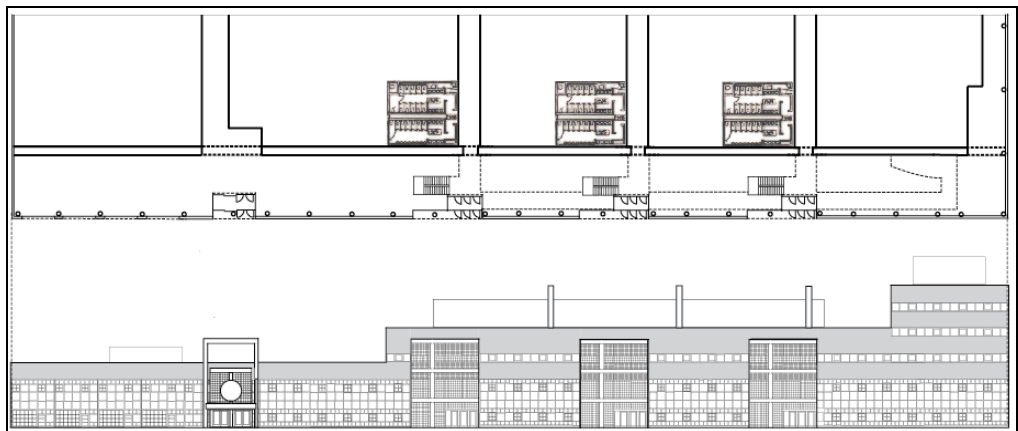
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17 Above is a partial floor plan and the east elevation of the North Classroom Building. The
18 floor plan shows the building's two-story gallery or "atrium", the four sets of entrance doors,
19 the three open stairways, the five main corridors branching westward (upward on the plan)
20 from the gallery, and the three restroom cores. Note that this is one large building and not
21 a series of smaller party wall buildings. Note also that the architect did attempt to minimize
22 impressions of this as a single, very large building through the articulation of the recessed
23 entrances. The drawings on the following pages suggest ways in which such a large
24 building might be designed as a cluster of smaller buildings so as to appropriately define
25 the more intimate scale desired for the campus's Public Urban Space.
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Here the North Classroom Building is imagined as a cluster of nine smaller buildings of varying widths.
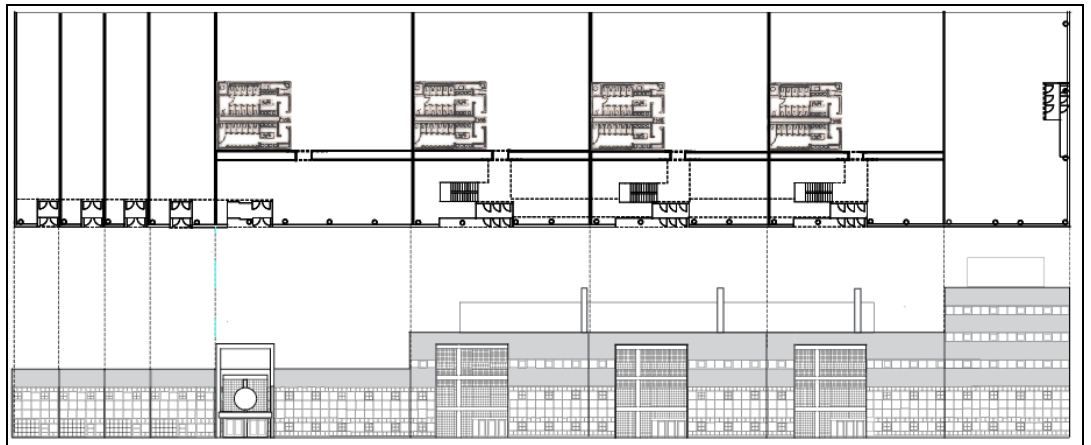
Just as in the case of LoDo's party wall buildings, the North Classroom Building might be conceived as a cluster of such buildings arranged side-by-side. These buildings could function as separate buildings, or some, or all, of them could be joined by openings through the party walls. The party walls would be expressed architecturally by large joints or "reveals" in the face of the east wall, similar to the way the diverse masses of the various elements of the Denver Central Library are articulated.

Below are two additional versions of the North Classroom Building imagined as a cluster of smaller buildings of varying widths.
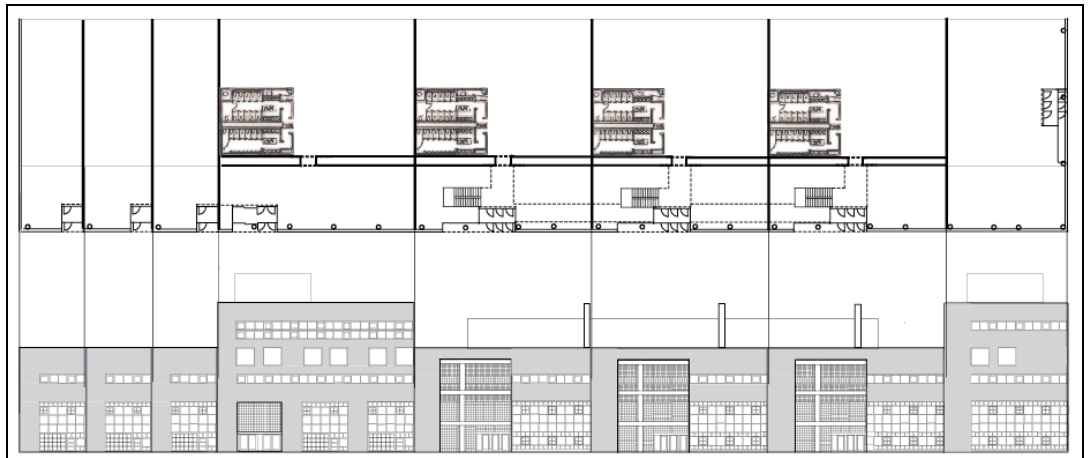
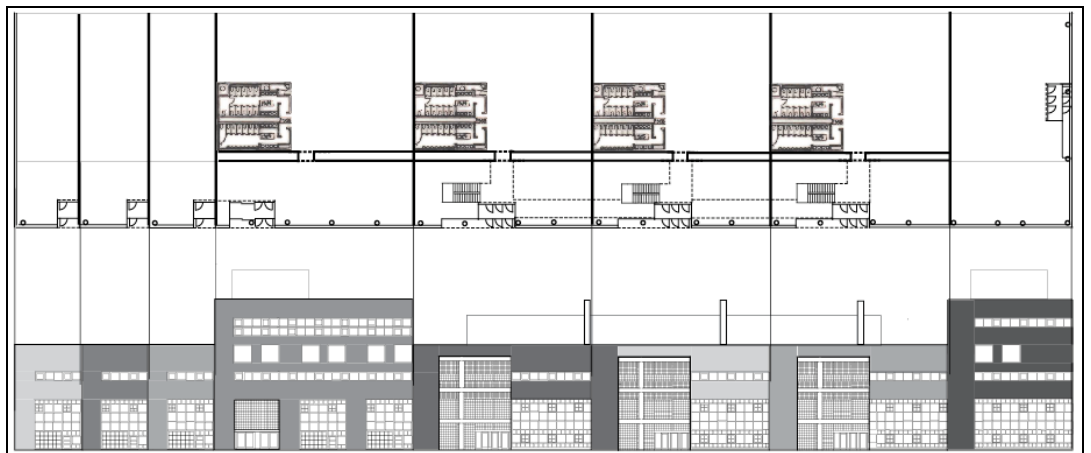Now each building is imagined as not only varying in its edge definition but also as varying in its height and its fenestration.

Here each building is imagined as varying in its edge definition, in its height, in its fenestration, and in the values (light to dark) of its bricks, metals, and glasses.

Design Elements in the Streets that Engage the Eyes/Mind
Overwhelmingly, the buildings on the best streets "get along with each other". They are not the same but they express respect for one another, most particularly in height an in their overall design *parti*. Buildings along the best streets are generally of a similar height. There are rarely big jumps or drops. On the streets with lower buildings of two to five stories, the variations are rarely more than one or two domestically scaled floors. Above that, to seven or eight stories, the differences are usually also one or two stories, rarely three. Even then, building heights may not be so different; a tall three-story building can be very much like a four-story one in height. Every now and then there is a church or corner tower that is significantly different from the norm, but these are exceptions: buildings of special symbolic significance, or whose height is purposeful on the street, marking a turn or a corner.

