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HDR Presentations



UHS/ECU Master Facility Planning Process

Update to Leadership

March 30, 2000

 Consulting



Facility Planning Progress to Date

The HDR UHS/ECU Team has accomplished the following:

- **Conducted and Summarized Interviews With Over 125 Leaders of ECU and UHS**
- **Summarized Facility Implications of All Strategic Plans and Interview Findings**
- **Identified Numerous Planning Issues and Received Direction by UHS/ECU**
- **Completed a Set of Planning Assumptions for Determining Volume Projections**
- **Completing Utilization Projections for Inpatient and Outpatient Services through 2010**
- **Completed Current Condition UHS/ECU Site and Facility Plans**
- **Completed a *Draft* Report of Regional Transportation Plans for Eastern North Carolina**

Possible Areas for Facility Planning Collaboration: UHS, ECUSOM, Private Community Physician

- **Access, Parking, and Wayfinding**
- **Shared Space for Telemedicine**
- **Clinician Teaching Space on the Patient Floors**
- **Pediatric Outpatient Clinic**
- **Comprehensive Outpatient Delivery Concept**
- **Additional Back-up Electricity and Water Capacity**
- **Consolidation of Cancer Services**
- **Shared Space for Additional Women's and Children's Services**
- **Consolidated Outpatient Mental Health Services and Day Programs**
- **After-hours Pediatric Center**
- **Cardiovascular Center**
- **Burn Clinic**
- **Occupational Medicine Center**
- **Sports Medicine Center**
- **Obesity Clinic**
- **Common Patient Information Platform**
- **Geriatric Health Services**
- **Center of Diabetes**
- **Dining Services**
- **Clinical Research Beds**
- **Library Space**

Preliminary Site & Facility Development Principles

■ Site Development Principles

- The majority of future UHS/ECU campus development will occur along an east/west axis between Fifth Street and Stantonsburg Road to the North and South and Allen Road and Memorial Road to the east and west.
- ECU Division of Health Sciences educational, “learning village”, research, and administrative facilities should continue to be located on the north sector of the existing campus.
- Clinical patient care and research facilities will be developed as joint ventures between UHS, ECU, and the private physician community. The location of these facilities on the master plan study area will be guided by patient access/convenience and competitive market considerations.
- Existing on campus roadways and Moye Boulevard between Fifth Street and Stantonsburg Road will not be considered an impediment to master plan development.



Preliminary Site & Facility Development Principles

■ **Site Development Principles**

- **Property acquisition should be based on a hierarchy of priorities for UHS/ECU and include:**
 - **properties contiguous to existing owned and improved parcels (e.g. Beverly Health Care Facility, single story physician offices between Arlington Boulevard and Emergency Drive, unowned ECU parcel between Emergency Drive and NCSR 1202) that will be needed for future program expansion**
 - **properties adjacent to owned parcels that should be acquired to be able to exercise control of future development, manage competitive threats, provide a buffer between land uses, and deploy as leverage in obtaining potential future unowned parcels. (e.g Roundtree Property on Moye Boulevard and Fifth Avenue)**
 - **properties with investment and organizational benefit potential (e.g. additional parcel to the south of the SurgiCenter between Allen Road and Bethesda Drive)**

Speculative Acquisitions-

Consulting



Preliminary Site & Facility Development Principles

■ Facility Development Principles

- Further major expansion of PCMH's east/west main circulation spine to accommodate clinical services should be avoided.
- Future growth should include vertical expansion solutions to as a mean of maintaining functionally critical proximity to clinical and logistical support functions.
- Outpatient services that are low tech, have a limited barrier to competitive entry, and are require relatively low intensity use of resources could be located off campus.
- High tech, highly specialized, equipment and resource intensive services should be on campus in a centralized facility.

Preliminary Site & Facility Development Principles

■ Facility Development Principles

- The PCMH facility development approach of creating a single focus or hospital within a hospital care delivery model based on COEs will remain intact and modified as required to meet programmatic demands.
- Inpatient facilities located within the three “snow flake” patient towers should be renovated or replaced.
- The use of multi-care level capable inpatient beds should be explored to reduce patient transfers, enhance nursing skills, and reduce operating costs.

Preliminary Site & Facility Development Principles

■ **Facility Development Principles**

- **Most administrative and logistical support functions should be located outside of higher cost clinical facilities.**
- **Parking decks will be considered in meeting the requirements of the master site and facility plan.**

UHS/ECU Current and Future Site & Facility Development Issues

- **On campus vehicular circulation**
- **Horizontal development of PCMH facilities**
- **Lack of a main building entry visual prominence**
- **Dominance of Brody Building as key campus visual feature**
- **Parking adequacy and placement**
- **Accommodation of significant increase in number of students and faculty on campus and related transition to a health sciences campus**
- **Proposed Convention Center**
- **Need to replenish/replace aging and inefficient inpatient facilities ("snowflake" facilities)**
- **Landlocked key D&T Services (Surgery/Radiology)**
- **Undifferentiated research programs**
- **Decentralized clinic patient care/ teaching spaces**
- **No unified approach to provision of ambulatory and short stay care services**
- **Location of the proposed new Family Practice Center**
- **Cancer Center**
- **Emergency Services**

Summary of Major Facility Implications From Strategic Plans and Leadership Interviews

ECUSOM

- **New Facility for School of Nursing**
- **New Facility for School of Allied Health**
- **Family Medicine Clinic Facility**
- **Increased Classroom and Study Space**
- **Expanded Administrative and Program Space**
- **Research and Faculty Space**
- **“Learning Village” to Include Student Housing, Dining, Study Space, Active Learning Space, “Multi-purpose” Student Services Space and Recreation**
- **Clinical Skills Center**
- **Improved Patient and Student Access, Parking and Wayfinding**
- **Provision for Possible Additional School(s)**

