A PROPOSED INDOOR ARENA COMPLEX FOR NORTH CAROLINA STATE UNIVERSITY

FIFTH YEAR FINAL PROJECT DESIGN RESEARCH - 1983

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I. GENERAL PROJECT INTENT AND PROPOSED ACTIVITIES

It is proposed that a new 18,000 seat indoor arena complex be built on the NCSU campus (See accompanying site plan for location) and that the existing Reynold's Coliseum be removed. The new complex shall be a prominent symbol of the university to both the public and the campus community. It shall be an integral part of the Student Plaza, reinforcing this symbolic "student place".

Proposed activities to be accomodated by the complex include:

1. Basketball Related Activities
   a. Men's basketball games
   b. Women's basketball games
   c. Boys' summer basketball camp
   d. Girls' summer basketball camp
2. Other Athletic Events
   a. Wrestling
   b. Volleyball
3. Concerts
   a. Friends of the College Concert Series
   b. Annual Christmas Concert
   c. Concerts via the Entertainment Board of Student Government
4. Special Events
   a. Registration/Change Day
   b. Parents' Day
   c. Graduation

NOTE: The ROTC program, Traffic Records, and basketball offices will not be housed in this building.

Considerations such as acoustics, sight lines, accessibility, seating capacity and configuration, climatic control systems and illumination must be conducive to the various events. The process of entering and leaving the complex should contribute to the success and enhancement of the activities.

II. USER GROUPS AND SPECIAL NEEDS

"The new complex shall be a prominent symbol of the university to both the public and the campus community." From this original statement of intent it is noted that there is a distinction between the symbolic nature of the building and its impact on the public users and the campus users.

First, public users can be divided into those who "see" the building via television, newspapers, magazines, or radio, and those who are actually present during an event.

Of the four activity groups previously mentioned, men's basketball and occasionally women's basketball games will be witnessed by the largest public not actually present in the building, while all the other events must be seen at the arena. However, even during basketball games a distinction among the public exists. There are Wolfpack Club members, their guests, dignitaries, as well as a limited number of individuals who might purchase single game tickets not more than once a season. For some games, fans from the visiting schools will also be present.

With the many varied users involved in a basketball game setting, the demands of a successful "production" become very diverse. From the time one enters the site, to entering the building, to getting to a seat, to buying souvenirs and concessions, to reading the scoreboard, to seeing the school colors, hearing the fight song, and otherwise becoming a part of the total experience, to the time the buzzer signals the end of the game, to you leave your seat, leave the building, leave the site, and finally enter your car, the architecture must take this very intricate process into account and promote, enhance, and reinforce the aura that is collegiate basketball.

During the summer, boys and girls from 7-15 will use the sports arena for the coaches' basketball camps. These usually last 2 - 3 days at a time. The youth are always under supervision while in the sports arena. A maximum number of temporary basketball goals are to be provided. The youth will use the men's and women's dressing facilities.

Wrestling and volleyball events usually attract a limited number of spectators. Usually they are scheduled after basketball games while the building is already open and extra maintenance is minimal. The playing area is more than adequately accomodated within the boundaries of the basketball court. No additional dressing/shower areas are required.

Friends of the College Series uses the building approximately seven times a year. The atmosphere for these performances are generally dignified, subdued and restrained. These qualities are seen as more of a contrast to the spirit of athletic games than as a fully qualitative description of this series. The Christmas Concert is of a similar nature. A central stage area is required.

The Student Government Entertainment Board Concerts usually show to near capacity crowds and the atmosphere is often one of ordered chaos. During these performances the greatest chance of property damage is likely to occur. Appropriate supervision is required. A central stage area is required.

The Registration and Change Day procedure occurs once each semester. The complex should provide enough space for the orderly and expedient processing of the approximately 20,000 students at NCSU.

Parents' Day happens once a year. Obviously the parents or family of students will be present. Seating should orient itself to a central stage

area. Probably only about half full capacity is expected.

Graduation Day marks the climax to the academic quest. The ceremony will long be remembered and the building should reinforce this very special time. The building will be near full capacity. A central stage area is utilized.

In all of the above activities the principal public was identified. The student is also involved in each activity to some degree. Students, as well as professors and other university employees share a special attitude toward the university apart from that of the public at large. It is this sense of loyalty, respect and devoted association that the building should address itself at the campus community level. Also, as part of the campus and daily experience of this user group, the complex should enhance the environment being easily accessible and not impeding adjacent pedestrian circulation which should be orderly, clean and pleasant.