It is not necessarily the time of building or the similarity of style that accounts for the design complementarity of buildings along the best streets. Rather, it is a series of characteristics, all of which are rarely present on any one street, but where there are a sufficient number of them present to express regard and respect for one another and for the street as a whole. The variables are:

- Materials
- Color
- Cornice lines and belt courses
- Building sizes
- Window openings and their details
- Entrances
- Bay windows
- Porches
- Overhangs
- Shadow lines
- Details

A common architectural style is not to be discarded just because it may result in sameness of buildings. Formulae and prescriptions, however, are difficult to come by. Caution and individual assessment through careful consideration of general design guidelines are better ways of determining what it is that holds the buildings together.

- **Therefore, in order to design buildings that are mutually complementary, consider the following:**
    - **On the one hand, design for a <u>continuity of architecture</u> throughout the campus, while,**
    - **On the other hand, design to reflect the appropriate <u>individual nature of each building</u>**

Now, expanding upon each of these two guidelines:

- **On the one hand, design for a <u>continuity</u> of architecture throughout the campus**
    - Design in the formal and compositional manner similar to that of those who designed the original campus buildings.
    - Design using similar materials
        - Brick of modular dimensions and of a hue and chroma in limited ranges (to be determined)
        - Concrete of a consistent color and finish
        - Metal Storefront and Window Frames of modular dimensions and of a hue and chroma in limited ranges (to be determined)

- Glass selected from a palette of approved glasses (to be determined). Highly reflective glass shall not be used.
- Glass Block of modular dimensions selected from a palette of approved glass blocks (to be determined).
- Metal Railing Systems of modular dimensions and of a hue and chroma in limited ranges (to be determined)

- **On the other hand, design to reflect the appropriate <u>individual</u> <u>nature of each building</u>**
  - Design in the formal and compositional manner similar to that of those who designed the original campus buildings, but for each individual building, working within a 2'-0" x 2'-0" x 2'-0" planning grid, vary particular the design of each building to reflect its individual nature, to differentiate it from its neighbors, and to create facades on the street that engage the eye and the mind, by varying the building's:
    - edge definition,
    - height,
    - fenestration composition, and
    - the values (light to dark) of its bricks, metals, and glasses.

- **Design using a 2'-0" x 2'-0" x 2'-0" planning grid in plan, section, and elevation**

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On the other hand, design to reflect the appropriate individual nature of each building
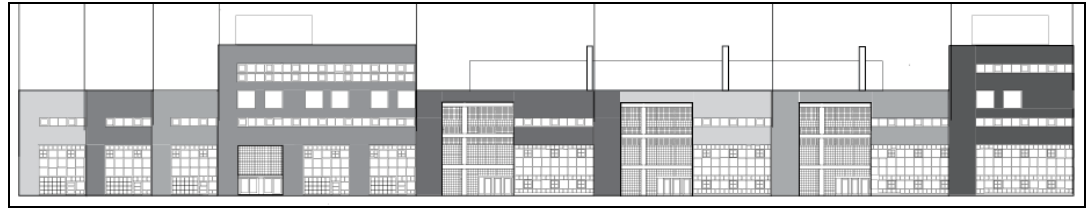
- o Design in the formal and compositional manner similar to that of those who designed the original campus buildings, but with more compositional variation.
- o Design using similar materials
  - Brick of modular dimensions and of a hue and chroma in limited ranges (to be determined)
  - Concrete of a consistent color and finish
  - Metal Storefront and Window Frames of modular dimensions and of a hue and chroma in limited ranges (to be determined)
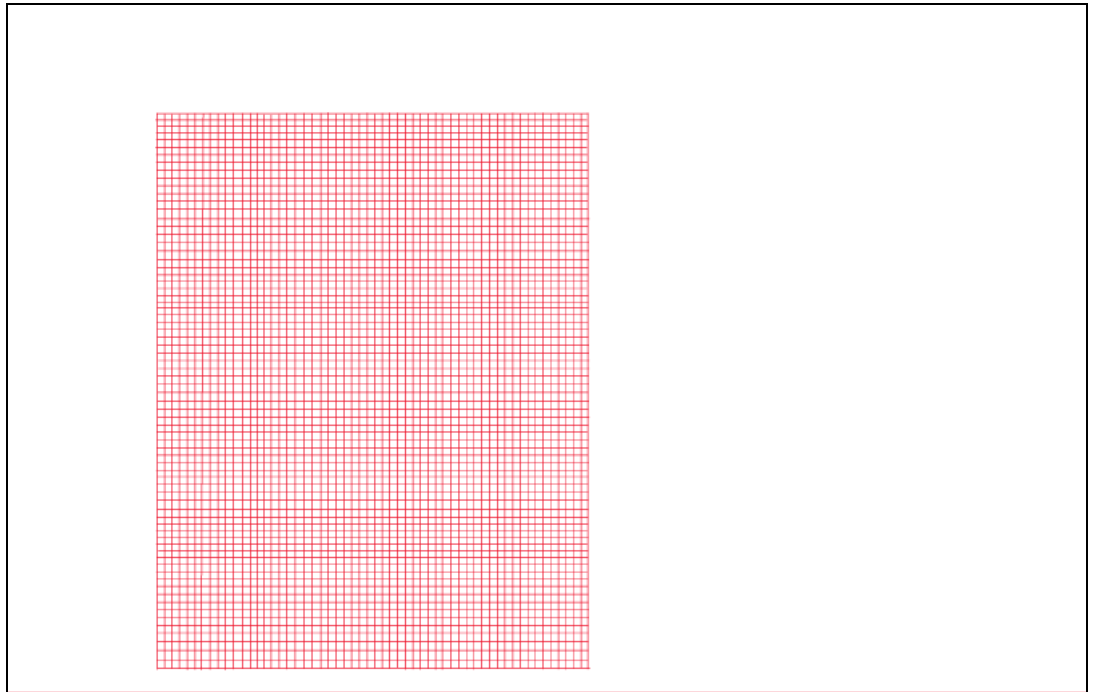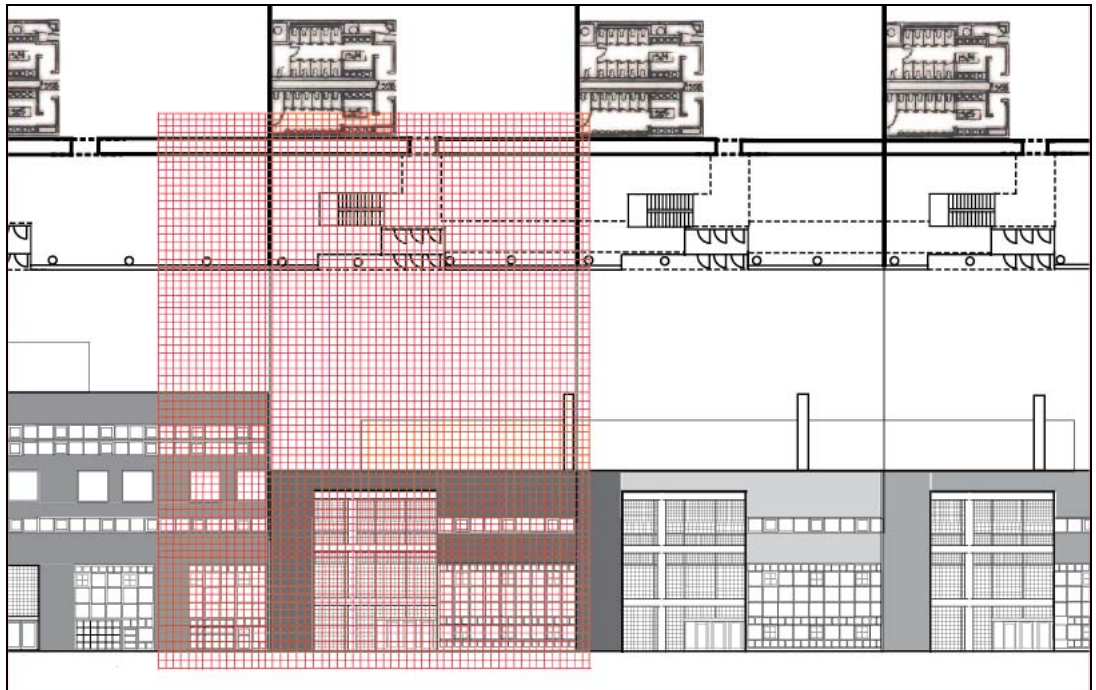 - Glass selected from a palette of approved glasses (to be determined). Highly reflective glass shall not be used.
  - Glass Block of modular dimensions selected from a palette of approved glass blocks (to be determined).
  - Metal Railing Systems of modular dimensions and of a hue and chroma in limited ranges (to be determined)

- o Using the 24" x 24" x 24" planning grid so as to realize **continuity**, design a broad variation of openings, patterns, and material chromatic values so as to realize **individuality**.
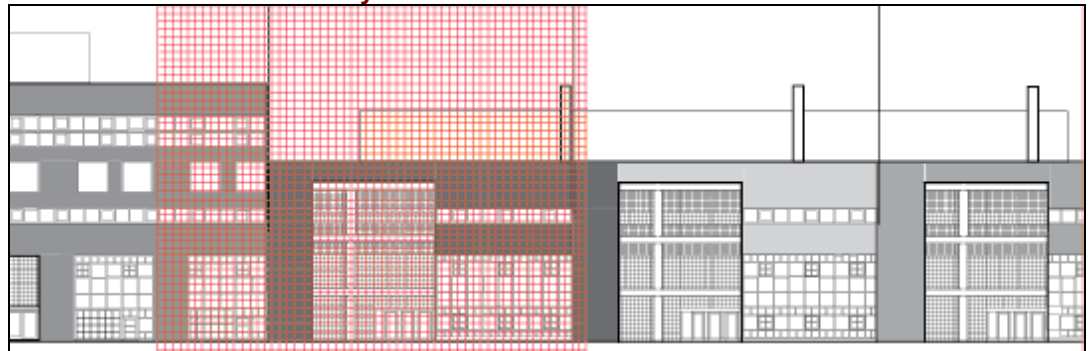
See **Section 6_Public Urban Space** for additional design guidelines for buildings, the guidelines in that section referring to how buildings are to shape and support public urban space on the campus.