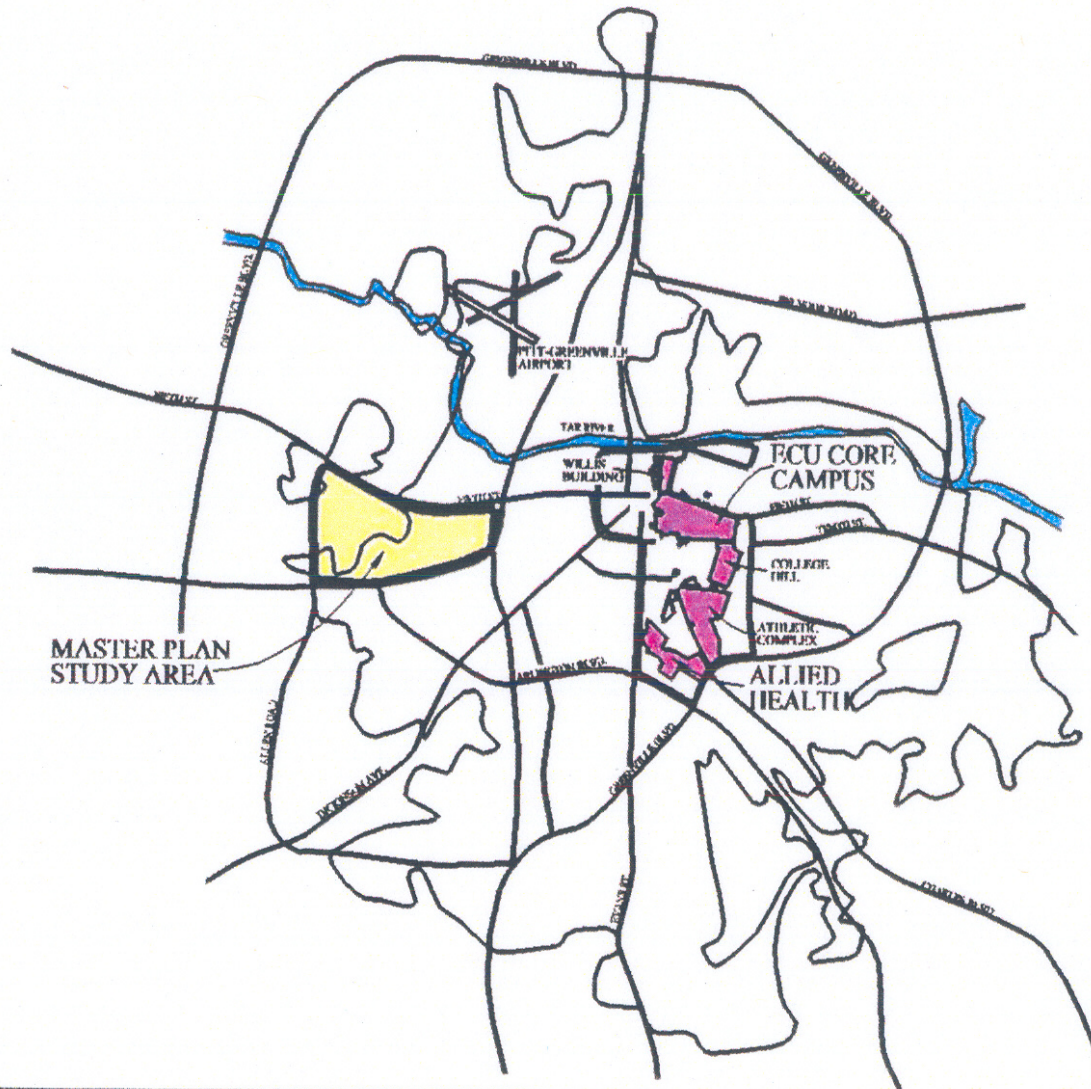
Consulting

UHS

- **New or Remodeled “Multi-level” Patient Care Rooms With Adequate Clinical Support and Teaching Space**
- **Comprehensive Outpatient Delivery Concept With Short Term Beds**
- **New Emergency Department, Including Trauma, Pediatrics, Urgent Care, and Helipad**
- **Enhanced Operating Room Capability**
- **Additional Pediatric Short and Long Term Care Capacity, and Intermediate Care**
- **Centralized UHS Corporate Support Functions**
- **EastCare Building**
- **Improved Public Access, Parking and Wayfinding**
- **Increased Lobby, Waiting Spaces**
- **Provision for Community Health and Geriatric Health Services**

