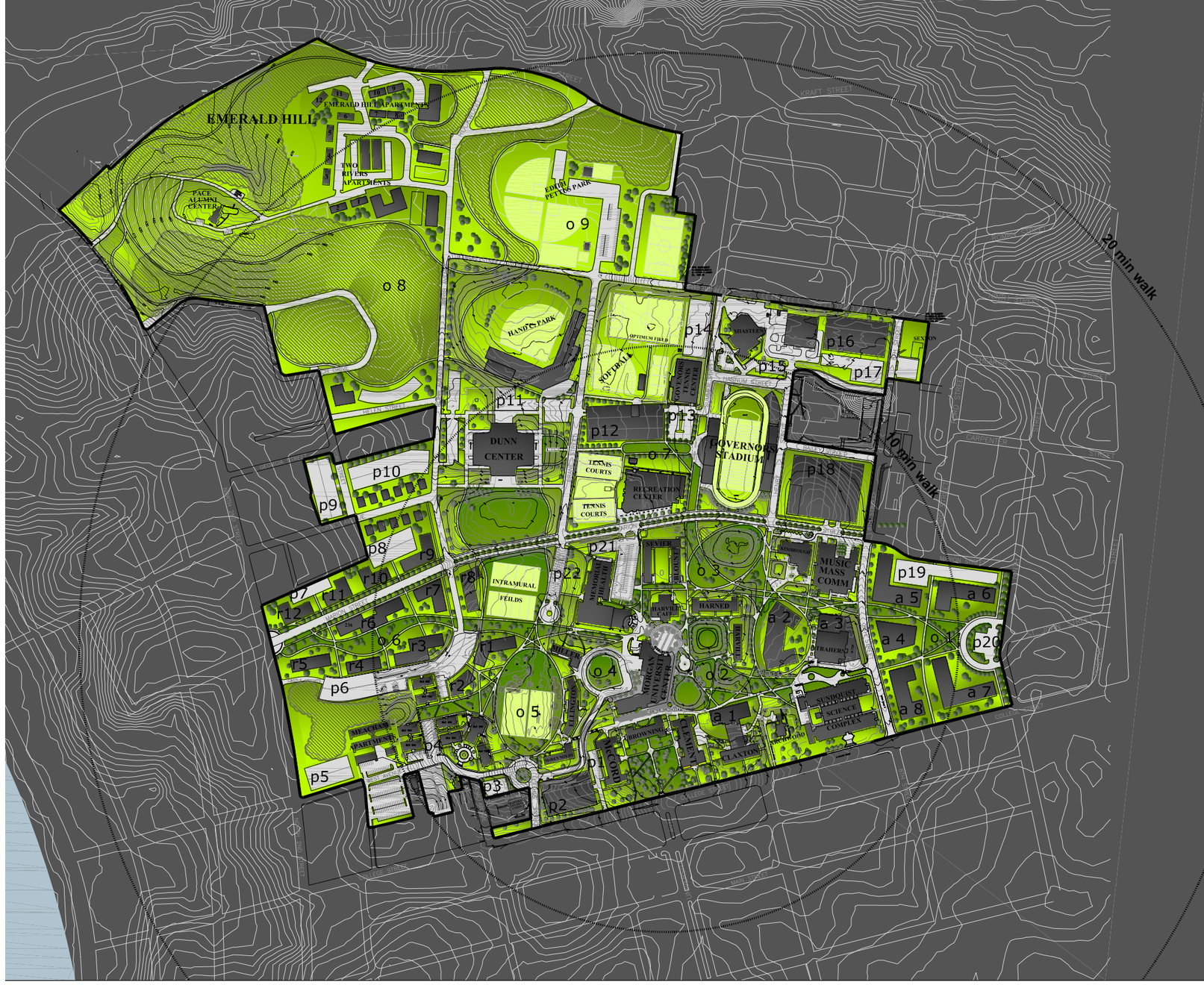


PHYSICAL MASTER PLAN

Tennessee Board of Regents

APSU

AUSTIN PEAY STATE UNIVERSITY

April 2007

Austin Peay State University
Physical Master Plan

Tennessee Board of Regents

April 2007

AUSTIN PEAY STATE UNIVERSITY
Campus Master Plan

TABLE OF CONTENTS

Executive Summary

I. History of the University
- A. Description of History
- B. Overview of Institution

II. Goal Formation
- A. Institutional Mission Statement and Strategic Plan

III. Existing Campus Conditions
- A. Campus Grounds
  1. Campus Physical Setting
  2. Land Use
  3. Building Use and Condition
     - A) Building Use
     - B) Facility Assessment
  4. Open Space and Pedestrian Circulation
  5. Vehicular Circulation and Parking
  6. Athletic and Recreational Facilities
- B. Campus Infrastructure
  1. Domestic Water and Fire Protection
  2. Electric Power
  3. Sanitary and Storm Sewer
  4. Steam and Chilled Water
  6. Telecommunications
  7. Natural Gas
- C. Community Setting
  1. Regulatory Issues
  2. Environmental Issues

IV. Future Campus Requirements
- A. Executive Summary Space Needs
- B. Space Needs
  1. Student Enrollment Assumptions
  2. Faculty and Staff Projections
  3. Space Needs Analysis
- C. Parking Space Projections
- D. Athletic and Recreational Facilities Projections
- E. Campus Infrastructure Projections
  1. Domestic Water and Fire Protection
  2. Electric Power
  3. Sanitary Sewer
  4. Steam and Chilled Water
  5. Storm Sewer
  6. Telecommunications
  7. Natural Gas
- F. Proposed Land Acquisition/Disposition

AUSTIN PEAY STATE UNIVERSITY
Campus Master Plan

V. Preliminary Physical Master Plan
- A. Alternative Concepts
- B. Selection of Preferred Alternative

VI. Physical Master Plan
- A. Land and Building Use
- B. Vehicular Circulation and Parking
- C. Open Space and Pedestrian Circulation
- D. Athletic and Recreational Facilities
- E. Campus Infrastructure
- F. Comprehensive Plan

VII. Implementation
- A. Phasing and Implementation Plan
- B. Cost Estimates for Building, Infrastructure and Site Improvements

AUSTIN PEAY STATE UNIVERSITY
Campus Master Plan

LIST OF TABLES AND FIGURES

History of the University

Historic District and Structures ..... I.A Figure 1
National Register of Historic Places..... I.A Table 1

Existing Conditions

Regional Map .....III.A.1 Figure 1
Vicinity Map .....III.A.1 Figure 2
City Map.....III.A.1 Figure 3
Campus Physical Setting .....III.A.1 Figure 4
Campus Land Use Areas .....III.A.2 Table 1
Existing Campus Land Use.....III.A.2 Figure 1
Building Use Classification.....III.A.3 Figure 1
Physical Quality Assessment.....III.A.3 Figure 2
Functional Quality Assessment .....III.A.3 Figure 3
Campus Building Inventory ..... III.A.3 Tables 1-6
Open Space and Pedestrian Circulation .III.A.4 Figure 1
Vehicular Circulation and Parking .....III.A.5 Figure 1
Athletic and Recreational Facilities.....III.A.6 Figure 1
Water Site Plan .....III.B.1 Figure 1
Overall Electric Diagram .....III.B.2 Figure 1
Electric Site Plan .....III.B.2 Figure 2
Sanitary Sewer Site Plan.....III.B.3 Figure 1
Steam and Chilled Water Data .....III.B.4 Table 1
Steam Distribution.....III.B.4 Figure 1
Chilled Water Distribution.....III.B.4 Figure 2
Telecommunications Duct Bank System...III.B.6 Figure 1
Telecommunications Copper Plan .....III.B.6 Figure 2
Telecommunications Fiber Optic Plan.....III.B.6 Figure 3
Gas Distribution.....III.B.7 Figure 1
Environmental Issues ..... III.C.2 Figure 1

Future Campus Requirements

Space Needs Analysis ..... IV.A Table 1
Future Enrollment Projections.....IV.B.1 Table 1
Future Staffing Projections .....IV.B.2. Table 2
Space Needs and Guidelines .....IV.B.3 Tables 1-10
Future Parking Projections .....IV.C Table 1
Steam Data.....IV.E.4 Table 1
Chilled Water Data.....IV.E.4 Table 2
Land Acquisition / Surrounding Context ....IV.F Figure 1
Land Acquisition / Disposition .....IV.F Figure 2

Preliminary Master Plan

Campus Character / Identity .....V.A Figure 1
Option – Champs Allee Peay .....V.A Figure 2
Option – Karast Campus .....V.A. Figure 3
Preferred Alternative .....V.B Figure 1

Master Plan

Building Use Classification Map.....VI.A Figure 1
Vehicular Circulation and Parking.....VI.B Figure 1
Open Space ..... VI.C Figure 1
Athletic and Recreational Facilities ..... VI.D Figure 1
Water..... VI.E Figure 1
Storm and Sanitary Sewer..... VI.E Figure 2
Physical Plant Locations..... VI.E Figure 3
Steam..... VI.E Figure 4
Steam Block Diagram ..... VI.E Figure 5
Chilled Water..... VI.E Figure 6
Chilled Water Block Diagram ..... VI.E Figure 7
Comprehensive Master Plan
(Illustrative Drawing) ..... VI.F Figure 1

Implementation

Implementation Master Plan (0-5 years)....VII.C Figure 1
Implementation Master Plan (Long-range).VII.C Figure 2
Phase Implementation and Cost ProjectionsVII.B Table 1
Utility Cost Estimate & Phasing..... VII.B Table 2

PARTICIPANTS

Austin Peay State University Master Plan Committee

Dr. Sherry Hoppe – President
Dr. Bruce Speck – Provost, Department of Academic & Student Affairs
Mr. Mitch Robinson – Vice President for Finance and Administration, Department of Finance and Administration
Mr. Richard Jackson – Vice President for Legal Affairs and Strategic Planning
Dr. John Foote – Professor / Faculty Senate President, Department of Chemistry
Ms. Diane McDonald – Interim Assistant Vice President for Academic Affairs, Department of Academic Affairs
Mr. Steve Wilson – Web Designer, Department of Public Relations and Marketing
Mr. Nick Pitts – Student Government Association President, Student

Consultant Team

HGA

701 Washington Avenue North
Minneapolis, Minnesota
612.758.4266 tel
612.758.9266 fax
lmoran@hga.com

Lew Moran, Principal – Architect
Zachary Bloch – Planning / Landscape Architecture
Leigh Rolfshus – Building Assessment

Paulien & Associates, Inc.

899 Logan Street, Suite 508
Denver, Colorado 80203
303.832.3272 tel
303.832.3380 fax
lkeith@paulien.com

Lisa Keith, Senior Associate – Space Analyst

Barge Cauthen and Associates, Inc.

95 White Bridge Road, Suite 311
Nashville, Tennessee 37205
615.356.9911 tel
615.352.6737 fax
mellenberger@bargecauthen.com

Mathew L. Ellenberger – Civil / Infrastructure Planning

I.C. Thomasson Associates, Inc.

2950 Kraft Drive, Suite 500
Post Office Box 40527
Nashville, Tennessee 37204
615.346.3400 tel
615.346.3550 fax
ballen@icthomasson.com

Burkely M. Allen – Mechanical / Infrastructure Planning

T e c h n i c a l M e m o r a n d u m

Date	April 2007
Project	Austin Peay State University Master Plan
Subject	Executive Summary
From	HGA, Inc
To	Austin Peay State University

The objective of this summary is to present the primary existing conditions information, projected campus needs, goals and issues, and key aspects of the campus mater plan.

1. INTRODUCTION

The consulting team of HGA/Paulien/IC Thomasson/Barge Cauthen was engaged by Austin Peay State University (APSU) to complete a five year master facility planning process and to document the findings of that process in the attached Physical Master Plan. From the time of its founding, APSU has grown in land acquisition, buildings, and stature without the benefit of significant master planning. The 1992 Campus Master Plan formed the basis for an update which was completed in 1998. This current master planning process was begun in 2006 and was intended to serve a 5-year planning horizon as requested by the Tennessee Board of Regents. The physical planning process was completed during the spring of 2007. The materials found in this document were presented to the campus planning steering committee on January 29th and 30th, 2007 for their review and approval. Additionally, the findings of this document were presented to the Clarksville Downtown Development Council on February 22, 2007. The final planning recommendations, including this document, will be presented to the Tennessee System Chancellor, Tennessee Board of regents and THEC during the month of May, 2007.

