



# THE UNIVERSITY OF NORTH TEXAS

DALLAS CAMPUS MASTER PLAN - 2005

Approved by the UNT System Board of Regents on August 19, 2005

S A S A K I

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# 1 THE VISION / OVERVIEW

The master plan for University of North Texas at Dallas provides a vision for a new university in the 21st century. It is intended to be a model for new campuses in terms of higher education delivery, campus design, community partnerships and environmental stewardship.

The University of North Texas at Dallas (UNT at Dallas) will be the third campus within the University of North Texas System and a center for educational, social and cultural activities within in southern Dallas County. The UNT at Dallas campus is a major focus in the comprehensive plan currently under development by the City of Dallas and will serve as the catalyst for attracting public and private investment in the south Dallas area. To that end, the master plan is coordinated with the future land use and urban design proposals for the surrounding context, which are intended to result in a dynamic university district featuring retail and community services,

office and research facilities, and housing. The project has received wide support as demonstrated by the fact that the City and local developers donated 95 percent of land for the new campus.

The proposed campus master plan provides the University with a clear vision for guiding the incremental development of the campus over the next thirty to fifty years. The vision is based on innovative approaches to campus design, community partnerships and environmental stewardship. It sets out a development framework to accommodate an ultimate target enrollment of 25,000 students – a framework that will assist the University in providing appropriate responses to the climate; the natural systems of the land; the regional landscape; the existing and proposed context; and, the programmatic requirements of future academic, support and residential facilities.



The Campus Square is the social and academic heart of the campus.

The campus design enables the University to reach out to the surrounding community and to serve a variety of users including traditional college-age students, adults seeking continuing education opportunities and youth groups. Campus facilities can be used to foster partnerships for shared use. The aim is to provide the local community with access to facilities, technology and services otherwise unavailable in the immediate area. The campus design

also accommodates a new elementary school for the Dallas Independent School District (DISD) and contemplates trading land within the campus boundaries currently owned by DISD. It includes a strategy for providing housing in the early stages of campus development to ensure that the University can establish a residential culture and provide students with the opportunity to more actively engage in academic life.

The master plan is based on a number of sustainable design principles that address air and water quality, conserve energy, reduce transportation impacts and manage the overall environment. The civic structure of the campus is organized around a central open space, which will provide a passive recreation area for students and serve as a key element in stormwater management strategy for the site. The proposed compact land use pattern establishes a pe-



The University Promenade is the main pedestrian circulation route through the campus.



pedestrian-scale campus and a dynamic environment for collegiate life. Campus life is focused on the Campus Square defined by the library, student union and classroom facilities. The configuration of proposed buildings defines a densely landscaped series of interconnected courtyards and promenades, providing a shaded pedestrian environment and assisting in reducing the overall solar heat gain on the campus. The architectural guidelines respond to the

climate by setting out orientation and solar shading recommendations. The landscape design guidelines provide an implementation strategy based on the preservation of non-invasive existing vegetation and the use of native plant materials. An integrated transportation strategy will assist the University in coordinating the proposed Dallas Area Rapid Transit (DART) light rail and bus services with the comprehensive bicycle and pedestrian network.





# 2 PLANNING PROCESS

PROCESS  
GOALS  
PROGRAM & PLANNING FACTORS  
ASSUMPTIONS  
PROGRAMS

The planning process to develop the master plan commenced in September 2004 and engaged numerous members of the campus and local community as well as the Task Force assembled by the University of North Texas System to guide the development of the plan (the members of the Task Force are noted in the Acknowledgements section of this document). The process was led by Sasaki Associates of Watertown, Massachusetts along with a Texas based team including: the Aguirre Corporation (MEP Engineering); Turner Collie and Braden (TCB) (Civil Engineering); and HNB Consulting Engineers (Community Outreach and Engineering Consultants). Herndon, Stauch & Associates, project managers for the UNT System.

The planning process included six multi-day work sessions in Dallas and three phases of work as follows:

## ***Phase One: Inventory and Analysis***

Phase One included three major tasks: 1) a review of the available data and information on the proposed academic programs; 2) interviews with campus administrators, faculty, staff and students to ascertain the goals, objectives and expectations for the master plan; 3) a site reconnaissance of the proposed site and surrounding context; 4) the development of a program for the first building; and 5) a long-term academic program for the University. The findings of Phase One served as the basis for the master planning process.

## ***Phase Two: Alternatives***

Phase Two included the development of several alternatives for accommodating the program of facilities required for the targeted enrollment and/or to support the mission of the University. Following review with the Task Force, the University and broader community, a preferred alternative was selected for development as the basis of the master plan.

## ***Phase Three: Master Plan Development***

In Phase Three, the planning process focused on the development of the master plan document, design guidelines, and associated graphics.

## ***Building Design Phase***

The project also involved a simultaneous design phase for the first multi-purpose building of the campus. Sasaki provided architectural design services and was supported by the following local team: Aguirre Corporation (architects-of-record); Purdy McGuire (MEP), TCB (Civil Engineering) Carcon Industries (Cost Estimating) and Alb+Blair (Architectural Consultants).



### **Goals, Program & Planning Factors**

The following goals and objectives were developed in conjunction with the University and the Task Force during the initial work sessions of the planning process held in September and October 2004. They have been continuously tested during the planning process.

#### *Develop a University for the 21st Century*

- Plan for the use of leading learning technologies
- Focus on the best new ideas for education and collaborative learning
- Support interdisciplinary learning and research

#### *Create a compelling vision for the campus*

- Create a sense of place for the University and the community
- Establish a unified campus character
- Accommodate an enrollment of 16,000 students in the near term and 25,000 to 26,000 at full build-out

#### *Establish a center for the community*

- Encourage and support diversity
- Provide opportunities for community participation in social, cultural, athletic and recreational activities
- Foster an open and inviting campus
- Provide a center for local economic development initiatives

#### *Provide facilities and amenities that support campus life*

- Foster a living and learning community
- Provide an environment that supports the needs of commuter students
- Encourage student, faculty, and staff interaction

#### *Develop an environmentally responsive master plan*

- Design in harmony with the climate and the land
- Foster an environment and culture that conserves resources



The process involved public workshops, presentations and site visits



### **Assumptions**

The master plan establishes an effective framework in which the campus can grow incrementally over time. The plan is based on three working assumptions that have influenced the layout of the campus. The assumptions are the result of discussions held during the planning process with the campus administration, the University System and the Task Force.

The master plan was developed based on the following planning assumptions:

- The campus will accommodate a headcount of 16,000 in 2030 and ultimately, 25,000.

- Dallas Area Rapid Transit (DART) will locate a station on the campus; a 100 foot wide right-of-way is required on the southern boundary of the property; eight (8) acres of parking is required for DART
- A ten-acre site must be reserved for the Dallas Independent School District (DISD) for a future elementary school.

Twenty percent of the Full Time Student Equivalent (FTSE or FTE) will be housed on campus.



# 3 PROGRAM

METHODOLOGY  
PROGRAM FOR 16,000 HC  
PROGRAM FOR 25,000 HC

The campus space program estimates the facility needs to support the strategic objectives of the University, as described in the UNT-Dallas Conceptual Framework document, and UNT-Dallas Strategic Plan, dated August, 2004. The program includes space projections for academic and support facilities, administration, student life, athletics and recreation, student housing and a conference facility, as well as outdoor recreation fields and parking. The detailed program is provided in the Program Estimate for the UNT at Dallas campus, dated September 15, 2004.

The following colleges, academic, continuing education and athletic programs have been identified for the new University and have served as the basis for the space and strategic programming tasks:

College of Liberal Arts  
College of Science, Technology and Information Management  
College of Business Administration  
College of Education  
College of Health and Human Services  
Certificate and Endorsement Programs  
Graduate Education  
Pharmacy  
Law (downtown)  
Programs & Institutes  
    Local businesses / Communities  
    Urban Policy Institute  
Athletics (NCAA Division II)

## Methodology

The Texas Higher Education Coordinating Board (THECB) Space Projection Model (April 2003) was used to estimate the space needs for UNT-Dallas using the 'Five Factor Model.' The Five Factor Model addresses Education and General (E & G) space only, and does not account for several space types that will be needed

to achieve the University's vision for the campus, including sports and recreation, student life, student housing, and conference space. Space for these elements was estimated using Council of Education Facilities Planners International (CEFPI) guidelines and Pennsylvania State guidelines for space categories not addressed by CEFPI. The Pennsylvania guidelines are recognized for providing detailed recommendations in areas such as health clinics and residential spaces.

The program has been divided into two general stages of campus development in order to provide the University with order-of-magnitude benchmarks relating headcount to estimated space requirements:

- A program for 16,000 headcount students, which is the University's medium-term planning horizon (2030)
- A program for 25,000 to 26,000 headcount students, which reflects the long-term enrollment target (2030 +)

**Table 1** - THECB Space Projection Model Estimate for 16,000 Headcount (Education and General)

BUILDINGS USE	TOTAL SPACE NEEDS (ASF)	TOTAL SPACE NEEDS (GSF)
Teaching Facilities (HEGIS 100, 200, 500 & 600)	424,624	653,268
Research Space	24,842	38,218
Office Facilities	226,961	349,170
Library Facilities	130,810	209,296
Special Use (Athletics)	56,403	86,773
General Use (Other)		
<i>Dining/Food Service (Residential)</i>	21,529	35,882
<i>Dining/Food Service (Other)</i>	26,912	44,853
<i>Student Union</i>	74,525	124,208
<i>Conference/Meeting Rooms</i>	8,281	12,739
Support Facilities	70,416	108,332
SUB-TOTAL	1,065,300	1,662,738
Residential Facilities (See Table 2)	364,343	560,527
<b>TOTAL</b>	<b>1,429,643</b>	<b>2,223,265</b>

**Table 2** - Residential Space Needs for 16,000 Headcount

RESIDENTIAL SPACE TYPE	NASF/BED	NASF
Sleep/Study without Bath	170	281,538
Toilet or Bath	40	66,244
Lounge	10	16,561
<b>TOTAL RESIDENTIAL ALLOCATION</b>		<b>364,343</b>

**Table 3** - Outdoor Recreation Facilities for 16,000 Headcount

OUTDOOR RECREATION	NUMBER OF FIELDS
Football Field (160'x360'+20' perimeter)	1
Football Practice Field (160'x360'+20' perimeter)	1
Soccer Field (225'x360'+20' perimeter)	1
400m Track with Soccer Field	1
Baseball Field	1
Softball Field	1
Multi-Purpose Fields (120'x240')	3
Tennis	6

## PROGRAM FOR 16,000 HEADCOUNT

The total estimated space requirements for the campus during the two stages of development are as follows:

### Residential

By 2030, it is assumed that UNT at Dallas will house approximately 20 percent of the Full-time Equivalent Student Enrollment (FTSE), which is estimated to be in the range of 8,000 students. For planning purposes, it has been assumed that 1,656 beds will be provided in on-campus housing when the headcount reaches 16,000 students. A suite-style configuration is assumed for all housing, which consists of two double-occupancy rooms sharing a bath.

The residential space required to support 1,656 beds includes the following categories: sleep/study, toilet or bathroom, lounge and service space. CEFPI does not provide a formula for this space use category. Pennsylvania State guidelines for residential space establish space factors for each residential space element to calculate total residential space needs. The space factors and calculation of residential space needs for a projected student residential population of 1,656 are shown in the Table 2.

### Parking

Parking for the UNT-Dallas campus was estimated using typical ratios for a predominantly commuter institution. Parking ratios and the total parking requirement for the

projected enrollment are 0.32 spaces per FTE for faculty, staff and commuter students and 0.57 for resident students. A total need of 3,475 spaces is estimated to support a headcount of 16,000 students.

### Athletic and Recreation Fields

There are no consistent national standards for outdoor recreation facilities, and the supply of these facilities varies significantly from institution to institution. The University has identified the long-term objective of establishing an NCAA Division II athletics program at the UNT-Dallas campus. This would require four team sports each for men and women. The University has not yet identified which sports will be included in the NCAA program.



**Table 4 - Estimated program for 25,000 Headcount**

ESTIMATED SPACE	TOTAL NASF
Teaching	690,014
Research Space	40,368
Office	368,811
Library	150,474
Support Space	112,470
TOTAL SPACE MODEL ESTIMATE	1,362,137
<b>ADDITIONAL ESTIMATED SPACE NEEDS</b>	
Athletics	82,279
Food Service/Student Union	
<i>Dining/Food Service</i>	78,717
<i>Student Union</i>	121,103
<i>Conference/Meeting Rooms</i>	13,456
Residential	592,057
TOTAL ADDITIONAL ESTIMATED SPACE NEEDS	887,612
TOTAL ESTIMATED SPACE NEEDS (ASF)	2,249,749
TOTAL ESTIMATED SPACE NEEDS EXCLUDING RESIDENTIAL	1,657,692
TOTAL ESTIMATED SPACE NEEDS (GSF @ .65% EFFICIENCY)	2,735,192

Given that the elements of the sports and recreation program are not currently defined, the estimate of outdoor recreation facility needs is based the consultant team’s experience at other institutions with similar enrollment and student body characteristics. The program should support a variety of options for meeting the NCAA Division II team requirements, as well as student recreation needs. The outdoor recreation facilities program is summarized in Table 3.

### **PROGRAM FOR 25,000-26,000 HEADCOUNT**

The estimated program for 25,000 to 26,000 headcount is summarized in Table 4 which served as the basis for the full build-out of the campus site.

#### **Residential**

Assuming that the University houses 20 percent of FTSE at full build-out, a total of 2,600 beds will need to be provided. A total of 592,000 NASF of space will be required assuming 220 asf per bed.

**Table 5 - Outdoor Recreation Facilities for 25,000 Headcount**

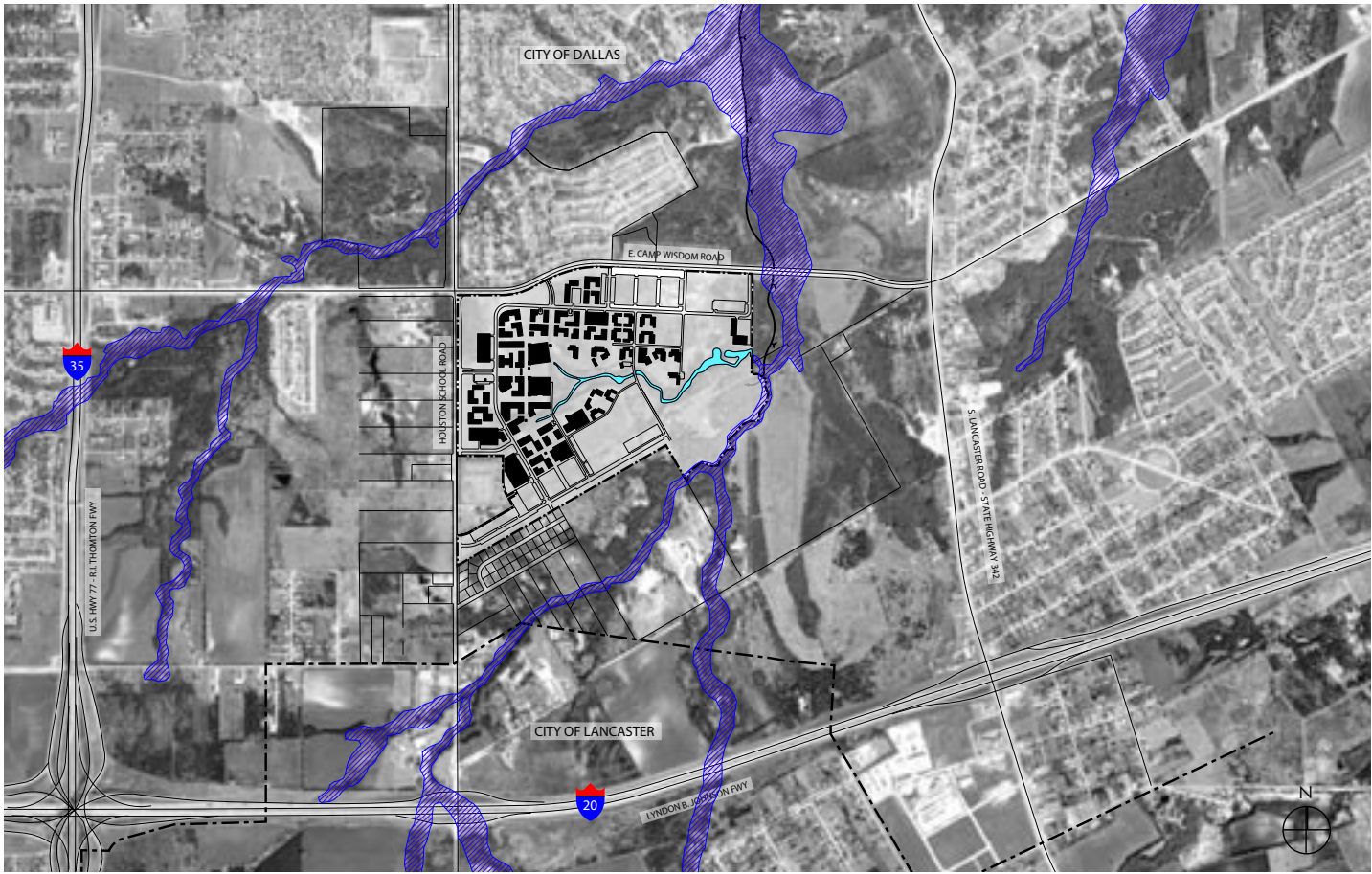
OUTDOOR RECREATION	NUMBER OF FIELDS
Football Field (160’x360’+20’ perimeter)	1
Football Practice Field (160’x360’+20’ perimeter)	2
Soccer Field (225’x360’+20’ perimeter)	1
400m Track with Soccer Field	1
Baseball Field	1
Softball Field	1
Multi-Purpose Fields (120’x240’)	6
Tennis	14

#### **Parking**

The total parking demand at an enrollment 26,000 students is estimated to be in the range of 7,700 spaces.

#### **Athletic and Recreation Facilities**

The estimated athletic and recreation facility needs are summarized in Table 5.



Proposed Campus in the Existing Context

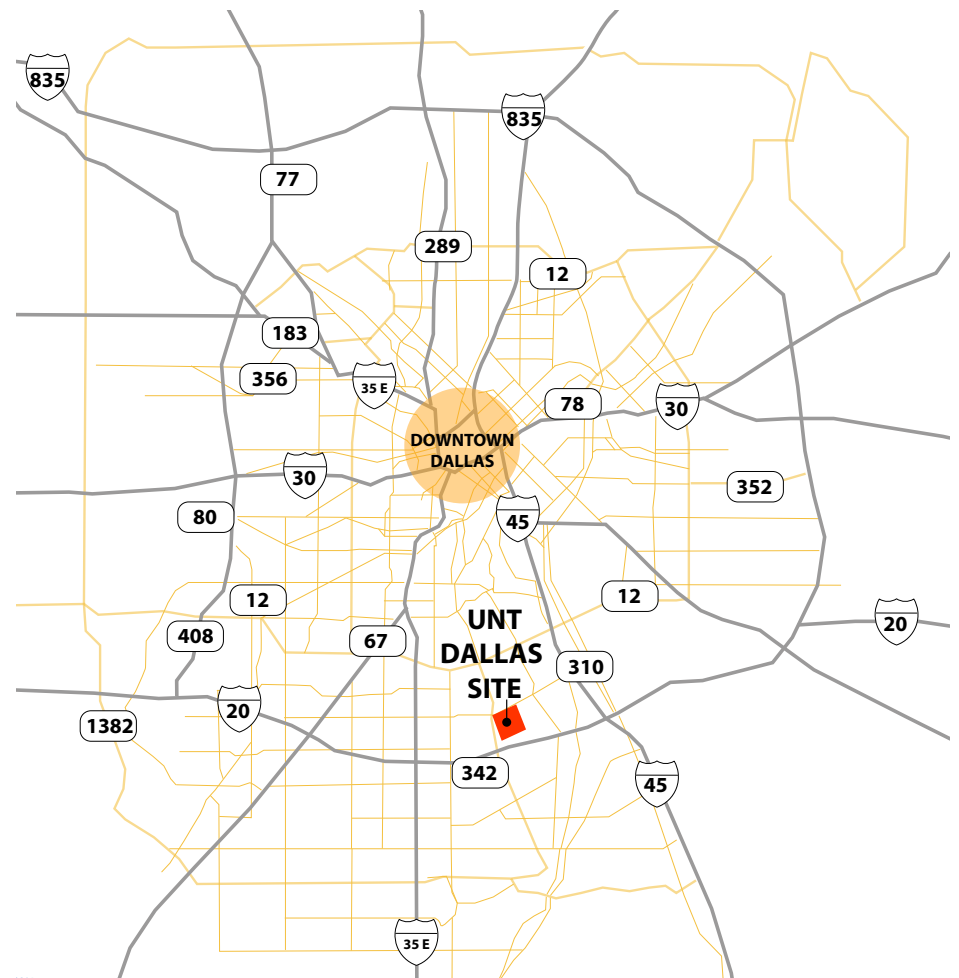
# 4 PLANNING CONTEXT

METHODOLOGY  
PROGRAM FOR 16,000 HC  
PROGRAM FOR 25,000 HC

The proposed 266-acre campus is located in southern Dallas County. Regional access is provided via I-20 located to the south and I-35 to the west. The site is located at the intersection of two major arterial roads: Houston School Road on the west and Camp Wisdom Road on the north. Interstate 35 is located approximately one mile to the west of the site and Interstate 45 is located approximately four miles to the east.

Houston School Road will be widened to include two northbound and two southbound lanes. Parking will be provided on each side of the street. Given that Houston School will provide access to the campus from I-20, it will be important to influence the type and character of adjacent development, which will define the entry sequence to the campus.