UHS/ECU - SITE

UHS/ECU MASTER
SITE & FACILITY PLAN



MASTER PLAN
STUDY AREA

ECU CORE
CAMPUS

COLLEGE
CITY

ATHLETIC
COMPLEX

ALLIED
HEALTH

VICINITY
MAP



Date: June 2000

MASTER PLAN
STUDY AREA

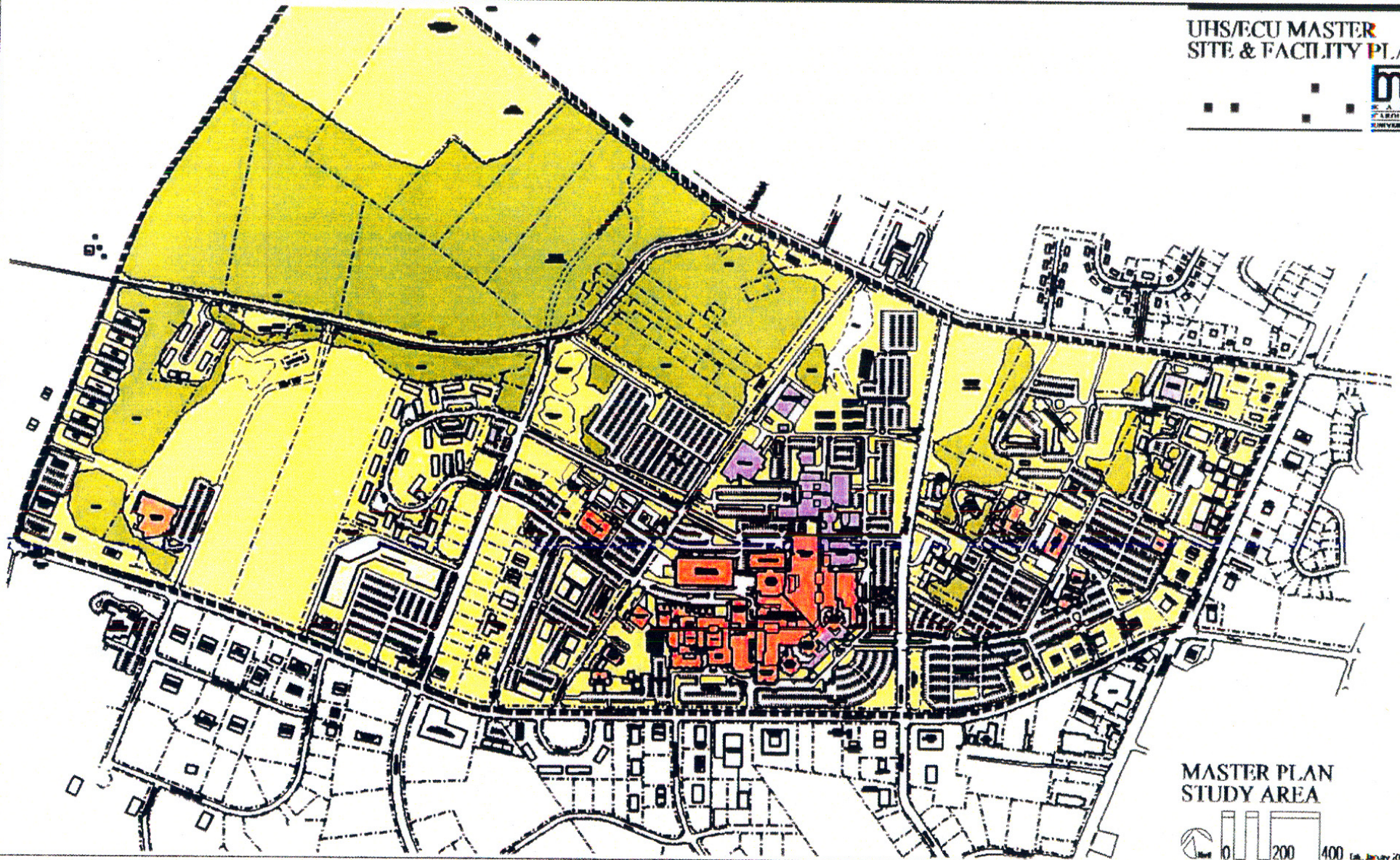
ECU
CAMPUS

CITY OF
GREENVILLE

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
UHS/ECU - SITE

UHS/ECU MASTER
SITE & FACILITY PLAN



MASTER PLAN
STUDY AREA

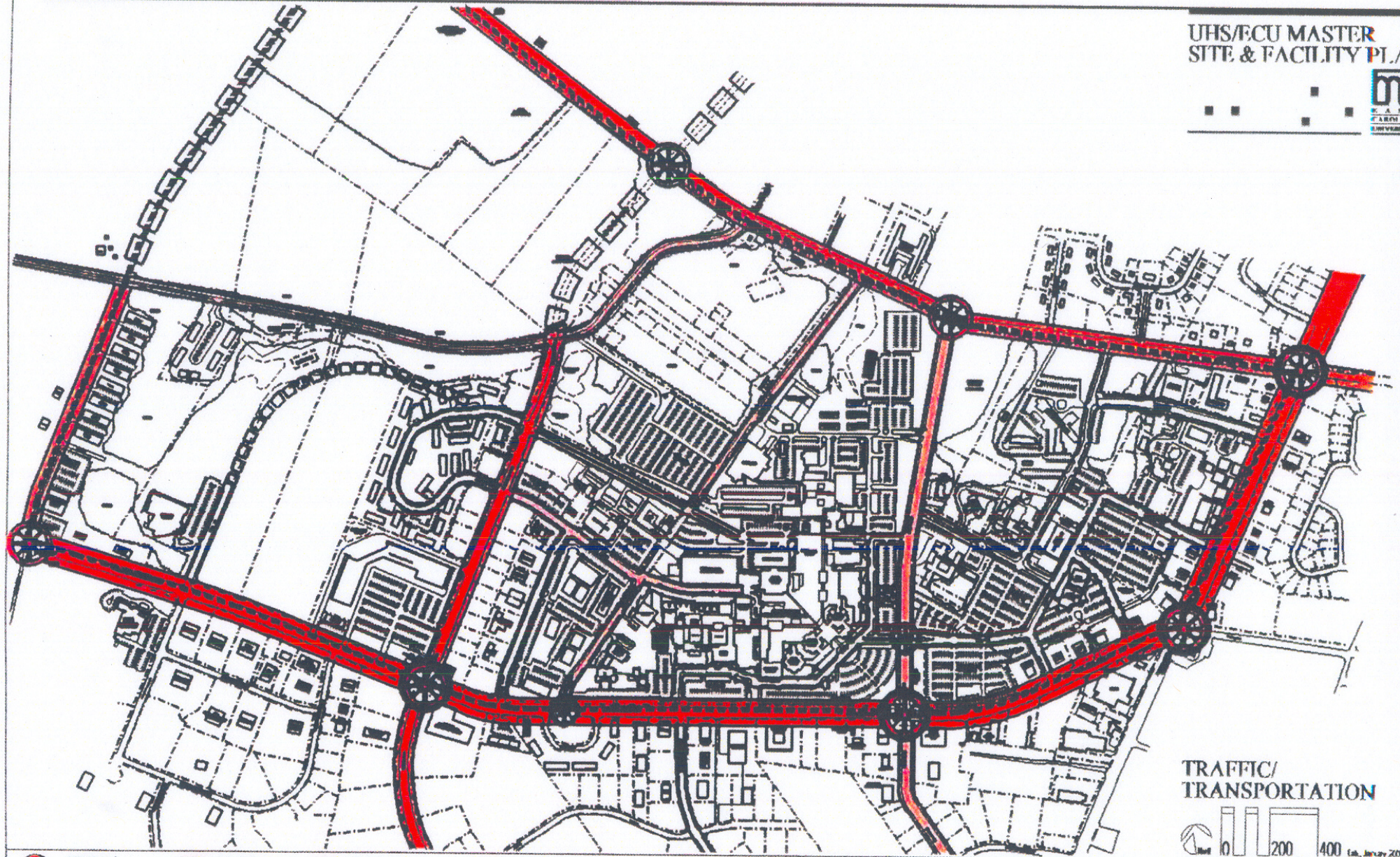


- | | | | | | |
|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
|  UHSPITT. CO. MEMORIAL HOSPITAL |  ECU |  OTHER BUILDINGS |  WOODED AREA |  OPEN SPACE/ LANDSCAPE |  EXISTING PARKING |
|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|