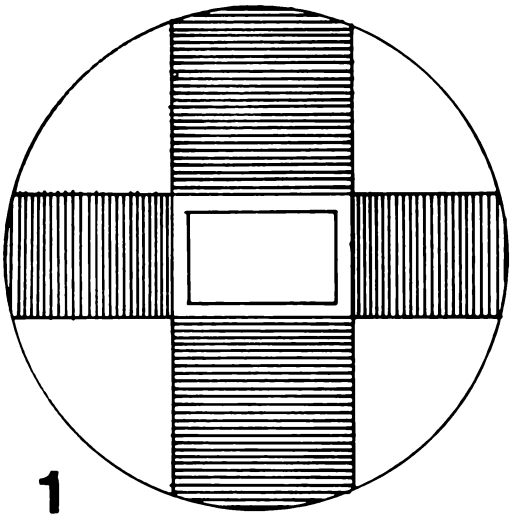
The campus context is a determining factor in building form, massing, orientation, scale and choice of materials.

III. PRECEDENTS: SEATING CONFIGERATIONS

DIAGRAM	ADVANTAGES	DISADVANTAGES
1	simple, economical	field of vision worsens if event is not perpendicular to seat (picket fence effect)
2	field of view improves as seats curve around corners with sight lines closer to center of playing floor	more involved to construct
3	least costly, full perimiter seating configeration, corner seats moderate to good field of vision	
4	high density, good views	problem in maintaining proper seating elevations at bulkhead
5	best adaption for a curved row configeration, works well in a circular exterior wall which lends itself to the economy of a cable suspended roof structure	

NOTE: A CENTRAL STAGE AREA MUST BE UTILIZED DURING CERTAIN ACTIVITIES AS SPECIFIED IN THE PROGRAM.

SEATING CONFIGERATION TYPES



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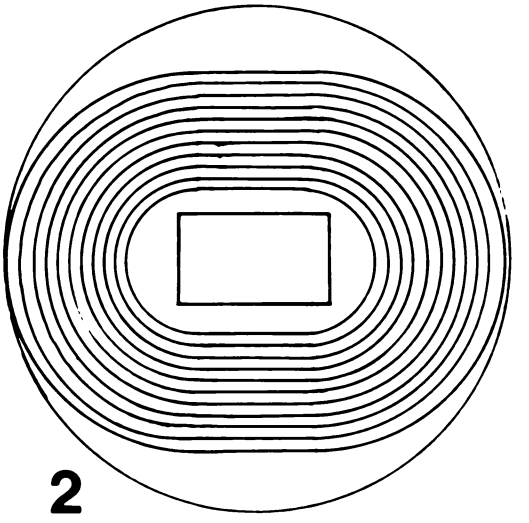

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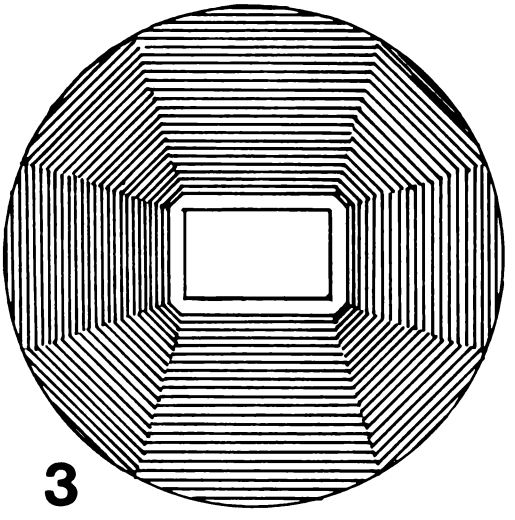

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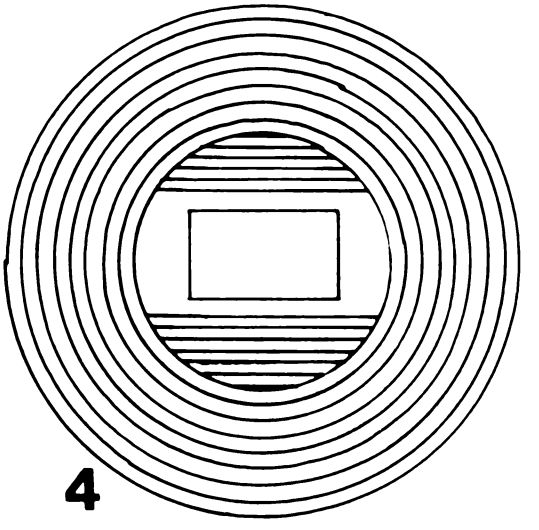