Campus Wisdom Road is currently a six-lane arterial, which will also provide access to the campus from surrounding areas. The character of Camp Wisdom is already defined by the adjacent residential development on the north side of the road. Devel-





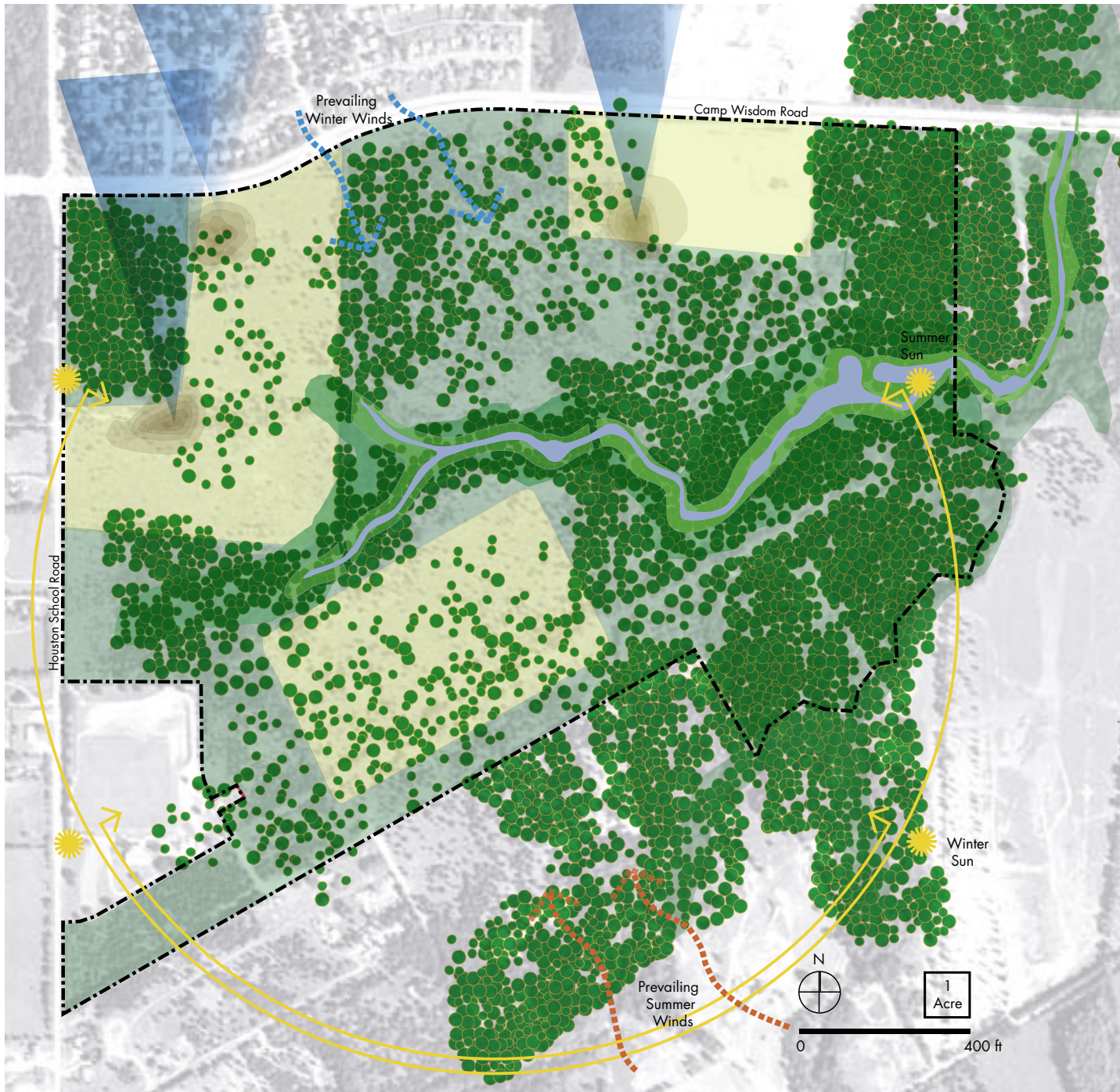
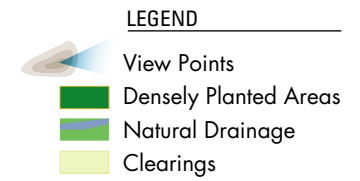


Figure 4.1  
Site Analysis





## Existing Conditions

Grassland (left)  
Houston School Road (middle)  
Drainage Corridor (right)



opment of the campus along this edge will need to respond to the existing residential development and arterial road context.

The campus is surrounded primarily by one-story single-family neighborhoods to the north and to the west and undeveloped land on the Skyline Ranch to the south. Land to the north of Camp Wisdom Road consists of low-density residential subdivisions and land that is currently being developed for residential purposes. Land to the east of the campus consists of three undeveloped tracts ranging in area from 21 to 123 acres. These properties are currently zoned predominantly for residential development, although a portion of the land is designated for future park development and transit station access. Land to the west of Houston School Road consists of several large lots containing single family homes. These properties are also zoned for residential development. The City of Dallas owns a 15-acre parcel of land along the Houston School Road at the south edge of the campus that is used for a pumping station.

The park designated by the City of Dallas flanks the eastern edge of the site and follows the Five Mile Creek corridor to the north. The natural drainage patterns of the site flow toward the east and connect with the Five Mile Creek corridor. A portion of the site drains towards the northwest to the Houston School Road and Camp Wisdom intersection, and eventually to the Ricketts Branch tributary of Five Mile Creek. The balance of the site drains to the east/southeast towards the Runyons Branch of Five Mile Creek. Currently, there are several ponds located within the site along the corridor.

The landscape of the site reflects previous agricultural and ranching activities that disturbed the native vegetation and resulted in the presence of invasive species such as chinaberry. Originally, the landscape was dominately a Prairie grassland with several native grass species common to the region. Today, the site has several areas of significant stands of trees and understory growth, especially along the natural drain-

age corridors. The site has also been subject to clearance along the Camp Wisdom Road edge and in the north central area. The highpoints of the site along the west side of the site parallel to Houston School Road have also been subject to clearance and offer excellent views of downtown Dallas to the north.

The City of Dallas is proposing to rezone the frontage along Houston School adjacent to the Campus to create a mixed-use area that will provide retail, commercial and multifamily residential uses for the University and for the surrounding community. At this writing, the City of Dallas was undertaking the development of a comprehensive plan for the area surrounding the campus. The extension of the Ledbetter line to the new Campus is planned to bring the DART light rail service to the southern edge of Dallas.

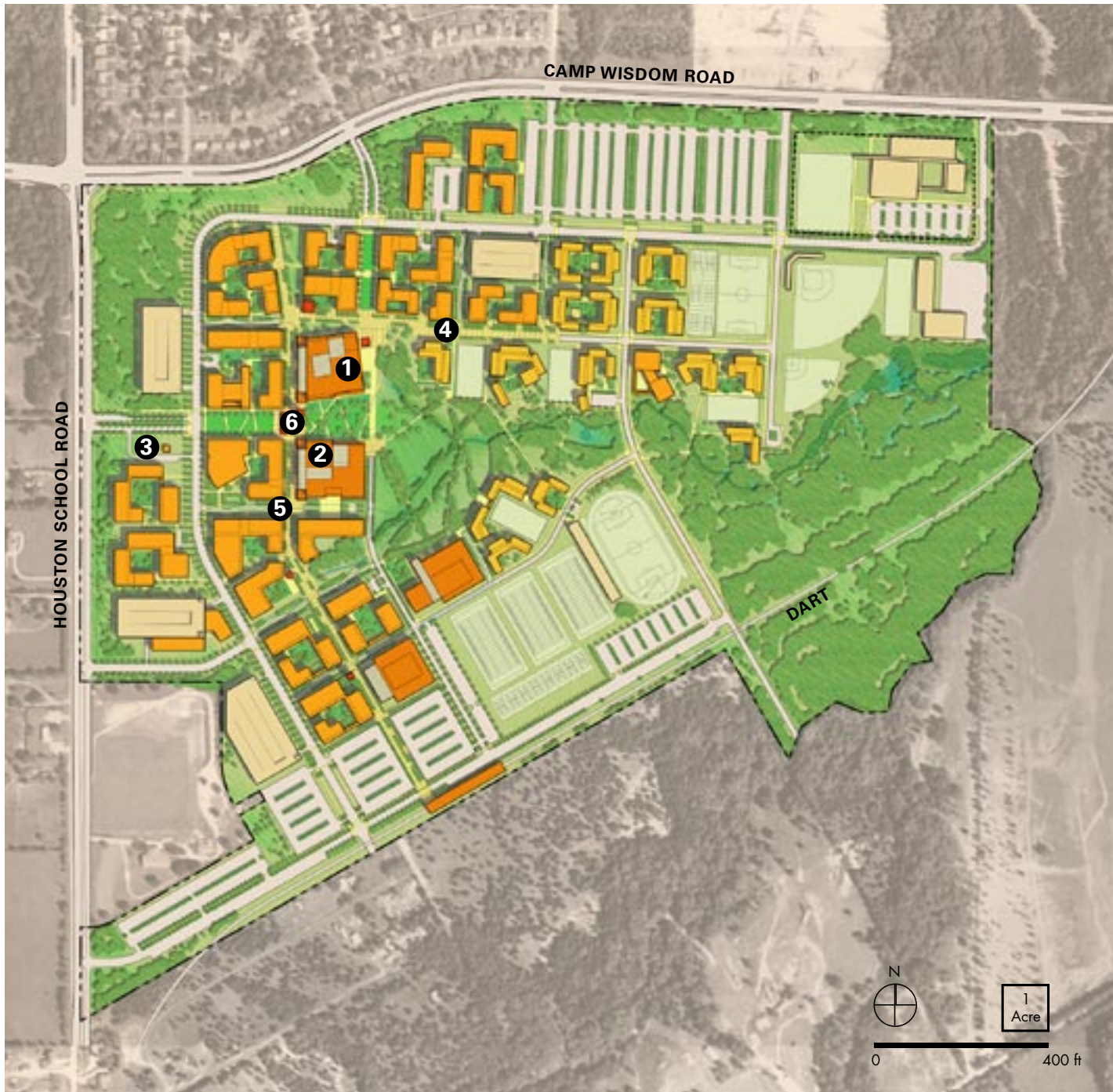


Figure 5.1

Illustrative Plan

- 1. Library
- 2. Student Center
- 3. Visitors Center
- 4. East-West Promenade
- 5. North-South Promenade
- 6. Campus Square

# 5 MASTER PLAN

CIVIC STRUCTURE  
OPEN SPACE  
LAND USE  
PEDESTRIAN CIRCULATION  
BICYCLE CIRCULATION  
TRANSIT  
VEHICULAR CIRCULATION  
PARKING  
ENVIRONMENTAL PRINCIPLES  
COMMUNITY CONNECTIONS

The campus master plan provides the University with a clear vision for guiding the incremental development of the campus over the next thirty to fifty years. The vision is based on innovative approaches to higher education delivery, campus design, community partnerships and environmental stewardship. It sets out a development framework to accommodate an ultimate target enrollment of 25,000 students – a framework that will assist the University in providing appropriate responses to the climate; the natural systems of the land; the regional landscape; the existing and proposed context; and, the programmatic requirements of future academic, support and residential facilities.

The master plan framework addresses the civic structure, open space and landscape, land use, circulation and environment of the campus. New buildings and outdoor spaces will need to respond to and fit within this overall framework.

## CIVIC STRUCTURE

The civic structure of the campus is defined by natural systems of the land, the pedestrian circulation network, a series of interconnected courtyards and quads defined by campus buildings, and the community oriented buildings of the campus, (Figure 5.2) The key elements of the civic structure are as follows:

### *Spatial Framework*

The Spatial Framework identifies a series of “development blocks” within which campus buildings will be configured to form internal courtyards and major circulation routes. Key edges of the blocks are to be defined by an unified architectural expression, in particular, the built edges along the promenades.

### *Courtyards*

The development blocks of the campus include a series of interconnected courtyards. The courtyards are envisioned as outdoor spaces shaded by the buildings,

trees and trellis structures. The shape and location of the courtyards shown in the Civic Structure diagram are for illustrative purposes only. The actual designs will need to respond to the program of the surrounding buildings.

### *The Promenades*

The proposed north-south and east-west promenades serve as the armature for pedestrian circulation and shape the buildings. The north-south or University Promenade has been aligned to frame views of the Dallas skyline and visually connect the campus with the City. Ultimately, it also will connect with the proposed DART transit station.

### *University Buildings*

The major university common buildings of the campus include: the library, student union, recreation center; and the arena. Potential locations for facilities to be used by the general public also indicated in the plan.



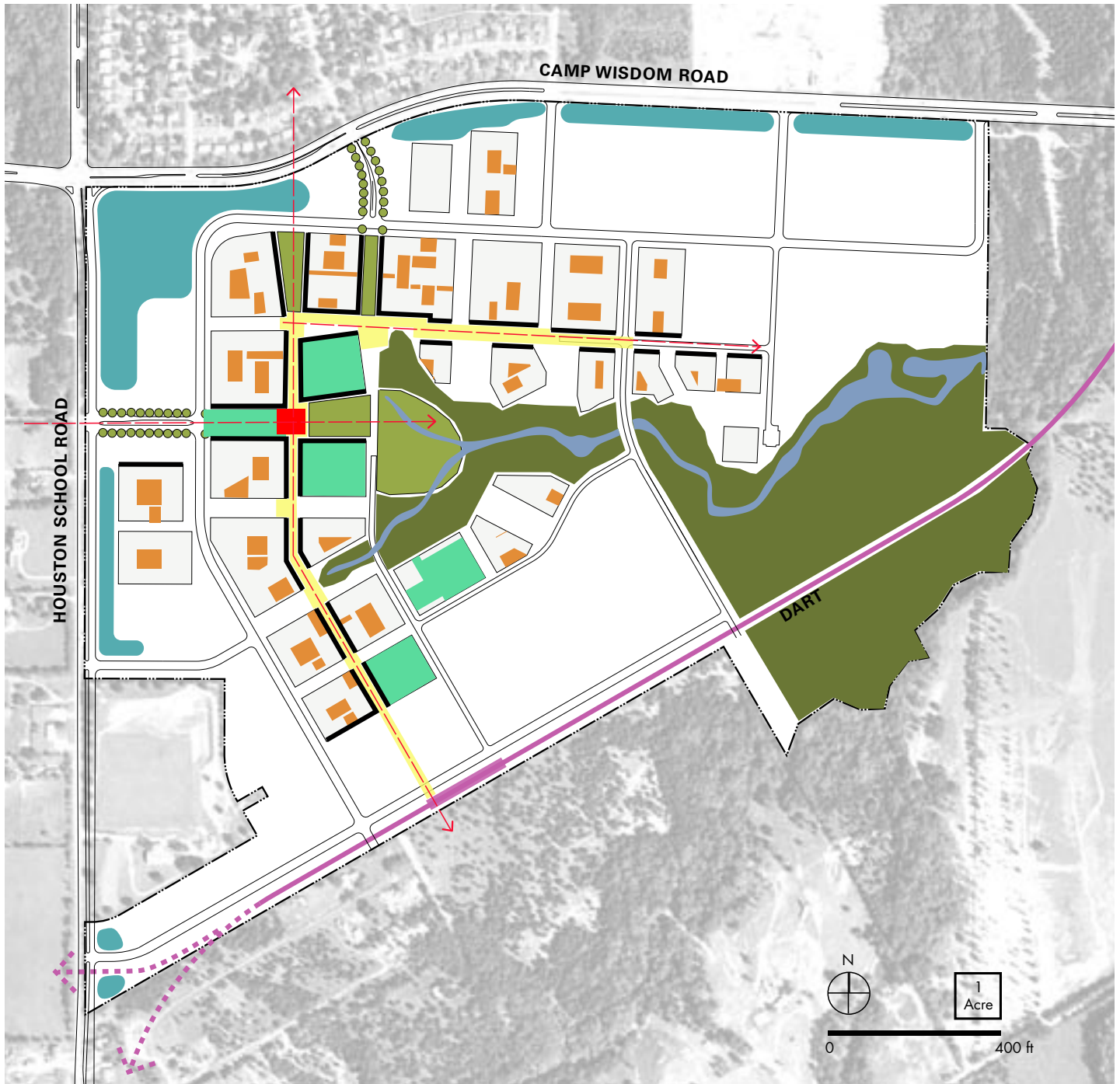


Figure 5.2  
Civic Structure

**LEGEND**

- Community Buildings
- Spatial Framework
- Campus Quads/Park
- Promenade
- Courtyards
- Natural Area
- Perimeter
- Primary Arrival
- DART Transit
- Campus Square



View of Dallas skyline from highpoint of the site



### *Central Open Space*

The civic structure is focused on the natural drainage system of the site which designates the land around the tributaries of this system as a central open space. Envisioned as major feature in the structure of the campus, the central open space is also a key element in the stormwater management for the site. Conceptually, the central open space serves to connect the developed and cultivated areas of the campus with the natural areas and the Five-Mile River corridor located to the east of the site.

### *Nature Area*

In excess of 40 acres of land are designated in the southeast corner of the campus as a Nature Area. Combined, the central open space and Nature Area will provide a substantial undeveloped land area that can assist in accommodating runoff during storm surges. It can also be managed as an outdoor lab for the biology, environmental studies and other science programs.

### *Perimeter*

The Perimeter landscape defines the public edges of the campus. It consists of the existing wooded areas at the intersection of Houston School Road and Campus Wisdom Road as well as the landscape along the Houston School and Camp Wisdom frontages. The design expression along Houston School Road and Camp Wisdom is intended to consist of drought tolerant grasses and ground cover with interspersed trees and areas of seasonal wildflowers. The design intent is to present a positive image and well-kept landscape for the campus.

### *Primary Arrival Gateways*

Two formal arrival gateways are shown on the campus: the main campus entrance from Houston School Road; and an entrance from Camp Wisdom Road. The landscape expression along both entry routes will be defined by a formal series of trees and both will feature views into the central open space of the campus. A visitor center is proposed directly to the south of the Houston School entrance road.

### *DART*

The civic structure of the campus responds to the future DART Transit station. Ultimately, the University Promenade will connect the station with the academic core.

## **OPEN SPACE AND LANDSCAPE FRAMEWORK**

The open space and landscape framework of the campus capitalizes on the existing natural features; existing trees, the hilly topography, and the seasonal waterways of the site, (Figure 5.3). A guiding goal of the landscape structure is to create user-friendly, shaded spaces and to utilize the existing landscape to maximum advantage. There is a strong emphasis on sustainability, which includes careful management of water resources and use of native species to minimize maintenance and irrigation requirements.

The structure consists of a hierarchy of spaces ranging from the central open space to a series of internal courtyards that provide shaded gathering and pedestrian circulation spaces.

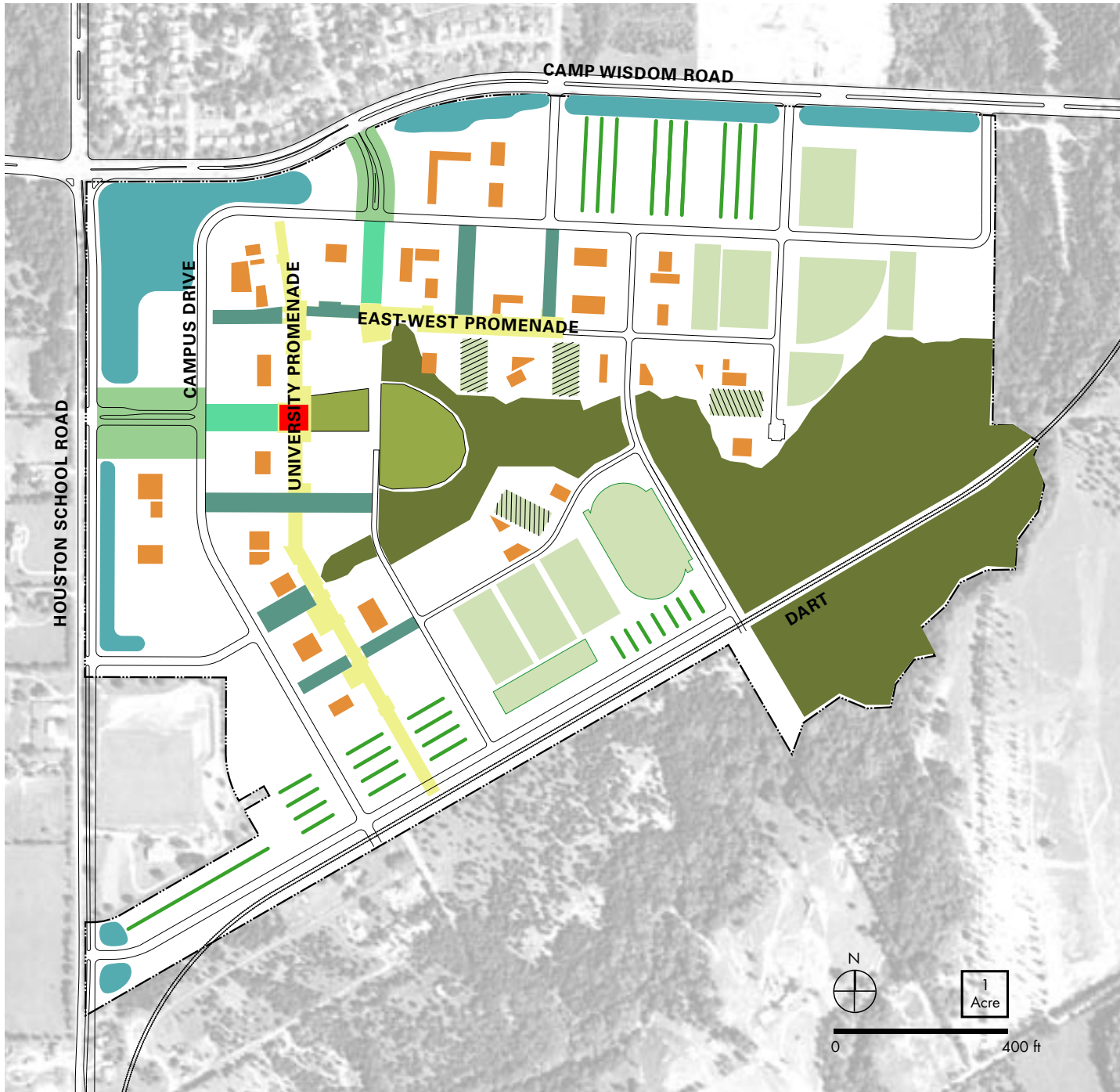


Figure 5.3  
Open Space & Landscape Framework

**LEGEND**

- Entry/Gateway
- Campus Portal
- Main Quad
- Promenade
- Campus Square
- Courtyards
- Corridors
- Central Open Space
- Pedestrian Routes
- Athletic Fields
- Passive Recreation Fields

## Proposed Landscape Character

Central Open Space (left)  
Perimeter Landscape (middle)  
Courtyards with water features (right)



The spaces of the open space and landscape framework are as follows:

### *The Entry/Gateway*

The entry gateway landscapes will be defined by formal arrangement of street trees and landscape medians which will also provide visual links into the campus.