The Tennessee Board of Regents requires each of the higher educational institutions under its jurisdiction to adhere to the Georgia Physical Master Planning Template as structure for all master planning activities. Embedded in the Georgia Template is the need to complete the following major activities which will materially inform the direction for future educational program and physical facility development and which, when implemented, will improve the quality of educational experience received by the target community: They include:

- Understand the changing nature of the student body
- Document the current educational program through analysis of the course records regarding the utilization of campus facilities in the delivery of course material over time, both daily and weekly
- Predict the impact that future course delivery methods and educational program changes might have on future facility space needs
- Analyze, in summary fashion, the condition of current campus facilities including buildings and grounds, utility and transportation infrastructure, landscape features, parking and other support services
- Comment on the appropriateness of current campus facilities as support vehicles for the delivery of the current educational program

- Define any gaps which might exist between the future needs for campus facilities and the current basis
- Explore various planning options which, when implemented, resolve the location of future campus facilities made necessary by growth in students and change in educational program
- Develop a single option which represents consensus regarding future development

The planning process was carried out to complete the above-defined activities. The Georgia Template specifically requires the presentation of all planning processes and the findings which result from these processes in a document organized around the following seven major headings:

- History of the University
- Goal Formation
- Existing Campus Conditions
- Future Campus Requirements
- Preliminary Physical Master Plan
- Physical Master Plan
- Implementation

This executive summary is organized to address the primary issues relevant to each of the Georgia Template's seven major headings.

2. HISTORY OF THE UNIVERSITY

Austin Peay State University is located on an urban campus, immediately adjacent to the historic downtown of Clarksville, Tennessee; a city of more than 120,000 residents located 45 minutes northwest of Nashville along the Cumberland River. The land occupied by the current APSU campus has served this community, as well as the state of Tennessee, for over 180 years as it has grown from the small Rural Academy, founded in 1806 to the vibrant 4-year state university named after Governor Austin Peay who served Tennessee from 1923-1927 and was recognized as one of the state's great "reformers". Today APSU encompasses more than 160 acres of land and over 1,875,000 SF of facilities. Currently APSU is administered by President Sherry L. Hoppe who was Interim President from 2000-2001 and President from 2001-present. APSU is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award associate, baccalaureate, master's degrees and education specialist degrees as well as other associations for various additional programs and degrees. The original campus plan evolved around a rectangular-shaped quadrangle fronting College Street and University Avenue; two of the primary roadways which intersect at APSU's front door.

3. GOAL FORMATION

The master plan steering committee provided the planning team with a number of planning criteria which formed the underlying assumptions upon which future recommendations have been made. They include:

- Focus all analysis and planning activities on the Clarksville campus only, leaving the Fort Campbell and Farm campuses to be considered under a separate planning exercise.
- Use Fall, 2006 educational course data as the baseline criteria for space utilization studies.

- Develop future space and physical facility needs on projected growth of 31% in student body, changing headcount from 7,648 (2006/07) to 10,000 (target enrollment). These numbers when expressed as Full Time Equivalent (FTE) students are 6,558 FTE currently and 8,575 FTE when the target of 10,000 students headcount is achieved.
- Reflect similar growth of 31% in faculty and staff headcount from 905 to 1,082.
- Assume that technology-based coursework (e-learning) will grow, perhaps even substantially, in its use by students, primarily those locally enrolled and mostly in "hybrid" courses, and will not affect the delivery of course material which requires a classroom setting in a material way.

The master plan steering committee was highly committed to the creation of a document which reflected the Vision Statement which is as follows:

"APSU's vision is to create a collaborative, integrative learning community, instilling in students habits of critical inquiry as they gain knowledge, skills, and values for life and work in a global society."

4. EXISTING CAMPUS CONDITIONS

The current APSU campus occupies 160 acres and 1,875,000 GSF of facilities which are primarily urban in nature, located in the city of Clarksville, Tennessee. The consultant team completed an analysis of all current facilities (both buildings and the infrastructure which serves them). There are three primary conclusions which are reflective of the findings of this analysis and which inform the development of APSU's master plan. They are:

As a summary statement, though not all APSU buildings and infrastructure systems are able to meet a reasonable standard for higher educational facilities, the campus, when considered as a whole, is generally well maintained and suitable for the purpose of delivering relevant, contemporary and appropriate course materials in an effective manner. Though most buildings meet this standard, not all do and these buildings and systems (described in detail further in this document) should be seriously considered for renovation and/or replacement as they present significant deviation from adequate.

Existing campus facilities appear to generally satisfy current needs required of them by students, faculty and staff but fall well below the national averages with respect to the Assignable Square Feet per Full Time Equivalent (ASF/FTE) student. APSU averages 119 ASF/FTE compared with a Tennessee system average of 153 ASF/FTE and a "peer group" average of 140 ASF/FTE. This deficit of 21 ASF/FTE, when translated into a campus-wide number is approximately 138,000 ASF which, when circulation and support systems are considered, increases to 230,000 Gross Square Feet (GSF). When the target population is reached (8,575 FTE) the deficit grows to 279,000 ASF which, when circulation and support systems are considered, increases to 465,000 GSF. The current deficit of 230,000 GSF (12%) is substantial, and though it is based on a guideline and not a mandate, it serves as one measure of the effectiveness of APSU's campus facilities when contrasted with other TBR institutions or with peer institutions; both public and private, outside of Tennessee. The projected future deficit, 465,000 GSF required to support 8,575 FTE students) represents a 35% increase from current GSF.

Given the scale of these deficits, one could reasonably ask how APSU is capable of serving its current, much less future, student population when it is lacking 12-35% of the facilities required by national standards. One possible conclusion is that APSU is making better use of its daily available teaching times, in other words extending the teaching day into the afternoon, evenings and weekends; thereby optimizing productivity of the spaces

they have. Without understanding the utilization of other campuses, we cannot determine if this is true, but the current use patterns of APSU's facilities (with peak utilization between 10:00 and 2:00) are typical of many of the nation's colleges and universities. Another possible answer could be that APSU is making more effective use of its facilities by increasing the density of students per class beyond that of other TBR campuses, in other words, doing more with less. This is quite possibly true to the degree that most of APSU's classrooms and support spaces are in older buildings which, when designed, were based on different ratios, but this may be true of all TBR campuses. Further study, beyond the scope of this master plan, would have to be completed in order to fully explain this condition. However, it is reasonable to expect that some advancement of additional facilities will be required to support students, faculty and staff.

The newest facility on campus is the recently renovated McCord Hall which was re-opened during the fall semester of 2006. McCord is a good example of what a contemporary building on campus can provide with respect to the need for classroom, office and support spaces. The new classrooms are equipped with full media access and technology through inclusion of ceiling mounted projectors, "smart" boards", computer access, quality lighting and control systems, appropriate furnishings, good acoustical treatment and pleasing materials and colors. The offices reflect the same attention to detail and are well designed to support the purposes for which they are used. The entire building is fully accessible, signage and way-finding systems are well-designed and the mechanical/electrical infrastructure systems are either new or revitalized. Additional examples of buildings which reflect a similar condition include Morgan University Center, Sundquist Hall, the newly renovated wing of Memorial Health and the Foy Recreation Center.

In contrast, Marks Hall is one of the older buildings on campus, does not support access to many areas, functions like a number of separate buildings from a circulation point of view, has older mechanical and electrical systems which require constant maintenance and an undue amount of capital, does not support the delivery of contemporary office practice or teaching pedagogy, is physically in very rough condition despite the efforts of staff to maintain it and should be considered as a primary target for demolition as its renovation to meet current standards would require an unsupportable excess of capital when compared to the cost of new construction. Buildings which reflect similar conditions (as Marks) include Cross, Killbrew, Rawlings, Ellington, Woodward Library and Trahern. All are considered candidates for substantial renovation or demolition and replacement.

The vast majority of buildings on campus reflect a "middle ground" between these two extremes characterized by reasonably maintained but, for the most part, aging mechanical and electrical systems, well-maintained but outdated materials and finishes in the older buildings, good access to technology services throughout campus but less than desirable lighting systems supportive of a high-tech environment, furnishings of various ages and condition, relatively "live" acoustics which may contribute to disruption of work or study, and minor inconsistencies with respect to ADA and other legislation and life safety codes. Buildings which represent the high end of this condition include Music/Mass Communications, the Dunn Center, Browning Hall, Sevier, Hand, Meacham, Harned and the Harvil Café. Buildings which represent the low end of this condition include Blount, Miller, the Power Plant, Clement, Claxton, Archwood and Kimbrough.

In addition to the buildings, the infrastructure facilities which support them vary in condition from new to badly deteriorated and in need of replacement. In general, the electrical system serves the campus well with a minimum of manageable interruptions in service but is in need of substantial work if it is to:

- replace decaying equipment (both above and below ground) prior to unplanned failure; and,

- support redundancy, made necessary to prevent service interruptions due to equipment failure and/or scheduled maintenance

The existing campus steam system is sufficient to support current requirements and the two boilers are sufficiently sized such that the campus can be minimally served by a single boiler in the event of system failure or scheduled maintenance. However:

- roughly 50% of the below-ground steam delivery and condensate return piping is badly in need of replacement
- the system does not support desired levels of redundancy required to reduce "down" time due to failure or scheduled maintenance
- various pumps and support equipment are aging and fail without warning
- ongoing maintenance budgets required to resolve these conditions are burdensome

The storm water system and city water supply are of similar condition, in that they

- currently function reasonably well, serving current needs
- require ongoing maintenance and show signs of imminent component failure
- lack the capacity to serve future need

The gas service which supports the campus is in good condition.

Overall, the consult team's findings of the facilities existing conditions are found to comparable to other campuses nationwide in terms of overall conditions and appropriateness for educational purposes.

5. FUTURE CAMPUS REQUIREMENTS

The APSU campus master plan steering committee and consultant team have determined that additional facilities will need to be constructed in order to satisfy the future demands placed upon the campus by its anticipated growth from 7,648 headcount (current) to the target population of 10,000 headcount (5-10 years), an increase of 31% over current enrollment. In addition, it was determined that the faculty/staff ratio would grow at a similar 31% ratio. This document does not predict the timing of such growth, only estimates the scale and scope of facilities that would be required when this target is reached. Analysis of the current and proposed curriculum, facilities utilization and peer group comparisons required to support 10,000 headcount yield planning parameters which are summarized here and presented in detail in the document itself. In order to serve the needs of the target population of 10,000 headcount, the campus should, in order to satisfy national standards for similar institutions:

- Construct 400 beds of new student housing to replace substandard existing facilities
- Construct 600 beds of new student housing to satisfy growth demands
- Construct an additional 93,000 ASF (155,000 GSF) of new academic facility to satisfy the current deficit (compared to peer institutions) and satisfy growth requirements
- Construct an additional 104,000 ASF (173,000 GSF) of new academic support facility to satisfy the current deficit (compared to peer institutions) and satisfy growth requirements
- Construct an additional 47,000 ASF (78,000 GSF) of athletic space to satisfy the current deficit (compared to peer institutions) and satisfy growth requirements

- Construct an additional 34,000 ASF (57,000 GSF) of student center space to satisfy the current deficit (compared to peer institutions) and satisfy growth
- Construct and additional 1,300 ASF (2,200 GSF) of healthcare facility to satisfy the current deficit (compared to peer institutions) and satisfy growth
- Construct an additional 1,140 parking spaces, mostly in structured parking facilities to support growth and provide a means of consolidating more parking in fewer lots (some of which are needed for future building sites).
- Relocate the Power Plant (adding boiler/chiller capacity) to a less central location on campus as well as replacing aging piping and equipment.
- Add new water mains to support growth in residential and academic facilities
- Replace aging primary electrical switch gear, provide redundancy and replace cable to serve new facilities.
- Add new sanitary sewer mains to serve new residential and academic facilities.
- Create new storm water detention facilities to serve new residential and academic facilities.
- Upgrade telecommunications system cabling and convert campus to Voice over Internet Protocol (VOIP) systems. Convert campus data system to wireless.
- Increase the size of main gas service to support new boiler/chiller plant.
- Acquire land to the immediate east of campus to serve the new academic precinct and to the west in the Castle Heights area to serve the new residential Precinct. Additional property acquisition would be on an “opportunistic” basis to the north or south of the existing campus boundaries.