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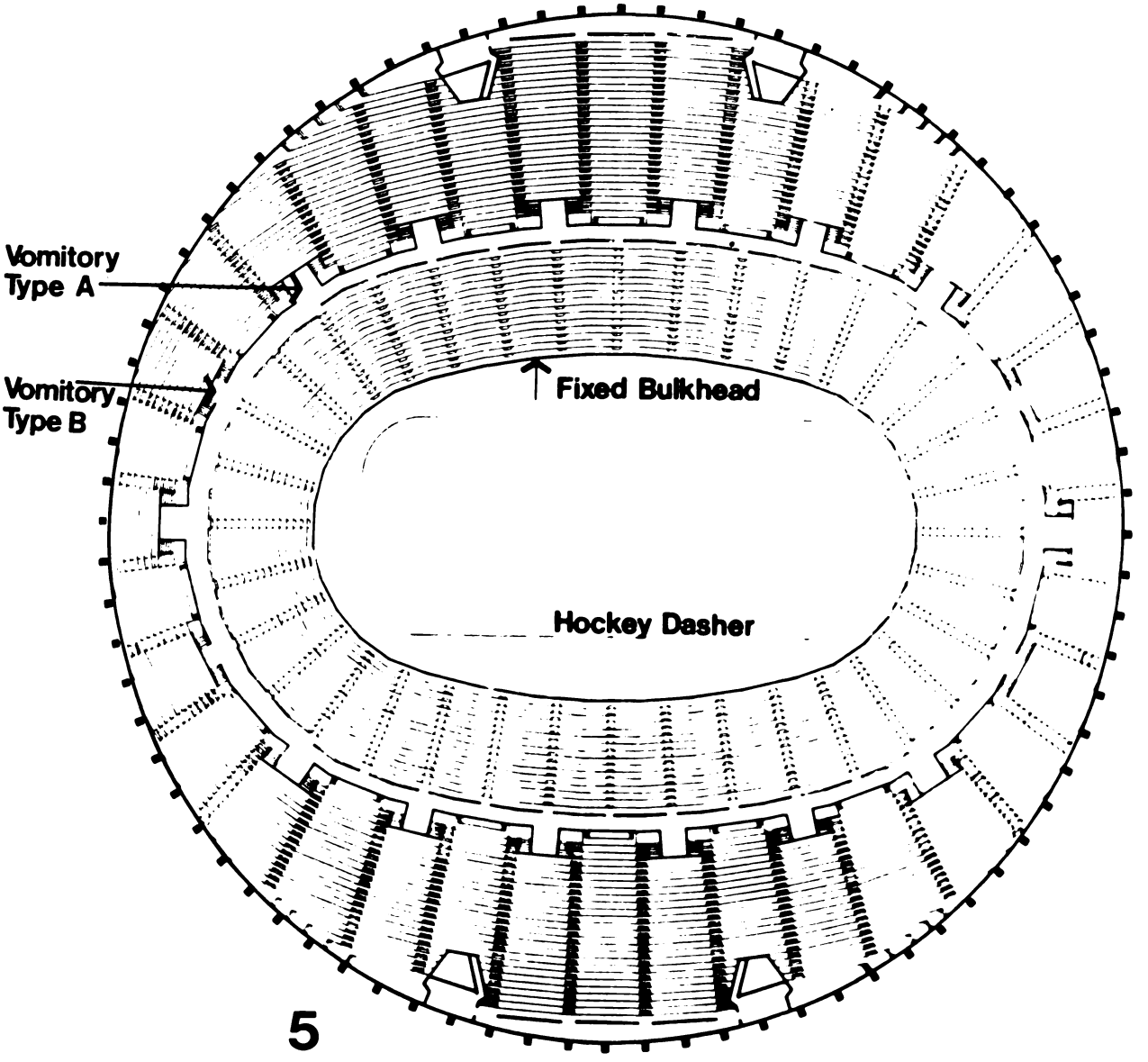