### *Campus Portal*

The portal landscapes serve as links from the entry/gateways into the core of the campus. They are transitional zones from the formal landscape of the entry to the more urban character of the central campus. They will feature formal arrangements of trees at the edges and lawn areas.

### *The Main Quad*

Located between the Campus Square and central open space, the Main Quad is envisioned as the main gathering space for day-to-day activities and special ceremonies. It will feature a lawn, the edges of which will be defined by a combination of formal and informal groupings of trees.



### *The Corridors:*

The corridors will serve as the circulation, landscape and visual linkage landscapes between Campus Drive and the Promenades and beyond to the central open space. They will be defined by the hard-scape, street trees and other ground level landscape features.

### *The Central Open Space / Nature Area*

The landscape and open space framework focuses on the central open space, which encompasses the natural drainage corridors of the site. In the long-term, the enhancement of this existing natural drainage corridor is a key objective and will include the strategic removal of non-native plants and careful creation of a landscape that is functional and beautiful.

The central open space is the focus of the landscape framework and is visually and physically connected to the interior system of courtyards and promenades in several areas. The central open space will be



visible from each of the major entry roads into the campus and from four passive recreation fields associated with the major housing sites.

The central open space connects to the proposed Nature Area in the southeast corner of the site and beyond to the parkland designated to the east of the campus on land owned by the City of Dallas. The Nature Area is to be a managed landscape and will require the removal of invasive plants and careful selection of supplemental planting.

### *The Courtyards*

Within the developed core of the campus, the landscape framework will be urban in character and includes a system of interconnected courtyards and promenade walks. The courtyards will be the most formal of the landscape spaces and the most intensely landscaped with shade trees and irrigated plant materials.





Figure 5.4  
Land Use Plan

**LEGEND**

- Academic
- Library
- Student Center
- Recreation Center/  
Sports
- Athletic Fields/  
Recreation
- Student Housing
- Surface Parking
- Structured Parking
- Physical Plant/Facilities
- Reserved for DISD





### *The Promenades*

The courtyards are linked via the north-south and east-west pedestrian promenades that also serve as landscape linkages. The promenade landscape will be defined by shade trees, seasonal displays and a network of trellises.

### *Perimeter Landscape*

Landscape on the periphery of the campus will have an informal, natural pattern consisting of drought tolerant grass and informal groupings of trees. Existing trees will be preserved such as those at the corner of Houston School Road and Camp Wisdom Road. Limited clearing will be carried out to remove invasive species.

### *Athletic and Recreation Fields*

The play fields will be defined by informal groupings of trees along the periphery.

## **LAND AND BUILDING USE**

The academic, support and residential land uses of the campus are organized around the central open space to form a compact grid-like pattern of courtyards, pedestrian

promenades and view corridors, (Figure 5.4). The intent is to create a pedestrian oriented environment, concentrating all major campus academic and student support facilities within a 10 minute walk from one another.

The initial buildings of academic core will be located on the high point of the site, wrapping around the central open space. The academic facilities are grouped in the development blocks along the University Promenade and the east/west promenade. The facilities will be organized around a series of interconnected courtyards within the blocks.

Academic, residential and recreational uses are organized to allow users to share outdoor space, hence enlivening the campus environment 24 hours a day and 7 days a week. The “public” functions such as the student union and the library are located at the center of campus, flanking the Campus Square and Main Quad. Other major student life and other “public” functions are located in the center of the campus so that they are convenient to hous-

ing and academic uses. Much like a town green, the Campus Square will be large enough to accommodate campus-wide functions and ceremonies, but landscaped to enhance the surrounding buildings and provide shade for everyday use .

Student housing is positioned around the central open space, allowing accessibility to the campus core and to athletic and intramural facilities. Housing is provided in two main areas: 1) on the east end of the campus with connections to the academic core via the east/west promenade; and 2) on the south side of the central open space directly adjacent to the athletic and recreation fields. Similar to the academic facilities, the residential buildings define courtyards which serve as the outdoor gathering and recreational space for the residents. The residential areas also include passive recreation lawns located in between housing units and facing onto the central open space.

Athletic and recreation facilities flank both the north and south edges of the campus. The Recreation Center is directly adjacent

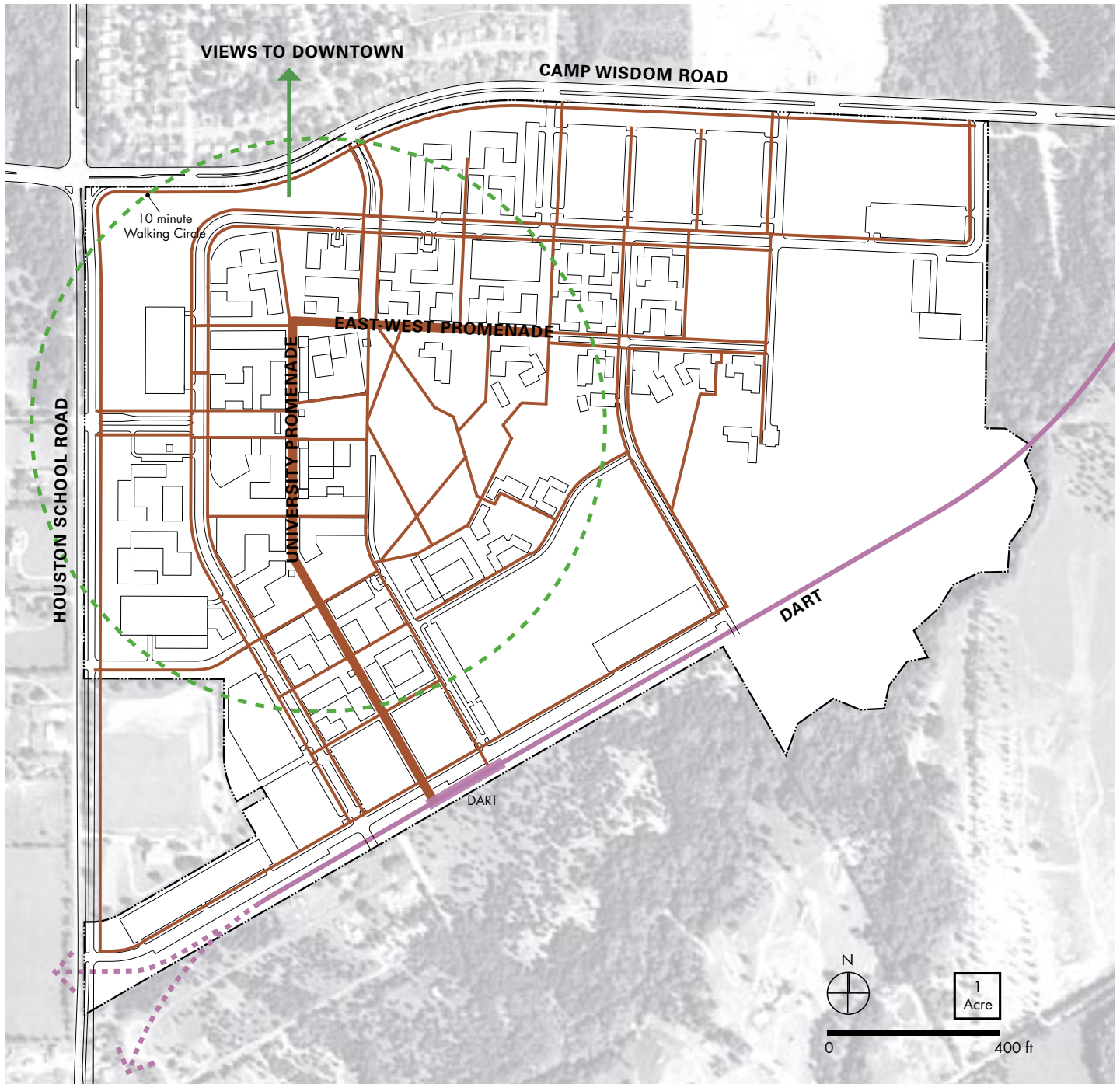


Figure 5.5  
Pedestrian Circulation Network

**LEGEND**

- █ Primary Pedestrian Routes
- █ Secondary Pedestrian Routes
- █ Proposed DART Line



to 20 acres of outdoor intercollegiate athletic and recreation facilities that line the southern edge of campus including a track and field facility with a soccer field; three athletic fields and eight (8) tennis courts. In the Campus North Area, six (6) tennis courts, one (1) soccer field, a baseball and a softball field are provided. The fields are set back far enough from Camp Wisdom Road to buffer the neighborhood from lights and noise associated with the fields. The campus arena is located along the University Promenade in close proximity to the DART station, surface parking and the two parking structures are located in the southwest corner of the campus.

Parking is concentrated at the periphery to intercept drivers as they enter the campus and encourage them to walk to their destinations within the pedestrianized academic zone.

The Physical Plant and Operations facilities are located on the east end of the campus with convenient access from Camp Wisdom as well as direct access to the internal Campus Drive.

A 10-acre elementary school site is provided in the northeast corner of the site.

## **INTEGRATED TRANSPORTATION**

A key goal for the master plan is to provide an integrated transportation and parking demand strategy for the campus. The intent is to create a pedestrianized core and coordinate the pedestrian network with convenient and safe access to the campus bicycle route network and DART bus and light rail transit. The desired outcome is a safe environment for pedestrians and cyclists with less reliance on private automobiles.

The transportation and broader needs of commuting students are also addressed in the integrated transportation strategy. Commuters, especially those that may live nearby in off-campus housing, will be encouraged to walk, bike or utilize the DART services to access the campus. This will assist the University not only in reduc-

ing the number daily trips to the campus and environmental impacts associated with University activities, but will also assist in reducing the number of parking spaces required.

## **PEDESTRIAN CIRCULATION**

The pedestrian circulation goal of the master plan is to provide a safe, convenient and pleasant pedestrian network that is coordinated with the bicycle network and DART transit services, (Figure 5.5).

The pedestrian network is organized along two major promenades: one running north/south on the site and the other east/west. The north/south main or University Promenade links the future DART light rail station on the south with the Campus Square and academic buildings on the north. It has been aligned to offer views of the Dallas skyline to the north and to connect major activity nodes of the campus including the student recreation center, the library and the student union.



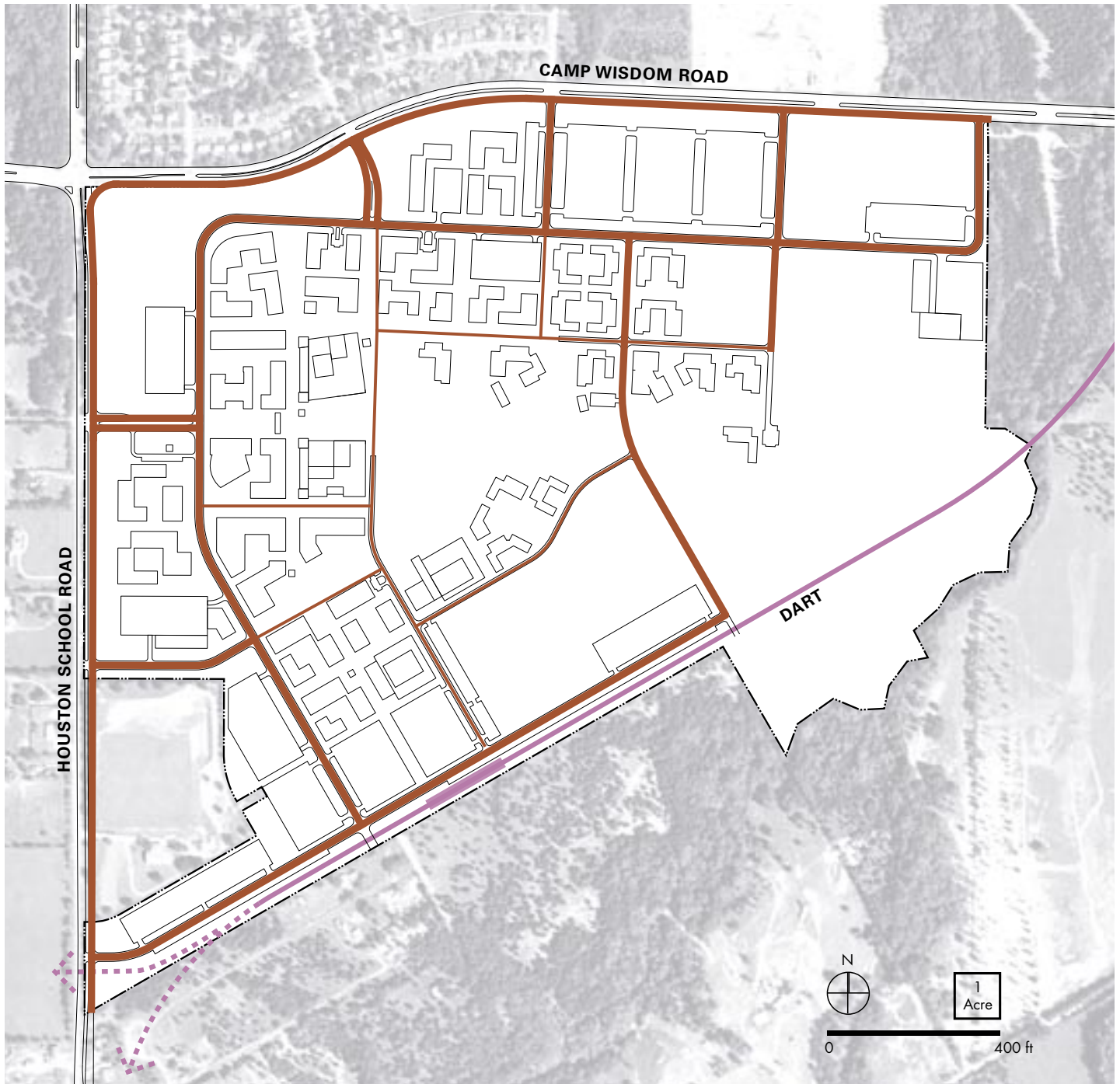


Figure 5.6  
Bicycle Circulation

**LEGEND**

- █ Primary Bicycle Route
- █ Secondary Bicycle Route
- █ Proposed DART Line

The east/west promenade connects the housing areas located on the east end of the campus with the academic and support facilities to the west and south. It also functions as a limited access service, maintenance and emergency vehicle route into the campus.

The Promenades serve as unifying elements and are designed as landscaped corridors replete with extensive tree canopies, arcades and trellises that will provide a shaded and pleasant pedestrian environment. They link with the proposed network of courtyards around which the major academic and support buildings of the campus will be organized. They also link with pedestrian routes in the campus parkland and to the surrounding community. The central open space includes a number of cross campus pedestrian routes to facilitate movement from housing areas in the Campus North area with the academic and recreation facilities in the Campus South area.

The pedestrian circulation network is integral to the proposed system of interior courtyards and pedestrian promenades all of which are also designed as elements in the landscape structure. A generous tree canopy, the close placement of buildings, arcades and trellises incorporated in campus buildings, will provide shade along the pedestrian routes. Pedestrian movement is encouraged through the compactness of the development pattern. The academic core is located entirely within a 10-minute walking circle.

## **BICYCLE CIRCULATION**

Bicycle circulation is an important part of the proposed integrated transportation strategy for the campus, (Figure 5.6). The bicycle circulation goal is to provide safe routes within the campus and to coordinate those with routes in the surrounding context. The objective is to encourage stu-

dents who may live off-campus in the surrounding area to utilize bicycles to access the campus.

Two kinds of facilities are recommended: bike lanes and bike routes, both of which are recognized by the Institute of Transportation Engineers (ITE) and the American Association of State Highway and Transportation Officials (AASHTO).

- Bike lanes are proposed for Campus Drive. A bike lane is “portion of the roadway designated for preferential use by bicyclists, typically with a width of 1.2 - 1.5 m (4-5 ft).”
- Bike routes are “shared roadways that meet a set of minimum design and operational criteria for bicycle compatibility, and which have been designated with bicycle route signs as connector routes within the bicycle facility network.” The purpose of bike routes is to indicate preferred and safe routes for bicycles to travel in mixed traffic.



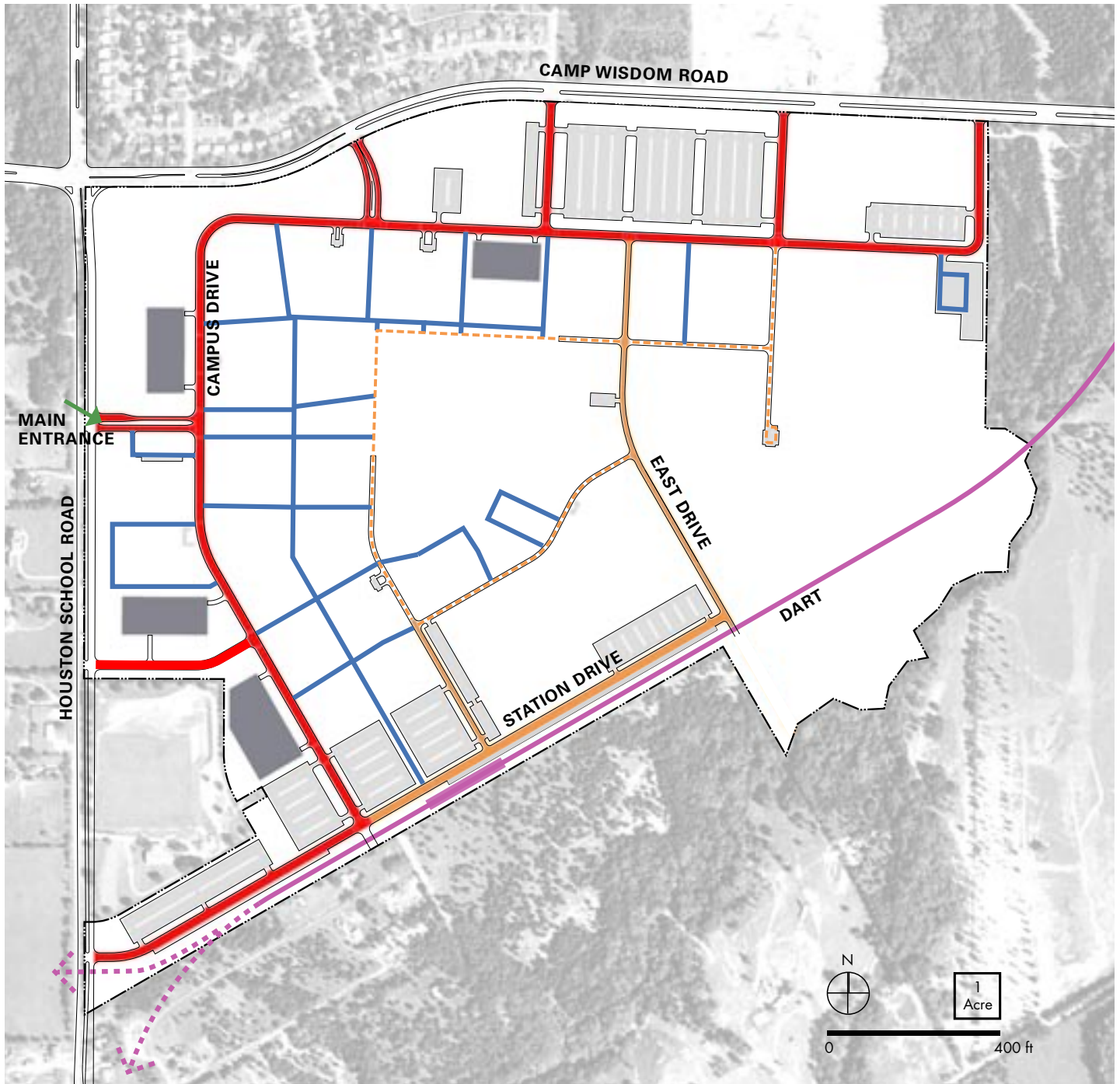


Figure 5.7  
Vehicular Circulation and Parking Framework

**LEGEND**

- Primary Streets
- Secondary Streets
- - - Limited Access (service/emergency)
- Service/Emergency
- Proposed DART Line
- Surface Parking
- Structured Parking

## **TRANSIT**

The master plan provides user-friendly transportation options to the university community by providing pedestrian links to the future DART light rail station and by providing for DART bus stops along Campus Drive, (Figure 5.8). The University should work with DART to establish bus routes along campus drive. The University will also have the option of providing bus stops for campus sponsored transit services in the future.

## **VEHICULAR CIRCULATION**

The vehicular circulation goal of the master plan is to provide convenient access to campus parking for visitors, commuters, faculty and staff that do not have transportation options other than the private automobile, (Figure 5.7). Once on campus, the aim is to encourage these user groups to park their cars and utilize the campus pedestrian and bicycle systems to move around campus.

A campus speed limit of 20 mph is proposed on all campus streets. The intent is to designate the entire campus as zone in which pedestrians, bicyclists and transit will be given priority over single occupancy vehicles. The plan includes a number of physical design features for reducing traffic speeds, improving the safety of pedestrian and cyclists and facilitating the use of transit. These include speedtables and raised crosswalks at major pedestrian crossing points along the periphery road or Campus Drive.

Two primary vehicular gateways are designated into the campus: the main campus entrance on Houston School Road and an entrance via Camp Wisdom Road. Both entrances are aligned to provide views through the campus to the central open space. The primary vehicular movements of the campus will take place on the periphery road or Campus Drive. Campus Drive, which runs parallel to Houston School Road on the west and Campus

Wisdom on the north, connects the two gateways and perimeter parking lots, allowing vehicles to circulate along the outside edge of the campus core. Three access points from Houston School Road on the west and four access points from Camp Wisdom on the north are provided. Secondary roadways (East Drive and Station Drive) complete a loop around the campus for vehicular traffic.