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UHS/ECU - SITE

UHS/ECU MASTER
SITE & FACILITY PLAN



TRAFFIC/
TRANSPORTATION

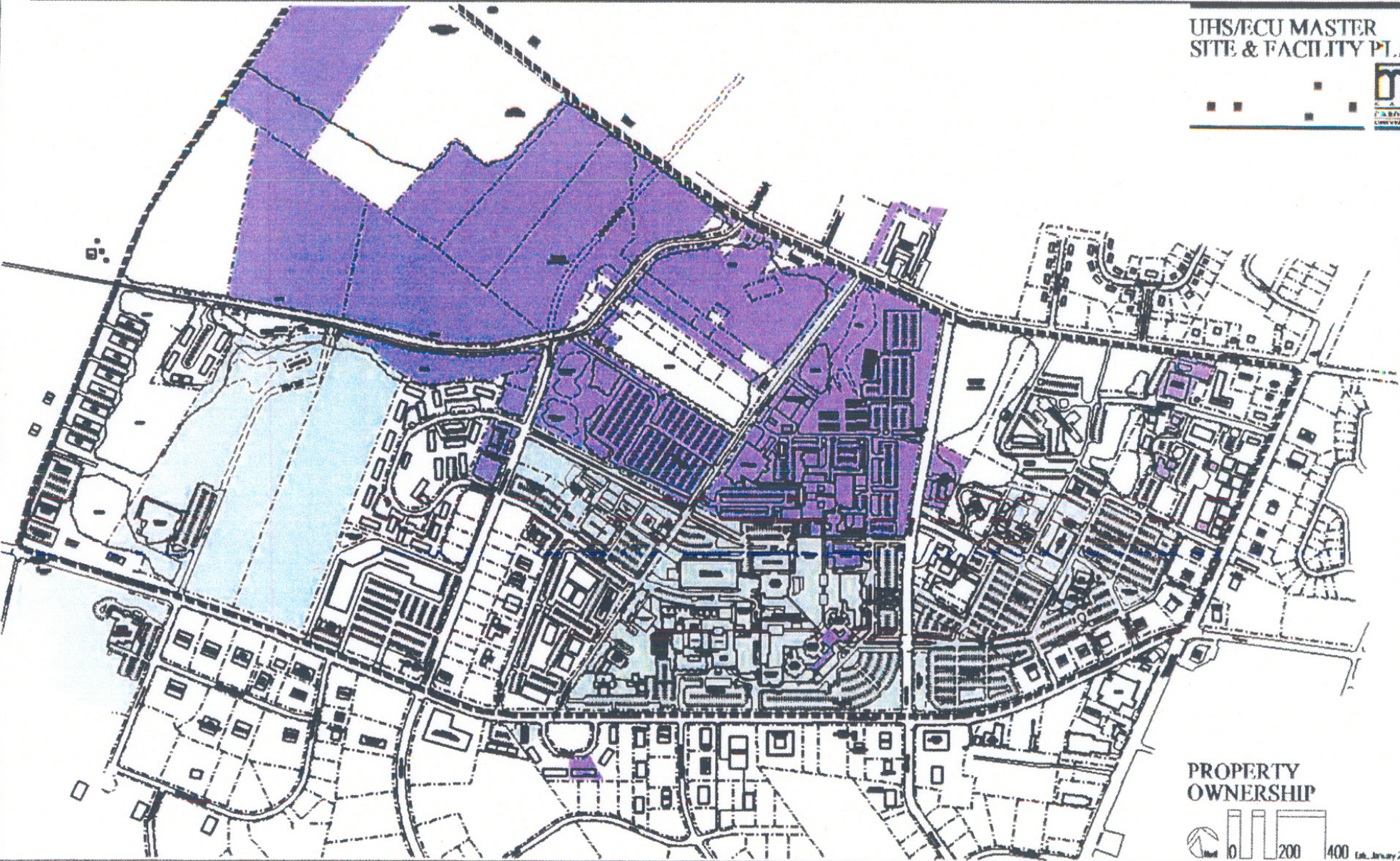


-  TRAFFIC SIGNAL
-  MAJOR ARTERIAL
-  ARTERIAL
-  COLLECTOR STREET
-  FUTURE ROAD
-  MINOR STREET

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UHS/ECU - SITE

UHS/ECU MASTER
SITE & FACILITY PLAN



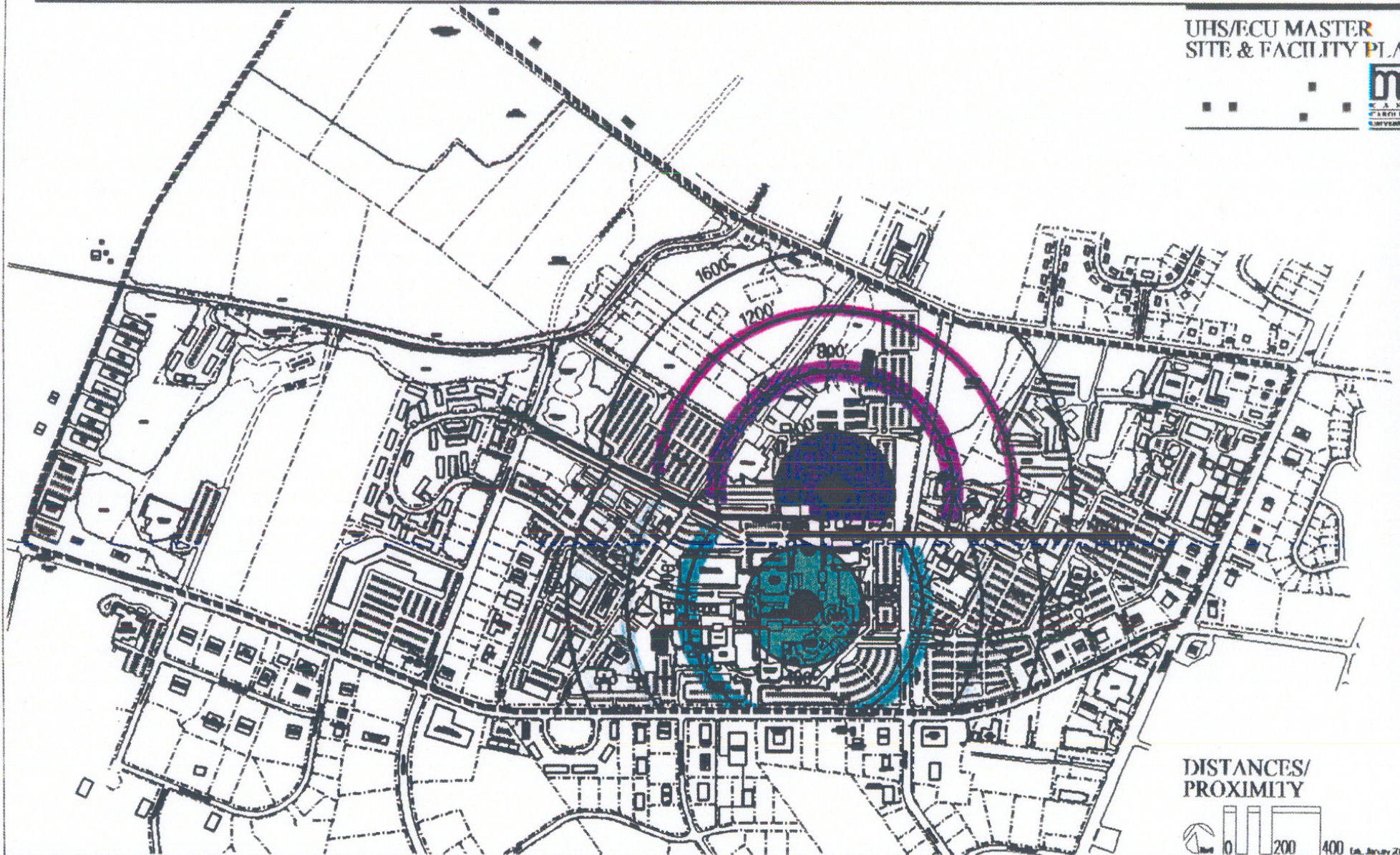
- UHSPITT. CO. MEMORIAL HOSPITAL
- ECU
- OTHERS
- PROPERTIES TO ACQUIRE



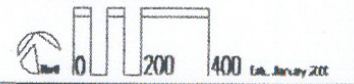
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UHS/ECU - SITE