At present, only one facility (Trahern) is on the TBR 12 prioritized list of facilities to be funded. In addition, Woodward Library is being considered for replacement, but funding is highly unlikely to occur within the 5-year planning horizon. However, facilities which are funded by other means than legislative appropriation have a high likelihood of being constructed. These facilities include the replacement of aging student housing, the construction of new student housing, parking and student service facilities and many of the above-noted infrastructure projects, much of the funds for which will be appropriated from the general operating budget either to resolve emergency conditions or through preventative maintenance activities.

6. Preliminary Physical Master Plan

Based on the needs for future expansion to accommodate the predicted growth from current enrollment to target enrollment of 10,000 student headcount, the planning team developed a number of scenarios for the campus landscape and land-use plan which identified possible locations for new academic facilities, housing facilities, athletic and recreational facilities, parking facilities, circulation patters, open space and outdoor rooms as well as general landscape standards.

For the purpose of creating distinctly different planning options, the planning team evaluated four opposing characteristics which formed the basis of the preliminary concepts. They were:

- Urban versus rural density characteristics; and,
- Karst (reflective of the natural geologic environment) versus Champs Allee Peay (reflective of a highly energized “city-like” environment similar to Paris’ Champs Elysee Avenue

Initially, the steering committee was drawn to the continuation of the “urban” characteristics (versus rural) which are consistent with the current campus and so the planning possibilities within the “rural” pattern were discarded, resulting in a series of

planning options that explored variations for future development which ranged from very informal organizations of buildings, transportation systems, and grounds (the Karst scheme) to highly structured environments in which buildings, transportation systems, and landscape spaces overlapped (the Champs Allee Peay scheme). Although there were characteristics of the formal schemes that were intriguing to the planning team and steering committee. The less structured, more landscape responsive "Karst" schemes were determined to be the most satisfying. Generally, the schemes which responded to the site addressed the most significant number of concerns with respect to the criteria for future development of a campus environment that was both consistent with the existing values and mission/vision of APSU. The informal site responsive pattern also was reflective of the need for change and adaptation to accommodate future growth.

7. PHYSICAL MASTER PLAN

The primary characteristics of the "Karst" based physical master plan include celebration of the natural environment found in the Clarksville area which is highly evident on the current APSU campus and that is the "sinkhole" nature of the geology which requires that substantial areas of the campus remain in a natural state due to the, frequently unexpected, subsidence of major areas of land. The campus has a number of large sinkholes which are located at random throughout its 160 acres. These sinkholes form the basis for a majority of the campus open spaces and it is around them that the campus buildings are located; often creating a less structured relationship between building masses than might normally be expected. It was determined that accentuating the nature of this landscape would create a unique campus environment which not only served the aesthetic needs of the campus for long-term building growth and open space development, but would also serve to link the campus plan to the educational research mission of the university; highlighting one of it most obvious, but undeveloped, teaching laboratories-the geology of the area.

Within this scheme, a new campus entry node was located at the east end of campus at the intersection of 9th Street and College Street which would serve the majority of incoming faculty, students, staff and visitors who arrive from Highway 24 exit #4, serving the new academic facilities located there. In addition, a new campus entry to the west would serve the arriving vehicular traffic from the growing Fort Campbell area and enlarged housing precinct located in the Castle Heights area. Drane Street would be closed from north of McReynolds to south of Miller, creating a major new "quad" which would serve to unify the eastern housing and academic precinct from a landscape perspective, provide much-needed additional recreation space within the housing precinct, eliminate pedestrian/vehicular conflicts and resolve long-standing civil engineering issues. Marion Street would be upgraded to a tree-lined boulevard, further integrating the athletic/recreational precinct to the north with the academic/housing precincts to the south. Marks and Woodward Halls would be demolished and their sites converted to open space. Current parking lots around Trahern would become building sites for future academic facilities. New "structured" parking areas would be built to serve the additional need as well as to centralize locations for parking, and thus vehicular traffic, away from the core of campus.

8. IMPLEMENTATION

With respect to implementation, the planning team focused on the impact that Trahern, Woodward Library, and the new housing precinct (those projects likely to be funded within the 5-year planning horizon) would have on the overall campus development. Other projects, such as the relocation of the existing power plant, construction of structured parking ramps, additional land acquisition, general landscape planning, re-design of street

systems, construction of new entry nodes and a welcome center were also considered in the long-range planning diagrams, but were not considered to be likely candidates for funding (and thus design and construction) during the 5-year planning horizon.

With respect to predicting the square footage that will be necessary to accommodate future enrollment growth and curriculum development, the planning team strongly urges the APSU administrative team and the TBR to consider the basis upon which such square footage predictions are made. Our analysis uses a ratio of ASF/FTE (the national standard for assessing utilization and space projection). APSU's ratio is 119 ASF/FTE, somewhat below the TBR average ratio of 153 ASF/FTE. APSU ratio of 119 ASF/FTE is also substantially less than its "peer" institutions which range from 115 ASF/FTE to 193 ASF/FTE. It is reasonable to conclude from this analysis that APSU does not have sufficient space to serve its student population and course offering based on these comparisons. However, the national trend (with respect to state funding of new facilities for higher education) reduces the capital dollars for construction (measured in inflation-corrected dollars), a condition which is unlikely to change soon. This will result in an ever increasing disparity between what a campus "needs" (based on the ASF/FTE standard) and what it "has". In order to accommodate this disparity, APSU, and its peers, will have to not only provide additional facilities (new or renovated) but also increase the utilization of current facilities by extending the "teaching day" to include the afternoons, evenings and weekends when campus facilities are not fully utilized. In addition, APSU will have to also increase the development of coursework and degree programs which serve non-traditional students (older parents or working students) who cannot or will not attend classes during the normal hours that full-time traditional students enjoy. APSU is making progress in developing these courses and degree programs as well as extending the "teaching day", but may have to commit additional the financial and human resources dedicated to increasing utilization which will be reflected in a decreasing ASF/FTE ratio. APSU will also have to expand the online outreach efforts and undertake re-design of current and future courses delivery systems to be more effective. A substantial increase in increasing the length of the "teaching day" and redesigning course delivery methods would reduce the need for construction of expensive new facilities only used during peak times of the day (10:00 am to 2:00 pm). In addition, a complete analysis of the size and effectiveness of classroom sections and the spaces used for those purposes must be included in the next generation of academic planning.

The power plant is a project that will clearly be outside of the planning horizon of this master plan, unless substantial dollars are found or donated for that purpose or the local utility comes to the table with a joint venture proposal. At this time, none of these scenarios is in evidence. However, APSU anticipates spending over $2,000,000 on utility repairs during 2007/2008 to replace equipment that fails,. In our planning, we provided an "aspirational" long-term solution that would convey the University's desire to make the core of campus more pedestrian friendly and less of a source for industrial noise and service issues. Our consultants were not contracted to engineer a new plant and so we assessed its size and potential cost for planning purposes only, not on detailed engineering analysis. Site selection for the new power plant will need to be based on the cost of relocating (mostly underground) steam and condensate lines, There are several good locations for a new power plant facility.

The best site from a pedestrian and service point of view is near Shasteen, but that site is also the most expensive location due to the cost of relocating underground steam and condensate lines (made necessary to connect to the existing campus lines and provide redundancy where none currently exists). Other good sites are in the vicinity of the east parking structure, if it is built, because of the reduced cost of relocating the underground steam and condensate lines and the potential for sharing costs with the construction of the renovated Trahern Hall or new Woodward Library building. It is also possible to include a

new “precinct” sized plant in the location of the new housing facilities to be constructed in the Castle Heights area.

The migration analysis is simple in nature. Trahern is the only building that has is likely to receive state funding during this planning cycle. Other possible migrations include various office moves, the detail of which was provided to us by the administration, which are to be found in the Appendix indicating specific relocations throughout the next year. If Trahern is funded, it is the assumption of this planning team that the existing building will remain in place as an operational facility throughout construction of the new addition. This will require attention to the existing conditions and may affect staging of materials on site. Therefore, Trahern will not require outside facility support until such time as the new addition is constructed, at which time the existing building will be renovated. Those departments which can move into the new building addition will do so and those which cannot be relocated in the new addition will move into Marks or rented off-site facilities as determined at that time. In the event that the replacement of Woodward is funded, the new facility would be built on an existing surface parking lot to the east of Harvill. All Woodward staff will be moved into the new building upon completion. It is highly likely that 400 new housing beds (not state-funded) will be constructed prior to the demolition of the three older buildings (Killebrew, Rawlins & Cross) and the 600 new beds will not replace old but will expand the campus inventory so no migration is necessary.

The parking lots to the east have to be carefully phased with the construction of new facilities. It is the assumption of this plan that no money is currently assigned or available for multi-level parking facilities. If substantial new educational buildings are to be constructed, it will be necessary to also plan for and provide funding for one of two scenarios; structured parking to increase density or additional surface-level parking lots further from the core of campus.

T e c h n i c a l M e m o r a n d u m

Date September 2006

Project Austin Peay State University Master Plan

Subject I. History of the University
A. Description of History

From HGA, Inc

To Austin Peay State University

The objective of this work element is for the planning team and campus community to gain an understanding of the history of the university which has shaped the educational and physical form of the campus and is likely to influence its future.

This is a brief history of Austin Peay State University as gathered by the planning team.

1. HISTORY OF AUSTIN PEAY STATE UNIVERSITY

Austin Peay State University is located on land that for over 180 years has been used for educational purposes. On this Clarksville property the buildings of three schools and five colleges have existed:

- Rural Academy, 1806-1810
- Mt. Pleasant Academy, 1811-1824
- Clarksville Academy, 1825- 1848
- Masonic College, 1849-1850
- Montgomery County Masonic College, 1851-1854
- Stewart College, 1855-1874
- Southwestern Presbyterian University, 1875-1925

The University began as Austin Peay Normal School when it was created as a two-year junior college and teacher-training institution by Act of the General Assembly of 1927 and named in honor of Governor Austin Peay, who was serving his third term of office when the school was established. Limited in purposes and resources initially, the school gradually grew in stature over the years to take its place among the colleges and universities under the control of the State Board of Education.

In 1939, the State Board of Education authorized the school to inaugurate a curriculum leading to the Bachelor of Science degree. The degree was first conferred on the graduating class at the 1942 Spring Convocation. By Act of the Tennessee Legislature of February 4, 1943, the name of the school was changed to Austin Peay State College. In 1951, the State Board authorized the College to confer the Bachelor of Arts degree and, in 1952, to offer graduate study leading to the degree of Master of Arts in Education. At the November 1966 meeting, the State Board of Education conferred university status on the College. Its name was changed to Austin Peay State University effective September 1, 1967. In February 1967, the State Board of Education authorized the University to confer the Master of Arts and the Master of Science degrees. In 1968, associate degrees were approved. The State Board of Education relinquished its governance of higher education

institutions to the Tennessee State Board of Regents in 1972. In 1974, the Tennessee State Board of Regents authorized the Bachelor of Fine Arts and the Education Specialist Degrees. In 1979, the Bachelor of Business Administration degree was approved as a replacement for traditional B.A. and B.S. degrees in various fields of business. In 1979, the Bachelor of Science in nursing degree was approved. In 1983, the Tennessee State Board of Regents approved the Master of Music degree, and Master Arts in Education. In 2001, the Tennessee State Board of Regents authorized the Bachelor of Professional Studies.