Vehicular movement along the Promenades and within the pedestrianized core will be limited to service, maintenance and emergency vehicles. Private automobile access will be permitted only for those with special needs and on move-in/move-out days in the residential buildings.

In general, vehicular circulation is limited to Campus Drive, Station Drive and East Drive.

A service road connecting East Drive and Station Drive will provide access to the recreation fields and the recreation center.



## PARKING

The parking goal for the master plan is to provide adequate parking to serve the primary user groups of campus including resident students, commuter students, faculty/staff and visitors. Students with special needs and those with physical disabilities are given priority in terms of parking allocation and proximity.

The objective is to reduce the overall demand for parking through the transportation demand management strategies which focus on pedestrian, bicycle and transit access and movement around the campus.

Parking is provided on the periphery of the site, in order to intercept all private automobile traffic outside of the pedestrian priority zone. Surface parking lots are provided along Camp Wisdom Road and the south boundary of the campus along the proposed DART line. Surface parking within the pedestrian priority zone is limited to those with special needs and service / maintenance vehicles.

Four parking garages are provided on the perimeter road: 1) at the main campus square; 2) southwest campus along Houston School Road; 3) southwest campus near the proposed Athletic arena and Recreation Center; and 4) in the north central campus between the academic and housing zone.

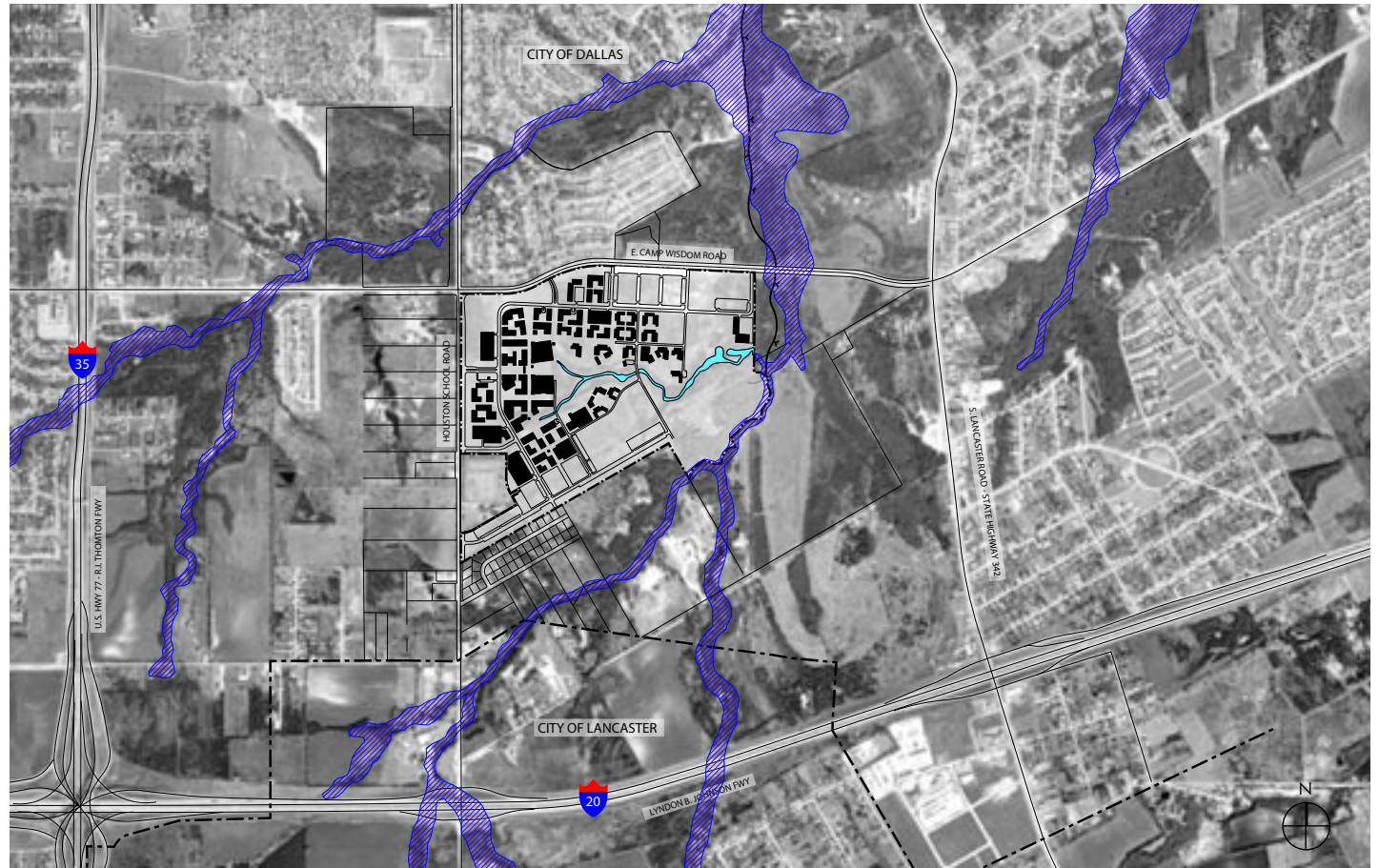
Peripheral parking is connected to the pedestrian priority zone by clearly-defined and well-shaded pedestrian access routes. Smaller parking courts are integrated on the interior to provide handicap parking and service to buildings. Parking lots will be shaded as much as possible, particularly the pedestrian walkways that connect to the campus pedestrian network. Parking lots will also feature swales between parking bays, the intent of which is to assist in managing stormwater runoff and to foster tree growth. DART Commuter parking will be located directly adjacent to the rail station along Station Drive.

## COMMUNITY CONNECTIONS

The future land uses surrounding the campus have yet to be finalized but preliminary recommendations include a mixture of commercial, office, research and residential uses. The campus may ultimately become the focus of revitalized area. It is suggested that campus town retail and commercial square be developed directly west of the main entrance on Houston School Road.

The land use plans for the surrounding area will continue to evolve and the University will seek to coordinate with those plans.

Future development surrounding the campus should be thought of as a new urban district





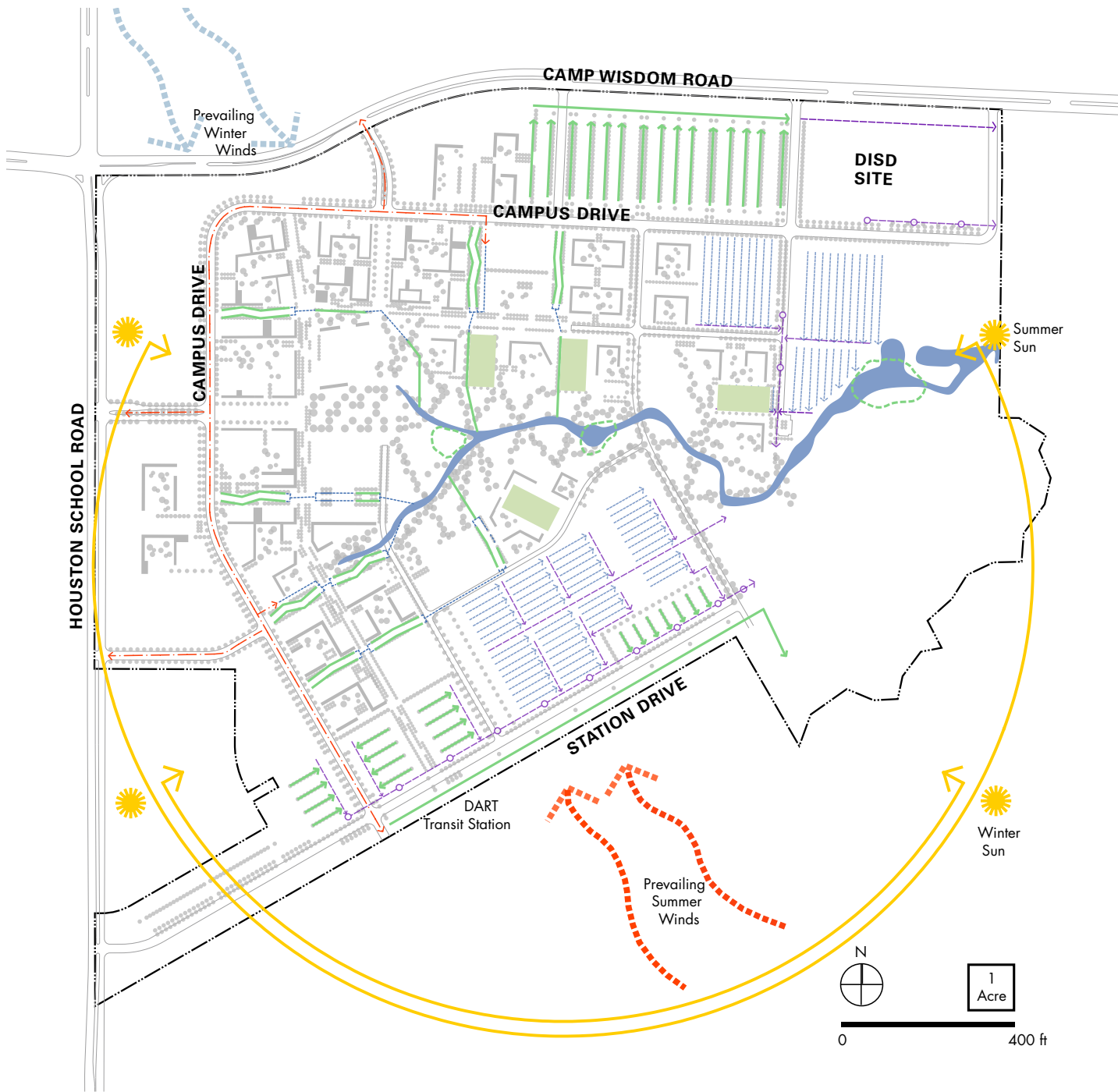










Figure 5.8  
Environmental Principles of the Plan

**LEGEND**

-  Detention Areas
-  Street Drainage
-  Vegetated Swales
-  Underground Pipes
-  Underground Pipes (perforated)
-  Oil-Grit Separators
-  Shade
-  Sunken Recreation Fields



## **ENVIRONMENTAL PRINCIPLES**

The master plan is based on a number of sustainable design principles that will assist the University in reducing energy consumption, provide alternative transportation services, improve air quality and manage water resources on the campus, (Figure 5.8).

Buildings are sited close together to provide shade and enhance the pedestrian experience, to minimize heat gain and provide wind protection. Within each block, buildings are oriented east-west as much as possible to take advantage of natural sunlight and minimize building exposure to the western sun that can contribute to excessive heat gain in buildings. Where buildings are oriented on a north / south axis to define circulation routes or courtyards, the architectural design guidelines specify that exterior shading must be provided on these facades.



The courtyards are designed to capture and enhance naturally prevailing breezes such that they create microclimate environments for each building or group of buildings. Landscape treatments make use of existing topography to manage water resources and emphasize use of native plants to reduce maintenance needs and highlight the natural landscape. Pedestrian ways are shaded through use of trees, arcades, trellises, and building placement. The goal of housing 20% of the FTE will potentially reduce the number of daily vehicle trips to the campus. The DART station and local bus services will provide alternative transportation options. The Nature Area maintains 40 acres of land for stormwater management and natural habitat. For a more detailed discussion of the environmental goals and objectives of the plan, please see Chapter 8.





# 6 DESIGN GUIDELINES

URBAN DESIGN GUIDELINES  
BUILDING DESIGN  
LANDSCAPE DESIGN  
DESIGN REVIEW

The design guidelines establish specific criteria to guide future urban, building and site design efforts as the Master Plan is implemented over time. While each new project will present a unique set of opportunities and constraints, the Master Plan will guide projects such that they exhibit a consistency in character, quality, and form, while maintaining flexibility and freedom for program requirements and creative design.

The guidelines are provided as a companion to the master plan. The purpose is to ensure a consistently high design quality as the campus develops and to ensure that a consistent campus design expression emerges for future buildings, urban spaces and landscape.

To provide a comprehensive set of tools for designers, this chapter includes:

## *Urban Design Guidelines*

The Urban Design Guidelines outline the key urban design elements that will create a hierarchy of open spaces that support the academic and social life of the campus and create a network of interconnected pedestrian routes.

## *Building Design Guidelines*

The Building Design Guidelines address building orientation and siting, scale and massing, facades and fenestration, roof form, arcades and covered walkways, materials and color, and the placement and screening of mechanical equipment.

## *Landscape Design Guidelines*

The Landscape Design Guidelines outline landscape treatment, form and materials that are appropriate for the climate and region.

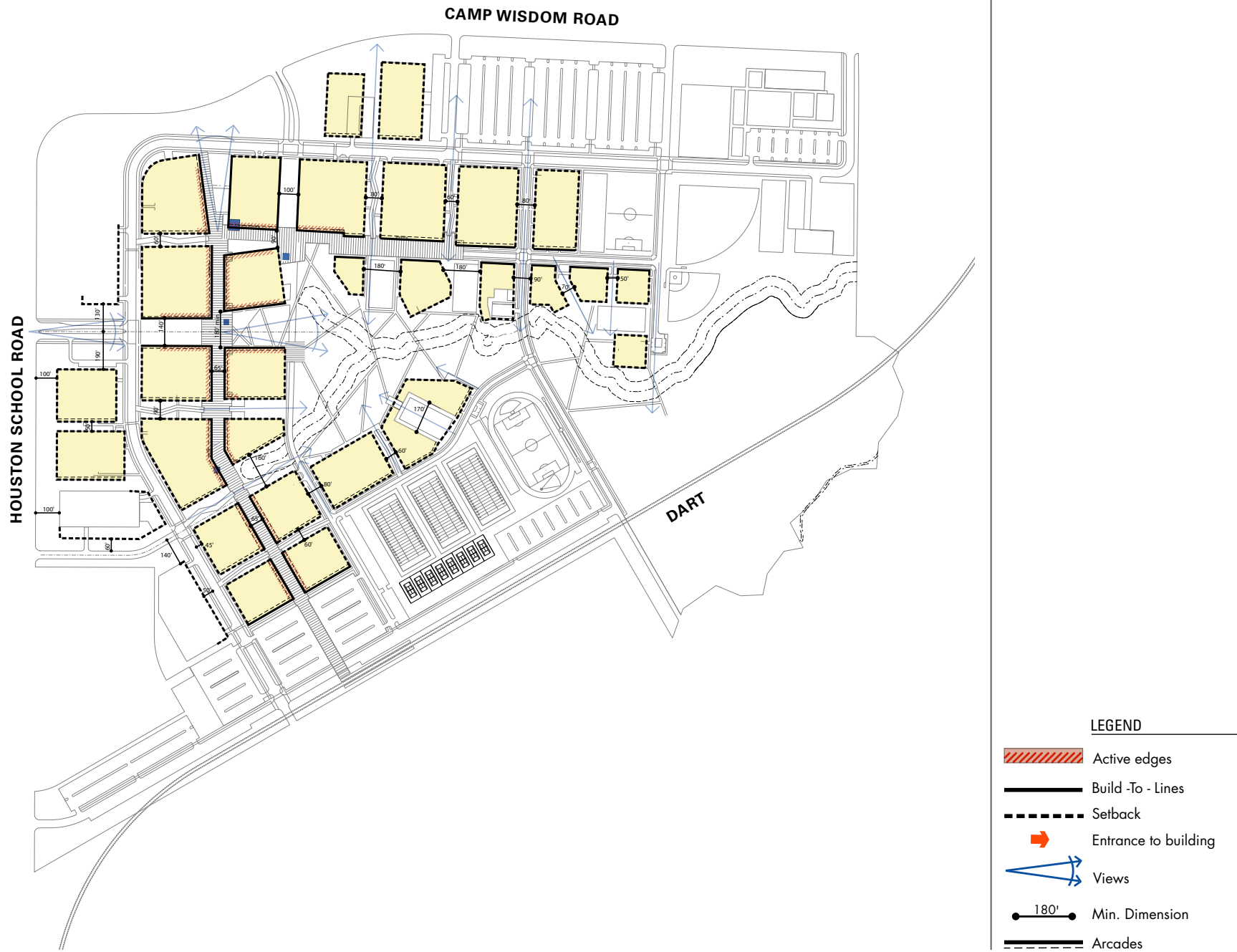
## *Design Review*

The design review section provides recommendations on how to govern the process for locating and designing future facilities consistent with the Campus Master Plan.

Illustrative 3D Rendering of the campus.  
Major feature elements & landmarks are  
indicated in red.



Figure 6.1  
Urban Design Framework





## URBAN DESIGN GUIDELINES

The Urban Design Framework establishes the parameters of the proposed pedestrian circulation network, building edge conditions, and significant view corridors and provides guidance on the following features of the campus:

- Active edges – edges that are to be activated through transparency and views of interior activities. The intent of establishing active edges is to identify areas where positive relationships can be established between indoor and outdoor activities, the aim of which is to enliven the campus environment. Building entrances are to be located along the active edges.
- Build-to lines – govern the location of building facades and define the campus promenades and open spaces. Facades along these lines should be consistent planes to provide strong spatial definition.

- Setbacks lines – govern the distances between buildings and establish the general line of the building facades. They have been established to define spatial qualities and provide shade.
- Arcades – a network of pedestrian arcades and covered walks are identified provide routes through the campus.
- Views – important views out of the campus toward the Dallas skyline and into the campus are identified. Of particular note are the views of the Dallas skyline that will be possible from the University Promenade and into the campus from the Houston School Road entrance.

The framework includes specific guidance for the following areas of the campus

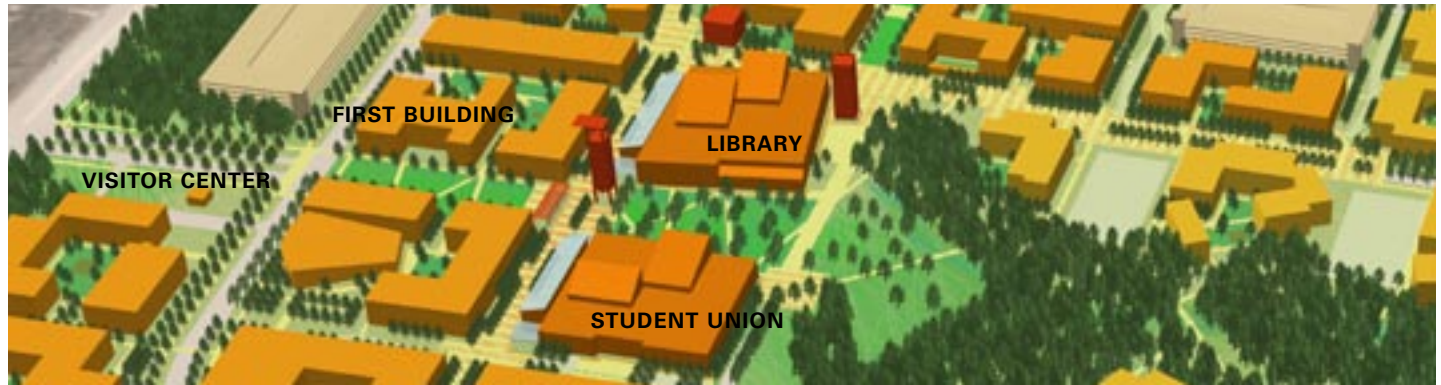
*Campus Core*

*Campus North*

*Campus South*

*Central Open Space*





### **Campus Core**

The Campus Core is envisioned as the social, cultural, and academic heart of the campus, (Figure 6.2). Located on the high point of the site, it will serve as the formal gateway and establish the general character of the entire campus. In terms of implementation, it is given the highest priority in the master plan.

The Campus Core encompasses the main entrance to the campus from Houston School Road and an axial series of linked spaces leading to the central open space. Visually, the main entrance is linked to the central open space via views through a portal landscape, the Campus Square and Main Quad. The portal space is to be 140 feet wide and will be defined on the east by the first building of the campus, and on the west, by a future campus building. Ar-

cadades will be located on the east and west of the space to provide sheltered and shaded pedestrian routes into the campus.

The Campus Square lies at the intersection of the portal landscape and the University Promenade, the main north-south pedestrian route through the campus. The Campus Square will be flanked by the student union and library and will be a paved plaza featuring trees, seating areas, water features and potentially, a landmark tower.

The University Promenade will provide a 65-foot wide linkage landscape through the campus ultimately connecting the DART station to the views of the Dallas skylines to the north. The University Promenade will be defined on both sides by a consistent building line incorporating a network of arcades on the east and west. Shade trees, trellises, seating areas

and water features are proposed to make this a pleasant pedestrian and landscape route through the campus.

Through a veil of trees, the Campus Square will open out onto the Main Quad defined by the library and student union. The Main Quad will function as the main gathering space for special events of the campus and will offer views of the central open space to the east. Conceptually, the Main Quad landscape will link with the naturalistic landscape of the central open space and beyond to the Nature Area.

The Core area also includes buildings along Houston School Road, all of which have been sited 100 feet from the street. These sites will be reserved for future uses that are public in orientation such as a continuing education center. A visitor center is also located west of the main entrance drive.












**Figure 6.3**  
Campus North  
Urban Design Framework

1. Entrance
2. Portal
3. Campus Square
4. Main Quad
5. Central Open Space
6. University Promenade
7. East-West Promenade
8. Visitor Center

**LEGEND**

-  Active edges
-  Build-To - Lines
-  Setback
-  Entrance to building
-  Views
-  180' Min. Dimension
-  Arcades



### **Campus North**

Offering dramatic views of downtown Dallas, the Campus North area has a mix of academic and residential buildings as well as surface parking lots, (Figure 6.3). Campus North includes the main east-west promenade which is designed to link the core academic uses with the housing sites proposed on the east end of the campus. The east-west promenade will also serve as an emergency and service route through the campus.

A key node in the Campus North Area is located at the intersection of the east-west Promenade and the University Promenade. At this point, the building facades that define the University Promenade splay outward to offer views of the Dallas skyline in the distance. North-south landscape corridors are provided throughout the Campus North area offering additional views northward of the Dallas skyline and from Campus Drive into the central open space of the campus.