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6.15 Design Guidelines: Buildings_Supplementary to Section <u>7</u> <u>Neighborhoods</u>
See **Section 7_Neighborhoods** for additional design guidelines for <u>buildings</u>.

Section 10: Site Furnishings

Contents

Discussion:
10.0 Introduction

Guidelines:

10.0 Introduction
In addition to establishing guidelines for buildings, it is necessary to make the site features consistent as well. There are established guidelines in place for the main campus and there are different guidelines for special areas on campus such as Ninth Street Park and adjacent to special buildings such as the Tivoli, St. Francis Center and Emmanuel Gallery.

If a project within an institutional neighborhood wants to explore using different site furnishings than the campus standard, a written request must be submitted to the AHEC Planning Department. That request must state what furniture is desired, provide specifications and discuss why they want to use a different type of furnishing. This request will be reviewed by the AHEC Planning and Facilities Management departments and then discussed with the institution making the request. Variances may be subject to review by the AARB.

10.1 Site Furnishings
Site furnishings include the following items:

A. Sitting Benches

Many of the existing benches on campus are precast concrete from fabricator Denver Architectural Pre cast, ARCO or a pre-approved equal. Chamfer edges of bench ¾ inch except edges in contact with the ground. Bench finish shall be light even sandblast with Dumont industries Inc. cast seal 100/A or accepted substitute.

New metal benches are Oak Knoll Series, Model B92 Black Cast Iron Surface Mount in 4 foot, 6 foot or 8 foot sizes. It should be a Contour Bench with Cast Iron End Frames and Steel Strap Seat from Pilot Rock Park Equipment of R.J. Thomas Mfg. Co., Inc. P.O. Box 946, Cherokee, IA 51012-0946.

B. Trash Cans

Trash cans used on the campus currently are concrete and match the cigarette urns. Use
these trash cans until a replacement model is approved by AHEC Facilities Management.

Trash cans should be pre-cast Sierra Round 26" diameter by 33" tall with a 32 gallon liner
and fiberglass lid (use the 'toss in' lid; lid color should be black), catalogue number TR-
2633. They are from Arco Concrete, http://www.arcoconcrete.com/site.htm.

C. Recycling Bins

Existing campus outdoor recycling bins are from Rubbermaid, Americana Series product
number MT22. Mounting bolts must be included. The recycling bins were customized by
using a powder coat with a blue color. The campus had custom universal recycling labels
made for the top of the bins as well as the slats. Prior to requesting additional outdoor
recycling bins, contact Facilities Management Operations Group to discuss placement and
confirm specification.

D. Cigarette Urns
Cigarette urns used on the campus currently are concrete and match the trash cans. Use
these trash cans until a replacement model is approved by AHEC Facilities Management.

Cigarette urns should be pre-cast concrete ash urn by Arco Concrete, catalogue number
AH-1326; 13" round and 26" in height (http://www.arcoconcrete.com/site.htm). Finish to
match campus standard cast stone, exposed finish natural concrete color.

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E. Bike Racks

Bike racks can be from either of these vendors. (1) Surface mount Cora Expo 'W' series, by Cora Inc., Model W7510 powder coat black finish, 1-800-354-8624. OR (2) Colorado Corrections Industry (www.coloradoci.com) - Metal Products Park Furniture, product name: BR5559, 12 slot bike rack in black metal or if a smaller rack is needed use BR6559, 6 slot bike rack in black metal.

F. Drinking Fountains

Drinking fountains located outside shall be of similar make and design as the present one located on the playing fields.

G. Flag Poles

Flag poles shall be clear aluminum and match those already on the campus. A project seeking to install new flag poles shall work with AHEC Facilities Management on selection of and installation of any new flag poles on campus.

H. Patio Tables and Umbrellas

Outdoor seating is an important aspect of campus life and should be incorporated in new projects. Location of patio tables should be shown on the landscape plan so they do not interfere with pedestrian movement or building entries.

Patio tables shall be open web vinyl coated polysteel frames built with sturdy 1.9" OD tubing. Tables should be coated with a thick 1/8"+ coating of UV and fungicide protected Plastisol. They should have rounded corners for style and ease of entry. Umbrella holes should be included in all tables. Patio tables should have a black frame with the top and seats gray in color. Patio tables should be 40 inch square tables provided by Wabash Valley (http://www.wabashvalley.com/) or similar manufacturer. They should be surface mountable and a diamond pattern. These tables come in a four seat, three seat and two seat option to allow wheelchair access or accommodate smaller patio areas. The four seat Wabash Valley table is model number SG214D.

Umbrellas should be a height of 8' 3" to the top and should be plastic treated to make them easier to clean. Umbrella cover fabric should be Patio 500, with the color of #503 (blue). Umbrella covers should be royal blue, 7' 6" diameter octagon shape, with 6" straight free hanging valance separated at the corners. The umbrella covers should have grommet lacer on 8 sides to lace on to the frame. The grommets should be size number one brass, five per lacer location for a total of 40 grommets per umbrella cover. Covers should be reinforced at corners to prevent wear and tearing. Thread should be a FF T90 Polymatic drip stop UV resistant or comparable product. The umbrella pole and frame color will also be gray. The poles should be rust resistant steel and are 1.25" in diameter. The umbrella frames are ½" square tubing. Umbrella bases are steel and 4"x4". Contact AHEC Planning or Facilities Management to coordinate colors and specific umbrellas to be used.

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I. Tree Grates

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10 Tree grates shall be 5 feet square cast iron decorative grate as manufactured by Neenah
11 Foundry, model T8713, 180 degree square with expandable tree opening, ¼ inch slot
12 openings, non slip surface, matching cast iron frame or accepted substitute. Grates shall
13 be unpainted natural metal finish.
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J. Trench Drain Covers

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19 Sloped trench drain system shall be a cast in metal rail edge and polymer concrete
20 channel as manufactured by ARCO, 1-800-543-4764; model K100S-14 with 410 grate,
21 perforated galvanized steel, or accepted substitute.
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K. Emergency Phones

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Emergency telephones used throughout campus are an Emergency Telephone Tower from the Talk-a-Phone company (http://www.talkaphone.com/). The campus uses model ETP-MT/R – the Radius Emergency Phone Tower in safety red. They are 12" wide x 10" long x 108" tall. Placement of emergency telephones needs to be arranged through the Auraria Campus Police and/or AHEC Emergency Preparedness Coordinator, in conjunction with Facilities Management and Telecommunications. The units require both power and connection to the campus network.

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L. Art Work

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Public art pieces not associated with a specific project, should be submitted for review and approval by the Space Management Utilization Committee (SMUC) or its successor. Projects with a public art component included, should discuss potential locations for this work during the design phase of the project. Whenever possible, art should be incorporated within the neighborhoods and can help reinforce identity.

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10.2 Special Paving

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The use of special paving on the campus began with the development of the Lawrence Street Mall. The campus standard was set with the mall design features. As other areas of the campus are developed from the old asphalt streets to finished areas, this same theme will be extended throughout the rest of the campus. Exceptions to this paving standard will be in special areas of the campus such as the Historic 9th Street Park area.

The materials used in the special paving consist of concrete bands with paver cobles such as have been used on the Lawrence Street Mall. Most paving areas will be designed to carry truck traffic such as fire trucks.

Pavers are: Interlocking concrete pavers manufactured by Pavestone Co., E. 96th Ave., Henderson, Co. or accepted substitute. Provide pavers 80mm thickness for general areas.