During its history, eight presidents and three acting presidents have served the institution:

- John S. Ziegler, 1929-1930
- Philander P. Claxton, 1930-1946
- Halbert Harvill, 1946-1962
- Earl E. Sexton (Acting), September - December 1962
- Joe Morgan, 1963-1976
- Robert O. Riggs, 1976-1987
- Oscar C. Page, 1988-1994
- Richard G. Rhoda (Interim), July - October 1994
- Sal D. Rinella, 1994-2000
- Sherry L. Hoppe (Interim), 2000-2001
- Sherry L. Hoppe, 2001-present

2. ACCREDITATION AND AFFILIATIONS

Austin Peay State University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033-4097; Telephone number 404-679-4501) to award associate, baccalaureate, master's and education specialist degrees. In addition, the teacher preparation programs of the University are accredited by the National Council for the Accreditation of Teacher Education for the preparation of elementary and secondary teachers through the master's degree level. Preparation programs for elementary and secondary principals and supervisors, school counselors, and school psychologists are also accredited by the National Council for the Accreditation of Teacher Education at the master's degree level. The Bachelor of Science in Nursing Degree is approved by the Tennessee Department of Health – Board of Nursing and accredited by the National League for Nursing Accrediting Commission. Social Work is accredited by the Council on Social Work Education. The Medical Technology program is accredited by the National Accrediting Association for Laboratory Science. The University is an accredited institutional member of the National Association of Schools of Music. All baccalaureate programs in Art are accredited by the National Association of Schools of Art and Design. The Chemistry program is approved by the American Chemical Society. The School of Business has established as an objective additional accreditation by the American Assembly of Collegiate Schools of Business.

Accreditation assures that the student is enrolled at an institution approved by the region's accrediting associations. Credits earned at Austin Peay State University may be submitted to other accredited institutions of higher learning and be accepted, if they are appropriate to the designated curriculum. Accreditation also means that the degree earned at the University is fully recognized throughout the nation.

3. HISTORY OF MASTER PLANNING

The original campus evolved around a rectangular-shaped quadrangle fronting College Street and University Avenue. From the time of its founding, APSU has grown in land acquisition, buildings, and stature without the benefit of significant master planning. In 1998 a master plan was prepared for Austin Peay State University by Lyle-Cook Architects, Inc./ McCarty Holsaple McCarty, Inc., entitled the 2000 Campus Master Plan, which was an addendum to the 1992 Campus Master Plan. Its purpose was to establish a design framework for future campus development to the year 2010 as request by the Tennessee State Board of Regents. Site planning and development has occurred in relation to individual building projects since the 2000 plan, however no comprehensive campus master plan has been prepared.

4. BUILDINGS ON THE HISTORIC REGISTER

Table 1 lists places either on or adjacent to the Austin Peay State University campus that are recognized as historic places on the National Register of Historic Places.

Table 1 - National Register of Historic Places

	Building Name	Period of Significance
1.	**Drane--Foust House** *(on campus)*	1875 - 1899
2.	**Emerald Hill** *(on campus)*	1825-1849, 1850-1874, 1875-1899
3.	**Rexinger, Samuel, House** *(Presidents House)*	1875-1899
4.	**Robb, Alfred A., House** *(adjacent to campus)*	1850-1874, 1875-1899, 1900-1924, 1925-1949

Refer to following Historic District and Structures Figure 1.

The National Register of Historic Places is the Nation's official list of cultural resources worthy of preservation. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect our historic and archeological resources. Properties listed in the Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. The National Register is administered by the National Park Service, which is part of the U.S. Department of the Interior.

historic districts and structures

Legend:

Historic Structure/District

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

SEPTEMBER 2006

hga.

I.A. figure 1

T e c h n i c a l M e m o r a n d u m

Date February 2007

Project Austin Peay State University Master Plan

Subject I. History of the University
B. Overview of the Institution

From HGA, Inc.

To Austin Peay State University

The object of this work element is for the planning team and campus community to understand the overall dimensions and physical characteristics of the campus. Following is an overview of Austin Peay State University.

1. UNIVERSITY MATRICULATION

Austin Peay State University is one of 46 institutions in the Tennessee Board of Regents (TBR) system, the seventh largest system of higher education in the nation. The Tennessee Board of Regents is the governing board for this system which is comprised of six Universities, 14 two-year colleges, and 26 Technology centers. The TBR system enrolls more than 80 percent of all Tennessee students attending public institutions of higher education.

Austin Peay State University, under the control of the Tennessee Board of Regents, is a regional University organized as the College of Arts and Letters, the College of Graduate Studies, the College of Professional Programs and Social Sciences, the College of Science and Mathematics, and the School of Technology and Public Management.

The University grants the degrees of Associate of Applied Science, Associate of Science, Bachelor of Arts, Bachelor of Business Administration, Bachelor of Fine Arts, Bachelor of Science, Bachelor of Science in Nursing, Master of Arts, Master of Music, Master of Science, Master of Arts in Education, and the Education Specialist. A non-credit Extended Education program is offered also.

The University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools. In addition, the preparation programs for elementary and secondary teachers, elementary and secondary principals and supervisors, school counselors, and school psychologists are accredited by the National Council for the Accreditation of Teacher Education through the master's degree level. The University is also a member of the National Association of Schools of Music. The Bachelor of Science Degree in Nursing is accredited by the Tennessee State Board of Nursing and the National League of Nursing. Social Work is accredited by the Council on Social Work Education. The Medical Technology program is accredited by the National Accrediting Association for Laboratory Science. All baccalaureate programs in Art are accredited by the National Association of Schools of Art and Design.

The University is a member of the following associations:

- American Association of Colleges for Teacher Education
- American Association of Collegiate Registrars and Admission Officers
- American Association of State Colleges and Universities
- Association for Field Services in Teacher Education
- Association of Intercollegiate Athletics for Women
- Conference of Southern Graduate Schools
- Council of Colleges of Arts and Sciences
- Council of Graduate Schools
- National Association for Campus Activities
- National Association for Student Personnel Administrators
- National Collegiate Athletic Association
- Ohio Valley Conference
- Service members Opportunity Colleges
- Southern Association of Collegiate Registrars and Admissions Officers
- SREB Council on Collegiate Education for Nursing
- Tennessee Alliance for Continuing Higher Education
- Tennessee College Association
- Tennessee Conference of Graduate Schools

Austin Peay State University is an equal opportunity employer committed to the education of a non-racially identifiable student body. APSU affirms that it does not discriminate based on race, color, religion, national origin, sex, sexual orientation, age, disability or veteran status in the educational programs or activities which it operates, nor in admission to or employment in such programs or activities.

APSU adheres to the requirements of Title VI and VII of the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972, as amended, Sections 799A and 946 of the Public Health Service Act, the Age Discrimination Act of 1975, the Rehabilitation Act of 1973, Americans with Disabilities Act of 1990, Executive Orders 11246 and 11375, and the related regulations to each.

APSU reaffirms that it does not discriminate in employment based on race, color, religion, sex, age, disability or national origin and that it has taken affirmative action on behalf of minorities, and women, as prescribed by the Equal Pay Act of 1963, as amended, Title VII of the Civil Rights Act of 1964, as amended, Executive Order 11246 and 11375 as amended, Age Discrimination in Employment Act of 1967, as amended, the Rehabilitation Act of 1973, as amended, the Americans with Disabilities Act of 1990, the Vietnam Era Veterans' Readjustment Assistance Act of 1974 and the Pregnancy Discrimination Act of 1978.

Effective July 1, 2006, Austin Peay became a smoke-free campus with the exception of parking lots. Smoking is thus not allowed in or around buildings.

T e c h n i c a l M e m o r a n d u m

Date March 2007

Project Austin Peay State University Master Plan

Subject II. Goal Formation
A. Institutional Mission Statement and Strategic Plan

From HGA, Inc. / Paulien & Associates, Inc.

To Austin Peay State University

The objective of this work element is for the planning team and campus community to gain a general understanding of the university's present and future institutional mission and strategic plan and their impact on the campus' physical characteristics.

This memo also summarizes information from work sessions held with the University students, staff, faculty, and administration. The general purpose of the work sessions was to review the current Institutional Mission Statement and Strategic Plan.

1. STRATEGIC PLAN AND MISSION STATEMENT

Mission Statement (taken directly from campus documents)
Austin Peay State University is a comprehensive university committed to raising the educational attainment of the citizenry, developing programs and services that address regional needs, and providing collaborative opportunities that connect university expertise with private and public resources. Collectively, these endeavors contribute significantly to the intellectual, economic, social, physical, and cultural development of the region. APSU prepares students to be engaged and productive citizens, while recognizing that society and the marketplace require global awareness and continuous learning. This mission will be accomplished by:

- Offering undergraduate, graduate, and student support programs designed to promote critical thinking, communication skills, creativity, and leadership;
- Expanding access opportunities and services to traditional and nontraditional students, including the use of multiple delivery systems, flexible scheduling, and satellite locations;
- Promoting equal access, diversity, an appreciation of all cultures, and respect for all persons;
- Serving the military community at Fort Campbell through complete academic programs;
- Providing academic services that support student persistence to graduation;
- Fostering a positive campus environment that encourages active participation in university life; and
- Developing programs (credit and noncredit), conducting research, and providing services that contribute significantly to the quality of life, learning, and workforce development needs of the region.

Vision Statement (taken directly from campus documents)
APSU's vision is to create a collaborative, integrative learning community, instilling in students habits of critical inquiry as they gain knowledge, skills, and values for life and work in a global society.

2. IMPACT OF ENROLLMENT CHANGES

Austin Peay State University foresees student headcount enrollment growth from 7,648 for Fall 2006 to 10, 00 in Fall 2016, a 31% increase. The Fort Campbell Center is expected to serve approximately 2,000 students by Fall 2016. For more details on the projected enrollments please refer to Section 4.

In order to support this growth, APSU will require additional facilities, as well as improvements and upgrades to some of its existing facilities.

3. ACADEMIC AND ADMINISTRATIVE STRUCTURE

Austin Peay State University delivers its academic programs in four Colleges, supported by the Library:

- College of Arts and Letters
- College of Graduate Studies
- College of Professional and Social Sciences
- College of Science and Mathematics

Additionally, the University provides extended and distance education for non-traditional student through its Office of Extended and Distance Education and through the Fort Campbell Center.

Administration is divided into six major units:

- Office of the President
- Office of the Provost and Vice President for Academic and Student Affairs
- Office of the Vice President for Finance and Administration
- Office of the Vice President for Legal Affairs and Strategic Planning
- Office of the Executive Director of Public Relations and Marketing
- Office of the Executive Director of University Advancement

4. PROPOSED CHANGES IN RESEARCH AND PUBLIC SERVICE

Research

APSU currently averages just under $2.0 million per year in external grants and sponsored research. Its goal is that by 2009-2010 the University will increase external grants and sponsored research by 100 percent.

Public Service

In its 2005-2010 Institutional Strategic Plan, Objective 1.1.1 APSU K-12 System Partnerships, APSU states that it will work with schools in the region to facilitate the learning process and transition from K-12 to college. Specific activities and initiatives include:

1. The development of intervention programs that target math, reading, and writing deficiencies in the junior year of high school.

2. Strengthening and streamlining its teacher education program to ensure future teachers are equipped with the skills and values to improve success of K-12 students.
3. Expanding and coordinating efforts to encourage college participation rates in the region (e.g. AVIDS, H.S. Upward Bound, etc.).

In Objective 1.1.3 APSU Regional Development Initiatives, APSU will develop programs and services that contribute significantly to the development of the region. Specific activities and initiatives include:

- the development and revision of the curricula to meet changing and emerging workforce needs
- exhibition of its civic responsibility to improve the welfare, quality of life and well-being of both campus and community residents (volunteering, cultural events, athletic events, etc.)
- increasing cooperative efforts and partnerships with local business, industry, and education
- becoming a national model for homeland security education and training through expansion and development of its Institute for Global Security Studies.

Objective 1.1.4 APSU Technological Leadership states that from an instruction and program perspective, the University has been aggressively developing online offerings. It is anticipated that these offerings will continue to increase in the next five years as access to education remains a core value of APSU and the TBR system.

T e c h n i c a l M e m o r a n d u m

Date September 2006

Project Austin Peay State University Master Plan

Subject III. Existing Campus Conditions
A. Campus Grounds
1. Campus Physical Setting

From HGA, Inc

To Austin Peay State University

The objective of this work element is to provide the planning team with an understanding of the natural and man-made environment, as well as the neighborhood influences on the campus.