The landscape along Houston School Road and Camp Wisdom Road will preserve and enhance existing tree cover with the aim of providing a wooded and drought resistant grass perimeter to the campus. A second major entrance is proposed from Camp Wisdom Road. As with the main entrance on Houston School Road, it will offer views through a 100 foot wide gap to a landmark feature associated with the library. Sites located along Camp Wisdom Road will be reserved for activities that will attract the general public such as a conference facility or museum. Parking along Camp Wisdom Road is designed to include swales and extensive tree planting to minimize the visual impact of the parking, provide shade, control run-off and shield views of the parking from the Singing Hills Neighborhood.

The Campus North area includes a major concentration of housing organized along the east-west promenade with support

amenities such as a dining hall, passive recreation lawns, tennis courts and a soccer field. Direct access is also provided to the adjacent central open space and baseball facilities to the east. The proposed housing is arranged around a series of courtyards that will provide outdoor gathering spaces for the residents.

The eastern end of the Campus North area includes the facilities for the campus physical plant and operations as well as a site reserved for a future elementary school for the Dallas Independent School District.

As with the entire campus, a pattern of interconnected courtyards is proposed throughout the Campus North Area to provide a pleasant pedestrian environment and to shade the plaza areas and building facades. This pattern of courtyards, will connect with the east-west promenade and views of the central open space to the south will be provided.

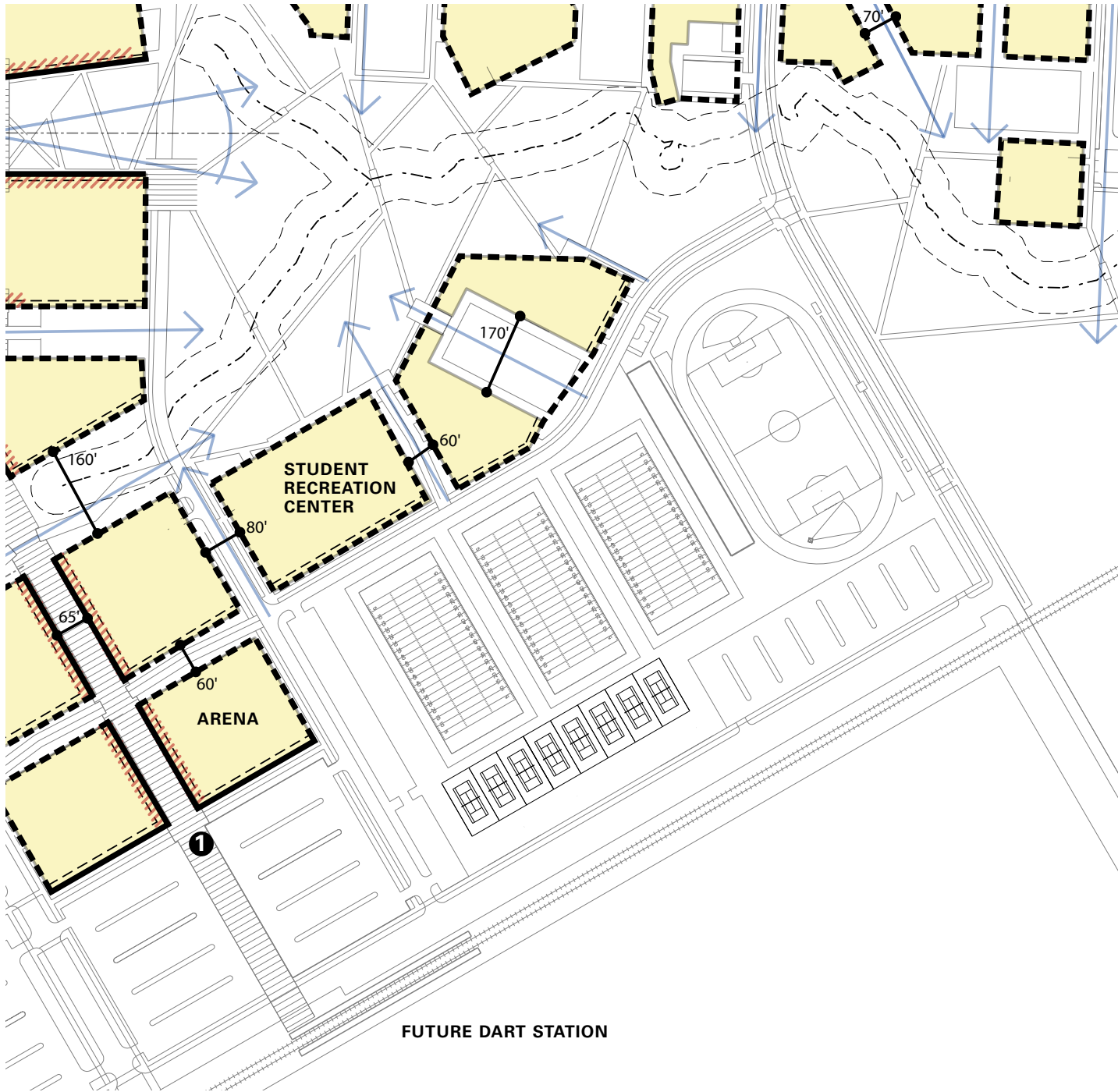









Figure 6.4  
 Campus South  
 Urban Design Framework  
 1. University Promenade

LEGEND	
	Active edges
	Build -To - Lines
	Setback
	Entrance to building
	Views
	180' Min. Dimension
	Arcades



### **Campus South**

The major land uses proposed for the Campus South area are: academic; athletic facilities, including the student recreation center, a future basketball arena, football fields, a track and field facility and tennis courts; housing; and parking, (Figure 6.4). Ultimately, the South Campus will function as a secondary gateway to the campus when the proposed DART rail line and station are completed.

The design of the Campus South area is organized by the University Promenade, which will link the DART Station to the Campus Square. Acting as a central pedestrian and landscape spine of the campus, the Promenade will be defined by arcades along each side providing covered and sheltered pedestrian routes into the campus from the DART station. A pattern of interconnected courtyards and pedestrian routes are proposed in the south campus area connecting the academic facilities and parking areas.

The future basketball arena is sited along the Promenade in close proximity to the DART station and two major parking garages that will be accessed from Houston School Road. This will provide parking within walking distance of the arena. The student recreation center is sited to define the southern edge of the central open space and to provide convenient access to the recreation fields.

Parking in the Campus South area includes two garages, and a series of surface parking lots. The surface lots will serve the DART station until such time that the line is extended further to the south. Initially, the UNT will accommodate an end-of-the-line station and therefore an eight-acre park-and-ride facility is required by DART.












**Figure 6.5**  
Central Open Space  
Urban Design Framework

1. Entrance
2. Portal
3. Campus Square
4. Main Quad
5. Central Open Space
6. University Promenade
7. East-West Promenade
8. Visitor Center

**LEGEND**

-  Active edges
-  Build -To - Lines
-  Setback
-  Entrance to building
-  Views
-  180' Min. Dimension
-  Arcades



### **Central Open Space**

The central open space transitions from a dense urban park to a more naturalistic wooded area in the Nature Area, (Figure 6.5). Beginning with the Main Quad at the campus gateway, the park-like setting meanders through the residential housing areas to the north and south while preserving the natural flood management characteristics of the existing drainage corridor. The landscape qualities of the central open space are linked physically and visually to the academic and housing land uses on the north and west by means of circulation and landscape corridors which extend into the developed core of the campus. Additionally, the landscape throughout the central open space ties the informal native landscape into the more formal geometry of the campus.

The central open space will function as a passive recreation area and will contain a number of cross-campus pedestrian routes that will facilitate diagonal movement between the Campus North, Campus Core, and Campus South areas.

The Nature Area is envisioned as a reserve where trees and existing non-invasive species will be maintained. The area will include walking trails and could be utilized for field survey work associated with biology and environmental programs offered by the University. It will also serve as part of the stormwater management zone for the campus.

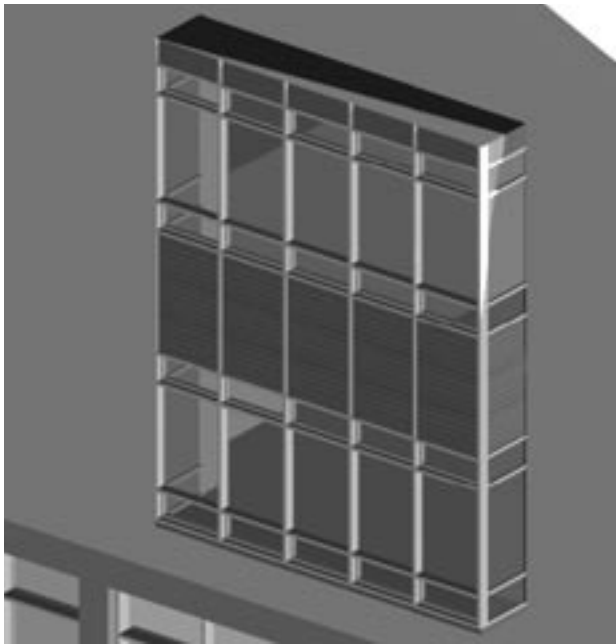
### **ARCHITECTURAL GUIDELINES**

The proposed campus will be rooted in its location – topography, climate, and environment. The Architectural Guidelines support the following design principles:

1. The new campus will be firmly established with the first multi-purpose building, creating a sense of place from the outset. The buildings will grow from the landscape with a sense of gravitas.
2. True to its program, the new campus will reflect the academic nature and create a setting for innovation and learning.
3. As a compact, walkable campus, the buildings will respond to the climate and fit organically into the landscape.

### **Siting and Orientation**

To minimize western exposures and solar gain while maximizing natural light and ventilation, all campus buildings should be sited with an east-west orientation and along the geometry established by the promenade, whenever possible. The siting of all campus buildings should respect the existing topography to minimize the cut and fill process and take advantage of subtle grade changes to provide visual interest. Buildings should also be oriented to focus on internal and external views of the campus and its surroundings. Ensembles of buildings should form public spaces, creating both formal and intimate gathering spaces. Additionally, buildings may form public spaces on several faces and respond to adjacent buildings in terms of axial relationships and alignment of entrances, facade features, etc.



### Facades & Fenestration

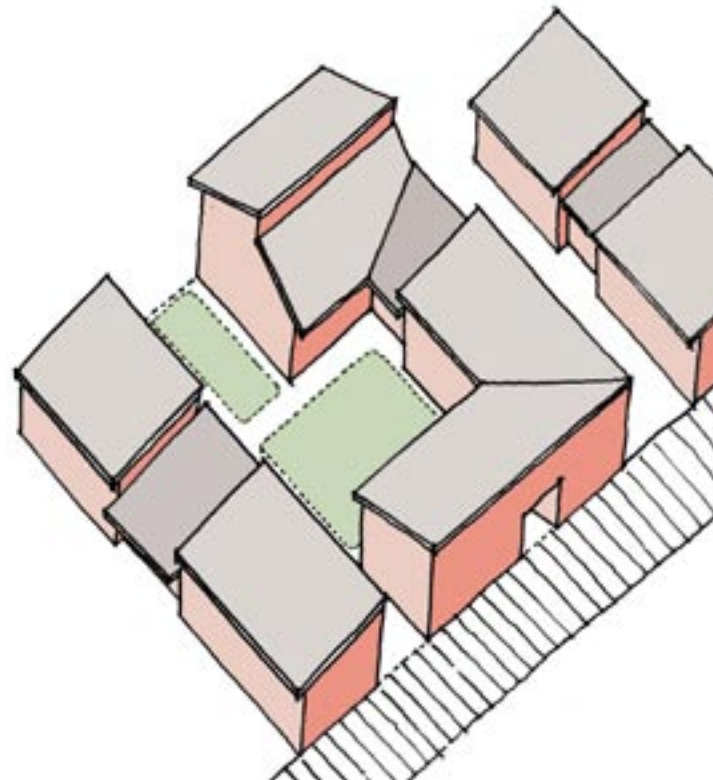
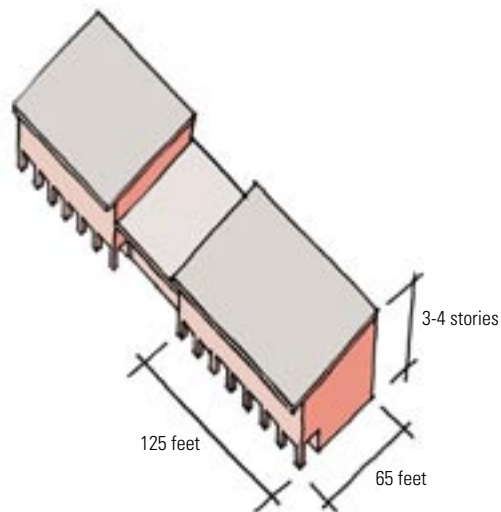
Windows should respond to the orientation of the building, ie. protected punched windows on west and south facades more expansive use of glass permitted on north facades

Fenestrations should express the internal use of the building

Window placement should respond to the structural system of the building

Restrict the use of curtain wall or ribbon windows

Limit glazed area to 30 percent for west and east facades for energy conservation or provide shading of glass to limit exposed glass.



### Building Form and Massing



### **Building Form and Massing**

Landmark features should be located at important public places to create a sense of arrival and visual markers for the campus. Potential landmark features identified in the plan include the tower in the Campus Square and a feature east of the library on axis with the main entrance from Camp Wisdom Road.

Buildings should be designed to anticipate adjacent future buildings, ensuring that they do not turn their backs on neighboring development sites.

Buildings should be constructed at a human scale with a maximum uninterrupted façade length of 125-150 feet. Building heights should be between 40 and 65 feet or 3-4 stories to create consistent massing. In order to maximize natural daylight and ventilation, the ideal building width is

60-65 feet. To encourage the movement of air in public spaces, opportunities should be created for natural ventilation, whenever possible.

### **Facades and Fenestration**

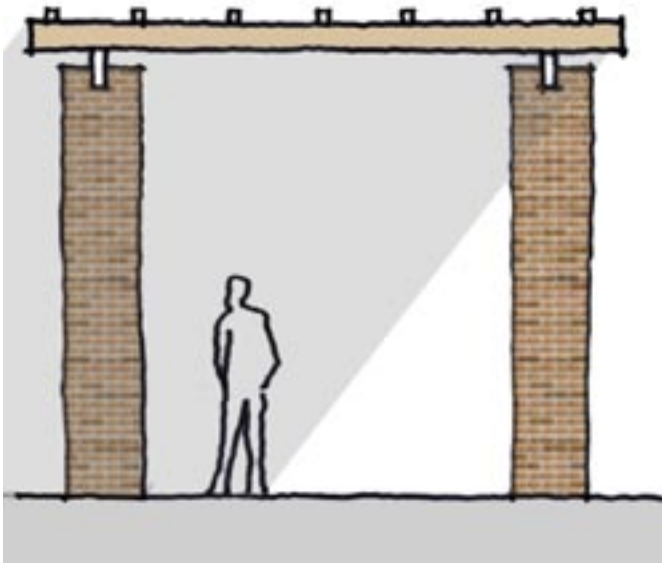
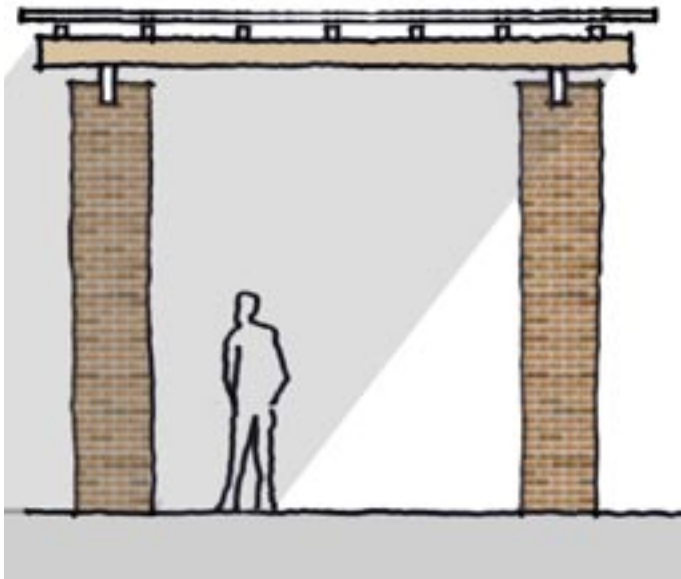
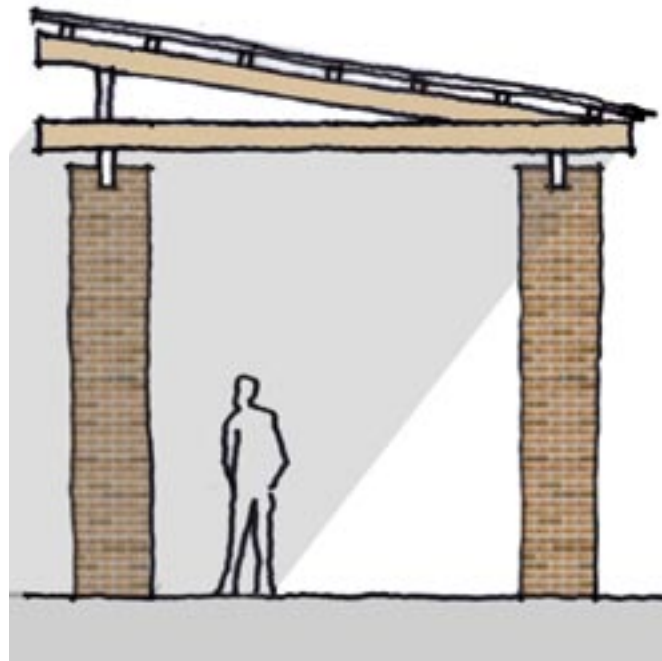
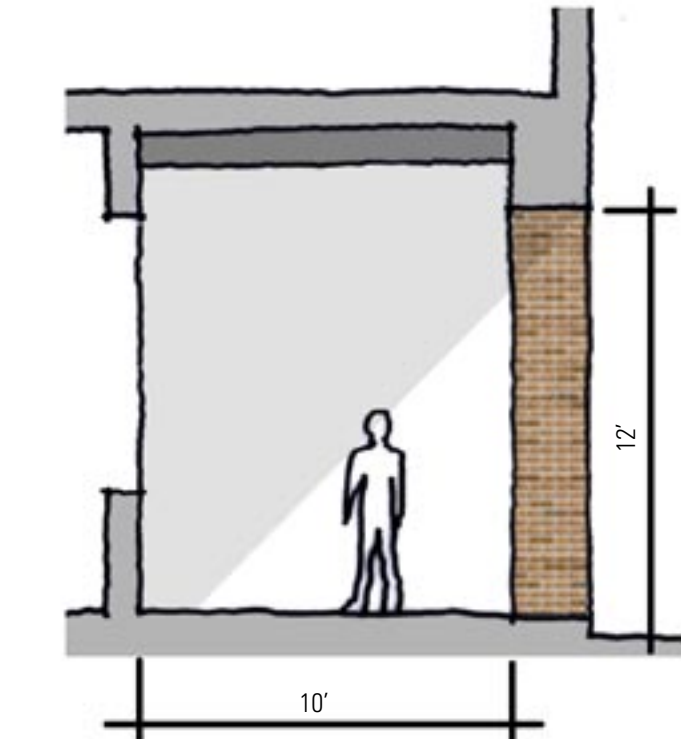
The facades of the buildings should express and respond to the orientation by minimizing openings, using shade device or recessed bays on the west and south elevations, and open facades to the north. On the north and east elevations, protrusions will allow more light. In addition, the structure of the building should be expressed in the façade.

Grouping windows to express program, create larger elements on facades, and decrease the scale of buildings is suggested while the use of strip or ribbon windows should be limited. The use of curtain wall should be limited to entry expressions and

public edges of buildings. and where used should be shaded from direct sunlight. Window placement should respond to the structural system and should respond to the orientation of the building, such as protected punched windows on west and south facades and more expansive use of glass on north facades.

For energy efficiency, the maximum amount of glazed area on a building façade should be only 30% unless shading is provided to limit the amount of exposed glass, (north facades are excluded as they do not require shading).





### **Arcades, Porches, and Covered Walkways**

Covered walkways and building arcades provide a network of shaded outdoor space for moving throughout the campus. These elements uniquely marry the building and landscape. Arcades and covered porches should be used in the design of buildings to create connections and to give definition to outdoor spaces.

Arcades can either be incorporated into the footprint of buildings or external to buildings, but should be a minimum of 10 feet wide and 12 feet high with 10-foot bays. The height of arcades could be raised to

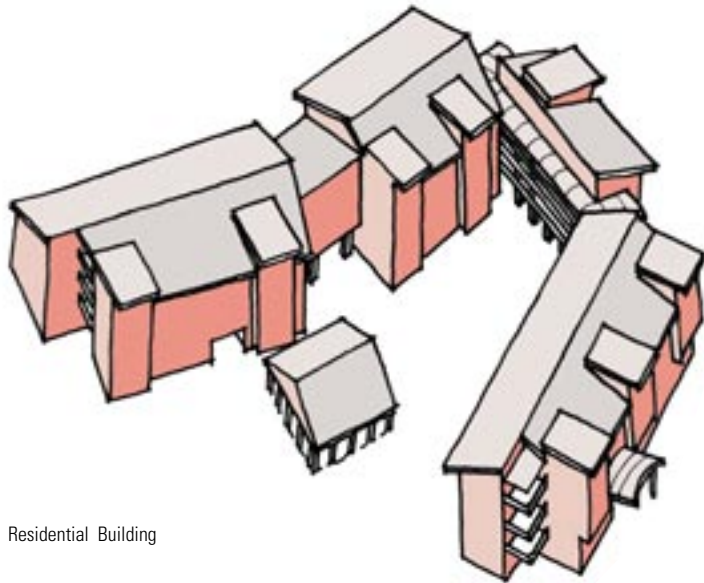
express arrival points, building entries, and special spaces. Arcade openings at the end of a building can also express arrival points. Where possible, arcades should be used to create shade on the south and west edges of buildings.