Vomitory
Type A
Vomitory
Type B
Fixed Bulkhead
Hockey Dasher

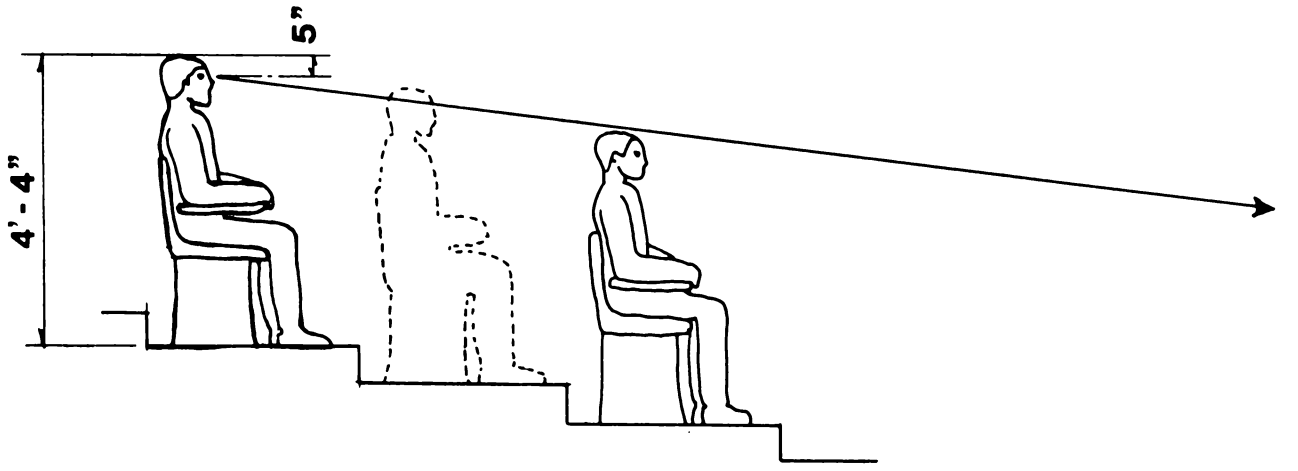
5

IV. ESTABLISHED DESIGN CRITERIA/NC BUILDING CODE REQUIREMENTS

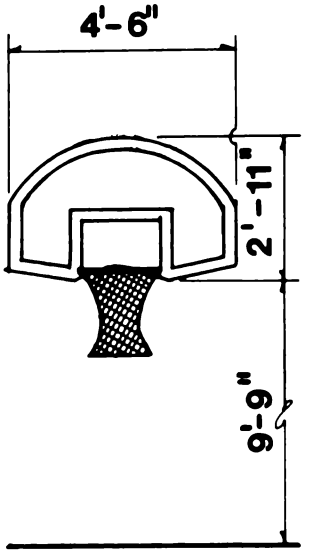
The building must meet NC State Biulding Code requirements, including handicapped accessibility. These requirements will govern all other general acceptance standards.

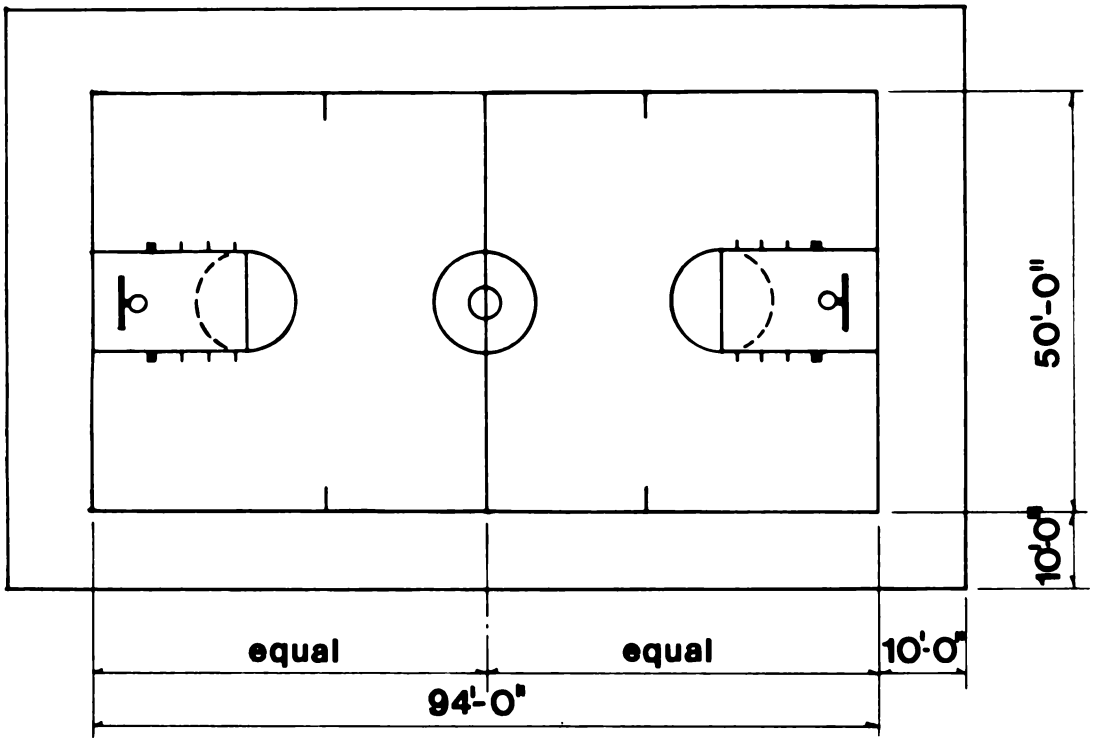
ACCEPTED STANDARDS

1. The limitations of normal visual acuity makes any seating over 200 feet from center of action increasingly margainal.
2. Clear sight lines should fall 3' 6" above the basketball court nearest the spectator. It is assumed view will be between heads of persons one row in front and over the heads of those two rows in front.
3. Tread width of rows should vary between 36" on lower, shallow sloped tiers to 32" on higher seats.
4. Recommended aisle width is 3' 0" at every 14 to 15 seats. Where seating sections abut a wall or railing, the dead-end distance should not exceed seven seats.
5. Crossovers of 4' 0" to 6' 0" (depending on spacing of vomitories) will run parallel to the seating rows.
6. A clear opening of 10' 0" by 14' 0" high will be provided at one end of the playing floor for access of large trucks.