1. CAMPUS SETTING

Austin Peay State University is located in Clarksville, Tennessee, a vibrant community located approximately 40 miles northwest of Nashville. Clarksville is Tennessee's 5th largest city, with a population of over 120,000 people. The City of Clarksville has been identified by the U.S. Census Bureau (2006) as one of the 25 fastest growing cities among those with a population of more than 100,000, growing by approximately 3.9% between July 1, 2004 and July 1, 2005. The University is adjacent to Clarksville's central business district on the east bank of the Cumberland River, which provides an all-season channel of transport to the Gulf of Mexico. The campus is within a one-day drive of 76% of the major U.S. commercial markets and less than one hour from the Nashville International Airport.

The campus is comprised of approximately 160 acres of land on two (2) separate parcels – the core campus and the Emerald Hill area, which are both separated by Robb Avenue and Farris Drive. In addition, APSU has developed a satellite campus at Fort Cambell which serves the military facility located there, additional traditional students and a growing number of non-traditional students returning to finish their degree or augment their education. The campus setting evokes park-like qualities amid a variety of land uses north of downtown Clarksville. Surrounding neighborhoods include a mix of single family, multifamily, religious, commercial, and public uses. The commercial downtown south of campus, south of College Street, consists of commercial retail activities including automobile dealerships and inventory lots, commercial office, commercial retail, restaurants, civic buildings, healthcare facilities, and religious institutions. The concentration of commercial activity in this vicinity is an important asset to the surrounding community and APSU.

The Castle Heights neighborhood to the west, between the campus and North 2nd Street, includes single family and multiple family dwelling units (including student rental units and Greek Society houses) in addition to a few small commercial businesses. The number of aging buildings, many of which are in need of maintenance, gives this area the appearance of being neglected. The University has recently acquired several homes in this vicinity and is in the process of acquiring more as they come up for sale. The area west of North 2nd Street also includes a variety of uses including single family residential, multi family residential, and small commercial activity.

To the north of campus, north of Farris Drive, exists Edith Pettis Park, an outdoor community recreation space, and Lincoln Homes, a low income housing development which is one of the nations first housing "projects". The Red River neighborhood to the east of campus, east of North 8th Street, consists of single family and multi family dwelling units. There are also several automobile repair shops/yards east of campus along College Street, the westernmost of which was recently required in order to provide overflow parking for a new private student housing development downtown. As a side note on this transaction the current owner bid aggressively against APSU in acquiring this land which is highly desirable for the location of future academic facilities, housing and a proposed "Welcome Center".

Refer to the following Campus Physical Setting Figure 1,2,3 and 4.

2. NATURAL SYSTEMS

Austin Peay State University is largely characterized by its pastoral open space qualities, many of which are sink holes or Karsts. This Karst geology is known worldwide and represents a unique opportunity for the campus to focus on highlighting these natural landscape features, engaging them in campus academic life and using them as exemplary living science. Sinkholes sometimes create, often without warning, subsidence (where the bottom literally "falls out") which poses difficulties for the campus as surface openings suddenly enlarge and/or collapse due to unseen erosion within the bedrock below. The dissolution of the soluble layer or layers of bedrock, which is composed of a carbonate rock, progressively erodes away with natural stormwater drainage. Detection of future subsidence can be difficult as the process which cause it often occurs over long periods without visible effects. Special consideration should be given to the location of future construction in order to understand the particulars of a specific subsidence by cross referencing historical survey information with current survey information.

The Karst topography creates an undulating campus landscape ranging in elevation from approximately 503 feet above sea level in the Historic Quad, to a low of approximately 410 feet at the extreme northwest end of campus at the base of Emerald Hill. Most of the stormwater drainage on campus enters either a catch basin or sinkhole. One stormwater pond does exist at the extreme southwest corner of campus adjacent to the Hand Village housing facility. The stormwater pond has posed ongoing maintenance issues with the University due to its limited access and tendency to collect significant amounts of refuse.

The northwest end of campus around Emerald Hill, contains some significant woodland areas and steep slopes. The campus core also contains large mature trees, however many were destroyed as a result of the tornado which devastated much of the community on January 22, 1999.

Additional information on environmental systems is provided in Part III.C.2 Memorandum.

3. CAMPUS FRAMEWORK

The main vehicular entrances to campus are along College Street to the east and south and North 2nd Street from the north. College Street also forms the southern boundary of campus, which ties into Highways 13, 48, and 79, all of which eventually lead to Interstate 24. Primary routes through campus include Marion Street which runs west to east, and Drane Street which runs north to south.

Several University buildings lie parallel to College Street. These include McCord, Browning, Clement, Claxton, Archwood, and the new Sundquist Science Complex. The historic core of campus consists of two academic buildings and a administrative building centered on a quadrangle fronting College Street. The orientation of the quadrangle is "outward" facing towards downtown Clarksville along University Avenue. This orientation used to serve the community well as it was both the symbolic front door or entry onto campus and the physical point of entry for most students, faculty, staff and visitors. This is no longer the case, yet the "quad" remains an important symbolic visual reference for passers by; either pedestrian or by vehicle.

The center portion of campus contains a mix of building uses such as student residence halls, food service, administrative, academic, and student life. All the buildings are centered on a common open space in a semi-formal pattern. The center portion of campus also contains the Power Plant, which detracts from the aesthetic qualities of the campus core, as it is sited immediately adjacent to the University Center, is not of quality construction and emits substantial noise while also requiring an unsightly service dock in the midst of a major pedestrian zone.

The west side of campus is comprised primarily of student residence halls in a variety of styles and configurations ranging from older traditional dormitories to fairly new apartment style housing. They are intermingled with roadways and parking with very little common outdoor social spaces.

The north side of campus contains several large surface parking lots and most of the physical education / recreation sporting complexes such as the Dunn Center, Memorial Field, Soccer, Tennis, Baseball, Softball, and the new Foy Student Recreation Center. The far northeast area also houses the facilities and grounds maintenance facility, Shasteen Hall and a commuter parking lot.

The extreme northwest side of campus or Emerald Hill area is comprised of student apartments and the Pace Alumni Center. The Alumni Center is an historic mansion beautifully sited atop the hill, presenting a grand entrance feature for those visitors lucky enough to find its entrance along North Second Street when arriving on campus from the northwest. Like the main "Quad" Emerald Hill is largely symbolic and very under-utilized in a daily and integrated way. The student apartments, although clustered together creating a sense of community, are somewhat removed and isolated from the main campus due to their physical distance and lack of pedestrian connections. There is no actual continuous land connection between Emerald Hill and the remainder of campus owned by APSU.

4. CAMPUS ACCESS

Austin Peay State University is located immediately north of downtown Clarksville, where several major highways intersect. Interstate Highway 24 is approximately 7 miles to the east of APSU. College Street defines the south edge of campus and is the main entry route from exit 4 off Interstate 24. University Avenue runs perpendicular to College Street, ending at APSU, which is the main route to downtown and from exit 11 off interstate 24. North 2nd Street (Hwy 41A) runs along the west side of property providing access to Fort Campbell and the State of Kentucky. Kraft Street runs along the north side of campus

providing a bridged access to North 2nd Street (Hwy 41A) and William Rudolph Boulevard (College Street).

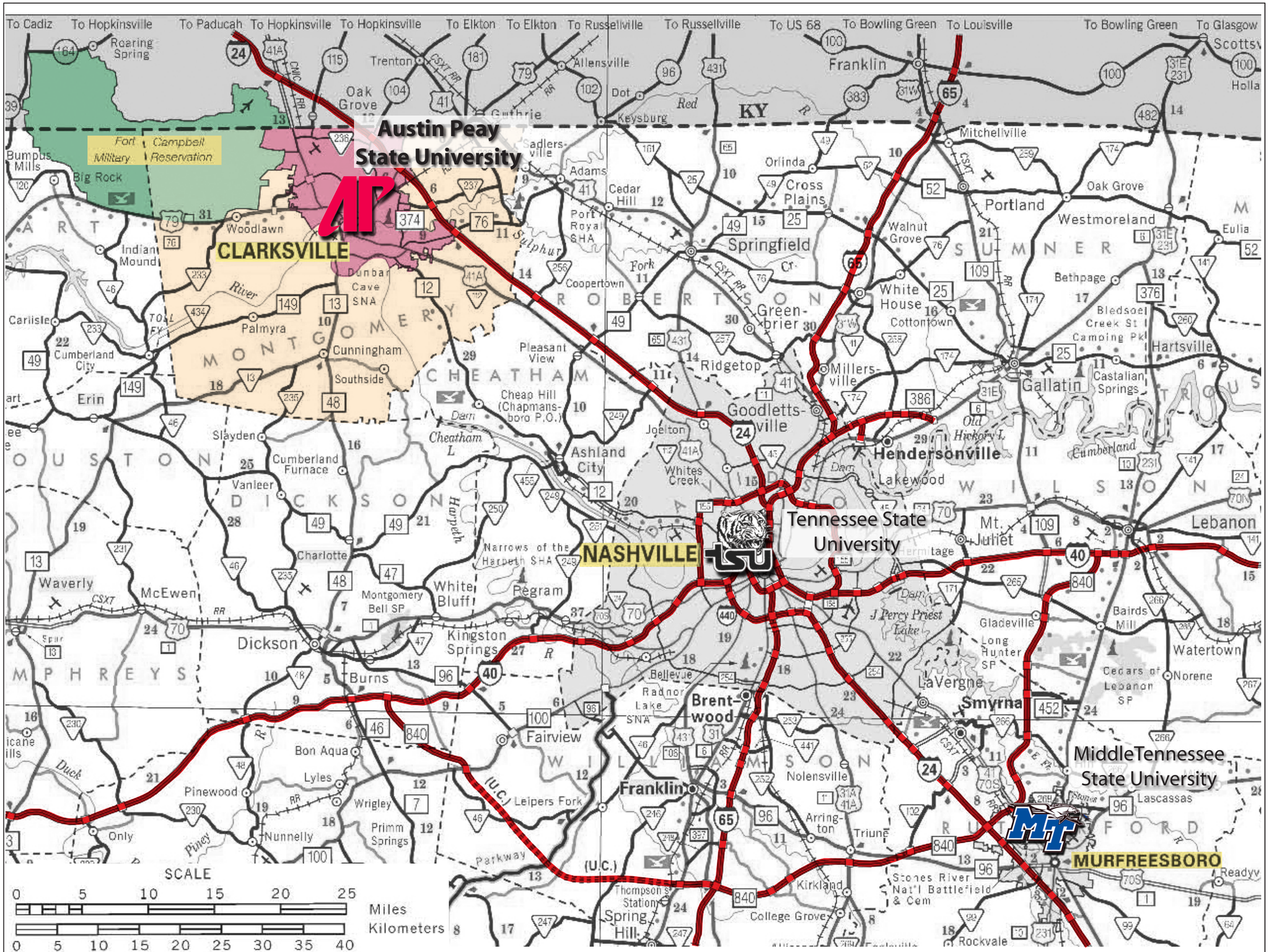
The majority of visitor/student traffic arrives from the east on College Drive passing through Clarksville's commercial strip before reaching the Clarksville water tower and eventually Sundquist Hall, the first academic structure along College Drive. Additionally, a growing number of visitors and students are arriving from the northwest along North 2nd Street from the Fort Campbell area.

Refer to the following Campus Physical Setting Figures 1, 2, 3, and 4.