Arcades, porches and covered walkways should be integrated into the design of buildings to serve as transitions between the indoors and outdoors as well as between buildings and should be coordinated with entrances and pedestrian routes. Consistent design of freestanding covered walkways with masonry columns is suggested.

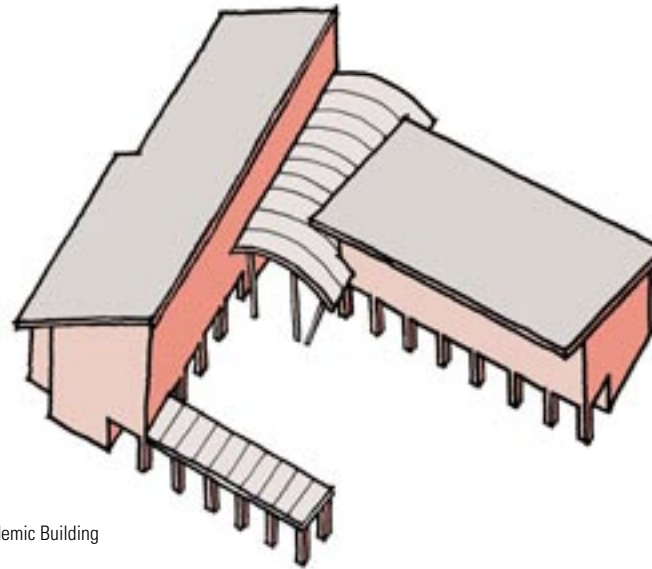
### **Building Entrances and Ground Level Treatment**

Building entries should be defined by canopies, shaded porches, roof or façade articulation. Arrival at buildings should be through a sequence of these spaces such as covered porches, vestibules, and lobbies. Building entrances should create fluid connections between interior rooms and exterior spaces. Comfort zones should be created at entries and courtyards through the use of arcades, canopies, covered walkways and trees.

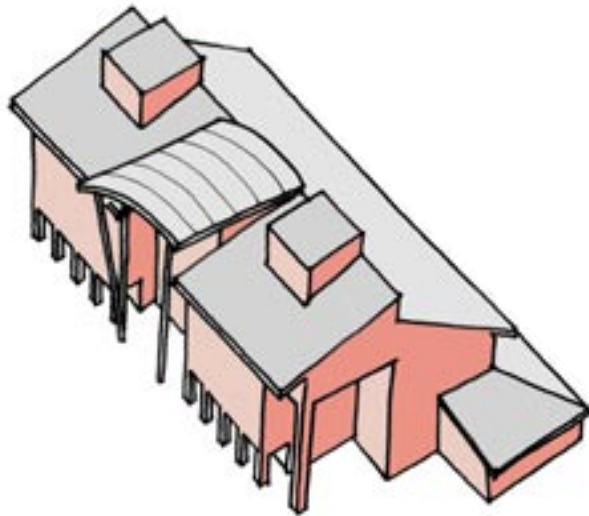
To ensure an active exterior campus environment, the ground level treatment of buildings should be carefully manipulated to provide transparency at key locations where people will congregate. However, the use of heavy materials like stone, brick and concrete should be used to articulate and ground the base of buildings and create the impression of gravitas.



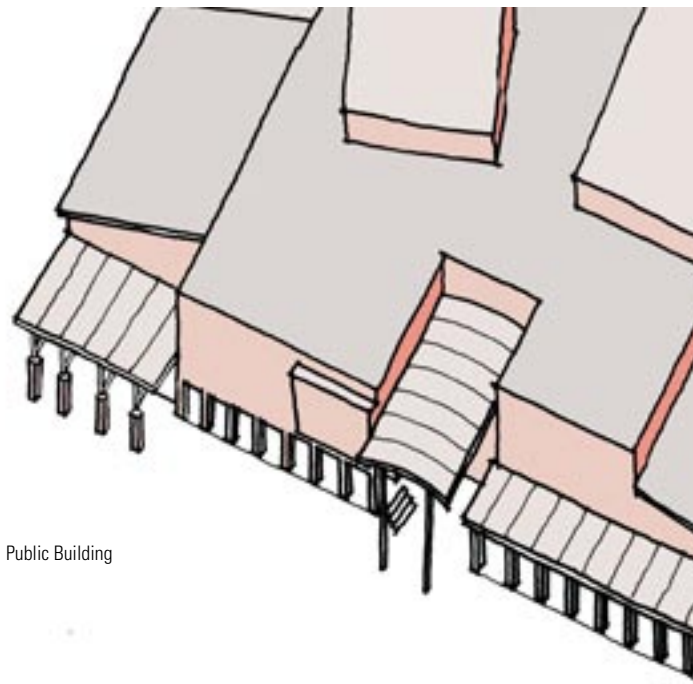
Residential Building



Academic Building



Research



Public Building

## Roofs

Use simple sloped roof forms

Use expressive roof forms to signify building entry

Avoid use of low sloping roofs to ensure the expression of sloped roofs from a ground level perspective

Use roof overhangs especially on west and south facades

Use covered walkways to create shaded area beyond the building edge

Collect mechanical stacks and integrate into design of building

Use one or two story roof elements to bring down mass of large buildings

Use expressive roof forms to signify building entry

Avoid use of mansard roofs to preserve the visual integrity of the roofscape

Break down roof form to reduce scale of massive buildings

Integrate north facing light wells to bring light into interior spaces and to articulate roof line.

Program common uses located in smaller structures in residential quads

Use lower roof elements to incorporate a human scale

Use roof forms to express the public or unique program in residential buildings

## Materials

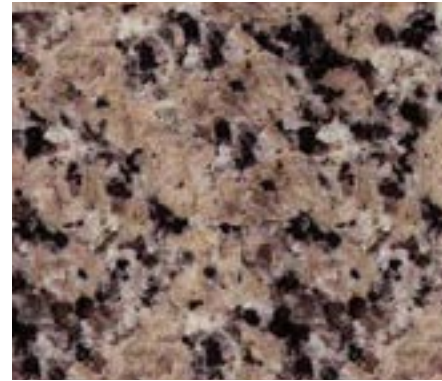
Brick is the dominate wall material for all building types

Stone and terracotta used to articulate special features of buildings or buildings with special program, (the library).

Metal or wood windows with clear glass and dark frame color

Wood detail incorporated in protected areas

Roofs of standing seam metal, concrete or terracotta tile/



## Roof Treatment

The use of a varied palette of rooflines should be employed to differentiate between academic, public, research and residential buildings as well as to express special programming areas or building entries. Specific guidance is provided for the four main building types.

Sloped Roofs should be the dominant roof form and should also be used to shelter mechanical space and provide ventilated attic spaces. The intent is to create a campus that is characterized by the use of sloped roofs. The sloped roof is employed for aesthetic and practical reasons. Sloped roofs allow for ventilated attic spaces and separate interior spaces from roof planes that receive direct sunlight. This will assist in reducing the overall heatgain in buildings.

Buildings should be articulated through the expression of eaves and overhangs. Lower roofs or porches and entry roofs should be used to decrease the scale of large buildings. However, the size of undifferentiated



roof planes should be limited by breaking up the roof into several planes to add interest and define the program of the building. The program and use of buildings should be differentiated through the following design techniques.

## Building Materials and Color

The primary wall material should be brick. Special building features and special public uses such as the library should be articulated through the use of limestone, granite, stone and terracotta. Wood detail should be incorporated in protected areas to provide a rich variation in color and tex-

ture. Warm inviting materials should be used in locations where people come in contact with the building to create a tactile experience for the user.

## Mechanical Equipment

Mechanical equipment should be isolated from quiet spaces and mechanical stacks should be grouped together to minimize audible and visual impediments. Equipment should be integrated in the roof structure and ventilated attic spaces. Ventlated attic spaces should be achieved through the use louver covers.





Figure 6.6

Master Plan Landscape

- 1. Perimeter Landscape
- 2. Landscape Corridor
- 3. Campus Gateways
- 4. Campus Portal
- 5. Campus Square
- 6. Main Quad
- 7. Central Open Space
- 8. Promenades
- 9. Nature Area

## LANDSCAPE GUIDELINES

The campus landscape design guidelines provide the fundamental organizing ideas and concepts for the campus landscape. While the guidelines aim at offering sufficient detail for the design of the campus open spaces, they establish a design direction rather than prescribing definitive design solutions.

The degree of specificity of the landscape design recommendations varies. For example, lighting and site furniture standards are very specific, whereas the design of campus open spaces as well as plantings and paving is more general and take the form of conceptual guidelines.

The goal in setting out the guidelines is to achieve a comprehensive campus landscape design that is sustainable and environmentally responsible, economical and practical to maintain, that responds to climate and natural conditions of the site, and, in which all parts of the campus landscape are related, and, to establish an integrated environment, that makes the day-to-day experience of the campus special and enriching.

### Landscape Design Objectives

At the beginning of the landscape design guideline process, the following planning and design objectives were identified. The recommendations in the subsequent sections of this section respond to these objectives:

- To create an identifiable “campus” feeling that is inviting, tailored to the pedestrian and reinforces the University’s mission to provide an intimate, nurturing environment for learning.
- To create outdoor living spaces that promote a strong feeling of community and to support the activities of faculty, students and staff, the campus landscape should contain a system of lively public spaces that provide a hospitable environment for social interaction.
- To recognize, respect and feature the existing riparian zone or drainage corridors as a character-defining feature of the campus landscape.
- To recognize the North Central Texas climate and ecology as fundamental de-

sign determinants for the campus landscape.

- To develop a practical and sustainable landscape that incorporates water conservation and is easy to maintain.
- To create an identity and community presence by developing campus gateways at the two major entrances, and a defined, unified landscape along the public edges of the campus.
- To define design standards for landscape elements, including furnishings and lighting.
- To create pedestrian paths and connections that are well proportioned and protected from the heat and wind, and offer a variety of spatial sequences.
- To employ appropriate site planning and planting design to deal with extensive parking areas in a visually appealing way.
- To provide outdoor lighting for both safety and aesthetics.
- To use the landscape as a means to contribute to the education of students and visitors in the areas of climate, vegetation and natural systems.



## Campus Landscape Structure

### *Existing Conditions*

The majority of the 266-acre existing site consists of shrubland/grassland in the upland areas and a riparian vegetation community along the drainage corridors. There are two types of shrublands present: 1) an Eastern Red Cedar shrubland, interspersed with grasslands, in the upland areas that have not been disturbed by clearance; and 2) a shrubland dominated by Chinese Ligustrum in areas that have been historically disturbed. Chinese Ligustrum also dominates the riparian or drainage corridors as a result of adjacency to disturbed

areas and the periodic disturbance associated with the flooding and scouring, etc of the creeks. The land generally has a gentle slope that is relatively easy to negotiate.

### *General Recommendations for the Campus Landscape Structure*

The goal of the master plan guidelines is to create landscapes with clear, identifiable characteristics that make them distinctive parts of an overall landscape fabric. The objective is also to establish a system of landscape zones with varying maintenance and water requirements. This will allow for

visual consistency within the zones, and the development of a landscape that is appropriate to the regional climate and ecology.

The landscape character areas include the Perimeter Landscape and Campus Roads, the Campus Gateways and Portals, the Landscape Corridors, the Academic Core Area, Campus Square, Main Quad, Promenade, and the (academic and residential) Courtyards.



Perimeter Landscape (left)  
Shaded Pedestrian Walks & Street Trees (middle)  
Street edge condition (right)



***Perimeter Landscape (Public Edges and Parking Lots)***

The Perimeter landscape frames the academic and living areas of the campus, and serves as the public face of the University, particularly on the North and West, which are the primary approaches to the campus. The Perimeter Landscape is envisioned to have the natural character of a dry short grass prairie with scattered groupings of trees. The landscape will be a relatively low maintenance, dry landscape with minimum irrigation requirements, and will be composed primarily of native species of grasses, wildflowers, trees and shrubs.



Informal arrangements should prevail and plants should blend with the naturalistic arrangements of existing trees and remnant natural areas.

A majority of the campus parking will be located in the dry landscape of the Perimeter Landscape. Trees with a dense, shade providing canopy will be planted extensively around the edges of the lots and in continuous swales/medians within the lots. Where practical, the edges of the parking lots will be screened with low walls or hedges to minimize views of parked cars.



***Campus Roads***

Throughout campus, street trees will be planted along both sides of all major roads to provide shade, a sense of scale, and visual consistency. A continuous shade canopy will improve pedestrian comfort, and reduce solar heat gain and reflection. The lawn areas along Campus Drive and other campus roads will be planted with drought resistant native grasses and wildflowers that require minimum or no irrigation. A maximum speed limit of 20 mph is proposed for all campus roads.





### ***Landscape Corridors***

The landscape corridors are the linkage landscapes along the circulation routes that connect Campus Drive to the central open space. They serve as visual, physical and circulation linkages through the campus.

### ***Campus Gateways***

The main entrances on Houston School Road and Camp Wisdom Road will be developed as memorable and attractive gateways that enhance the identity of the institution. Shade trees will be planted along both sides of each drive to create a tree-lined avenue framing the entrance experience to the campus. The trees will be Live Oaks (*Quercus virginiana*) to provide a year-round evergreen effect (and shade) and give the entry a sense of grandeur.



### ***Campus Portals***

The Campus Portals form the transition between the Campus Gateways and the Academic Core. They will be clearly defined, yet open spaces that allow unobstructed views of the Promenade, the Main Quad and the central open space. The proposed landscape expression for the portals will consist of evenly sloped/smoothly graded open lawn areas framed along the edges by shade trees.

Intricate plantings should be avoided in favor of a simple, restrained landscape of trees and lawn.

### ***Central Open Space***

The central open space will emphasize the qualities of the existing shrubland/grassland landscape and the existing creeks located in the core of the site (riparian corridor). The central open space will generally have an informal character, and will be established as a drought resistant grassland with informal, naturalistic groupings of native trees (existing and newly plant-



ed). The landscape should be a relatively low maintenance with minimum irrigation requirements, and should be composed primarily of native species of grasses, wildflowers, canopy trees and shrubs. The grassland community will also stabilize the banks and slopes of the creeks and tributary river which serves as a natural drainage way for the campus. Detention areas should be integrated in the central open space and Nature Area as natural low/shallow depressions, and, together with biotopes, along the tributary river.

A trail system through the central open space will connect the academic core with the residential areas and the athletic facilities and is intended to encourage recreational walking and jogging. The central open space will take advantage of the surface drainage network and include bridges as part of the pathway experience. Trees will be planted along the trails to provide shade and create a rich sequence of open and 'enclosed' spaces, of light and shade.

Central Open Space Grasslands (left)  
Central Open Space Wildflowers (middle)  
Nature Area Trails (right)

Courtyard Spaces featuring extensive tree cover, seating and special paving



### **Academic Core Area**

The Academic Core Area is conceived as vehicle-free area and is designed as a series of inviting community spaces that encourage social interaction. Plantings, pavements, and furnishings will be utilized to create a rich sensory experience that encourages people to spend time on campus.

The outdoor spaces in the academic core areas will provide a contrast to the perimeter areas of the campus, which, by necessity, are dominated by the automobile. The

core areas should be at least 50% shaded to offer respite from seasonal heat. They will be places that support everyday social engagement as well as host outdoor classes and other campus events.

The following recommendations pertain to the landscape of the Academic Core.

### **University Promenade**

The University Promenade is conceived as the main north-south pedestrian spine through the campus. It is to be defined by alternating rows of canopy trees to create

a comfortable pedestrian environment and provide shaded places to sit and gather. The Promenade will have a well-balanced combination of paved and landscaped areas and will facilitate pedestrian use. Small trees, flowering shrubs and groundcover are proposed to introduce seasonal flower and foliage display and will add variety and detail within the larger framework of canopy trees. A variety of seating opportunities (benches, seat walls, steps, café tables, movable furniture etc.) will be provided for informal social interaction.





University Promenade looking North toward the Dallas Skyline



### Main Quad

The Main Quad is at the heart/center of the campus, between Campus Square and central open space. It is envisioned as the main open space for everyday use as well as the 'grand' open space for academic ceremonies. A wide, open, uniform lawn area (evenly sloped), with a loose grid of shade trees (preferably Live Oaks) will extend from the Main Quad into the central open space to create a quality of spacious-

The Main Quad is to be the central gathering space for major ceremonies and day-to-day activities. The general intent is as shown here at the University of Illinois, Champaign-Urbana.



ness and expanse, and connect the core of the campus with the central open space and Nature Area. Large canopy trees are proposed to provide shade and a lively, dappled light.

### **Campus Square**

The Campus Square is located at the point where the Campus Portal and Main Quad intersect and is envisioned to become a vibrant gathering place. Plantings and ar-









chitecture will provide shade and visual interest to make the Square a destination within the campus. The plantings will consist of canopy trees, smaller ornamental trees, shrubs and groundcover in simple and bold arrangements. Stone benches and other seating opportunities will create places to sit, and special lighting and areas of attractive paving will add to the visual interest of Campus Square.



Figure 6.7  
Conceptual Drainage Patterns



**LEGEND**

-  Detention Areas
-  Street Drainage
-  Vegetated Swales
-  Underground Pipes
-  Underground Pipes (perforated)
-  Oil-Grit Separators
-  Shade
-  Sunken Recreation Fields

Shade trees are to be provided in all courtyards (left)

Residential Courtyards should provide seating for outdoor dining/study (middle)

Play Fields defined by informal groupings of trees (right)



### **Courtyards**

The smaller scale courtyards associated with the proposed buildings in the academic core and residential areas are intended to be intimate, inviting outdoor living spaces suitable for classes, gatherings or a quiet place to read or study. The courtyards will combine attractively paved and landscaped areas that respond to the character of their immediate surroundings. They will be planted with shade trees, small ornamental trees, shrubs, ground-cover and lawn in simple compositions to add detail and richness. Decorative paving, special lighting, seat walls, moveable furnishings, benches, and other elements will enhance the identity and quality of these outdoor spaces.



### **Residential Areas**

The residential areas of the campus will be pedestrian oriented and, similar to the landscape spaces of the Academic Core. They will be at least 50% shaded and designed to promote a neighborhood feeling and domestic scale for each residential cluster. Where space allows, outdoor lawn areas for informal recreation is provided adjacent to residences. The proposed planting is designed to provide shade, create a pleasant domestic scale and character adjacent to residences.



### **Athletic Fields and Play Fields**

The Athletic Fields are to be framed/bordered by trees to create a sense of enclosure and frame, and to provide separation from adjacent roads. All fences should be dark green or black in color to minimize their visual impact. All Athletic Fields shall be planted with turf grass (Bermuda), and will require irrigation. The informal Play Fields adjacent to the major housing areas will be slightly depressed/sunken to serve as water detention areas for storm water runoff, and will be planted with a drought resistant grass.



### Site Drainage / Water Management

Because of the soil composition (predominantly clay based), and occasional high intensity of precipitation, periodic, localized drainage problems may exist on the campus. The landscape guidelines respond to local soil conditions, the climate, the combination of seasonal drought and torrential rainfalls, and emphasize this change from a 'dry' to a 'wet' landscape condition in the design, which will in turn lend interest to the campus landscape.

As the impervious surface will increase with the development of the campus, the stormwater run-off will need to be detained on site in order to prevent any negative impact on the bordering 100-year floodplain, and on sites 'downstream'. A combined system of above and below ground water management will be established, and each method applied where appropriate. Surface drainage will, wherever possible, replace the standard underground system of pipes and pumps.

Run-off from roads, parking lots and other impervious surfaces on site will be collected in a campus-wide network of runnels, vegetated swales, and detention areas/fields under lawns and athletic fields, that will in turn take the water into smaller detention areas in the central open space and along the existing tributary river, and finally to a larger detention basin at the East border of the campus site. Detention under fields will be provided in perforated pipes.

The campus irrigation system will be a modern automated system properly designed and maintained to minimize water usage for campus plantings. The opportunity to connect the campus to a City gray water system should be monitored and pursued if and when such opportunities materialize.

### Planting Design Guidelines

#### *Basic Principles*

This section addresses planting principles and plant lists that apply to all areas of the campus.

#### *Spatial Definition*

Together with buildings and topography, planting is a primary means of defining the scale and character of the campus landscape. Trees and shrubs establish the limits of views and the structure of outdoor spaces and, in a fundamental way, they define the shape, size, sequence and hierarchy of outdoor spaces. The space-defining role of plants should precede our thinking about specific plant characteristics such as flower, leaf texture of branching habit and should precede our thinking about adding horticultural interest and color to the landscape.

Trees and shrubs should first be thought of in terms of achieving desired functions and spatial effects. They are also essential in making the campus livable in terms of shade and surface cooling. This approach



recognizes that the overall spatial order and quality of campus spaces is a principle concern of campus design. (Even though roads and pathways play an important function, the three-dimensional presence and strength of buildings, topographic form, trees and shrubs primarily determine the organization of the campus landscape.)

### ***Scale***

The size and composition of tree groups, shrub masses and plant beds should be designed at a scale that is appropriate to their relationship to/with campus buildings and their landscape context (like roads and open spaces). In most campus open spaces, plantings should be simple, and be conceived in broad strokes that are scaled with respect to their surrounding and the larger campus landscape, particularly when adjacent to institutional size buildings and in the large lawns and meadows of the campus. More detailed garden scale plantings are appropriate and encouraged in smaller spaces and courtyards



that are well defined by buildings, walls or other structures. The garden designs, too, should be kept simple and geometric to be consistent with the order of framing buildings and walls.

### ***Plant Fitness/Suitability & Character***

The majority of plants selected for use on the campus should be selected for hardiness, longevity, general ease of maintenance, freedom from diseases and pests, and ornamental quality. Plant species used should be sufficiently diverse to maintain resilience to known and unforeseen disease or climatic stress that may target a specific species. Plant diversity should not, however, be exaggerated at the expense of visual unity and continuity. To the practical extent possible, they should be native to North Central Texas and the Blackland Prairie Bioregion. Non-native plants that are used on campus should be non-invasive and should present no threat to the native flora. They should have low-to-moderate water requirements,

and generally share the visual traits that characterize the dominant regional flora. Plants whose visual appearance diverges or is significantly different from the native flora should generally not be used on the campus. The overall purpose of the planting design should be to capitalize on the inherent beauty and climatic adaptability of the native flora.