UHS/ECU MASTER
SITE & FACILITY PLAN



DISTANCES/
PROXIMITY



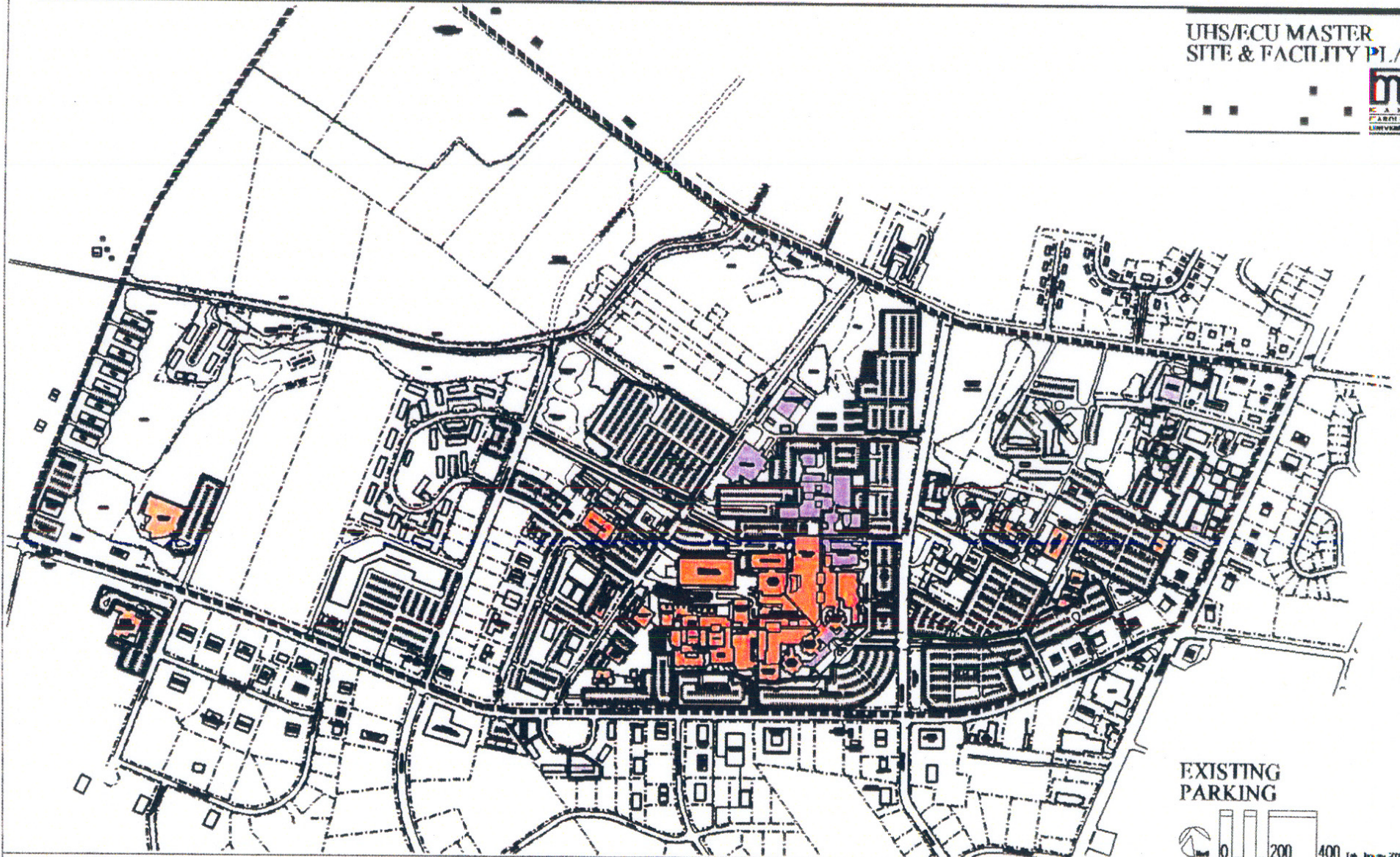
UHS/ECU MASTER
SITE

ECU

HR Architecture, Inc.

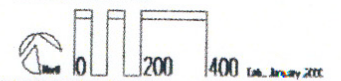
UHS/ECU - SITE

UHS/ECU MASTER
SITE & FACILITY PLAN



UHS PITT CO. MEMORIAL HOSPITAL
UHS PITT CO. MEMORIAL HOSP. PARKING
ECU
ECU PARKING

EXISTING
PARKING



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CONFIDENTIAL

Planning Workshop
Development of a Framework Master Site and Facility Plan
for the
UHS/ECU Division of Health Sciences Campus
Greenville, North Carolina

Consulting

August 8-9, 2000

■ ***Framework* Master Site and Facility Plan Workshop Agenda**

- **Workshop Objectives**
- **Guiding Principals, Planning Assumptions, Demand/Utilization, Functional and Space Requirements**
- **Presentation and Discussion of the Master Plan Options**
- **Summary of Group Recommendations**

Workshop Objectives

- ☛ To present for review and discussion by each workshop group the UHS/ECU *Framework* Master Plan Options developed by HDR in conjunction with the UHS/ECU project oversight team.
- To seek acceptance of the criteria and standards used to develop gross space needs and overall sizing recommendations which are based on on the demand/utilization of clinical, research, and educational programs and services.
- To reach general consensus on the facility development issues and solutions presented in the Master Plan and the changes which be incorporated in subsequent Plan updates.

Summary of Major Facility Implications From Strategic Plans and Leadership Interviews

ECUSOM

- **New Facility for School of Nursing**
- **New Facility for School of Allied Health**
- **Family Medicine Clinic Facility**
- **Increased Classroom and Study Space**
- **Expanded Administrative and Program Space**
- **Research and Faculty Space**
- **"Learning Village" to Include Student Housing, Dining, Study Space, Active Learning Space, "Multi-purpose" Student Services Space and Recreation**
- **Clinical Skills Center**
- **Improved Patient and Student Access, Parking and Wayfinding**
- **Provision for Possible Additional School(s)**

Consulting

UHS

- **New or Remodeled "Multi-level" Patient Care Rooms With Adequate Clinical Support and Teaching Space**
- **Comprehensive Outpatient Delivery Concept With Short Term Beds**
- **New Emergency Department, Including Trauma, Pediatrics, Urgent Care, and Helipad**
- **Enhanced Operating Room Capability**
- **Additional Pediatric Short and Long Term Care Capacity, and Intermediate Care**
- **Centralized UHS Corporate Support Functions**
- **EastCare Building**
- **Improved Public Access, Parking and Wayfinding**
- **Increased Lobby, Waiting Spaces**
- **Provision for Community Health and Geriatric Health Services**

■ UHS/ECU Current and Future Site & Facility Development Issues

- On campus vehicular circulation
- Horizontal development of PCMH facilities
- Lack of a main building entry visual prominence
- Dominance of Brody Building as key campus visual feature
- Parking adequacy and placement
- Accommodation of significant increase in number of students and faculty on campus and related transition to a health sciences campus
- Proposed Convention Center
- Need to replenish/replace aging and inefficient inpatient facilities ("snowflake" facilities)
- Landlocked key D&T Services (Surgery/Radiology)
- Decentralized clinic patient care/ teaching spaces
- No unified approach to provision of ambulatory and short stay care services
- Location of the proposed new Family Practice Center
- Cancer Center
- Emergency Services

Site & Facility Development Strategies

■ Site Development Strategies

- **UHS/ECU campus development will occur along an east/west axis between Fifth Street and Stantonsburg Road to the North and South and Allen Road and Memorial Road to the East and West.**
- **A key to effective master planning is the designation of land use zones for the master plan study area. For this project, the primary land use designations are: Tertiary Care, Academic: Teaching/Research/Student Life, Ambulatory/Wellness, Corporate/ Administrative/Logistical Support.**
- **ECU Division of Health Sciences (ECU-DHS) facilities should continue to be located on the north sector of the existing campus. However, ECU-DHS patient care services, such as the "Clinics", now located on this portion of the campus should be relocated and integrated with other campus patient care services retaining the north sector of the campus for expanded development for ECU-DHS education, research, administrative, and student life functions.**