5. LAND USE DISTRICTS
These subjects are covered in Part III.A.2, Land Use Memorandum following.

6. POLITICAL JURISDICTIONS
The main campus is set within the City limits of Clarksville, TN.

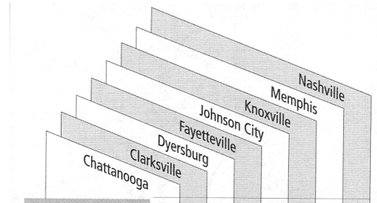
Refer to the following Campus Physical Setting Figures 1, 2, 3, and 4.



regional map

Legend:

- Montgomery County
- City of Clarksville
- Major Highways
- Fort Campbell Military Reservation



	Chattanooga	Clarksville	Dyersburg	Fayetteville	Johnson City	Knoxville	Memphis	Nashville
Atlanta, GA	115	287	412	212	268	215	393	242
Bristol	227	336	463	324	25	113	501	291
Chattanooga		172	297	97	221	114	335	127
Clarksville	172		174	137	330	223	212	47
Cookeville	100	124	251	109	210	103	289	79
Dyersburg	297	174		242	457	350	76	173
Fayetteville	97	137	242		318	211	252	90
Gatlinburg	154	263	390	251	109	40	428	218
Jackson	255	132	49	200	415	308	87	131
Johnson City	221	330	457	318		107	495	285
Kingsport	213	322	449	310	24	99	487	277
Knoxville	114	223	350	211	107		388	178
La Follette	151	260	387	248	145	39	425	215
Memphis	335	212	76	252	495	388		211
Morristown	161	270	397	258	72	47	435	225
Nashville	127	47	173	90	285	178	211	
Oak Ridge	114	207	334	190	132	25	372	162
Union City	310	139	35	232	468	361	113	185

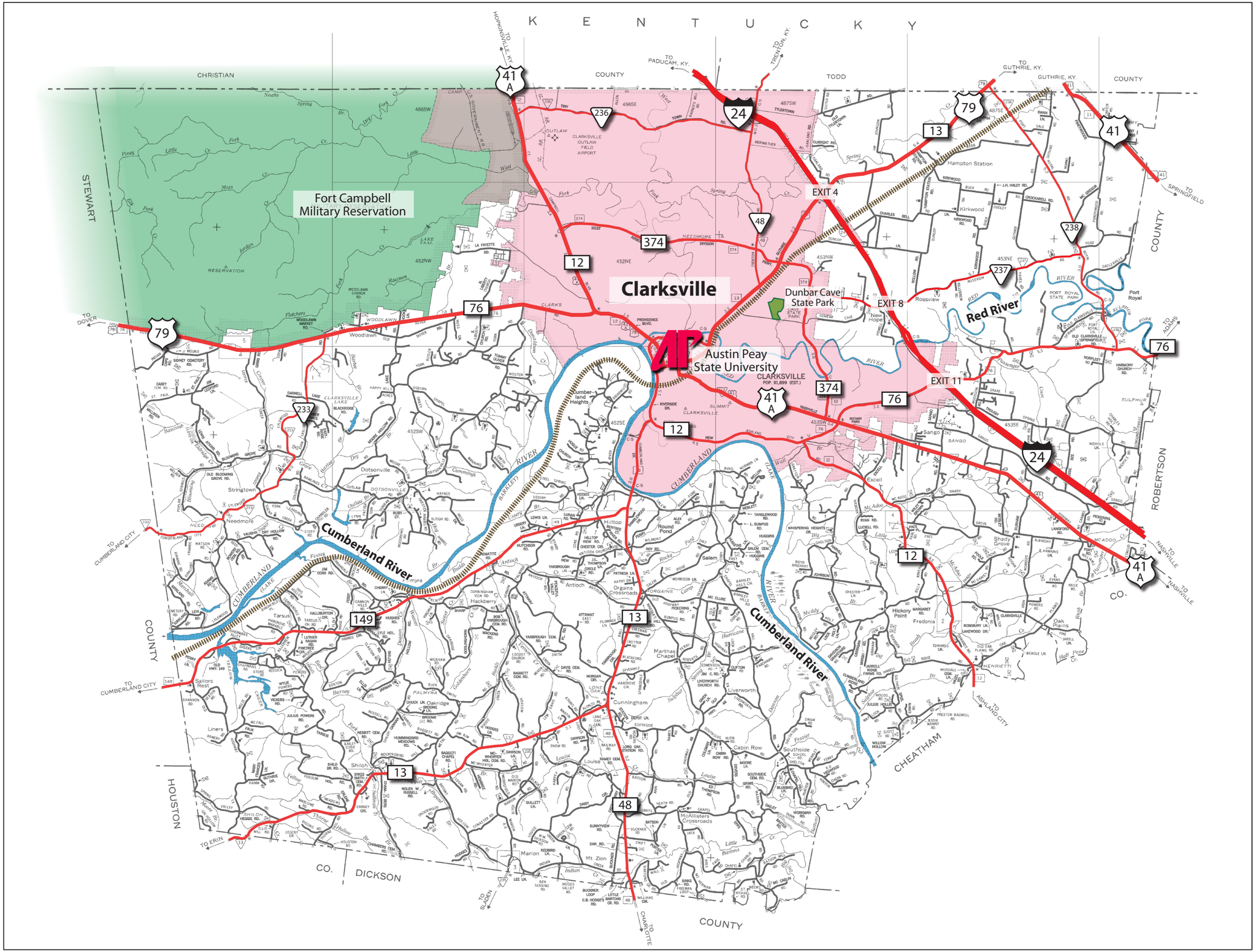
see map for sale

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

SEPTEMBER 2006

III.A.1 figure 1

vicinity map
(montgomery county)



Legend:

- City of Clarksville
- Major Transportation Routes
- Austin Peay State University

not to scale

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

SEPTEMBER 2006

III.A.1 figure 2

city map

Legend:

- Clarksville City Limit
- Public Parks
- Austin Peay State University

Clarksville Montgomery County

not to scale

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

SEPTEMBER 2006

III.A.1 figure 3

Fort Campbell Military Reservation

Red River (Little West Fork)

Red River (West Fork)

Exit 4

R.J. Corman Railroad

Exit 8

Dunbar Cave State Park

Austin Peay State University

Red River

R.J. Corman Railroad

Exit 11

Rotary Park

Cumberland River

Downtown Blow-Up

To Clarksville-Montgomery County Tourist Information Center

I-24 Exit 4

I-24 Exit 11

Edith Pettus Park

Austin Peay State University

Historic Architecture District

Historic Industrial District

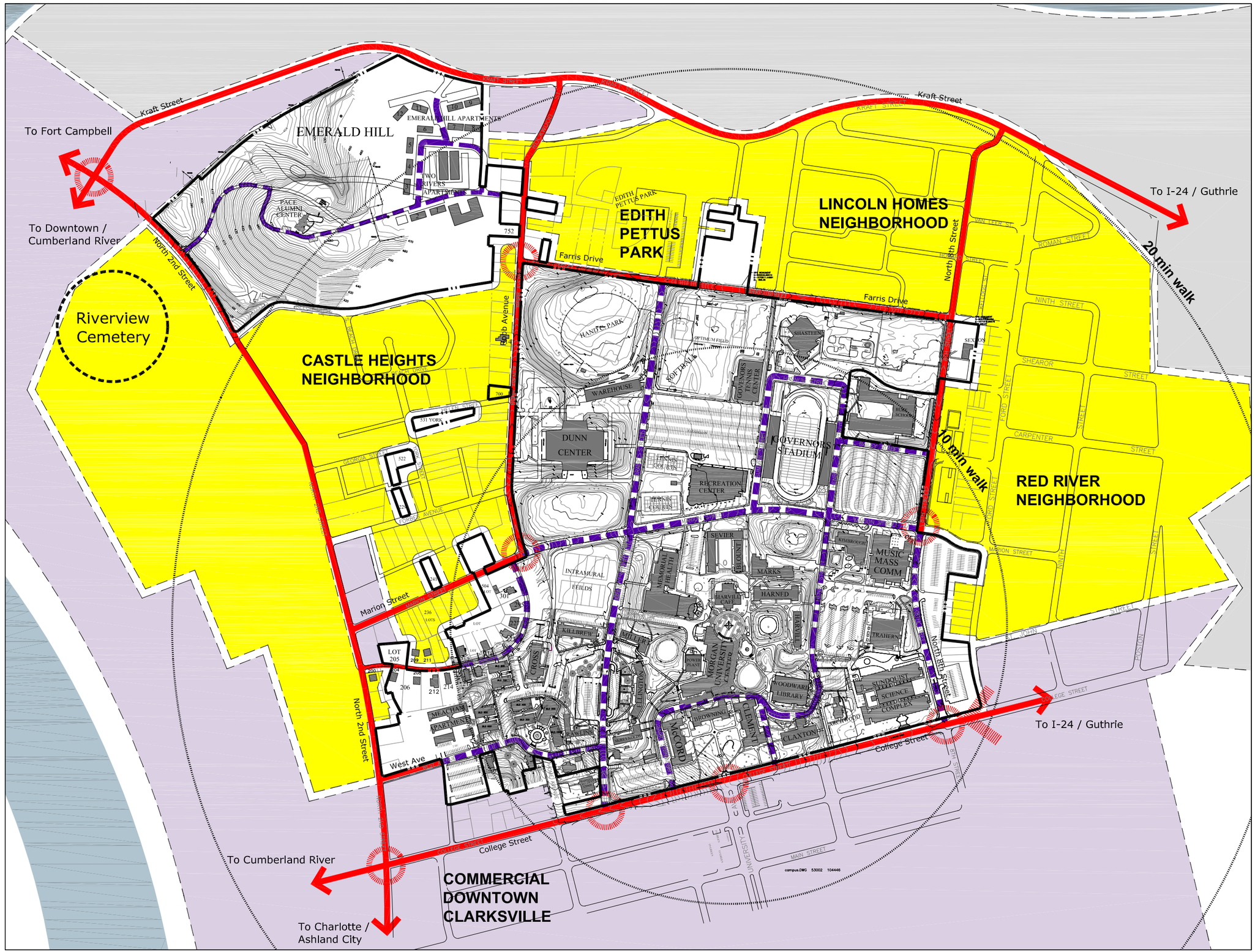
Mericourt Park

Valleybrook Park

CUMBERLAND RIVER

1. Emerald Hill
2. Smith-Trahern Mansion
3. Cumberland RiverWalk
4. Public Square
5. Roxy Regional Theatre
6. Historic Downtown
7. Customs House Museum & Cultural Center
8. Greenwood Cemetary
9. L & N Train Station
10. The Rose Garden
11. Cumberland Arts Centre
12. Austin Peay State University
13. Clarksville-Montgomery County Economic Development Council Chamber of Commerce Industrial Development Board Convention & Visitors Bureau Downtown District Partnership

campus context



Legend:

- Housing
- Commercial
- Industrial / Manufacturing

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

SEPTEMBER 2006

HGA

III.A.1 figure 4

T e c h n i c a l M e m o r a n d u m

Date February 2007

Project Austin Peay State University

Subject III. Existing Campus Conditions
A. Campus Grounds
2. Land Use

From HGA, Inc.

To Austin Peay State University

The objective of this work element is to enable the planning team to understand the strengths and weaknesses of the existing land use pattern on campus and the associated issues to be addressed in the physical master plan.

1. LAND USE
The APSU campus includes the land use categories listed in the Table below.

Table 1: Campus Land Use Areas

Land Use Element	**Approximate Area**
Academic	35 acres
Housing	25 acres
Student Life	13 acres
Physical Plant and Maintenance	8 acres
Recreation / Physical Education	59 acres
Historic / Preservation	20 acres
Total	**160 acres**

2. LAND USE PATTERNS
In general, most academic buildings are clustered toward the south east quadrant of the main campus. The historic quadrangle along College Street and core open space in front of the University Center and Harned Hall represent the clearest example of distinct campus places. Student Life activities and services are centrally located providing easy access. West of the campus core is the main cluster of student housing, most within easy walk of the main campus. North of the campus core is a more dispersed assemblage of recreation and physical education facilities along with physical maintenance. The northwest corner of campus, which is somewhat removed from the main campus, contains another cluster of student apartments and the historic Pace Alumni Center. Refer to the following Existing Campus Land Use Figure 1.

3. ADJACENT PROPERTIES

In addition to main campus the University owns the Environmental Education Center (EEC) which is composed of 475 acres of land within the City of Clarksville. The EEC affords a bounty of environmental habitats and supply support that are immeasurable to the academic programs at Austin Peay, as well as to the community and state.

4. LAND USE RELATIONSHIPS

Existing land use relationships are supportive of a pedestrian-oriented campus. With the exception of Emerald Hill, all living, learning, and recreational facilities are within a ten-minute walk of the Morgan University Student Center. Parking is distributed in and around campus, with the two largest parking lots located to the north of Marion Street; the most distant from the core. The traditional quadrangle and the remainder of the main campus core are fairly compact. This is favorable for efficient utility distribution, service functions, and security. Yet, given the compact nature of the campus core, there remain open sites available for in-fill development of new buildings or parking, where required to accommodate future growth while also maintaining the ten-minute walking parameter from campus edge to edge.

The campus could benefit from a stronger sense of place, as expressed by focal points, more distinct zones of activity, clearer pedestrian circulation, and consistent campus furnishings, lighting, and signage.