1. Cobble Pavers: "Uni-Décor" red/grey color range matching existing units on campus.

1. Soldier Course Pavers: Rectangular shape, 210mm by 105mm, red/ grey color range matching existing units on campus.

10.3 Lighting
Pedestrian lighting
The lighting fixtures on the campus have been standardized on the main part of the campus when the Lawrence Street Mall was built. There are portions of the campus that vary from these fixtures such as the 9th Street Park area. Use of the new pedestrian fixture shall be used in all newly developed pedestrian areas unless there is a need to meet historical fixture styles. The Science Building project will be using the same lights with a full cutoff feature. New pedestrian lighting should be coordinated with AHEC Facilities Management.

Pedestrian lighting is made by Gardco and is model number CP with a 17" spun cylindrical luminaire (CP17), a P22 configuration (pole), a distribution of Q (Type V), wattage of 175MH and voltage of 277. The finish is a special color of pewter gray.

Parking and street lighting
The parking lot lighting is a standard type pole and fixture and shall also be used in any new parking areas. The pole is a concrete pre stress pole with a single or double aluminum box head. The pole is manufactured by Centrecon; the light fixture is manufactured by Gardco. The 30 foot poles utilize a double head fixture while the 25 foot poles generally use a single head fixture and are used in some smaller parking lots as well as some street lighting on campus. The fixtures are dark bronze aluminum box type fixtures with special lenses and metal halide bulbs. Projects should work with AHEC Facilities Management on any requests for new parking lot lighting.

The building exterior wall lighting has been standard fixtures on all the brick buildings on the original campus. These are the same style of dark bronze Gardco fixtures used for the pole lights in the parking lots and taller street lights. These fixtures do not have to be used on new buildings and a new type will be considered for the original buildings to improve on the efficiency of the lighting. Projects should coordinate with AHEC Facilities Management on new or replacement building exterior wall lighting.

10.4 Landscaping
The landscaping on the campus set some standards when the Lawrence Street Mall was first developed. Many of these standards are still valid but some portions of the standards such as tree and grass selection are being revisited due to the drought conditions of recent years, selection of trees that do not do well in this climate and the use of well water for irrigation which due to its mineral content impacts tree species. This portion of the standards need additional work and will be further developed. All landscaping work on the campus will follow strict reviews by the Architectural Review Committee. If green roofs are proposed, they need to be discussed early in the project and use proven technology.

10.5 Signage

Building identification signage, as well as interior signs, should be provided in conjunction with Facilities Management Sign Shop. The campus has switched to using channel letters made by ArtCraft Signs Inc. or another vendor in either 18 inch or 12 inch size – depending upon the size of the building – to provide exterior building identification.

There is no standard for campus way finding signage.

10.6 Parking
The location of parking lots is addressed in the campus master plan. Parking lot standard details include items such as lighting, curb and gutter, tree and planting islands and space size. Lighting will be the standard lighting fixtures and poles as specified and shown below. The pedestrian lighting around the parking lots will be the campus standard pedestrian light.

Interior islands at the end of rows and spaced periodically within long rows will be landscaped and include trees to break up the large expanse of asphalt.

Sidewalk/walkways will be established to provide a clear path to major adjacent sidewalks and buildings.

In order to minimize the number of curb cuts, parking and service entries should be combined

Schemes that locate above-grade structured parking to the interior of building blocks – i.e., wrapping the parking with other uses – are preferred

Section 11: Security/Campus Safety

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11.0 Development of Security Design Guidelines

The development of construction security design standards ensures that security-related desires are detailed in writing and clearly communicated to the design team (architects and planners) during the program design. They become the guide for physical, electronic and environmental security for each new campus building or facility. Environmental design guidelines are based upon the theory that, "the proper design and effective use of the built environment can lead to a reduction in the fear and incidence of crime, and an improvement in the quality of life." Guidelines in this category are intended to maximize opportunities for natural surveillance; to increase a sense of territorial control and identification of space; and to enhance natural access control. Environmental design security provisions are immensely preferable to more traditional security approaches because they are intended to fulfill the two-fold purpose of providing security while also increasing the level of comfort and functionality of the space.

Environmental design guidelines are intended to be used during the programming and schematic design phase – since these directives tend to affect site planning, use of space, and the positioning of major building components. They are general in their nature and intended to permit the design professional a substantial degree of latitude in how the objectives are accomplished.

CPTED - Crime Prevention through Environmental Design - is design that eliminates or reduces criminal behavior and at the same time encourages people to "keep an eye out" for each other. These are just a few of the ingredients that go into creating an effective CPTED crime prevention environment; that is, a safer more livable community.

The design guidelines presented in the previous chapters will transform the character of the campus and increase security and safety by the very nature of creating a vibrant and active campus with a mix of uses. As the campus is developed overtime and takes on the characteristics of a dense, urban environment the buildings and public spaces will be more secure from the addition of more people, greater interaction between students and more eyes on the street. The design guidelines in this section are intended to facilitate and reinforce the increased safety developed in the previous chapters by addressing the environmental design criteria at an early stage in planning. These guidelines should be effective and supportive of everyday life, but also must be completely invisible; the average student should not know the built environment has been designed with their safety and security as a high priority. The safety and security design guidelines are intended to integrate with the overall design philosophy presented in this document.

11.1 Natural Surveillance

Natural Surveillance is a design concept directed primarily at keeping intruders easily observable. This is promoted by features that maximize visibility of people, parking areas and building entrances: doors and windows that look out on to streets and parking areas; pedestrian-friendly sidewalks and streets; front porches; adequate nighttime lighting. "See

and be seen" is the overall goal when it comes to CPTED and natural surveillance. A person is less likely to commit a crime if they think someone will see them do it. Lighting and landscape play an important role in Crime Prevention through Environmental Design.

- **Lighting:** All exterior doors, interior hallways, parking areas and pedestrian walkways should be well lit.

- **Consistency of Lighting:** A consistent lighting scheme should be used to reduce contrast between shadows and illuminated areas. The current lighting scheme calls for pedestrian lights to be spaced every 30 feet. The Anschutz Medical Campus uses a 60 foot spacing scheme. Spacing of both pedestrian lighting and street lighting will need to be re-examined in order to comply with Leadership in Energy and Environmental Design (LEED) regulations.   Lighting should be used at the edge of space, at entrances, along pedestrian paths, in parking areas and in alcoves.

- **Protection of Lighting:** Light fixtures should be high mounted, easily maintained and protected from vandalism.

- **Visibility:** Windows and exterior doors should be visible from the street or by neighbors. Surface parking lots and building entrances should be observable by as many people as possible. Parking areas should be visible from windows and doors; side parking areas should be visible from the street.

- **Open Services:** Site elements and equipment such as trash dumpsters should not be located so as to create blind spots or hiding areas.

- **Clear Circulation:** Elevators and stairwells should be located so as to be clearly visible from windows and doors. Stairwells should be well lit and open to view from both the interior and exterior of the building.

- **Unobstructive Landscaping:** Shrubbery should be no more than three feet high for clear visibility. The lower branches of existing trees should be kept at least ten feet off the ground. Landscaping and plantings should be carefully placed and considered so that they do not pose maintenance problems for upkeep and trimming, nor provide blind spots for hiding, placing of contraband or ambush.

- **Observation from Classrooms:** Circulation areas should be placed in view of classrooms. The high volume of students in classes means more chance for casual observation.

- **Observation of Vehicular Traffic:** Adequate observation of vehicular traffic is as important as observation of pedestrians. Administrative spaces should have clear lines-of-sight to entry roads and parking lots. Anyone entering a school area should never go undetected, and any vulnerable entry should be secured.

- **Surveillance Points:** Providing surveillance points can increase safety. Providing views to potential problem areas from publicly used spaces, such as a common-

use stairwell, ensures that many people will be observing at any given time. Designers must be sure that the surveillance advantage goes to legitimate users of the space, not to the possible perpetrators. If cameras are to be used, they should be used typically to monitor parking lots, main entrances, playground areas, courtyards, loading docks and special equipment areas such as computers labs.

- **Informal Surveillance of Routes:** Windows (particularly near parking lots) should overlook pedestrian routes. Blank facades should be avoided at street level.

- **Sightlines:** Pedestrians should have a clear view of surrounding areas. Avoid 'blind' or sharp corners in stairs or corridors. Avoid sudden changes of grade on pathways that reduce sightlines.

- **Observation Prior to Entry:** Residents should be able to see into building foyers and lobbies before they enter. Laminated glass panels in stairwell doors and elevators allow for increased observation.