■ **Site & Facility Development Strategies**

■ **Site Development Strategies**

- **Direct and unimpeded access from Division of Health Sciences facilities to the Stantonsburg/10th Street corridor must be provided.**
- **As the core campus expands and adjacent public thoroughfares become more congested, an internal ring road should be developed to ease campus circulation and reduce dependence on public roadways for access to the UHS/ECU campus.**
- **In addition to surface parking, parking decks should be considered as a means to maintain the appropriate distance/proximity between facilities and building entrances.**
- **Existing on campus roadways and Moye Boulevard between Fifth Street and Stantonsburg Road will not be considered an impediment to master plan development.**



Site & Facility Development Strategies

- **Facility Development Strategies**
 - **The Division of Health Sciences campus will be anchored by the Brody and Life Sciences Buildings.**
 - **Administrative space for Clinical Department chairs and section heads should be placed for good access to the School of Medicine and the inpatient nursing units. This area will not contain examination rooms and classroom space.**
 - **Further major expansion of PCMH's east/west main circulation spine to accommodate clinical services should be avoided. Future facility development needs to focus on vertical expansion, preservation of key adjacencies, and reduction of non-inpatient service demand by relocating ambulatory functions capable of free-standing operations to an area(s) outside of the core medical center campus.**



■ Site & Facility Development Strategies

■ Facility Development Strategies

- Future growth options should explore the vertical expansion of existing facilities where structurally feasible and programmatically appropriate. This includes PCMH's Support Building which offers the potential for additional parking and administrative space. In addition, the existing Biotechnology Building was designed to accommodate 1-2 additional floors, and the existing Life Sciences Building, an additional 2 floors.**
- A more distinctive visual cue of the PCMH and Division of Health Sciences facilities focusing vehicular and pedestrian traffic from the campus entry (ies) should be developed.**
- The PCMH facility development approach of creating a single focus or hospital within a hospital care delivery model based on COEs will remain intact and modified as required to meet programmatic demands.**



■ **Site & Facility Development Strategies**

■ **Facility Development Strategies**

- **Growth of the medical center should be counterbalanced by the relocation of existing programs and establishment of new programs that can independently function apart from the core PCMH facility to reduce core campus density.**
- **Inpatient facilities located within the three “snow flake” patient towers should be renovated if infrastructure/code issues can be cost effectively remedied and if the resulting renovation yields an operational efficient nursing unit.**
- **The use of multi-care level capable inpatient beds should be explored to reduce patient transfers, enhance nursing skills, and reduce operating costs.**



■ Site & Facility Development Strategies

- Most administrative and logistical support functions should be located outside of higher cost clinical facilities.**
- Parking decks will be considered in meeting the requirements of the master site and facility plan.**
- The use of UHS/ECU “temporary” mobile trailers will be discontinued and services relocated within permanent structures..**

Utilization Projections

ECU Clinics

Clinics	Arrived Patient Visits Fiscal Year			Number of Patients Fiscal Year		
	2000(proj.)	2010	% Change	2000(proj.)	2010	% Change
Medicine	51,205	73,735	44.0%	19,952	28,732	44.0%
Family Medicine	66,731	96,032	44.0%	39,314	56,612	44.0%
Pavilion Medicine	28,123	40,497	44.0%	13,132	18,911	44.0%
OB/GYN ECU Women's	46,958	67,620	44.0%	21,495	30,953	44.0%
Pediatrics	43,789	63,056	44.0%	26,822	38,623	44.0%
Psychiatry	7,459	10,741	44.0%	1,864	2,684	44.0%
Radiation Oncology	12,917	18,601	44.0%	2,692	3,877	44.0%
Rehabilitation	3,965	5,709	44.0%	1,894	2,728	44.0%
Surgery	<u>24,831</u>	<u>35,756</u>	<u>44.0%</u>	<u>19,114</u>	<u>27,066</u>	<u>41.3%</u>
TOTAL:	285,978	411,747	44.0%	146,279	210,106	43.6%
Consulting						

Source: ECU Physician Faculty Practice Plan

Utilization Projections:

Selected Services-Revised 7/10/00

Diagnostic and Treatment Services-UHS

Service	Unit of Measure	1999 Volume	2010 Volume	% Change
Radiology Exams	Procedures	180,199	203,362	12.9%
PCMH Surgeries	Surgeries	16,775	21,302	18.9%
Surgi-Center	Surgeries	6,687	8,350	24.9%
Emergency Dept.	Visits	52,434	72,395	38.1%
Cath Lab	Patients	4,639	4,756	2.7%
Physical Therapy	Visits	103,538	128,247	23.9%

Units of measure include both inpatient and outpatient volume

Source: PCMH Planning Office

Consulting

■ Master Plan Level Space Requirements for Selected Key Functions

Service	Existing DGSF	Projected DGSF	Comments
<i>Inpatient Services</i>	400,725	517,000	<i>Includes new patient tower of 409 beds and impact of demolition/non-inpatient use of snowflakes. Inpatient services in new tower consists of approximately 275,000 s.f. Includes on-call, clinical support staff workspace, all privates, family waiting, and family sleep space in room</i>
<i>Laboratory</i>	51,300	51,300	
<i>Surgery (Main)</i>	51,500	90,000	<i>Includes 32 ORs, CS, and larger new ORs.</i>
<i>Emergency</i>	37,500	100,000	<i>Project in late stage of design.</i>
<i>Radiology</i>	40,800	40,800	<i>Internal renovation within existing radiology and expansion of vascular lab</i>
<i>Surgi-Center</i>	32,500	32,500	<i>Post renovation and addition square footage.</i>
<i>Food & Nutrition Services</i>	29,060	31,300	<i>Additional dining seating and refrigeration/cook/chill, staging, beverage supply, dry storage. Assumes additional distributed dining provided throughout UHS/ECU facilities.</i>
<i>Family Practice Center</i>	28,500	82,000	<i>Projected space as proposed in functional program.</i>
<i>Cardiac Cath Lab</i>	14,100	16,000	<i>Increase from 5 to 6 cath labs and clinical support.</i>
<i>Cancer Center</i>	29,670	69,100	<i>Increase in medical oncology treatment/procedure, medical office, staff support, patient amenity spaces, new Breast Center.</i>
Consulting			

Master Plan Level Space Requirements for Selected Key Functions

Service	Existing DGSF	Projected DGSF	Comments
<i>Clinical Department Offices (located in new Clinic Building)</i>	115,000 (e)	150,000(e)	<i>Department Chair and Section Head Admin. Classrooms, Examination Rooms, and On-Call rooms are not provided ion this space.</i>
<i>Procedure Prep & Recovery Center</i>	-	15,400	<i>Consolidates, AMU, Short Stay Holding, GI Recovery, and Imaging Recovery. Total of 32 stations, 2 minor procedure suites, staff support and family waiting and consultation.</i>
<i>Ambulatory Care Center (Optional)</i>	-	41,000	<i>Includes PAT, Urgent Care, Diabetes Center, Womens Services, Pain Management, Alternative Therapies Center, Selected Outpatient Imaging (assumes participation with local radiologist group), Sleep Lab, GI Endoscopy. Locate contiguous to the Surgi-Center. Square footage in building gross square feet.</i>
<i>Selected Outpatient Rehab/Sports Medicine Center</i>	-	11,000	<i>Square footage in building gross square feet. Locate adjacent to Viquest facility.</i>
<i>Community Services Program Center</i>	-	40,000	<i>Square footage in building gross square feet. Locate adjacent to Venture Tower. Includes functions such as Comm. Care Plan, Health Access, Disease Mgmt., Health East, Call Center (?)</i>
Consulting			