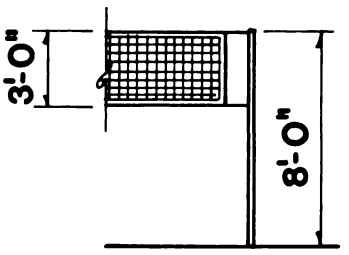


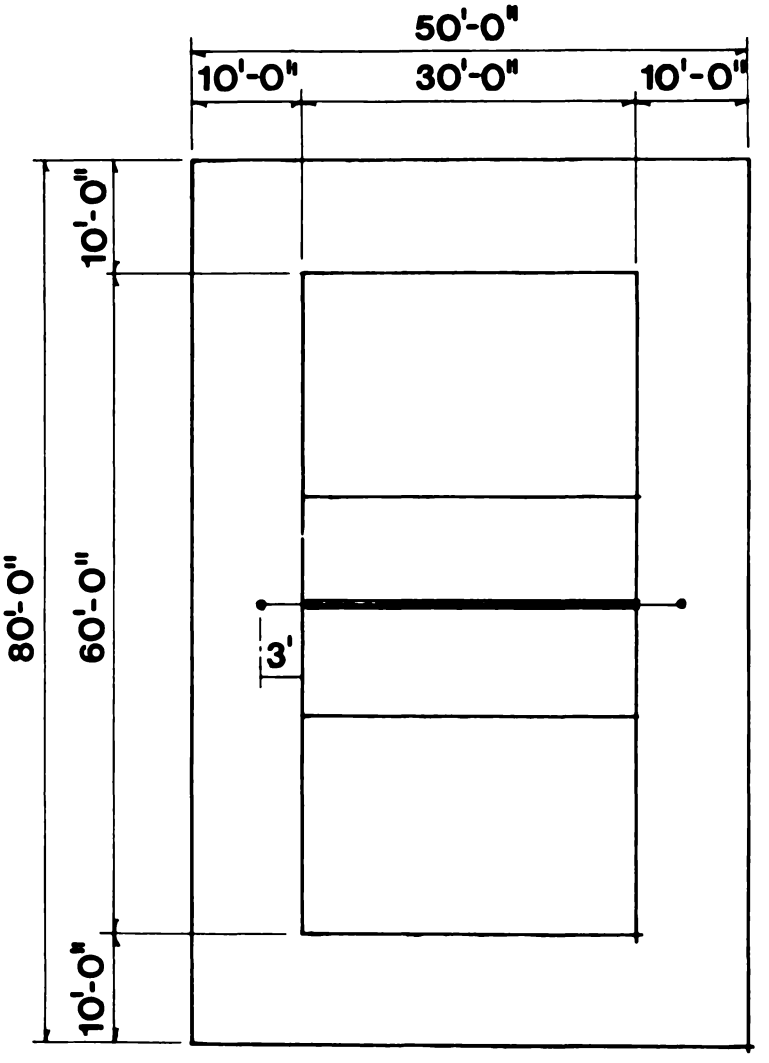
BASKETBALL



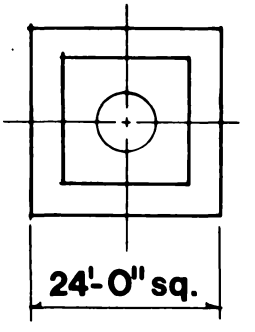


VOLLYEYBALL





WRESTLING



V. SPACE ALLOTMENTS

Space Designations	Area (Sq. Ft)
18,000 seats @ 6 sq. ft each	108,000
Play floor surface	16,000
Lobby	16,000
Concession stands	2,500
Public toilets	4,800
Home team lockers/toilets	4,300
Visiting team lockers/toilets	2,100
Men training/exercise	500
Women training/exercise	300
Dressing/interview room/coaches lounge	1,200
Press work area	600
Darkroom	150
Men employee toilet/lockers	1,200
Women employee toilet/lockers	700
Men concession toilet/lockers	350
Women concession toilet/lockers	350
Truck dock	4,500
Receiving area	1,300
Storage bulk	8,800
Storage - concessions/vendors	6,000
Storage - temporary seating	6,000

Space Designations	Area (Sq. Ft)
Ice machine	250
Ticketing facilities	1,000
Administrative offices	1,200
Pay telephones - 10 booths	100
Total estimated gross square footage	188,200

VI. BUILDING SUPPORT SERVICES/UTILITIES

Appropriate connection and provisions are to be made for new water lines, sewage lines and storm drainage. A grading and erosion control plan should be provided.

Telephone and electrical utilities are to be designated. Type of heating-HVAC system to be designated and passive solar considerations are encouraged.