Table 1: Total Assignable and Gross Square Feet

Building Name	Building Abbrv.	Building Function	Total GSF	TOTAL ASF
206 Castle Hgts	206CH	Residential	2,630	2,630
214 Castle Hgts	214CH	Residential	3,080	3,080
217 Castle Hgts	217CH	Academic / Academic Support	4,514	4,514
219 Castle Hgts	219CH	Academic / Academic Support	2,360	2,360
223 Castle Hgts	223CH	Residential	1,844	1,844
227 Castle Hgts	227CH	Residential	3,651	2,997
261 Patrick St.	PS	Physical Plant	2,340	2,340
295 Castle Hgts	295CH	Residential	1,489	1,489
301 Castle Hgts	301CH	Residential	2,940	2,940
319 Home Avenue	HAV	Inactive / Conversion Space	4,488	4,488
322 Ford Street	FS	Academic / Academic Support	2,738	2,738
325 Drane St	DS	Academic / Academic Support	3,309	3,309
752 Robb Ave	RA	Residential	925	925
Archwood	AR	Residential	8,311	8,311
Ben S Kimbrough	KB	Academic / Academic Support	32,000	17,568
Blount Hall	BH	Residential	22,675	15,549
Browning Building	BR	Academic / Academic Support	34,071	20,760
Burley Barn	BB	Farm	1,944	1,750
C E H Bookstore	CEH	Auxiliary	18,400	12,736
Cattle Barn	CB	Farm	4,651	4,186
Claxton	CX	Academic / Academic Support	41,597	26,783
Clement Building	CL	Academic / Academic Support	57,320	33,749
Cross Hall	CRH	Residential	34,818	21,591
Dark Fired T-Bn	DF	Farm	2,016	1,814
Dunn Center	DU	PE/Recreation/Athletics	131,970	87,586
EH Alumni Center	PAC	Academic / Academic Support	8,509	4,072
Ellington Building	EL	Academic / Academic Support	41,966	25,912
Emerald Hills 1	EH1	Residential	6,344	4,352
Emerald Hills 10	EH10	Residential	5,720	3,376
Emerald Hills 11	EH11	Residential	6,344	4,352
Emerald Hills 12	EH12	Residential	6,344	4,352
Emerald Hills 13	EH13	Residential	5,236	5,236
Emerald Hills 14	EH14	Residential	12,352	12,352
Emerald Hills 15	EH15	Residential	5,236	5,236
Emerald Hills 2	EH2	Residential	5,720	3,832
Emerald Hills 3	EH3	Residential	6,344	4,476
Emerald Hills 4	EH4	Residential	5,720	3,832
Emerald Hills 5	EH5	Residential	6,344	4,352
Emerald Hills 6	EH6	Residential	6,344	4,352
Emerald Hills 7	EH7	Residential	5,720	3,832
Emerald Hills 8	EH8	Residential	5,720	3,832
Emerald Hills 9	EH9	Residential	5,720	3,832
Farm Equip Bld 1	FEB1	Farm	2,033	1,830
Farm Equip Bld 2	FEB2	Farm	2,033	1,830
Farm Equip Bld 3	FEB3	Farm	1,966	1,769
Farm Residence	FR	Farm	2,242	2,018
Governers Stadium	GS	PE/Recreation/Athletics	40,530	10,791
Greenhouse	GH	Academic / Academic Support	1,182	1,075
Hand Village	HV	Residential	116,600	116,600
Harned Hall	HA	Academic / Academic Support	52,932	25,162
Harvill Hall	HVH	Residential	18,520	10,677
Killbrew Hall	KH	Residential	37,572	22,363
Marion St. Apts	MSA	Residential	6,000	6,000
Marks	MX	Inactive / Conversion Space	18,633	12,223
McCord Building	MC	Academic / Academic Support	52,222	32,574
McReynolds	MCR	Inactive / Conversion Space	18,250	18,250
Meacham Apartmen	MA	Residential	60,456	41,682
Memorial Health	MH	PE/Recreation/Athletics	58,395	46,108
Miller Hall	ML	Residential	16,905	9,840
Morgan University Ctr	UC	Auxiliary	115,895	59,827

Table 1: Total Assignable and Gross Square Feet

Building Name	Building Abbrv.	Building Function	Total GSF	TOTAL ASF
Music/Mass-Comm	MMC	Academic / Academic Support	86,860	44,824
Foy Fitness & Rec Center	(new)	PE/Recreation/Athletics	62,109	52,793
Power House	PH	Physical Plant	7,895	60
R C Shasteen Mai	SH	Physical Plant	24,500	19,447
Rawlins Hall	RH	Residential	22,762	14,943
Sevier Hall	SV	Residential	47,085	31,814
Sexton	SX	Academic / Academic Support	6,685	4,527
Sundquist Science Complex	SSC	Academic / Academic Support	221,213	102,357
Tennis Center	TC	PE/Recreation/Athletics	28,272	28,109
Trahern Building	TR	Academic / Academic Support	60,253	35,640
Two Rivers Apts	TRA	Residential	14,140	12,700
Warehouse	WH	Physical Plant	18,604	17,523
Woodward Library	LB	Library	80,614	54,749
		TOTAL ASF	1,875,122	1,229,722

ASF = Assignable Square Feet

Table 4:

Fall 2006 Student FTE and Inventory of Area Square Feet by Classification

	Austin Peay State University	East Tennessee State University	Middle Tennessee State University	Tennessee State University	Tennessee Technological University	University of Memphis	TBR TOTAL	TBR Average	APSU Difference	APSU Percent Difference
Fall 2006 Student FTE	**6,446**	9,831	19,202	7,295	7,402	15,236	**65,412**	**10,902**	**(4,456)**	**(41%)**
Formula Space Classifications										
Classrooms	**62,925**	151,749	198,249	167,263	182,801	218,753	**981,740**	**163,623**		
Class Labs	**128,380**	195,136	321,046	160,268	193,855	240,575	**1,239,260**	**206,543**		
Individual Labs	**18,003**	83,471	10,552	27,700	49,723	58,556	**248,005**	**41,334**		
Instr. Offices	**74,978**	129,654	243,631	124,109	156,611	242,730	**971,713**	**161,952**		
Admin. Offices	**81,067**	241,813	126,287	79,666	60,659	249,372	**838,864**	**139,811**		
Library	**48,838**	156,419	173,541	84,839	95,996	243,998	**803,631**	**133,939**		
P.E.	**113,628**	202,001	202,322	106,776	112,077	43,847	**780,651**	**130,109**		
Student Service	**91,351**	160,737	289,146	126,837	81,971	269,642	**1,019,684**	**169,947**		
Physical Plant	**33,467**	30,083	58,493	44,256	35,832	57,355	**259,486**	**43,248**		
TOTAL FORMULA	**652,637**	**1,351,063**	**1,623,267**	**921,714**	**969,525**	**1,624,828**	**7,143,034**	**1,190,506**	**(537,869)**	**(45%)**
Non-Formula Space Classifications *(a portion of the non-formula space classifications)*										
Research	**1,331**	103,537	35,530	37,739	67,732	246,669	**492,538**	**82,090**		
A/V Services	**8,017**	5,182	2,411	843	3,516	494	**20,463**	**3,411**		
Assembly	**22,516**	5,706	115,818	15,277	105,893	22,012	**287,222**	**47,870**		
Spec. Academic	**30,858**	108,534	307,717	57,961	75,603	130,089	**710,762**	**118,460**		
Spec. Admin.	**6,297**	64,027	40,898	63,971	18,694	62,119	**256,006**	**42,668**		
Spec. Stud. Ser	**47,836**	105,183	64,103	70,151	173,378	101,969	**562,620**	**93,770**		
Athletics		37,974	19,538	6,053	14,307	41,101	**118,973**	**23,795**		
NON-FORMULA	**116,855**	**430,143**	**586,015**	**251,995**	**459,123**	**604,453**	**2,448,584**	**408,097**	**(291,242)**	**(71%)**
TOTAL ASF INCLUDED IN COMPARATIVE ANALYSIS	**769,492**	**1,781,206**	**2,209,282**	**1,173,709**	**1,428,648**	**2,229,281**	**9,591,618**	**1,598,603**	**(829,111)**	**(52%)**
ASF per Student FTE	**119**	**181**	**115**	**161**	**193**	**146**		**153**	**(33)**	**(22%)**
Other Non-Formula Space Classifications										
Residential	**383,953**	478,247	690,799	430,300	497,458	578,869	**3,059,626**			
Indepent. Oper.		3,367	179	48,247	60,427	522,363	**634,583**			
Not In Use	**128,371**	214,056	65,678	24,933	3,164	420,466	**856,668**			
Non-Assignable	**546,571**	813,387	1,157,416	731,457	571,119	1,083,879	**4,903,829**			
Non-Program	**1,020**	57,228	47,301	2,757	6,417	20,920	**135,643**			
Subtotal Non-Formula	***1,059,915***	*1,566,285*	*1,961,373*	*1,237,694*	*1,138,585*	*2,626,497*	***9,590,349***			
TOTAL NON-FORMULA	**1,176,770**	**1,996,428**	**2,547,388**	**1,489,689**	**1,597,708**	**3,230,950**	**12,038,933**			
TOTAL UNIV	**1,829,407**	**3,347,491**	**4,170,655**	**2,411,403**	**2,567,233**	**4,855,778**	**19,181,967**			

APSU has 41% LESS Students than the TBR University Average
APSU has 52% LESS ASF than the TBR University Average

Table 4:

Fall 2006 Student FTE and Inventory of Area Square Feet by Classification

	Austin Peay State University	East Tennessee State University	Middle Tennessee State University	Tennessee State University	Tennessee Technological University	University of Memphis	TBR TOTAL	TBR Average	APSU Difference	APSU Percent Difference