Master Plan Level Space Requirements for Selected Key Functions

Service	Existing DGSF	Projected DGSF	Comments
<i>Clinic Building</i>	-	306,000	<i>Includes ECU-SOM campus clinics. Dining, large classroom/meetings rooms, resident support space. Square footage in building gross square feet.</i>
<i>Transportation Services Facility</i>	-	8,000	<i>Includes Campus Bus Service, UHS Plant Operations Annex Storage and Grounds Maintenance facility. Could require additional square footage if UHS and ECU combine services. Square footage in building gross square feet.</i>
<i>Science Mall (ECU)</i>	-	139,725	<i>Includes Health Sciences Library of 60,000 dgsf, 800-seat Auditorium, Café/Dining, Computer Labs, "Gathering Atrium". Square footage in building gross square feet.</i>

DGSF = departmental gross square feet. This is a measure of the all the square footage assigned to function and includes the department's dedicated corridors, mechanical systems, and wall thickness of partitions dividing departmental space. This measure is typically expressed as a percentage "gross up" factor applied to the calculated net net square feet for a particular area.

BGSF= building gross square feet. This a "gross up" factor applied to the DGSF and accounts for mechanical spaces, stairwells, elevators, and exterior wall thickness serving the functions located within a building.

■ Square Footage Allocation for UHS INpatient Nursing Units by

Building	Existing DGSF	Projected DGSF
<i>North Tower</i>	<i>131,300</i>	<i>131,300</i>
<i>Snowflakes</i>	<i>132,625</i>	<i>0</i>
<i>Rehab</i>	<i>41,800</i>	<i>41,800</i>
<i>Birthing Center</i>	<i>25,000</i>	<i>25,000</i>
<i>Behavioral Health</i>	<i>30,000</i>	<i>30,000</i>
<i>PICU</i>	<i>14,000</i>	<i>14,000</i>
<i>Newborn Levels I,II,& III</i>	<i>26,000</i>	<i>26,000</i>
<i>New Bed Tower (e)</i>	<i>0</i>	<i>260,000 (e)</i>
<i>Total:</i>	<i>400,725</i>	<i>528,100</i>

Consulting

*DGSF = departmental
gross square feet*

UHS/ECU - SITE

UHS/ECU MASTER
SITE & FACILITY PLAN



ECU Division of Health
Sciences *Core* Master
Plan Development Zone

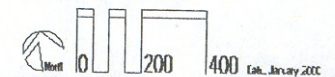
ECU Division of Health
Sciences *Future*
Development Zone

UHS
Corporate,
Logistic Support,
Community Svc

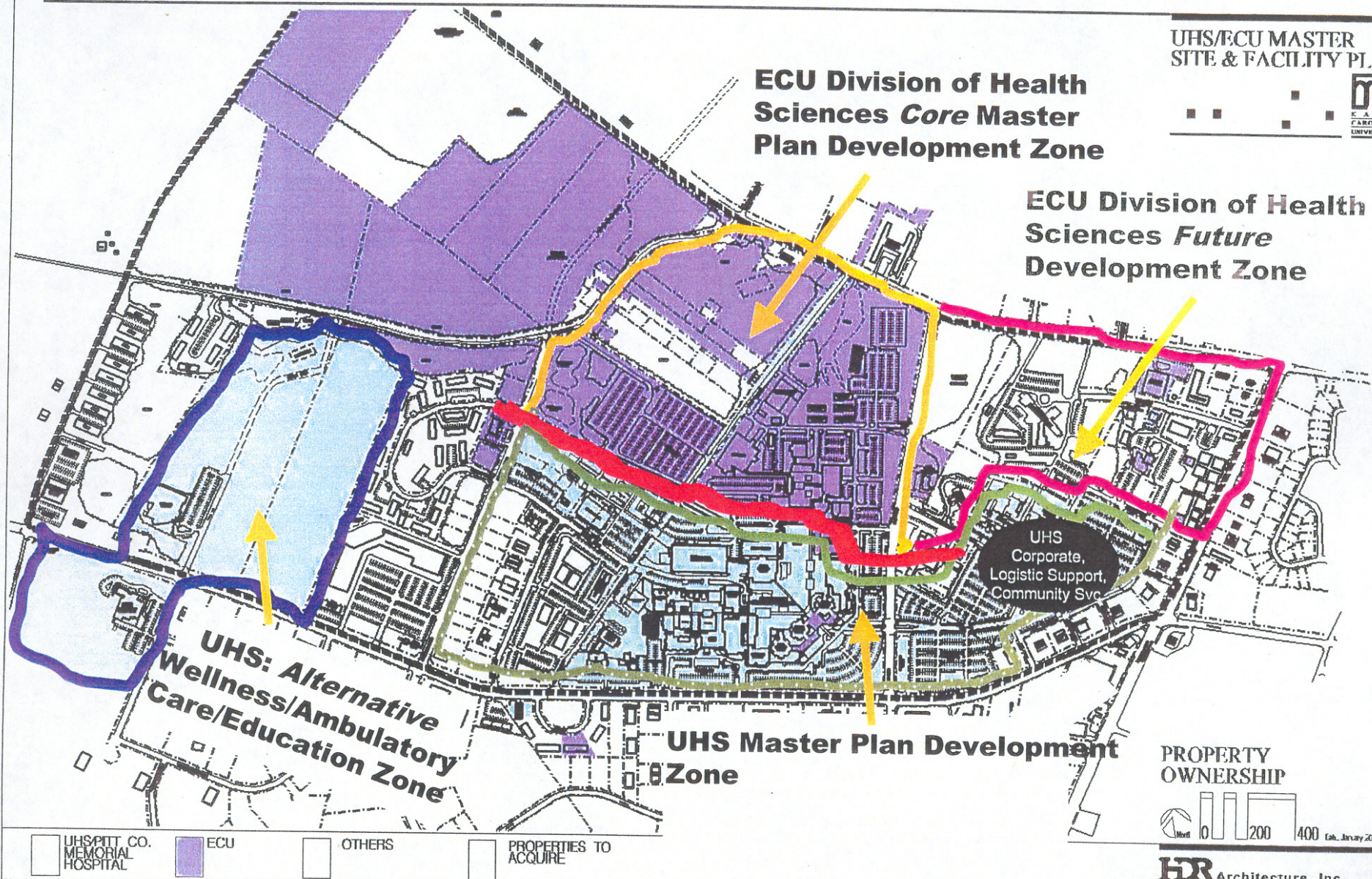
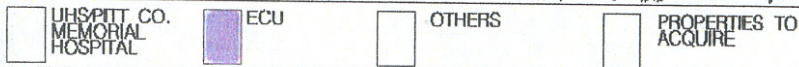
UHS: *Alternative*
Wellness/Ambulatory
Care/Education Zone