Lawns should be limited in area and planted with drought-tolerant grasses to reduce water consumption.

The natural form and character of plants, particularly shrubs, should be retained through proper design and pruning. With the exception of hedges, shrubs should be planted in arrangements that allow for their natural shape to be retained, and allow adequate space for them to develop to their natural size either as an individual plant or in shrub masses.



New trees should be planted in sizes that are large enough to have an immediate affect on the quality of the landscape. Tree pruning should be started early in the life of all campus trees to encourage the establishment of a storm resistant branching structure. Tree canopies in lawn areas should be established sufficiently high to provide/offer clear visibility beneath the trees and to allow adequate light to the lawn areas.

The Campus Plant List identifies preferred species of plants for use on the campus. Not all of the plants on the list are suited to every habitat on campus, and judgment will be required regarding soils, available moisture and exposure on a case-by-case basis as projects are implemented over time. Framework trees that are generally best suited to the campus and that should form the basic skeleton of the campus flora are designated with a number (1).

Live Oak (*Quercus virginiana*) should be recognized as one of the best landscape trees for use throughout the campus and should be considered the principle choice for new canopy tree plantings. The value of Live Oak to the overall fabric of the campus landscape should take precedence over the relatively low risk of losses from Oak Wilt. Live Oak is the best available tree with respect to providing year-round shade, aesthetics and adaptability to the extremes of the local environment.

While avoiding a campus monoculture, Live Oaks should be planted as the primary framework tree while other trees of a variety of species should be used to augment the Live Oaks and increase the amount of summer season shade.

### ***Planting Patterns***

In general, the character of campus plantings should be informal and naturalistic. There is great advantage in planting in informal patterns for many campus spaces: layouts can easily adopt to utility, drainage and access requirements, and the planting can be sufficiently diverse to accommodate a variety of species and ages of plants while maintaining an overall sense of completeness and order.

Exceptions to informal plantings include (rows of) street trees and parking lot plantings, and more formal gathering spaces in the academic core.

For both naturalistic and geometric planting arrangements, it is recommended that plants be organized in groups composed of single species or multiple species that share a high degree of visual similarity. Groups of similar plants will visually tie the campus together.

**Shade Trees**

Acer grandidentatum Big Tooth Maple  
 Carya illinoensis Pecan  
 Celtis laevigata var. texana Honey Hackberry  
 Celtis occidentalis Hackberry  
 Leptochloa dubia Green Sprangletop  
 Fraxinus texensis (1) Texas Ash  
 Liquidambar styraciflua Sweetgum  
 Magnolia grandiflora Magnolia  
 Platanus occidentalis var. glabrata Texas Sycamore  
 Populus deltoides 'Siouxland' Hybrid Cottonwood  
 Quercus fusiformis Escarpment Live Oak  
 Quercus macrocarpa (1) Bur Oak  
 Quercus muhlenbergii (1) Chinquapin Oak  
 Quercus polyphorma (1) Monterey Oak  
 Quercus virginiana (1) Live Oak  
 Sapindus drummondii Western Soapberry  
 Taxodium distichum Bald Cypress  
 Quercus virginiana (1) Live Oak  
 Ulmus crassifolia Live Oak

**Small Ornamental & Understory Trees**

Acacia wrightii Sweet Acacia  
 Aesculus pavia (1) Red Buckeye  
 Cercis canadensis var. texensis (1) Texas Redbud  
 Cercis canadensis var. 'Mexicana' (1) Mexican Redbud  
 Cercis canadensis (1) Eastern Redbud  
 Chilopsis linearis (1) Desert Willow  
 Cotinus obovatus (1) Texas Smoke Tree  
 Diospyros texana Texas Persimmon  
 Ilex decidua (1) Possumhaw  
 Ilex vomitoria (1) Yaupon Holly  
 Lagerstroemia indica Crepe Myrtle  
 Myrica cerifera Wax Myrtle  
 Pistacia texana (1) Texas Pistachio  
 Prunus mexicana (1) Mexican Plum  
 Sophora affinis Eve's Necklace  
 Prunus caroliniana Cherry Laurel  
 Quercus glaucoides (1) Lacey Oak  
 Rhamnus caroliniana (1) Carolina Buckthorn  
 Rhus lanceolata Prairie Flameleaf Sumac  
 Ungnadia speciosa (1) Mexican Buckeye  
 Viburnum rufidulum (1) Rusty Blackhaw

**Shrubs**

Abelia grandiflora Glossy Abelia  
 Amorpha fruticosa False Indigo  
 Caesalpinia gilliesii Bird of Paradise  
 Callicarpa americana American Beautyberry  
 Eriobotrya japonica Loquat  
 Hesperaloe parviflora Red Yucca  
 Ilex cornuta 'Burfordii' Burford Holly  
 Ilex vomitoria 'Nana' Dwarf Yaupon Holly  
 Leucophyllum frutescens Texas Sage  
 Myrica pusilla Dwarf Wax Myrtle  
 Nerium Oleander Oleander  
 Pittosporum species Pittosporum  
 Prosopis glandulosa Mesquite  
 Punica granatum Pomegranate  
 Rosa species Low Maintenance Shrub Rose  
 Rhamnus indica Indian Hawthorn  
 Rhus aromatica Fragrant Sumac  
 Salvia regia Mountain Sage  
 Sophora secundiflora Texas Mountain Laurel  
 Salvia regia Mountain Sage  
 Yucca pallida Pale Leaf Yucca  
 Yucca rupicola Twist Leaf Yucca

**Groundcover and Perennials**

Calyptrocarpus vialis Horseherb  
 Liatris mucronata Gayfeather  
 Liriope muscari Lily Turf (Liriope)  
 Salvia farinacea Mealy Blue Sage  
 Salvia greggii Autumn Sage  
 Thelypteris kumthii River Fern  
 Thraselospermum asiaticum Asian Jasmin  
 Verbena bipinnatifida Prairie Verbena  
 Phlox divaricata Louisiana Blue Phlox  
 Phlox pilosa Prairie Phlox  
 Vernonia texana Ironweed  
 Salvia azurea Pitcher Sage  
 Solidago altissima Tall Goldenrod  
 Helianthus maximiliani Maximilian Sunflower

**Wildflowers for Meadow Area**

Amblyolepis setigera Huisache Daisy  
 Gaillardia pulchella Indian Blanket  
 Lupinus texensis Texas Bluebonnet  
 Theliperna filifolium Greenthread

**Grasses for Meadow Area**

Andropogon glomeratus Brushy Bluestem  
 Andropogon gerardii Big Bluestem  
 Bouteloua curtipendula Sideoats Grama  
 Bouteloua gracilis Blue Grama  
 Buchloe dactyloides Buffalo Grass  
 Leptochloa dubia Green Sprangletop  
 Panicum virgatum Switch Grass  
 Schizachyrium scoparium Little Bluestem  
 Sorghastrum nutans Indiangrass  
 Sporobolus Asper Tall Dropseed  
 Tripsacum dactyloides Eastern Gamagrass  
 Sorghastrum nutans Indiangrass

**Grasses suitable for Beds & Gardens**

Bouteloua curtipendula Sideoats Grama  
 Muhlenbergiacaapillaris Gulf Muhly  
 Muhlenbergi lindheimeri Lindheimer Muhly

**Vines**

Bignonia capreolata Cross Vine  
 Campsis radicans Trumpet Vine  
 Hedera helix English Ivy  
 Lonicera sempervirens Honeysuckle  
 Passiflora incarnata Virginia Creeper

The campus plant list includes all major plants recommended for use, however, the plant choice should not be limited to this selection. Designers of the campus landscape are also referred to the most recent edition of Native and Adaptive Landscape Plants; an Earthwise Guide for Central Texas, published by the Texas Co-operative Extension, for secondary plants that may be employed in addition to those on the campus plant list.



## Other Landscape Elements

### *Pedestrian Pavement*

The Master Plan illustrates the general pattern of proposed walkways for the campus. The locations of the paths are approximate and will require refinement as definitive designs for the future campus expansion are developed. Walks should be laid out to accommodate desired paths of movement and required vehicle access with the minimum amount of pavement.

The standard pavement for campus paths shall be cast in place concrete with a light broom finish. Campus Square, the University Promenade, east-west Promenade and courtyard areas should employ richer pavements, including salt finish concrete, colored and exposed aggregate concrete, concrete with embedded crushed glass, unit pavers, tile, brick and natural stone paving to create a more interesting surface in these locations. The courtyard paving should also include areas of peastone, colored pebbles, decomposed granite and crushed glass. Courtyard and plaza pave-



ments should be selected to be compatible and to be in dialogue with adjacent building materials and flooring. The trails through central open space should be paved with decomposed granite or other suitable stone material.

### *Furnishings*

#### **Moveable Furniture**

Benches, movable tables and seats should be located in a variety of settings to allow a choice of scenery and social settings.

Within the core areas, the Landscape Forms “Firenze” armchair and “Catena” or similar freestanding table shall be used as the primary means of providing seating for informal gatherings, outdoor eating, studying and socializing. If located in sunny areas, umbrellas shall be provided. The furniture finish shall be polyester powder coat.

In addition to movable tables and chairs, wood benches should be used in courtyards, near building entrances, including at vestibules, arcades, porches and other covered spaces. The bench shall be the



“Palisade” bench or similar in Redwood as supplied by Landscape Forms. It is available in 72” or 96” length. The finish shall be oiled or plain.

#### **Stone Benches and Seat Walls**

Within the academic core and residential courts, seat walls and stone or colored concrete benches (with wooden seats) should be used to provide seating in or around the edges of these spaces. Walls shall be brick or stone, and be compatible in material, pattern and color with immediately adjacent buildings. Capstones shall be granite, limestone or precast concrete. Seat walls and stone benches shall be set level.

#### **Litter and Ash Receptacles**

The litter receptacle that should be used throughout the campus is the Landscape Forms “Presidio” series, 30-gallon capacity, or similar with hinged side door, high-density plastic liner, and ash pan attachment. Finish shall be polyester powder coat.

## Street Furniture Recommendations

- Moveable Table (left)
- Moveable Seating (middle)
- Bench (right)

Trash Bin with Ash Urn (left)  
 Bike Rack (middle)  
 Street and Parking lot Light Standard (right)  
 Pedestrian Light (right bottom)



With the “Presidio” series, ash receptacles can be hooked onto the top rod of the receptacle door.

Ash receptacles shall be have the same finish as the “Presidio”. For separate ash receptacles, the “Napoleon” ash urn from Landscape Forms or similar should be used. Finish shall be polyester powder coat.

**Bicycle Racks**

In all campus areas, the Bike Security Rack Co., Inc., “Bike Rail 9” model or similar shall be used. Racks should be anchored to a concrete base, and finished with a polyester powder coat.

**Site Lighting**

For all pedestrian areas of the campus, including the academic core, Promenade, Campus Square and Main Quad, the standard fixture shall be the Bega US Type 8071 MH, or similar equipped with a 100

or 175-watt metal halide lamp\*. The fixture shall be mounted on a 14-foot tapered galvanized steel pole. Poles shall be anchored to a concrete pad/footing that is set below (finish) grade to allow for a continuous paving or groundcover surface.

In the academic core, additional bollard lights should be added to accentuate certain areas. The standard fixture shall be Bega US Type 8640, or similar, equipped with a 60W lamp.

Parking lot and street light fixtures shall be Bega US Type 8071 MH or similar (single) or Type 8072 MH (twin) or similar, both with a 100 or 175-watt metal halide lamp\*, mounted on 20-foot poles. Poles shall be tapered galvanized steel, anchored to a concrete pad/footing that is set below (finish) grade to allow for a continuous paving or groundcover surface.

\* Wattage of lamps may vary depending on specific area illumination requirements.





## DESIGN REVIEW PROCESS

The design guidelines are intended to govern the process of locating and designing new facilities on the campus consistent with the campus master plan. Further, they are intended to assist the University in outlining the key design elements of future buildings that will create a hierarchy of campus open spaces and the unify the architectural expression of the campus. The following recommendations describe the procedures for the administration of the design guidelines and the design review process to be conducted by a Design Review Board. (DRB)

The charge of the DRB is to review project designs on behalf of the University with two primary goals:

1. To interpret the Campus Master Plan policies, principles and design guidelines; to determine compliance with the policies principles and guidelines; to recommend modifications to proposed projects as appropriate; and to grant exceptions when appropriate. Serious deliberation should be given to any exceptions or to any modification of the policies, principles or guidelines.
2. To evaluate projects to ensure that they meet the highest qualitative standards. Special care must be taken, however, so that the board does not lapse into "designing the building or site" and that architects, landscape architects, and other project representatives are given clear instructions after any review.

The DRB's review responsibility is the "civic" mission of a project, not its "private" or functional mission. This includes review of the project in light of the Campus Master Plan, with emphasis on the quality of public open space and landscape, on architectural form and exterior appearance, on the design of primary interior spaces, and its relationship and contribution to the larger campus context in which it is sited.

## **PROJECT REVIEW CRITERIA**

A review is triggered by any new project or any project that affects or changes the public spaces of the campus or a building appearance through replacement, repair or restoration. All major buildings and landscape improvements will be reviewed. Smaller projects will be considered for review, although an abbreviated administration process may be utilized. Without some process for review, the accumulation of small projects, including replacement and repair, can add up to degrade the campus environment over time. In some cases, these smaller projects may be an opportunity to initiate the transformation of an existing condition into a new design. The primary criterion that triggers review by the DRB is whether a project affects or changes the public spaces of the campus.

## **DESIGN REVIEW BOARD**

The Design Review Board will be appointed by the Chancellor and will be made up of members of the System and University community and selected design professionals who are recognized for design excellence and who through their previous positions have demonstrated the ability to productively participate in a design review capacity.

There should be one outside consulting architect and one landscape architect on the DRB neither of whom should be engaged in project work for the UNT system to the extent it would result in a potential conflict of interest. Design professionals should be precluded from working for the University during their term on the DRB.

Appointed members will have staggered terms of three years to ensure incremental turnover. To ensure the participation of the entire DRB, membership will be linked to reasonable attendance at meetings.

The DRB is primarily a review body, not an action body. Its role is as an overall advisor with regard to the direction of the ongoing campus projects. The DRB may also have secondary, more pro-active roles including making recommendations regarding the need for district plans and design guidelines.

At least once a year, the DRB should meet with the Chancellor and the President and facilitate a walking tour of the campus.

## **DESIGN REVIEW PROCEDURES**

Meetings should be scheduled as required by project volume and schedule. Projects will be presented to the DRB by the participating users committee and the project design team, which might include architects, landscape architects, engineers or other professional consultants. After every project review, comments will be provided to the project design team with copies to the Office of the Chancellor and the President. Subsequently, those instructions will be conveyed to the Project Committee and its consultants in writing in a timely manner. The sequence of actions/reviews will include, but not be limited to the following:

1. make available to each design team a complete copy of the campus master plan, including relevant design principles and guidelines.

2. Require an initial meeting with the architect or designer to clarify the intent of the University.
3. Require formal intermediate and final reviews of the schematic design phase.
4. Require a review near the end of the design development phase, and, if there are significant changes, there should be equivalent reviews for construction documents.
5. Conduct a post-construction project assessment.

A determination may be made at the outset of the review process that fewer steps may be undertaken if the scale or the impact of the project on the campus is not clearly significant as to require extensive review.

## **ADMINISTRATIVE INTEGRATION OF DESIGN REVIEW**

The success for the DRB and the design review process is predicated on the careful integration of the DRB into the existing University administration, especially as it relates to campus development and project invitation. The entire development process involves many different individuals and departments, whose contributions will be more significant with clear delineation of appropriate roles, responsibilities, and interrelationships. It is expected that the University will define the specific roles and relationships of the following parties in the administration of the design review process:

Design Review Board

Office of Facilities

User Committees

Architect Selection Committee

Project Design Consultants

The University at Large

Two subjects in the development process are important enough to merit special emphasis if design review and the Campus Master Plan are to be successful: project scope/funding and architect selection.

If buildings are to fulfill their civic role as described in the Campus Master Plan, both the programming and funding must accommodate this by including landscape and public space requirements in the program and budget of a proposed building.

Selection of architects and other design professionals may be the most important single factor in the successful implementation of the intent of the Campus Master Plan. Special care must be taken to select the right architect, or other design professional, for a particular project. Not all programs and areas of the campus are the same; thus, an architect may not be equally qualified for all areas. For example, design professionals for contextually demanding projects must have demonstrable understanding of the intent of the University as manifested in the Campus Master Plan, not simply qualifications for a particular building type.





**Figure 7.1**  
 Environmental Features

1. Central Open Space
2. Nature Area
3. Perimeter Landscape
4. Promenade
5. Housing
6. DART Station

# 7 SUSTAINABLE DESIGN GOALS

The master plan is based on five primary sustainable design goals that address social, economic and environmental objectives as follows: 1) Design for community sustainability; 2) Achieve energy efficiency; 3) Promote transportation options; 4) Protect water resources and air quality; and 5) Connect ecological systems. This chapter reviews these sustainable goals and articulates how each is addressed in the master plan. It should be noted that much of the content of the chapter has been covered elsewhere in this report but is repeated here to provide a concise overview of the sustainable aspects of the master plan. It should also be noted that the content of this chapter primarily addresses planning level sustainable urban design, site planning and landscape design related goals and objectives, although, some specific sustainable architectural design recommendations are provided in the Design Guidelines chapter. There are a wide variety

of specific building design issues that are addressed in the LEED guidance offered by the United States Green Building Council. It is recommended that the University seek to construct LEED certified buildings. There are also a variety of operational and maintenance strategies that the University will need to consider to address a wider range of sustainable objectives.

The following is a review of the physical design goals and objectives addressed in the master plan.

## **GOAL 1: DESIGN FOR UNIVERSITY COMMUNITY SUSTAINABILITY**

Sustainable communities can potentially provide a high quality of life and sense of well being by incorporating a wide range of services, amenities and opportunities that enable campus residents to focus their lives on the local community. This can have

several positive outcomes: 1) campus residents have the opportunity to support local community institutions and businesses; and 2) campus residents would not need to travel as far for services, goods and amenities and, therefore, could decrease their reliance on the private automobile (this could have positive air quality and energy efficiency outcomes).

The University will play an important role in the county by addressing local educational, social, economic and recreational needs. The master plan is envisioned to provide an open campus environment and serve as a center for higher education in the south Dallas community and beyond. The plan is designed to provide a welcoming environment for the public by means of a clear arrival sequence (no gates or fences); generous public open spaces; and the integration of the future DART light rail station into the campus.

## **GOAL 2: ACHIEVE ENERGY EFFICIENCY**

Energy-efficient planning and urban design can reduce the overall dependency on non-renewable and waste-generating energy sources. The master plan addresses energy efficiency by promoting a compact land use pattern and pedestrian environment; through building orientation and siting recommendations; and by promoting the use of landscape to create shaded microclimates for buildings and outdoor spaces. This section summarizes the energy efficiency aspects of the land use and urban design recommendations of the plan. Transportation options will also impact energy efficiency and are covered in the discussion of Goal 3, Promote Transportation Options.

### **Compact Development**

The master plan sets out a compact pedestrian-oriented land use pattern, which will enable users to move around the campus without the aid of transit or private autos. All educational and general support facilities are located within a 10-minute walk of one another. Housing sites are also located within walking distance of the core academic facilities. Parking is located on the periphery of the campus with convenient links to the internal pedestrian circulation routes of the academic core.

### **Building Siting**

A key objective of the master plan is to minimize heat gain in campus buildings and in outdoor spaces in order to provide a pleasant environment and reduce energy

consumption associated with air conditioning. To that end, buildings have been elongated on the east/west axis, the optimal orientation for the region, to minimize solar heat gain, especially on the east and west facades. Long expanses of facades on the east and west of buildings receive low and direct sunlight in the summer months and, if not shaded, can result in excessive heat gain.

Where buildings have been elongated on the north / south axis for urban design or spatial definition reasons, the architectural guidelines dictate that these facades are to incorporate external shading devices to limit heat gain. The use of shade trees along these facades is also recommended to provide additional shade and thermal comfort at the ground level.



### **Building configuration**

The urban design and open space framework of the plan incorporates a number of courtyards defined by the configuration of proposed buildings. The courtyards are intended to: provide shaded areas for outdoor activities; to create shaded microclimates that reduce heat gain in adjacent buildings; and to improve natural ventilation opportunities in buildings. Courtyards are provided in each of the major “development blocks” of the campus layout and will facilitate natural ventilation and daylighting opportunities within adjacent buildings. Building depths in the range of 60 feet are proposed wherever program permits to provide natural daylighting and ventilation.

### **Roof Forms**

Sloped roofs have been incorporated as a signature character-defining feature of campus buildings for aesthetic and environment reasons. Aesthetically, sloped roofs are intended to provide visual interest, to diminish the scale, and to distinguish campus buildings. Environmentally, sloped roofs are utilized to provide ventilated attic space, which will serve to “shade” interior spaces from the direct transmission of solar radiation.

### **Shading**

In order to decrease heat gain in parking areas, along major pedestrian routes and plazas, all such areas are to include shade trees. In parking areas, the master plan

specifies that trees be planted in swales between parking bays and along pedestrian routes into the campus core. In addition to shade trees, guidance is provided for the use of covered walkways, arcades and trellises wherever shade is needed to decrease heat gain and to provide for a pleasant pedestrian environment.

### **Alternative Energy Sources**

The use of alternative energy sources such as wind turbines, solar panels, and geothermal may be appropriate for campus buildings and should be explored on a case-by-case basis. Solar and wind energy, in particular, may be viable options over the 30 to 50 build-out of the campus.



### **GOAL 3: PROMOTE TRANSPORTATION OPTIONS**

Coordinated and integrated transportation options can promote public health, reduce the energy used by single-occupancy vehicle transportation and generally reduce emissions associated with transportation.