- **Perimeter Entry Points**: The location and position of perimeter entry points are important to the issue of natural surveillance and natural access control. Highly visible entry points promote their own use by legitimate users of the building and are easily surveilable by security or public safety personnel. Conversely, there may be potential entry points that -- because of their location in a concealed area -- should *not* be used. In such cases, it is desirable to use architectural and/or electronic mechanisms to essentially eliminate these doors from use except during an emergency.

- **Safe and Unsafe Areas and Activities**: Place activities such as restrooms, ATM'S, etc. in or near safe locations (such as lobby desks, reception areas, active building lobbies) to facilitate natural surveillance and to increase the perception of safety for normal users.

11.2 Territorial Reinforcement

Physical design can create or extend "spheres of influence" wherein users experience a sense of territorial control while potential offenders, perceiving this control, are discouraged. "Spheres of influence" can be developed and promoted by the design of features that define property lines and distinguish private spaces from public spaces using landscape plantings, pavement designs and gateway treatments. Creating or extending a "sphere of influence" by utilizing physical designs such as pavement treatments, landscaping and signage that enable users of an area to develop a sense of ownership over the space is the goal of this principle. Public areas are clearly distinguished from private ones. Potential trespassers perceive this control and are thereby discouraged.

The use of territory definition is necessary to convey to others that the space they are currently in is private. Defining a campus from public space is, at times, extremely difficult. Campuses have always been known to blend in and mesh with their surrounding environments. Territoriality can be accomplished in numerous ways, such as, using a distinct landscaping pattern to inform people that the property that they are now on is the campus's property. Defining the edges of the campus's property conveys the message that this area is the home of the students. Students then act as observers and care takers of their space.

- **Define Ownership of Space:** A sense of ownership of a place improves the surveillance of an area and makes it safer. Use physical and psychological barriers to define territory such as: gardens, distinctive paving, lawn strips, varying tactile surfaces, ramps and other ground level changes.

- **Perimeter Edges:** Perimeters should be defined by landscaping or fencing. Fences should be designed to maintain visibility from street.

- **Traffic Calming:** Traffic calming strategies such as speed bumps, corner bulb-outs, reduced lane widths, and on-street parking increase territorial reinforcement and reduce crime rates.

- **Land-Use and Activity Mix:** Compatible mixed uses should be developed to encourage activity, informal surveillance and contact among people during the day and evening.

11.3 Natural Access Control

Natural Access Control refers to a design concept directed primarily at decreasing opportunities for criminal acts by denying access to criminal targets and creating in offenders a perception of risk. This is gained by designing streets, sidewalks, building entrances and campus gateways to clearly indicate public routes, and discourage access to private areas with structural elements. Natural Access Control is more than a high block wall topped with barbed wire. Instead designers should utilize walkways, fences, lighting, signage and landscape to clearly guide people and vehicles to and from the proper entrances. The goal of this principle is not necessarily to keep intruders out, but to direct the flow of people while decreasing the opportunity for crime.

Landscaping and other natural barriers can be used to channel the flow of pedestrian movement in a path of the designers' choosing. College students will inevitably travel the way that is the fastest, most convenient, easiest and driest. Using covered walkways as well as pathways encompassed by gardens can aid in directing public traffic.

- **Entrances:** Public entrances should be clearly defined by walkways and signage. Building entrances should be accentuated through architectural elements, lighting, landscaping and/or paving stones.

- **Main Entry Security:** Many techniques and devices can be used to increase security. Access to other areas from main entryways should be carefully planned

and not obscured. Main entryways should be obvious. Too many entryways can create confusion and often provide ambush points.

- **Secondary Entries:** Treatment of secondary entries is as important as primary entries. ADA, signage and hardware requirements must also be met at all secondary entrances. It is important not to create entrapment points at secondary entries.

- **Recessed Entries:** Blind spots should be avoided whenever possible. When the configuration of a building demands a blind spot, corners can be tapered by 45 degrees to allow the eye to see around a corner to avoid an ambush situation.

- **Accessibility:** Main entries into the campus and individual buildings are required to be handicapped-accessible. Ramps with proper slopes and handrails are required. Nonslip materials should be used. All travel ways must be wide enough to permit wheelchairs without disrupting pedestrian traffic. ADA standards must be followed for all access control and security systems equipment. Proper ramps and handrails must be used. Any safety hazards must be marked.

- **Building Site**: Consider how the building and its entry points are positioned relative to parking lots, walkways and adjacencies to other facilities.

- **Landscaping**: The concept of "safe landscape" design should be addressed in both objective form and with specific references, including type of plant materials, their placement, density and height. Design standards for landscaping and plant growth should minimize areas of concealing cover for a potential attacker and maximize observation of areas by occupants and passing patrol personnel.

- **Areas of Concealment**: Eliminate publicly accessible interior and exterior areas of concealment. Areas of concealment include building alcoves, areas beneath stairwells, ornamental architectural features and dense shrubbery that could permit concealment.

- **Fencing and Barriers**: Fencing and similar "breachable" barriers (i.e. plant materials) may be used to provide a physical barrier or as mechanism to define and demark limits of exterior space. Exterior fencing, such as ornamental wrought iron fencing, can also be used to channel or direct persons to appropriate walkways or building entry points.

- **Courtyards and Gathering Places:** Formal gathering places should be well-defined. Observation, lighting, accessibility, and safety are all design and management considerations. The basic hardware and furnishings of buildings are merely the stage props for young people to engage in extreme sports. Skateboards, rollerblades and scooters use curbs, planters, railings, stairs and more as their stage to practice. With minor architectural design innovations, the builder can remove the opportunity and ease to engage in such activities.

- **Exterior Circulation:** Exterior circulation paths are as important as interior paths. Paths should be large enough to accommodate large numbers of students, yet comply with the American's With Disabilities Act. Bicycle racks should be placed in a high-visibility area.

- **Covered Circulation:** Covered circulation ways must be designed with care. Blind spots and entrapment points must be minimized. Potential "door in the face"

incidents must be eliminated. Covered corridors should be designed so access to the upper floors of a structure is not possible.

- **Interior Circulation:** Certain functions and spaces require access control by definition, such as the library. However, the strategies being used by courthouses and airports are now being used in some school settings. If screening is required by function or need, special consideration is needed for cueing, staffing, equipment and requirements of package and person screening.

- **Common-Use or Shared Space**: Within a building there are a number of areas that are shared or common spaces that are used by many departments. Lab facilities could require common chemical storage rooms, animal resource areas or glass washing areas. In such cases, these common or shared spaces should be positioned within the structure in a way that provides a common entry, without the need to enter another individually assigned space. For example, to access a common conference room shared among several different departments, the entrant should not be required to enter the space of an adjacent department.

- **Wayfinding**: Wayfinding is an important element of both interior and exterior design. Simply put, it should be easy to locate the structure, the particular entrances to be used (and not used) and the specific destination space within the building. This issue takes on even greater significance when the building to be designed has multiple occupant types (i.e. open to both members of the institutions and the public) or has diverse uses (i.e. offices and classrooms). Wayfinding is a function of proper locating of space and entry features, and visual cues such as symbolic architectural features and directional signage.

- **Signage:** Large legible signs in strong colors with standard symbols should be strategically located along main routes for pedestrians. Signs should indicate where to go for assistance or help, and how to report maintenance or vandalism problems. Signage should be clear, reasonably sized and placed in a way that is easily viewed. Signage must also be properly mounted.

- **Emergency Phones:** Campus emergency telephones should be installed along pedestrian routes, adjacent to major building entries, in parking areas and other locations as determined. Exact locations of emergency phones should be determined with the assistance of the Auraria Police and the AHEC Emergency Preparedness Coordinator.

- **After Hours Operations**: If the building will house offices or spaces with differing operating hours, the design should permit the areas to be independently secured. This objective is not accomplished by locks on office doors; rather it is satisfied by arranging space to permit entire sections of the building to be closed or isolated. For example, in a structure containing offices that close after 5:00PM and classrooms that remain open until 10:00PM, the offices could be located at one end of the building or on a separate floor. The office section of the building could be locked at 5:00PM while the remaining portions of the building remain open. Where a 24hour computer lab is required, the lab could be located on the perimeter of the building, where entry could be achieved directly at grade; and after hours, one or more doors into the lab from remaining portions of the building would lock, thereby allowing the lab to function autonomously. One caution is in order: If a space is to be separated and run autonomously from other parts of the structure, restrooms -- and in some cases, vending areas and other support facilities -- must be essentially duplicated in the section allowed to remain open.

11.4 Target Hardening

Target Hardening is accomplished by features that prohibit entry or access: window locks, dead bolts for doors, interior door hinges.

- **Building Exterior Shape:** The form that the buildings take should be designed to create public urban space [see Section 6], eliminate blind corners, and increase natural surveillance by students and staff. Adequate exterior lighting and the correct building material choices will reduce the opportunity for vandalism. When the buildings themselves become the exterior perimeter, as compared to a fence around the property, then openings between the buildings must be connected and secured.