VII. SITE CONDITIONS/CONSTRAINTS

(See attached site plan for existing conditions.)

Provide access to existing parking deck. Access should be well lighted, safe and secure.

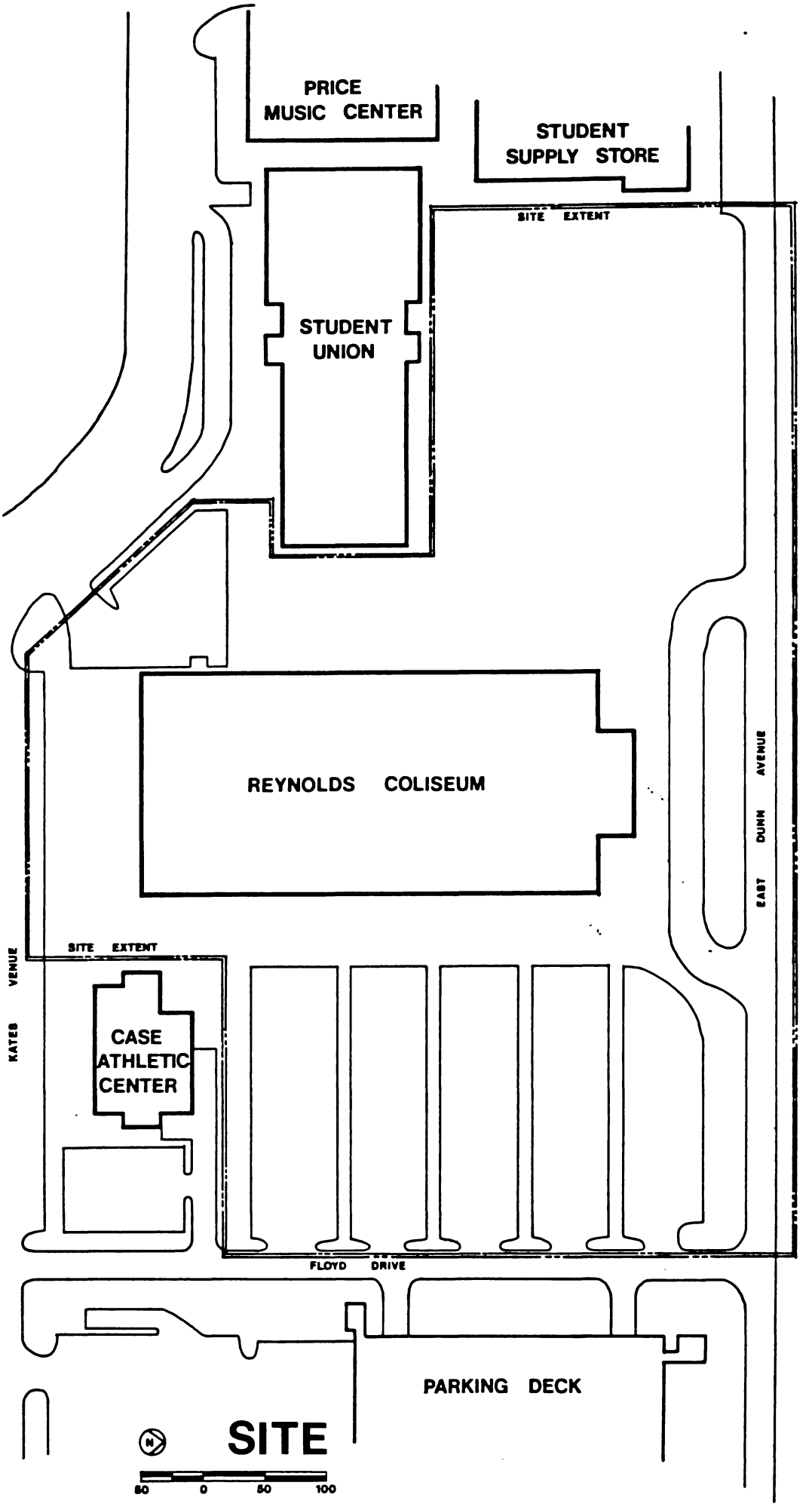
Vehicular circulation to the site, if provided, should not conflict or hinder existing circulation pattern. Altering surrounding vehicular circulation routes is permitted but must be justifiable.