UHS Master Plan Development
Zone

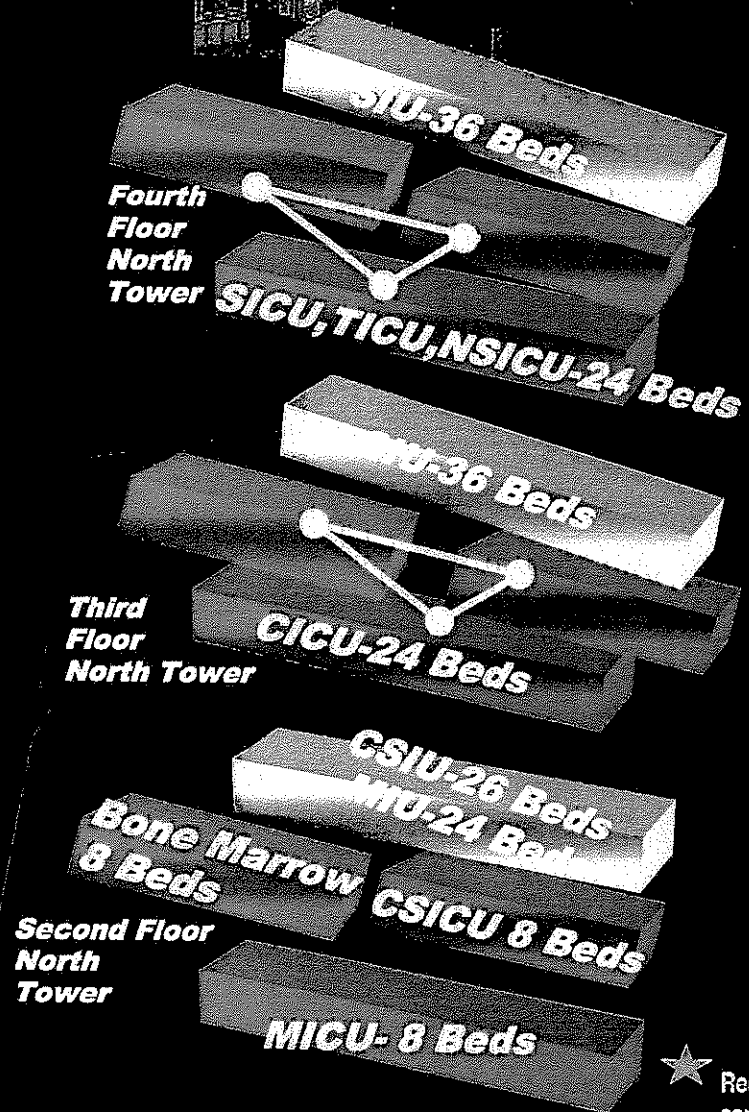
PROPERTY
OWNERSHIP



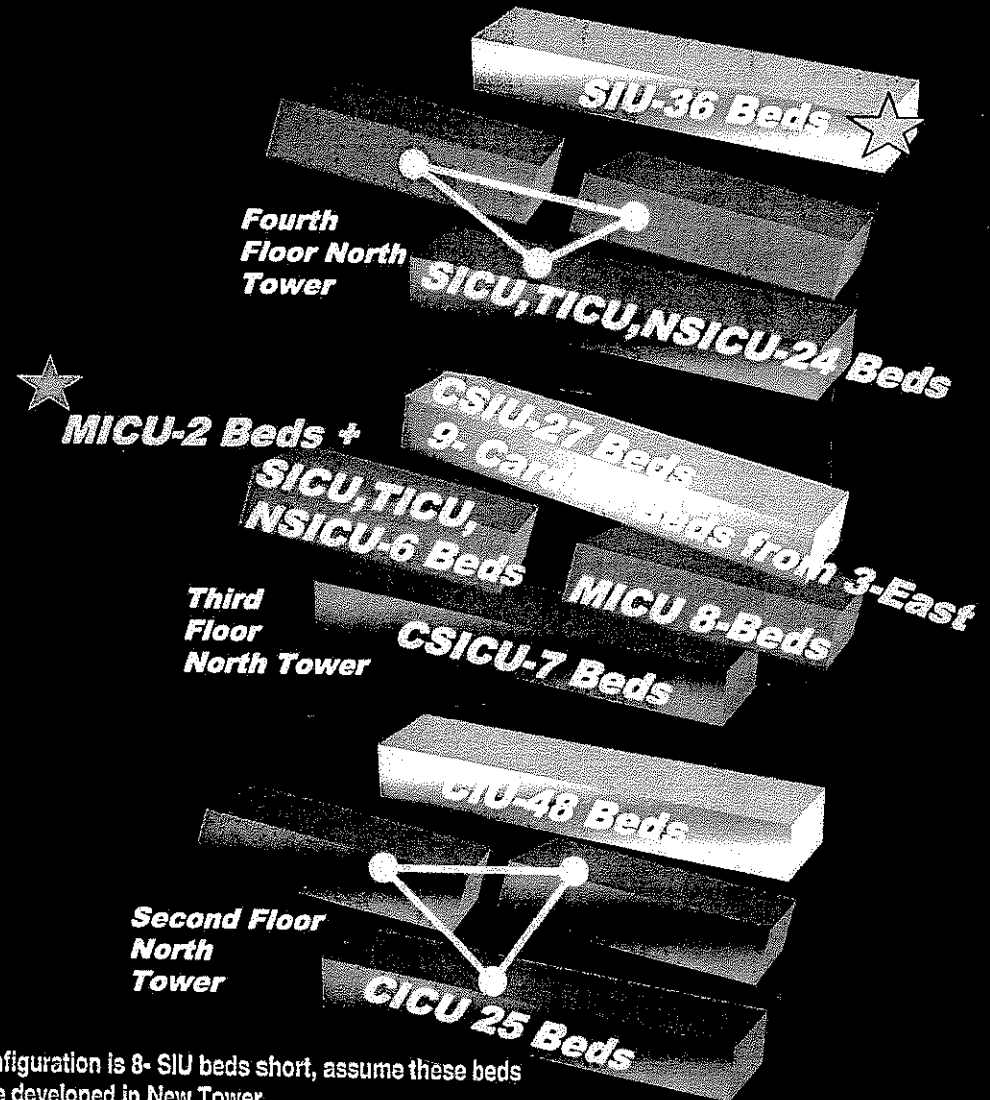
HR Architecture, Inc.



• Current North Tower Bed Configuration



• Suggested North Tower Bed Configuration



Consulting

★ Reconfiguration is 8- SICU beds short, assume these beds can be developed in New Tower
 Need 12 MICU beds can be developed in New Tower leaving east CICU unit available for alternative use