- **Screen Walls:** Screens provide physical access barriers to windows and walls, and provide privacy where needed. Make sure the barriers do not negatively affect ventilation. Walls should be designed in a way that makes climbing impossible.

- **Walls and Windows:** The characteristics of a wall directly influence the potential for crime. Landscaping along walls should reduce hiding areas, not produce them. Walls located in high-vandalism areas should be constructed of durable materials resistant to graffiti and vandalism. Using plant material on the wall can deny the vandal a surface to deface. This strategy is referred to as a "living wall." The architectural choices for finishes must reduce the potential for acts of vandalism.

- **Windows Design:** Groupings of smaller windows function as a large window but increase security, while still providing ventilation and natural lighting. The smaller size makes it difficult to crawl through or remove property. The goal for the architect in designing classrooms and certain spaces is to provide natural light, natural ventilation, to shield occupants' privacy, and to deny intruders easy entry. Exterior windows on classroom buildings, labs or libraries must be secure from outside intrusion.

- **Door Security:** Any door is a critical point of access. Lighting, signage, hardware and observation are all key elements in providing proper security. Doors should be checked to ensure that they function well to provide the appropriate security. Case-hardened dead bolt locks should be installed on all exterior doors with a minimum of one-inch throw. Door hinges should be located on the interior side of the door or tamper-proof hinges should be used. All exterior doors should be available for immediate lockdown, potentially through a remote locking system. Signage on doors is important to let people know whether the doors are for entrance or for solely for exiting.

- **Unintended Access:** Avoid designing structures which can be used to gain access to roof tops of nearby buildings. Ensure that skylights or roof doorways cannot be accessed from the outside. Special access areas require careful attention to detail. Roof access needs to be secure, but located in areas that

permit quick and effortless access for maintenance staff. Areas such as electrical or mechanical rooms should be located so that security is not compromised.

- **Surveillance Cameras:** CCTV can be placed strategically at entrances, exits, hallways, stairwells and exterior doors. Cameras should operate continuously and their videotapes analyzed and archived. Cameras should be able to record images during low light and nighttime surveillance. If cameras are used footage should be recorded to a digital video recording device that can store up to 30 days of footage and can be transferable in a one step process to DVD.

- **Duress Alarms:** Duress alarms provide security in isolated areas. They should be located in areas such as restrooms and locker rooms. Duress alarm systems should be integrated with other security systems.

- **Communication Systems:** Communication systems must be integrated within the design of the facility and with other systems such as fire and duress alarms and CCTV systems. Periphery observation and security checkpoints should have clear and secure lines of communication to main administrative areas. It is important to secure and regularly check expensive or critically-important equipment such as computers. A comprehensive communications system is essential to call attention to, monitor, and manage emergency situations.

11.5 Maintenance

The "Broken Window Theory" suggests that one "broken window" or nuisance, if allowed to exist, will lead to others and ultimately to the decline of an entire neighborhood. Neglected and poorly maintained properties are breeding grounds for criminal activity.

- **Maintenance:** Avoid high maintenance landscaping and buildings that can quickly deteriorate through vandalism and graffiti.

- **Information:** Place clear signs informing users to report damage. Graffiti should be removed promptly.

- **Vandalism:** In public areas, avoid using materials prone to vandalism such as 'flat' or porous wall finishes. They are readily stained by graffiti dyes and are difficult to maintain. Materials such as wear-resistant laminates, impervious glazed ceramics, treated masonry products and stainless steel are superior alternatives. Lightweight and brittle fencing screens should be avoided, as should cheap lights. 'Vandal-proof' products are more economical in the longer term. Sponsored wall murals can also be effective in deterring graffiti and vandalism.

- **Immediate Repair:** Immediately repaired and cleaned vandalism presents the appearance of a secure and friendly environment. Individuals will greatly respect and contribute to the upkeep of a community if it already has a pleasant appearance.

11.6 Specific Areas of Concern

Specific security provisions should be developed and specified for certain areas. These areas should be the subject of specific focus since the strategies for protection are fairly well-established among crime prevention practitioners. The list below is indicative of some of the more common areas found in a campus environment:

- Parking Lots
- Bicycle Parking
- Building Lobby Space
- Elevators
- Stairs Systems
- Vending Areas
- Building Restrooms
- High Risk Classrooms (with significant AV Support)
- Computer Labs
- AV Storage Spaces
- Retail Space
- Cash Handling Areas
- Precious Metal Storage
- Chemical Storage
- Music Practice Rooms and Similar Small Private Instructional Spaces
- Laundry Rooms
- Study Rooms

11.7 Parking Garages

Studies show that in both urban and suburban environment, parking structures are the most problematic. These structures isolate people. Most garages are not only badly designed - with many blind spots and hiding areas - but badly maintained as well. With the simple addition of well-designed lighting, for example, a garage can quickly become a much safer place.
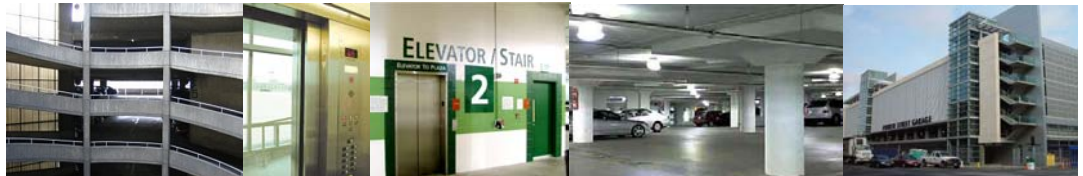
1. Natural Access Control

- Garages may be attended or monitored openly with cameras and sound monitors indicated with signs.
- Pedestrian entrances should be adjacent to vehicular entrances.
- Stairwells should be visible and constructed without solid walls.
- Elevators should be close to the main entrance with the entire interior of the elevator in view when the doors are open.
- The ground floor should be designed to provide line-of-sight access into and egress out of the garage.
- Access should be limited to no more than two designated, monitored entrances.

2. Natural Surveillance

- Elevators should be designed either so that their passengers are clearly visible to people outside or so that they are clearly visible or audible to security staff via television or sound monitoring equipment.
- Parking areas and driving lanes should be well lit.

3. Territorial Reinforcement

- There should be no free access from parking garages to adjacent buildings without direct monitoring.
- Public and private parking spaces should be designated.
- Hours of use should reflect those of the campus, with a way to securely close the garage during non-use hours.

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Section 12: Design Review Process

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12.0 Introduction

Design guidelines alone are not sufficient to ensure future development is compatible with the Auraria Campus' overall design. The Auraria Architectural Review Board (AARB) has been set up to review plans for the campus to ensure that they are in compliance with the Auraria Campus Design Guidelines. The AARB is an advisory body to the Auraria Executives Council (AEC) and the Master Plan Subcommittee of the Auraria Board.

The AARB has the authority to facilitate, interpret, negotiate and adapt these design guidelines to the specific needs and programs of the institutions and the specific building programs.

It is recognized that the Master Plan, design guidelines, and institutional neighborhood plans are periodically updated and informed by the design review process. As such, project specific design reviews will be influenced by potential changes.

The AARB process is meant to assist the design team in their design process and approval of plans for any specific site where development is being considered. They also are charged with reviewing the overall campus master plans as well as institution specific neighborhood plans to ensure their compliance with the Auraria Campus Design Guidelines. It is important to note the AARB is not charged with designing the project. Instead, the AARB reviews ideas, reviews options, provides comments, suggestions, identifies concerns, and reviews the design team's responses.

12.1 Membership of the Auraria Architectural Review Board (AARB)

The AARB serves in an advisory capacity and shall consist of the following members:

- Four architects, landscape architects or planners from the Denver community to be appointed by the Auraria Executive Vice President for Administration (EVPA);
- Two representatives from each of the constituent institutions, as appointed by the presidents and chancellor of the institutions – Community College of Denver, Metropolitan State College of Denver and the University of Colorado Denver;
- Campus Planner for the Auraria Higher Education Center;
- Auraria Executive Vice President for Administration; and
- Other members as appointed by the Auraria Executive Vice President for Administration.

The AARB generally meets either bi-monthly or monthly as needed.

The AARB shall be self governing with a chair elected from amongst the members.

It is the responsibility of institutional representatives to report back to members of their institutions on AARB meeting discussion and outcomes.

It is the responsibility of the AHEC EVPA to report to the Auraria Higher Education Center Board of Directors on AARB meeting discussion and outcomes.

When AARB members are involved in a project undergoing design review, they shall recuse themselves from any discussion and recommendations on the project.