The master plan provides an integrated approach to transportation. The pedestrian, bicycle, transit and roadway network are viewed comprehensively with the aim of reducing the number of daily private vehicle trips on and to/from the campus and to provide campus users with a variety of transportation options. The master plan addresses transportation issues as follows:

#### **Pedestrian and Bicycle Circulation**

A key objective of the master plan is to facilitate and encourage pedestrian movement within the campus and to points beyond including surrounding residential neighborhoods and future retail, commercial and research areas that may be developed in the surrounding context.

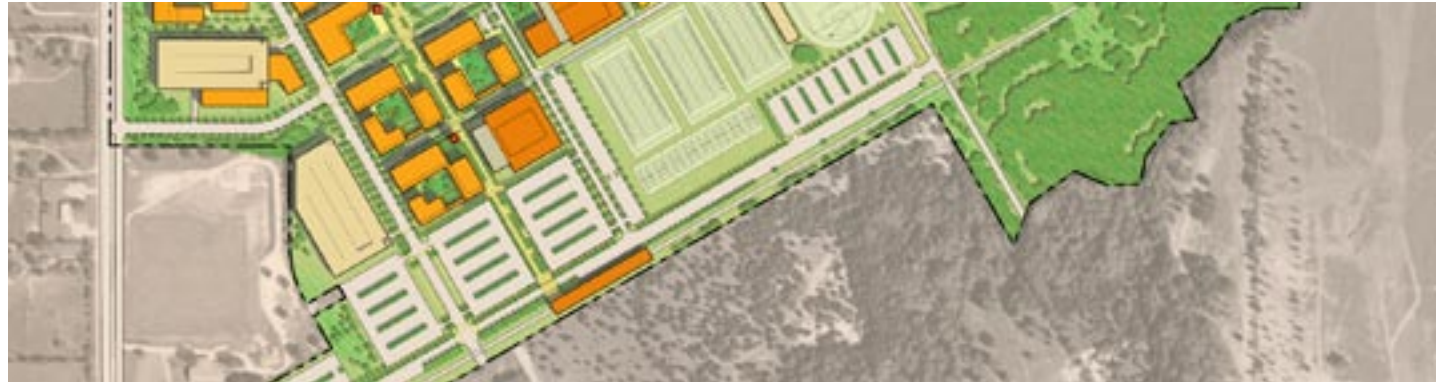
Pedestrian and bicycle circulation is given priority followed by transit services. Pedestrian and bicycle circulation is encouraged through the proposed compact land use pattern and physical design strategies that make these modes of movement safe, pleasant and more convenient. Design recommendations include shaded pedestrian routes and traffic calming along streets. Bicycle use will be encouraged through the designation of route system, by providing bike parking facilities and by linking with the City of Dallas network that may be established as the comprehensive plan for the surrounding context is finalized. Sheltered and lockable bicycle storage facilities will be provided at all on-campus residence halls.

The plan includes a number of strategies to facilitate pedestrian and bicycle use:

- Vehicular traffic is prohibited in the pedestrian core of the campus with the exception of emergency and service vehicles.
- Traffic calming features, including speed tables and differentiation in cross walk materials, are proposed to reinforce a 20 mph speed limit on all campus streets. In particular, speed tables are proposed along Campus Drive to improve pedestrian safety as campus users move from the parking areas to the pedestrian core.
- Off-campus pedestrian and cycling routes should be coordinated with emerging plans for the surrounding context to further facilitate access for residents and campus users in the surrounding context.

#### **Convenient and attractive pedestrian routes**

The landscape and urban design guidelines of the master plan include recommendations for creating a convenient and attractive pedestrian circulation network. The plan sets out a system of shaded routes along which major campus destinations and activities will be organized. The landscape guidelines include recommen-



dations for shade trees and other plant materials, which will provide shade and reduce solar heat gain. The architectural guidelines identify where covered walkways and trellises will be incorporated into future buildings to enhance the pedestrian experience.

**Transit and Housing**

To decrease the number of daily single occupancy vehicle trips to the campus, decrease pollution associated with university activities, and decrease the demand for parking, the master plan illustrates how existing DART bus lines and the future light rail services could be routed through the campus. The University should also consider introducing a bus transit system in the future to provide transportation services to students, faculty and staff who may be living in the surrounding area.

The stated objective of the University to house 20 percent of the full-time-equivalent student population at each stage of campus development will have several

positive environmental outcomes. First, student housing will reduce the number of daily vehicle trips to the campus. Second, a larger resident student population potentially will provide the critical mass of people necessary to support a variety of campus retail and services. A larger campus population, in turn, will improve the viability of retail and services for the entire campus community and could reduce the need for all users to travel off campus for goods and services, thereby making a positive contribution to air quality.

**Encourage shared parking, carpooling, and the use of alternative forms of transport**

An objective of the master plan is to facilitate alternative forms of transport. It is understood that given the transportation options in the Dallas region, the private automobile will be the primary form of transportation. To that end, convenient and proximate parking will be provided on the periphery of the pedestrian core for those

who do not have the option to use alternative forms of transportation. The University should however endeavor to decrease the overall parking demand and traffic impacts on the campus by:

- Reducing the need to travel to the campus by providing distance-learning opportunities.
- Introducing zoned parking to more evenly distribute the demand across the campus and more efficiently utilize parking resources. Zoned parking assigns specific parking areas to users with the goal of prohibiting users from driving between points on campus.
- Setting parking fees to encourage carpooling and transit use
- Working with the City of Dallas to prevent students from using adjacent streets for parking.
- Coordinating with DART to ensure that bus services are provided within the campus and that the extension of the Ledbetter light rail line is completed.



Views of existing site conditions

**GOAL 4:  
PROTECT WATER RESOURCES  
AND AIR QUALITY**

Sustainable planning and design strategies can protect and enhance water quality by addressing stormwater management, water conservation, the protection of water resources and natural drainage patterns. Sustainable practices can enhance air quality through landscape and transportation design strategies. The ways in which the plan addresses water and air quality are summarized in this section:

**Existing and native vegetation**

Existing non-invasive trees and vegetation are preserved and supplemented in the master plan to assist in the control of runoff, stormwater management and to improve air quality. An extensive area of existing vegetation is maintained in two areas of the campus: the central open space and its continuation, the Nature Area. The existing trees and vegetation in these areas will assist in controlling run-off

and improving air quality.

Native plant materials are proposed for all future landscape projects in order to decrease irrigation requirements and to ensure that the campus landscape is in character with the native landscape of the region. A comprehensive plant list of regionally appropriate plant materials is provided in the Landscape Guidelines sections to assist future designers in addressing this objective.

**Utilize the landscape to filter runoff and improve water quality**

The master plan is organized around and enhances the existing drainage patterns of the site. The central open space and the Nature Area encompass the existing natural drainage corridors and are coordinated with a manmade system of swales and drainage patterns that collectively reduce the need for stormwater detention and traditional systems of stormwater management. The central open space and Nature Area provide over 40 acres of

land for stormwater surges and include detention facilities that will be required to meet regulatory guidelines. The strategy for stormwater management coordinates the systems of the developed core of the campus with those of the natural patterns of the site and the Five Mile Creek corridor located to the east.

Drainage throughout the campus environment is directed to a series of swales in the parking areas and along the campus perimeter. The swales will be utilized to detain water and to support the tree cover proposed in these areas.

**Water Conservation**

The landscape structure for the master plan sets out several landscape zones, all of which have varying requirements for irrigation. The lushest areas are proposed for the courtyards and pedestrian promenades, both of which would be irrigated. Lawn areas have been minimized and



include the Portal landscapes, the Main Quad and the play fields. Other open areas, such as the perimeter landscape along Houston School Road and Camp Wisdom Road, and the central open space, would consist of drought tolerant grass and ground cover with informal tree groups and areas of seasonal wildflowers. Irrigation in these areas would be limited to the initial stages of establishing new plant materials. The intent is to create a drought tolerant yet beautiful landscape image for the campus.

**Plant trees to offset carbon emissions**

Trees can have a positive effect on air quality. The master plan maintains existing trees and includes recommendations for planting trees along streets, the pedestrian promenades, in courtyards and in major

open spaces such as the Main Quad and the central open space. Collectively, these trees can assist in improving air quality by partially offsetting the carbon emitted from University associated activities and will help reduce the air conditioning load on campus buildings by providing a shaded environment.

**Provide an integrated transportation strategy**

The master plan sets out an integrated transportation strategy, which is in part intended to reduce reliance on the single occupancy vehicle. The strategy calls for a pedestrian, bicycle and transit oriented environment within the campus. The outcome is an environment where the air pollution associated with campus activities could be reduced.

**GOAL 5:  
CONNECT ECOLOGICAL SYSTEMS**

Providing connections in the ecological systems within and beyond the boundaries of the campus can have a positive affect on the health of the regional ecosystem. The master plan calls for the establishment of an extensive central open space and Nature Area, which collectively will maintain the ecological systems along the natural streams and vegetated areas of the site. These, in turn, link with the broader system of the Five Mile Creek corridor and the associated Dallas parkland to the east of the site.

The compact development pattern proposed for the academic and housing core of the campus will enable the University to set aside the natural landscapes proposed in the central open space and Nature Area. These areas are important in that they preserve habitats, assist in stormwater management, and can be considered as outdoor labs for University science programs.



Figure 8.1  
Stormwater Management Concept



# 8 INFRASTRUCTURE / UTILITIES

This section provides a review of the stormwater, sanitary sewer and potable water facilities required to serve the campus, including the initial multipurpose building scheduled for completion in 2007.

## **STORMWATER**

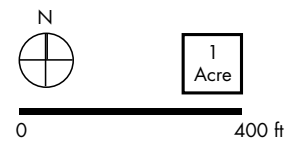
To serve the first phase of campus development, including the first building and associated parking, the City of Dallas has confirmed that detention facilities are not required, (Figure 8.1). The area occupied by most of the Phase 1 development is upstream of the Houston School Road improvements project, which, at this writing, was scheduled to occur prior to the Phase 1 development. The stormwater piping system for the Houston School Road project has been designed to accommodate the first phase of development.

Future development of the campus will require stormwater detention facilities. The extent and type of facilities may vary

depending on the future implementation of the Master Plan. At this early stage, the estimate for required detention facilities are in the range of 55-83 acre-feet of stormwater detention. The recommended location is generally to provide three detention basins in the Central Open Space and Nature Areas of the campus. Since the master plan may be altered as the needs of the University change, the stormwater management system will need to be evaluated with the development of each new portion of the campus. Each portion will need to be studied and incorporated into the existing facilities or may require expanding those facilities.



Figure 8.2  
Sanitary Sewer



## **WASTEWATER**

The existing wastewater system in the areas surrounding the campus is owned and operated by the City of Dallas, Dallas Water Utilities Department (DWU) Figure 8.2. There are several wastewater mains located along the boundary of the campus.

The wastewater connection for the campus will be to an existing 27-inch trunk wastewater interceptor east of the campus along Five Mile Creek. Connection to this trunk line will require an easement from the City of Dallas-Parks Department. Ultimately, UNT may be required to extend the trunk line along the southern campus boundary. As the campus master plan is implemented, reevaluation of the wastewater system will need to be carried out.

The wastewater system will be a public wastewater system located in a wastewater main easement and maintained by Dallas Water Utilities.

## **POTABLE WATER**

The existing water supply system surrounding the campus is owned and operated by the City of Dallas, Dallas Water Utilities Department (DWU), Figure 8.3.

The UNT campus is located in the Cedar Dale High water pressure zone and directly adjacent to three other water pressure zones (South High, Hidden Valley and Trinity Heights). There are no Cedar Dale High water mains within or adjacent to the site. The existing water mains in Camp Wisdom Road are located in the Hidden Valley water pressure zone. The water pressures in the Hidden Valley zone are insufficient to meet the Phase I development as well as the long-term needs of the campus. The water (domestic and fire) service for the UNT campus must be from the South High water pressure zone. Currently, the water system in Houston School Road is

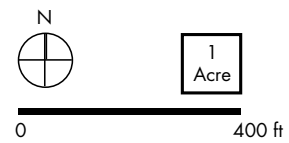
insufficient to meet the water demands of the campus; however, the City of Dallas is planning to install a 12-inch water main in conjunction with the Houston School Road improvements.

The current design plans for the Houston School Road reconstruction include a proposed 12-inch water main adjacent to an existing 60-inch water transmission main extending from Camp Wisdom Road to south of the UNT campus. Water service to the campus will be from the proposed 12-inch water main. The City is reviewing the possibility of upgrading the proposed 12-inch water main to a 16-inch water main. Since the construction of the water main is in Houston School Road, close coordination with the City will be required. The current schedule for the Houston School Road project coincides with the Phase I building construction. In order to provide fire flows





Figure 8.3  
Potable Water



during construction of the Phase 1 building, the City indicated that the proposed 12-inch water main construction could be accelerated if the main was placed directly on UNT property.

The future water distribution system will consist of a combination of 8-inch and 12-inch water mains to provide a redundant looped system adequate for both domestic and fire flow demands. This system will be a public water system located in a water main easement and maintained by Dallas Water Utilities. As each phase of the Master Plan is implemented, the water system should be reviewed and modeled to ensure sufficient pressures are achieved and interconnection to the water mains in the lower pressure zones is avoided.

## **CHILLED WATER, ELECTRICAL & TELECOMMUNICATIONS**

### **Recommendations**

1. Coordinate routing of major campus utilities with planned pedestrian and/or vehicular corridors. Planning and implementation should allow for future maintenance underground systems with minimal disruption of pedestrian and vehicular flow. The proposed corridors are shown in the diagrams provided in this section, (figure 8.4 & 8.5)
2. Develop an energy efficient central energy plant to provide heating and cooling media for distribution to campus facilities. This plant should also provide means to monitor and control the electrical distribution system, and monitor campus-wide energy consumption. Future means to incorporate energy management techniques, such as thermal energy storage, distributed generation, cogeneration, etc should be incorporated into design of this facility.

3. Provide for incremental growth of the central energy plant and distribution systems to correspond to campus growth and requirements.
4. Consider possible third-party construction and ownership of utility systems, with ownership to revert to the university after an agreed contractual term.
5. Locate major utilities below grade in appropriate semi-accessible enclosures and or duct banks. It should be noted that similar arrangements are possible above grade utilizing covered walkways and overhead structures in lieu of below grade assemblies.



Figure 8.4  
Chilled Water Loop

**LEGEND**

**M** Underground Semi-Accessible Tunnel for Steam, Condensate, and Chilled Water Utilities

①

**NOTES BY SYMBOL 'O'**

Underground Semi-Accessible Tunnel for Chilled Water, Steam & Condensate Piping

Figure 8.5  
Electrical and Communication Loop



- LEGEND**
- Underground Electrical Service Utility Duct Bank
  - Underground Communications Service Duct Bank
  - Underground Electrical Service Utility Vault
  - Underground Communication Service Utility Vault
- NOTES BY SYMBOL 'O'**
- Underground Electrical Service Duct Bank
  - Underground Communications Service Duct Bank





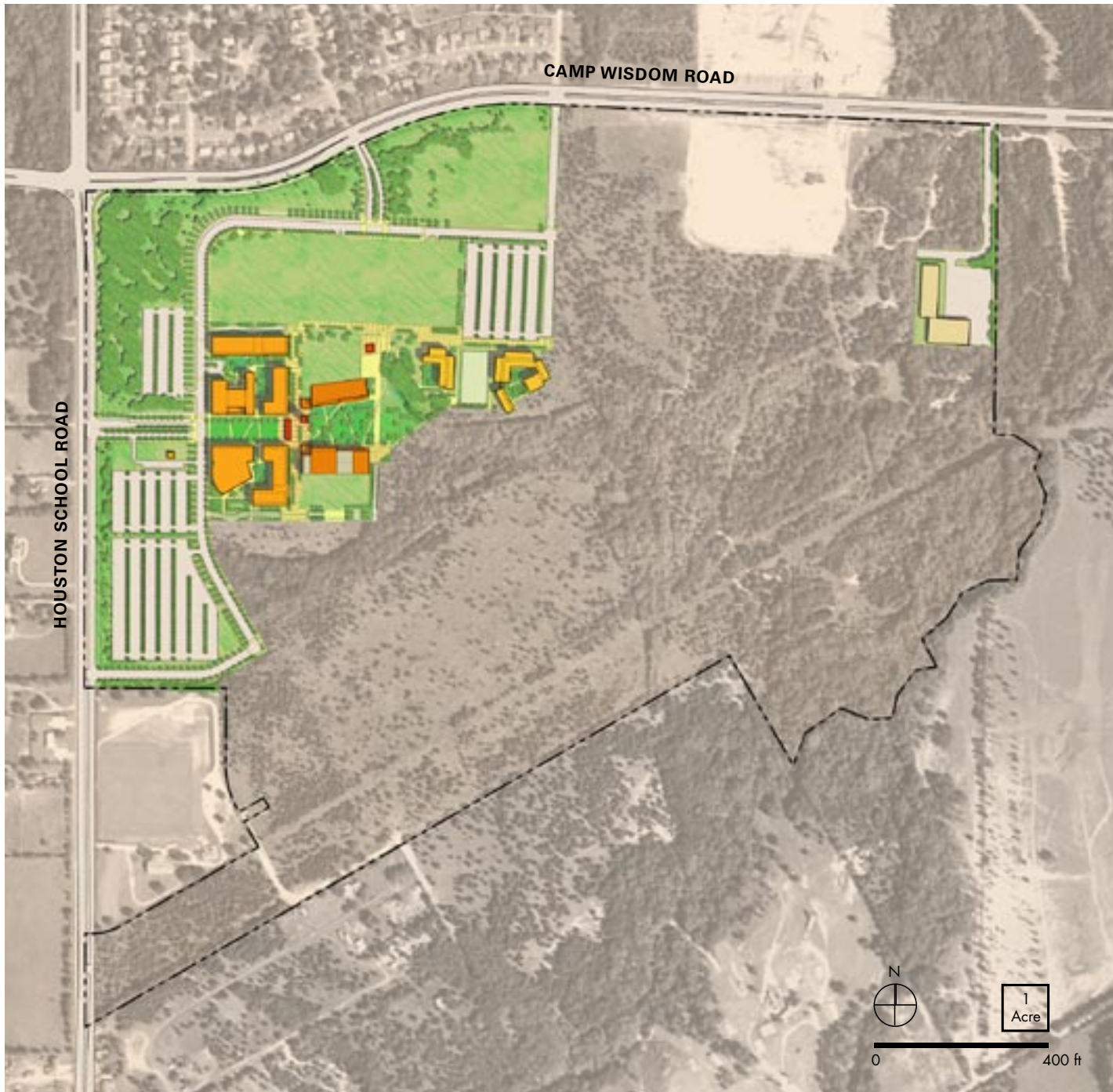


Figure 9.1  
Phase 1: 8,000 Headcount

# 9 IMPLEMENTATION STRATEGY

The implementation of the master plan to full build-out is a long-term endeavor, which will occur over the next 30 to 50 years and beyond. Given the uncertainty and unknown future requirements, the master plan does not provide a detailed implementation strategy for each stage of development. Instead, implementation guidance is provided for the near and mid-term development phases, specifically, addressing the facility needs for a headcount of 8,000 students and the interim target of 16,000 students. The intent of providing the guidance is to suggest how the open space and landscape structure of the campus can take shape as soon as possible and in an incremental manner.

To address the uncertainty and sequence of future development, the master plan, as noted in previous sections, provides a flexible framework of development blocks, open space, landscape and pedestrian circulation armatures. Together, these pro-

vide the structure within which future program elements can be accommodated in a variety of ways.

## ***PHASE 1:*** **8,000 HEADCOUNT**

A major milestone in the development of the campus will occur when the overall enrollment reaches 8,000 students (4,000 FTE). At this stage, the critical mass of student enrollment will be sufficient to support a number of campus facilities including a larger library, a combined student/recreation center and the first phase of campus housing. Providing housing is an objective of the University to ensure that a residential community is established in the early phases of campus development.

To ensure that the campus develops as intended, a development strategy is provided to guide the placement of buildings, parking and landscape such that the central open space structure of the campus

begins to take shape in the early stages of implementation. With the completion of the first campus building in 2007, the main entry from Houston School Road and the campus portal landscape will be established. It is recommended that the library (60,000 gsf), a combined student union/recreation center (48,000 gsf) and general academic space (350,000 gsf) be positioned to further define the proposed Campus Square and Main Quad. To that end, these buildings have been configured as shown in the adjacent interim development plan. They have also been configured for expansion. In particular, the student union and library have been sited such that they can be expanded as the enrollment increases. Housing accommodating 480 beds is also shown to the east of library. Parking for 1,680 cars is shown in surface lots on the periphery road / Campus Drive. The physical plant facilities (60,000 gsf) are also shown at this stage in the campus development.





Figure 9.2  
Phase 2: 16,000 Headcount

**PHASE 2:  
16,000 HEADCOUNT**

When the headcount reaches 16,000 (8,000 FTE) students, the University will have achieved a critical mass that will allow for a more complete range of housing and athletic / recreation facilities. As shown in the illustrative, an 82,000 gsf student recreation center can be provided. This will allow recreation space initially included in the student union to be renovated for other purposes. The basketball arena is also feasible at this stage as is a full complement of outdoor recreation facilities including the track and field facility; two soccer fields, two reaction fields, a baseball field and a softball field. The library can also be expanded with a third expansion phase still possible when the enrollment

increases to 25,000 students. Housing for 1,600 students will be required to achieve the goal of housing 20 percent of the FTE enrollment. The proposed residential facilities are located on the north and south sides of the central open space.

A total of 6,378 parking spaces are provided in surface parking lots which exceeds the estimated demand at this stage of campus development. Surface parking areas are shown to the south and east of Campus Drive and in other areas that will be developed in subsequent phases of the campus development.

The land area required to support 16,000 students will encompass and define most of the intended open space structure. In particular, the central open space and Na-

ture Area could be implemented as envisioned in the landscape guidelines. The University Promenade and the east/west promenade could also be fully implemented at this stage.

In summary, the estimated space and parking requirements for an enrollment of 16,000 students are as follows:

- General education facilities* 1,544,000 gsf
- Library* 148,500 gsf
- Student Center* 262,000 gsf
- Recreation Center* 82,200 gsf
- Housing* 1,600 beds
- Parking* 5,850 spaces (6,378 spaces shown)





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