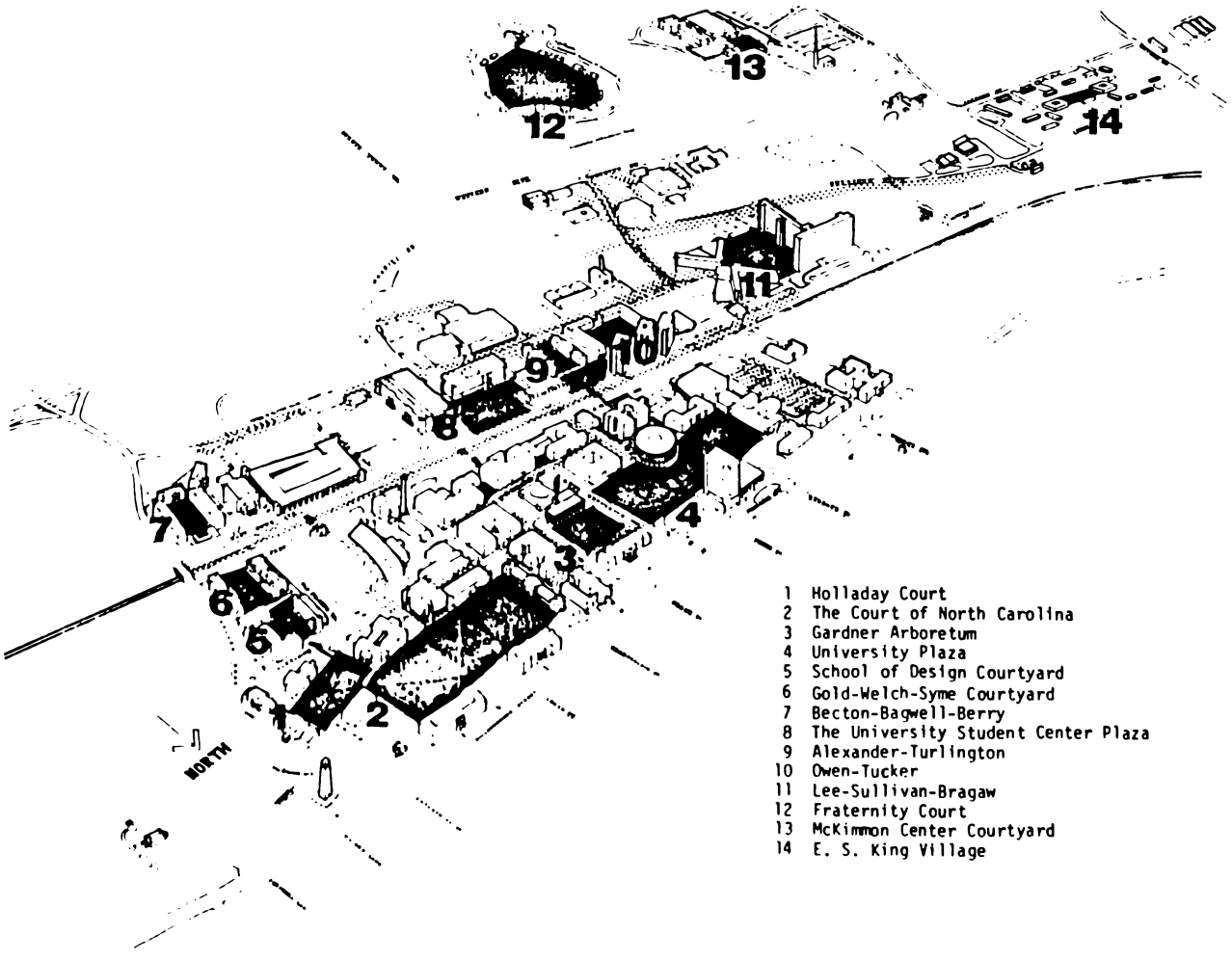
Campus pedestrian circulation patterns should be accomodated as well.

The close proximity of the railroad has visual and sound implications that should be accounted for in all aspects of the project.

In fulfilling the original intent that the complex shall be "an integral part of the Student Plaza, reinforcing this symbolic 'student place'," the building's exterior space should come into play with the larger scheme already working with the Student Union, Student Supply Store and the Student Plaza. Adjustments may be made to the Plaza as deemed appropriate. Close examination of the existing system of courtyards on campus should be made and an appropriate relation to this scheme determined. (See attached sheet - "The Court Structure - Physical Development Plan")

Analysis should be made with regard to surrounding campus functions in relating the site to the broader scale of the campus whole. (See attached sheet - "Precincts - Physical Development Plan")


PRICE
MUSIC CENTER
STUDENT
SUPPLY STORE
SITE EXTENT
STUDENT
UNION
REYNOLDS COLISEUM
EAST DUNN AVENUE
SITE EXTENT
KATES VENUE
CASE
ATHLETIC
CENTER
FLOYD DRIVE
PARKING DECK
N
SITE
50 0 50 100



1 Holladay Court
2 The Court of North Carolina
3 Gardner Arboretum
4 University Plaza
5 School of Design Courtyard
6 Gold-Welch-Syme Courtyard
7 Becton-Bagwell-Berry
8 The University Student Center Plaza
9 Alexander-Turlington
10 Owen-Tucker
11 Lee-Sullivan-Bragaw
12 Fraternity Court
13 McKimmon Center Courtyard
14 E. S. King Village