12.2 Projects Subject to Review

1. All new and exterior remodel projects on the campus shall be subject to review through the AARB process as well as review by the Planning and Development Department as well as the Facilities Management Department of the Auraria Higher Education Center.
2. This review process does not apply to internal remodels – unless the primary use of the building is changing in such a manner that it impacts: exterior materials, building entrances (by moving or having them redone), exterior enclosure changes are proposed that impact transparency or inside/outside relationships, or an addition is planned.
3. All new and updated institutional neighborhood plans shall be subject to design review as well as review by the institutions and the Planning and Development Department as well as the Facilities Management Department of the Auraria Higher Education Center.
4. All updates to the Auraria Campus Master Plan shall be subject to design review.
5. For institutional neighborhood plans and buildings, institutional review shall happen prior to plans being reviewed as discussed in Sections C and D. However, institutions should not approve institution specific plans until they have been reviewed through the process outlined below.

12.3 Coordination with Auraria Higher Education Center (AHEC)

On projects being built by a specific institution, the project team must include a representative from the AHEC Facilities Management Division as well as a representative from the AHEC Planning and Development Department. This coordination is necessary to ensure compliance with the overall Auraria Campus Master Plan, campus infrastructure and building systems.

12.4 Design Review Process – New Buildings or Facilities[1] / Major Exterior Renovations

1. The submittal of plans and securing of the recommendations pertains to all exterior components of the building architecture and site development including, but not limited to:
    a. General campus character;
    b. Building siting, massing, expansions, materials selection, site improvements and architectural character;

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[1] The term 'facilities' is meant to include public urban space, athletic/recreation fields and parking.

c. Campus landscaping, plant selection and location;
d. Vehicular circulation routes, patterns, parking locations and amount of parking (if provided), service and delivery areas;
e. Pedestrian circulation routes and site furnishings;
f. Lighting and signage design, location and quantity;
g. General campus infrastructure systems.

2. Documents shall be submitted to the Auraria Campus Planning & Development Department two weeks prior to a scheduled meeting. Consultants should submit 2 hard copies of the required documentation, as well as an electronic copy of the materials. Materials shall be sized 11x17 unless otherwise requested. Materials used during the design review meetings are at the discretion of the project team, but boards and electronic presentations are encouraged.

3. For campus projects proposing new buildings or major exterior renovations, review typically occurs at the four phases of design: pre-design, concept, schematic design and design development unless otherwise determined by the AHEC Executive Vice President for Administration in consultation with the AARB (this will generally occur at the request of a specific project). The four steps are described below.

4. All drawings submitted for review shall be dated, show scale and orientation of the drawing. All sheets shall carry the title of the project and the Architects'/Consultants' names and contact information. The AARB may require additional information or studies other than what is listed below depending on the nature of the project, or may waive certain requirements based on a discussion of the project at the pre-design phase.

    a. Step 1: Pre-Design
        The pre-design phase is intended to be an informal discussion between members of the AARB, the institutional representatives and the consultant to review the intent of the project/program, identify the problem the project is attempting to solve, and identify any issues, concerns and challenges. The meeting is also an opportunity for the institutional representatives and Auraria to outline their vision, goals, and expectations for the project. This is an opportunity for all participants to discuss, understand, or clarify the purpose and intent of the project. The team should also be prepared to discuss the design guidelines and how they relate to the specific project/program.

        Presentation materials are at the discretion of the project team; however, drawings, site photographs and analysis, influences outside of the project's boundaries and other contextual information should be provided so the AARB can understand the building program, site location and extent of the project. It should identify all factors that will influence the planning and design, including access to and organization of the site, building, and other important elements. The team should also be prepared to discuss how this building implements the overall Auraria Campus Master Plan as well as its relation to institutional neighborhood plans, if applicable.

        Within two weeks following the presentation, a summary of the comments, concerns and questions raised by the AARB will be sent to the consultant

team. The AHEC Planning Department will prepare a draft for review and comment by AARB members prior to distribution.

b. Step 2: Conceptual Design
The review of the conceptual design will be concerned with the overall development of the site plan in the context of the existing campus.   This presentation should focus on the building and site development planning, architectural character, and relationships to surrounding buildings/spaces. Submittal requirements for this step include:

- A Micro-Master Plan (MMP), at a scale not smaller than 1"=50", which is an urban design study of the project in the context of the campus. At a minimum the limits of the MMP are to include a study of the spaces and structures surrounding the site indicating:
  1. Access (public, staff, service, other)
  2. Adjacent buildings
  3. Proposed and future building(s) location and build-out phasing scenarios; indicate dimensions and setbacks
  4. Conceptual grading plan (if grade is a concern with the site location)
  5. Drives, parking locations (if provided) and sidewalks
  6. Zones for potential building expansions (if possible and/or anticipated)
  7. Truck loading and service vehicle docks and access routes
  8. Emergency vehicle and Fire Department access routes
  9. Amount and location of parking (if provided)
- Brief narrative statement of the project's intent, anticipated schedule and general programmatic requirements.
- General landscape concept with existing significant vegetation and site features;
- Stacking diagrams;
- Conceptual elevation studies indicating general architectural character;
- Massing model;
- Building and site materials under consideration;
- Proposed water detention/water quality solutions and locations;
- Discuss the relationship of the development to surrounding buildings and the community context.

Within two weeks following the presentation, a summary of the comments, concerns and questions raised by the AARB will be sent to the consultant team. The AHEC Planning Department will prepare a draft for review and comment by AARB members prior to distribution.

If major questions, concerns and/or revisions need to be made as a result of comments during the meeting, the applicant shall make the appropriate revisions and make a follow up presentation at the next AARB meeting. If needed, a special meeting of the AARB may be called if necessary to keep

the project on schedule. This special meeting must be requested by the applicant through the AHEC Planning and Development Department.

c. Step 3: Schematic Design
This step consists of a review meeting with the AARB that continues to address building and site development planning, architectural character, relationships to surrounding context and other specific site parameters. During Schematic Design, the consultant team shall present to the AARB showing how the elements presented at the conceptual stage were changed and/or furthered. This presentation should also include a further review of the MMP for the site development placed in context of the campus and Master Plan. Additionally, the team should respond to any questions and concerns raised in the previous meeting with the AARB. Submittal requirements for this step include:
- Micro-Master Plan – indicating all of the elements requested during the Conceptual Design phase;
- Site plan;
- Building floor plans;
- Building elevations (all sides);
- Approximate finished floor elevations
- Building and site materials including color samples;
- Sections (at a scale not smaller than 1"=20');
- Massing model;
- Exterior architectural details;
- Landscape plan (including type, size and location of existing plant material to be retained and proposed plant material);
- Amount and location of all site furnishings such as bicycle racks, benches, trash receptacles, signs, flag poles, etc.

Within two weeks following the presentation, a summary of the comments, concerns and questions raised by the AARB will be sent to the consultant team. The AHEC Planning Department will prepare a draft for review and comment by AARB members prior to distribution.

If major questions, concerns and/or revisions need to be made as a result of comments during the meeting, the applicant shall make the appropriate revisions and make a follow up presentation at the next AARB meeting. If needed, a special meeting of the AARB may be called if necessary to keep the project on schedule. This special meeting must be requested by the applicant through the AHEC Planning and Development Department.

d. Step 4: Design Development
The final step in the review process will be a presentation that addresses the intent of all architectural and structural design, site work and landscape, including materials and finishes.
Submittal requirements for this step include:
- Revised MMP incorporating the AARB's schematic design comments;
- Phasing plan;

- Site plan and sections;
- Grading and drainage plan;
- Building floor plans;
- Building elevations (all sides);
- Roof plan showing all visible roof equipment such as mechanical and satellite dishes;
- Architectural details;
- Landscape plan;
- Site furnishings package and location plan;
- Signage plan with details, if applicable;
- Building and site materials with color samples.

If major questions, concerns and/or revisions need to be made as a result of comments during the meeting, the applicant shall make the appropriate revisions and make a follow up presentation at the next AARB meeting. If needed, a special meeting of the AARB may be called if necessary to keep the project on schedule. This special meeting must be requested by the applicant through the AHEC Planning and Development Department.

4. The AARB shall make recommendations to the Master Plan Subcommittee of the Auraria Board following their review of the Schematic Design phase as to whether the project meets the goals of the Auraria Campus Design Guidelines and if it should move forward to the next stage of design.
5. The Master Plan Subcommittee shall review plans at the Schematic Design phase to determine that the design and siting meet the tenants of the Auraria Campus Master Plan. The applicant shall make a presentation to the subcommittee, and staff shall explain the recommendation of the AARB. The Master Plan Subcommittee shall forward a recommendation to the Auraria Board of Directors.
6. The Auraria Executives Committee (AEC) will be informed of project status and presented the overall design concepts by staff following the Master Plan Subcommittee review of the Schematic Design phase.
7. The Auraria Board of Directors shall review projects following the review of the Master Plan Subcommittee at the Schematic Design phase.
8. Following completion of the Design Development phase, a final presentation shall be made by the applicant to inform the Auraria Board of Directors on project status and final design.

12.5 Design Review Process – Auraria Campus Master Plan / Institutional Neighborhood Plans

1. Campus master plans and institutional neighborhood plans, and any associated updates or amendments, need to reviewed by the AARB.
2. An initial meeting should be held with the AARB, institution and consultant team to discuss the project scope, issues to be addressed and goals of the plan.
3. The consultant team shall work with the institution in preparing the plan, and shall make periodic presentations on the status of the plan to the AARB to receive feedback.

4. A final draft of the master plan, neighborhood plan or associated updates/amendments shall be presented to the AARB for review and recommendation prior to the plan being adopted by the institution's governing board.
5. The AARB shall make a recommendation to approve, approve with conditions or deny the campus master plan or institutional neighborhood plan to the Master Plan Subcommittee of the Auraria Board.
6. The Master Plan Subcommittee shall review campus master plans and institutional neighborhood plans upon receipt of a recommendation by the AARB. The Master Plan Subcommittee shall forward a recommendation to the Auraria Board of Directors.
7. The Auraria Executives Committee (AEC) will be informed of project status and presented the overall plan concepts by staff following the Master Plan Subcommittee review.
8. The final campus master plan or institutional neighborhood plan shall be presented to the Auraria Board of Directors for final approval following the Master Plan Subcommittee's recommendation.

12.6 Permitting

The campus will use a designated Campus Building Official or an outside code compliance officer to review plans for new construction or demolition against the State Building Code.

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12.7 Design Review Process Diagram

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Instituitional Review

For institutional neighborhood plans and buildings, institutional review shall happen prior to plans being forwarded to the AARB

Institutions should not approve institution specific plans until they have been reviewed by the AARB and Master Plan Subcommittee

Auraria Architectural Review Board (AARB)

Reviews amendments/updates to Auraria Campus Master Plan

Reviews neighborhood plans for consistency with Auraria Campus Master Plan

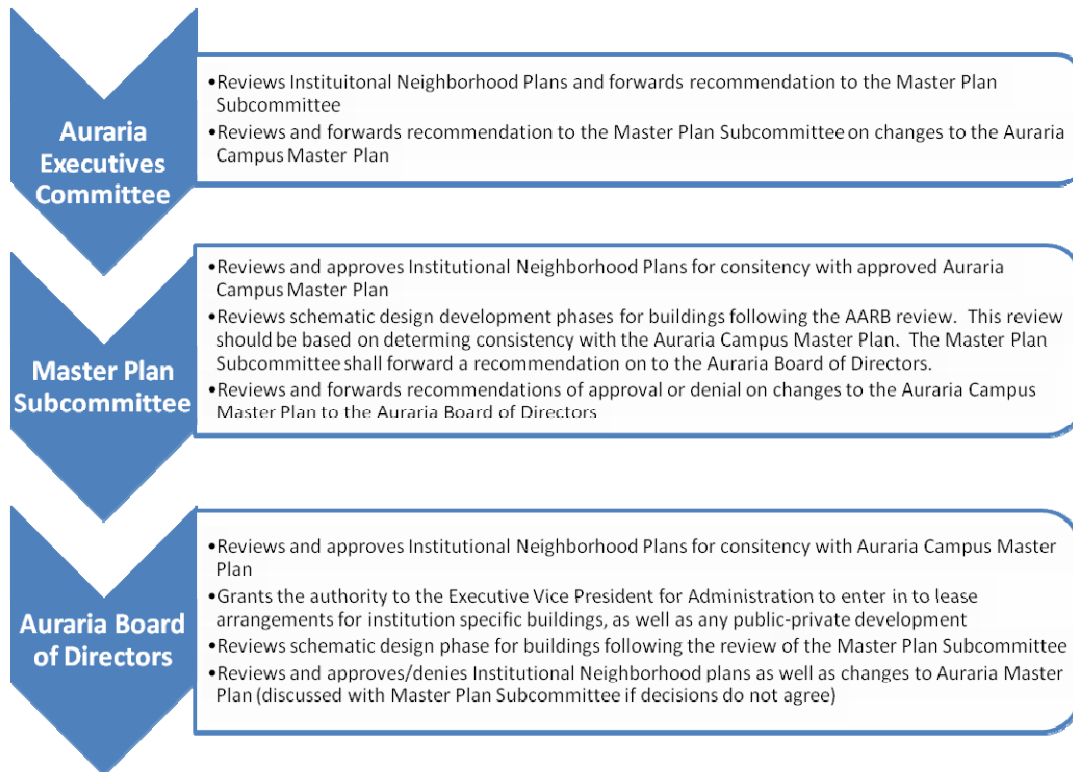Reviews plans for buildings at the following stages: (1) pre-design, (2) conceptual design, (3) schematic design and (4) design development

Prepares a recommendation on the design to the Master Plan Subcommittee after revewing the schemdatic design phase

Auraria Executives Committee
- Reviews Instituitonal Neighborhood Plans and forwards recommendation to the Master Plan Subcommittee
- Reviews and forwards recommendation to the Master Plan Subcommittee on changes to the Auraria Campus Master Plan

Master Plan Subcommittee
- Reviews and approves Institutional Neighborhood Plans for consitency with approved Auraria Campus Master Plan
- Reviews schematic design development phases for buildings following the AARB review. This review should be based on determing consistency with the Auraria Campus Master Plan. The Master Plan Subcommittee shall forward a recommendation on to the Auraria Board of Directors.
- Reviews and forwards recommendations of approval or denial on changes to the Auraria Campus Master Plan to the Auraria Board of Directors

Auraria Board of Directors
- Reviews and approves Institutional Neighborhood Plans for consitency with Auraria Campus Master Plan
- Grants the authority to the Executive Vice President for Administration to enter in to lease arrangements for institution specific buildings, as well as any public-private development
- Reviews schematic design phase for buildings following the review of the Master Plan Subcommittee
- Reviews and approves/denies Institutional Neighborhood plans as well as changes to Auraria Master Plan (discussed with Master Plan Subcommittee if decisions do not agree)

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12.8 Amendments to the Design Guidelines
The Auraria Campus Design Guidelines will be periodically reviewed and updated to
ensure their consistency with the evolving Auraria Campus Master Plan and institutional
neighborhood plans. Should a specific section or component of the design guidelines need
amending, a determination will be made by the applicant and representative of the Auraria
Campus Planning and Development Department as to whether the request is a minor or
major amendment. Minor amendments are for things such as providing clarity to a section
of the design guidelines, correcting typographical errors, changing out representative
images in the document, and updating the site furnishing section if the campus makes a
change to a listed standard fixture/element. All other changes are considered major
amendments.

Requests for changes to the design guidelines document can be made by members of the
AARB, a representative of one of the institutions on the Auraria Campus, or an
architect/landscape architect/planner/engineer that is working on a project at the Auraria
Campus.

Minor Amendment Process
Step 1: Submit a written request to the Auraria Higher Education Center Planning and
Development Department outlining the requested amendment, why it is needed and impact
of the amendment. The Planning Department will review the request and work with the
requestor on any questions.

Step 2: The amendment will be submitted to the AARB for review and discussion. The
person/group making the request should be present at the meeting to explain the reason
for the amendment. The AARB will determine if the requested amendment meets the
intent of the design guidelines and is indeed a minor amendment.

Step 3: If the requested amendment is approved, the Auraria Higher Education Center
Planning and Development Department will make the required changes to the design
guidelines document and distribute as necessary, with a new date noting when the change
was approved.

Major Amendment Process
Step 1: Submit a written request to the Auraria Higher Education Center Planning and
Development Department outlining the requested amendment, why it is needed and impact
of the amendment. The Planning Department will review the request and work with the
requestor on any questions.

Step 2: The amendment will be submitted to the AARB for review and discussion. The
person/group making the request should be present at the meeting to explain the reason
for the amendment. The AARB will then make a recommendation on the amendment to
the Master Plan and Facilities Subcommittee of the Auraria Board.

Step 3: The Master Plan and Facilities Subcommittee will review the recommendation from
the AARB on the requested amendment to the Auraria Campus Design Guidelines. The
person/group making the request shall make a presentation outlining the requested
amendment. The Subcommittee will issue a recommendation of approval, approval with
changes or denial on the proposed amendment.

Step 4: If the requested amendment is approved, the Auraria Higher Education Center
Planning and Development Department will make the required changes to the design
guidelines document and distribute as necessary, with a new date noting when the change
was approved.