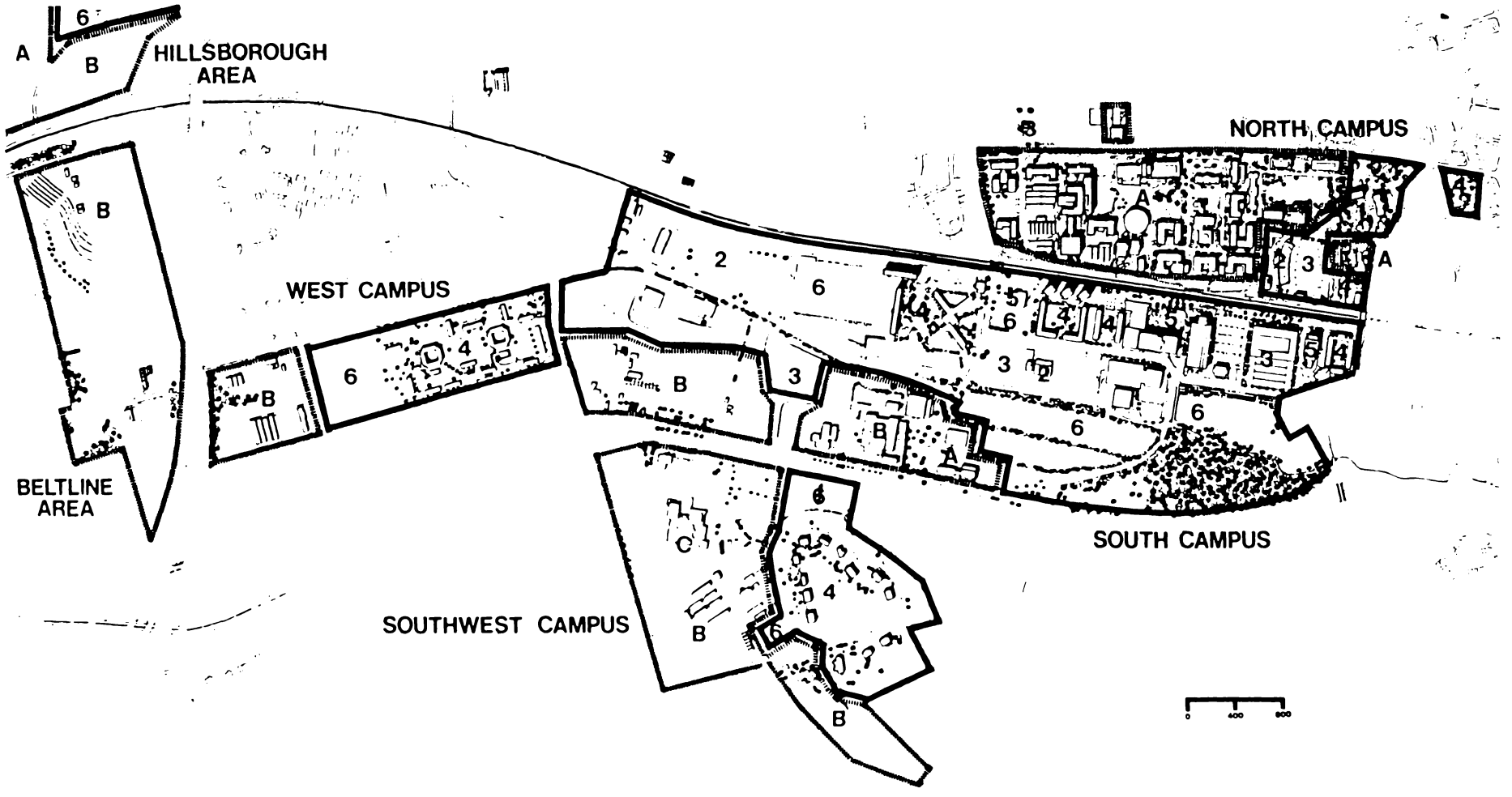
EXISTING ■ courts & connections

FUTURE ▭ courts & connections

This map illustrates the unique campus structure of open, landscaped courtyards, which are generally defined by buildings. These courtyards and the pedestrian connectors between them establish a basic pedestrian domain and form a framework for development.

THE COURT STRUCTURE
PHYSICAL DEVELOPMENT PLAN
NORTH CAROLINA STATE UNIVERSITY

FACILITIES PLANNING DIVISION



Academic
- A instructional
- B research
- C continuing education extension

University/Student Support
1. administration
2. physical plant service
3. parking
4. residential
5. services
6. athletic/recreational

This map indicates the basic campus units and the general use contained within a designated precinct.

PRECINCTS
PHYSICAL DEVELOPMENT PLAN
NORTH CAROLINA STATE UNIVERSITY

FACILITIES PLANNING DIVISION