Data Source: Tennessee Board of Regents PFI Fall 2006

Table 3: Total Assignable Square Feet by Building by Room Use Code

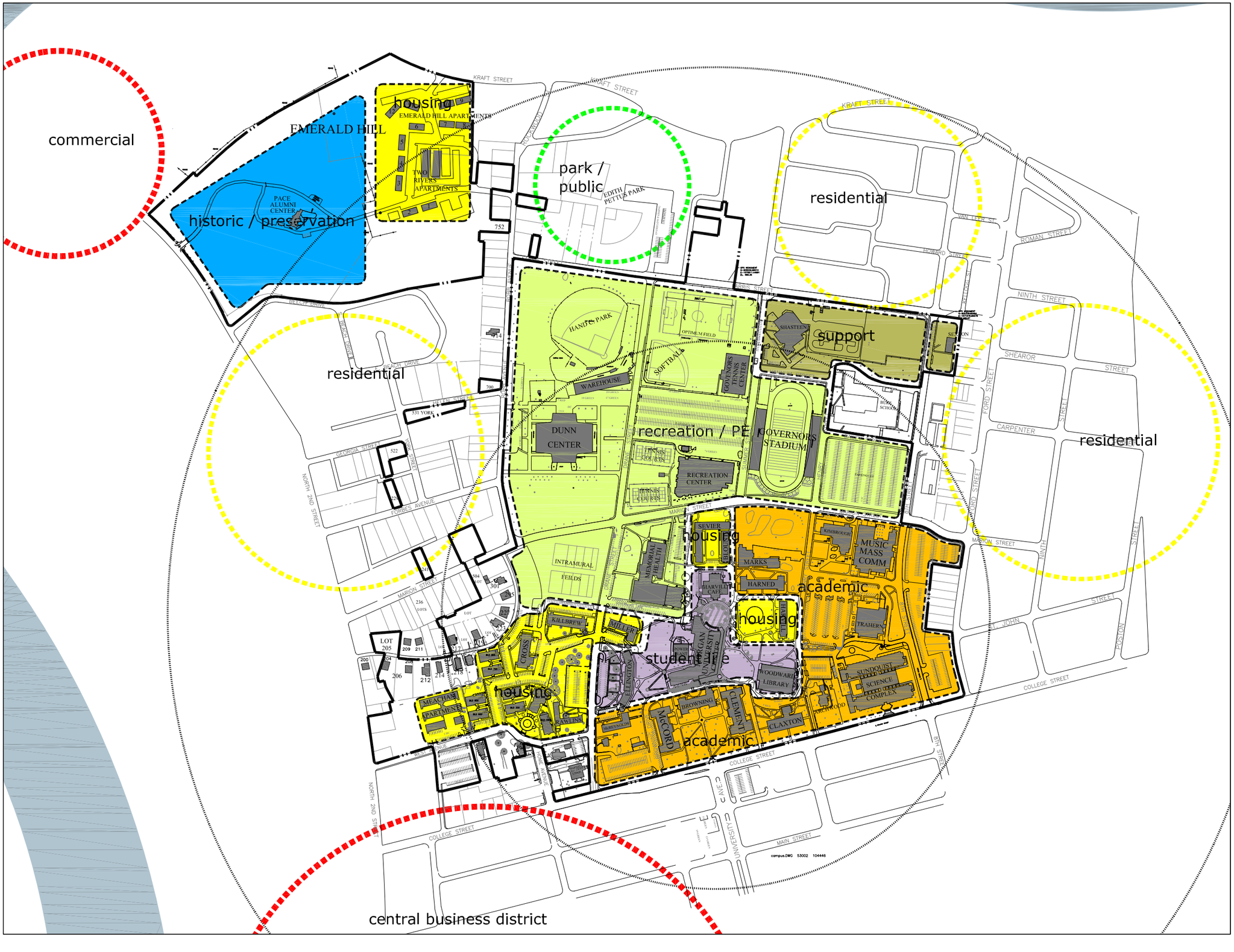
Building Name		TOTAL ASF	Class-rooms (110-115)	Teaching Labs (211-215)	Open Labs (210, 220-235)	Research Labs (250-255)	Office Space (300's)	Library & Study (400's)	Ath/Phys Ed & Rec (520-525)	Special Use (500's)	Assembly & Exhibit (610-625)	General Use (600's)	Support Space (700's)	Health Care (800's)	Resi-dential (900's)	Inactive/ Conversion Space
206 Castle Hgts	206CH	2,630													2,630	
214 Castle Hgts	214CH	3,080													3,080	
217 Castle Hgts	217CH	4,514					4,514									
219 Castle Hgts	219CH	2,360					2,360									
223 Castle Hgts	223CH	1,844													1,844	
227 Castle Hgts	227CH	2,997													2,997	
261 Patrick St.	PS	2,340											2,340			
295 Castle Hgts	295CH	1,489													1,489	
301 Castle Hgts	301CH	2,940													2,940	
319 Home Avenue	HAV	4,488														4,488
322 Ford Street	FS	2,738					2,738									
325 Drane St	DS	3,309					3,309									
752 Robb Ave	RA	925													925	
Archwood	AR	8,311													8,311	
Ben S Kimbrough	KB	17,568	6,560	968	968		7,288				1,784					
Blount Hall	BH	15,549										1,964			13,585	
Browning Building	BR	20,760					18,167					251	2,342			
Burley Barn	BB	1,750								1,750						
C E H Bookstore	CEH	12,736					451					12,285				
Cattle Barn	CB	4,186								4,186						
Claxton	CX	26,783	9,795	3,328	1,101	1,875	8,963	1,439				282				
Clement Building	CL	33,749	5,554	745	5,276		10,185				11,153	836				
Cross Hall	CRH	21,591										1,062			20,529	
Dark Fired T-Bn	DF	1,814								1,814						
Dunn Center	DU	87,586	6,299		2,302		10,382		64,107			4,496				
EH Alumni Center	PAC	4,072					3,068					1,004				
Ellington Building	EL	25,912					21,606					2,997		1,309		
Emerald Hills 1	EH1	4,352													4,352	
Emerald Hills 10	EH10	3,376													3,376	
Emerald Hills 11	EH11	4,352													4,352	
Emerald Hills 12	EH12	4,352													4,352	
Emerald Hills 13	EH13	5,236													5,236	
Emerald Hills 14	EH14	12,352													12,352	
Emerald Hills 15	EH15	5,236													5,236	
Emerald Hills 2	EH2	3,832													3,832	
Emerald Hills 3	EH3	4,476													4,476	
Emerald Hills 4	EH4	3,832													3,832	
Emerald Hills 5	EH5	4,352													4,352	
Emerald Hills 6	EH6	4,352													4,352	
Emerald Hills 7	EH7	3,832													3,832	

Table 3: Total Assignable Square Feet by Building by Room Use Code

Building Name		TOTAL ASF	Class-rooms (110-115)	Teaching Labs (211-215)	Open Labs (210, 220-235)	Research Labs (250-255)	Office Space (300's)	Library & Study (400's)	Ath/Phys Ed & Rec (520-525)	Special Use (500's)	Assembly & Exhibit (610-625)	General Use (600's)	Support Space (700's)	Health Care (800's)	Resi-dential (900's)	Inactive/ Conversion Space
Emerald Hills 8	EH8	3,832													3,832	
Emerald Hills 9	EH9	3,832													3,832	
Farm Equip Bld 1	FEB1	1,830								1,830						
Farm Equip Bld 2	FEB2	1,830								1,830						
Farm Equip Bld 3	FEB3	1,769								1,769						
Farm Residence	FR	2,018													2,018	
Governers Stadium	GS	10,791					366		1,740	2,038		2,445	4,202			
Greenhouse	GH	1,075								1,075						
Hand Village	HV	116,600													116,600	
Harned Hall	HA	25,162	3,950	2,390	931		14,080				3,207	604				
Harvill Hall	HVH	10,677										1,180			9,497	
Killbrew Hall	KH	22,363										768			21,595	
Marion St. Apts	MSA	6,000													6,000	
Marks	MX	12,223	3,612	3,178	897	263	4,273									
McCord Building	MC	32,574	4,972	14,972		978	8,934	1,160				1,286	272			
McReynolds	MCR	18,250	0		0	0	0					0				18,250
Meacham Apartmen	MA	41,682										717			40,965	
Memorial Health	MH	46,108					1,827		33,520			10,761				
Miller Hall	ML	9,840					4,151					1,118			4,571	
Morgan University Ctr	UC	59,827					11,464					44,720				3,643
Music/Mass-Comm	MMC	44,824		9,064	6,986		8,851	444		5,201	12,925	1,353				
New Rec Center	New Rec Ctr	0										0				
Power House	PH	60					60									
R C Shasteen Mai	SH	19,447					4,793						14,654			
Rawlins Hall	RH	14,943										657			14,286	
Sevier Hall	SV	31,814										2,206			29,608	
Sexton	SX	4,527					701			3,714		112				
Sundquist Science Complex	SSC	102,357	15,869	48,556	4,596	12,650	11,989	381		2,885	2,743	172	2,516			
Tennis Center	TC	28,109					100		28,009							
Trahern Building	TR	35,640	3,014	13,120	1,715	519	3,753				13,385	134				
Two Rivers Apts	TRA	12,700													12,700	
Warehouse	WH	17,523					1,579						15,944			
Woodward Library	LB	54,749			2,246		2,208	46,197		2,816	344	377	561			
	TOTAL ASF	1,176,929	59,625	96,321	27,018	16,285	172,160	49,621	127,376	30,908	45,541	93,787	42,831	1,309	387,766	26,381

ASF = Assignable Square Feet

existing campus land use



Legend:

Color	Code	Use
		Academic
		Housing
		Sports / PE
		Student Life
		Support
		Historic / Preservation

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

SEPTEMBER 2006

hga

III.A.2 figure 1

T e c h n i c a l M e m o r a n d u m

Date March 2007

Project Austin Peay State University Master Plan

Subject III. Existing Campus Conditions
A. Campus Grounds
3a. Building Use and Condition

From HGA, Inc. / Paulien & Associates, Inc.

To Austin Peay State University

The objective of this work element is for the planning team to gain an understanding of the amount of building space by type; the pattern of its assignment by academic unit, research, continuing education and other; and its general condition.

1. FACILITIES VERIFICATION AND CONDITIONS ASSESSMENT ANALYSIS

The facilities verification and conditions assessment analysis was conducted by a summary walk-through of each building, accompanied by a University representative, documenting room numbers, room usage, departmental assignments, and square footages (only in cases where the room's partitions deviated from the floor plans).

The consultant's best judgment was used in instances were there was no access to a room, identification of which department occupied the space was uncertain, or when complete understanding of how the room was used was uncertain. When departmental assignment was uncertain, the room was assigned to the college or major administrative unit.

The student stations for classrooms and teaching laboratories were counted based upon the number of actual seats in the room. Classroom and laboratory codes were assigned based on how the room is used and whether or not scheduled course activity was reflected in the course data supplied by the University. If no course activity was listed for the room, to the degree possible, the space was assigned a room use code according to its actual usage and physical characteristics of the room.

In addition to the facilities verification, HGA and Paulien representatives performed a Physical and Functional Quality Assessment of all non-residential buildings. The Functional Assessment rated buildings as good, marginal, or poor. The Physical Assessment rated all buildings as satisfactory, deteriorating, or unsatisfactory.

Detailed information for each facility assessment is given in Technical Memo III.A.3b and its companion Appendix.

2. BUILDING AREA

Table 1 shows all buildings on campus and indicates gross square feet, assignable square feet, and primary building function. The new student recreation center is included in these calculations and in the target year space needs analysis. It is not reflected in the Fall 2006 (base year) space needs as it was not completed at the time.

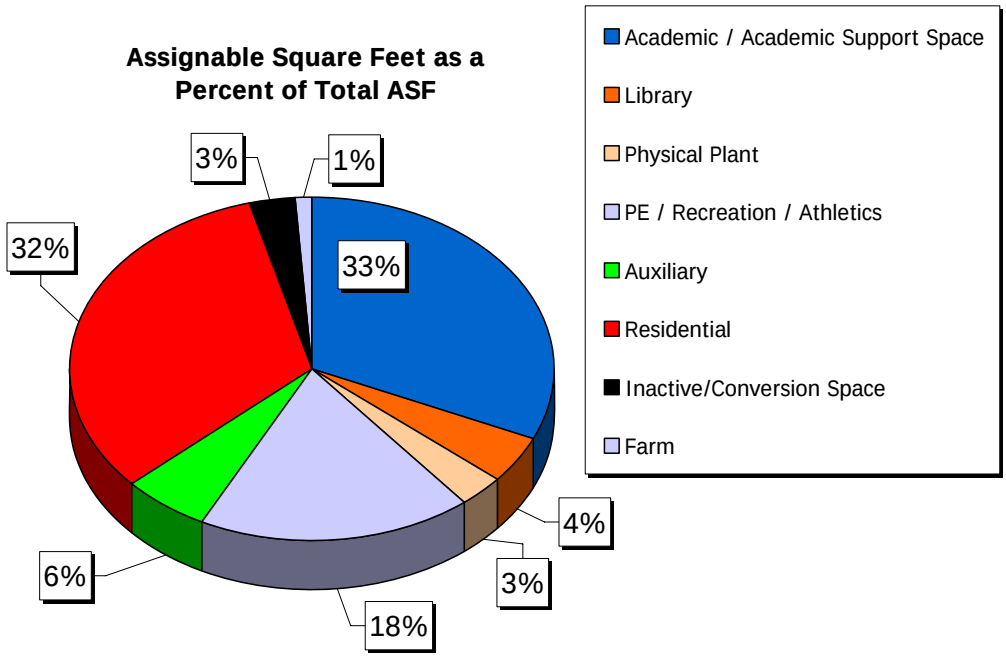
The building functions are defined as: academic / academic support; library; physical education/recreation and athletics; auxiliary; physical plant, residential (includes the President's Residence); farm; and inactive / conversion.

3. BUILDING USE

There are approximately 75 buildings totaling approximately 1,230,000 ASF including the farm and the new recreation center and excluding the Fort Campbell Center. A list of these facilities and their square footage is provided as 3A3 Table. The space needs analysis in Section 4 studies everything except for residential space.

Table 2: On-Campus Facilities Profile

	Gross Square Feet (GSF)	Assignable Square Feet (ASF)	Percent of Total ASF
Academic / Academic Support Space	709,731	387,924	32%
Library	80,614	54,749	4%
Physical Plant	53,339	39,370	3%
PE / Recreation / Athletics	321,276	225,387	18%
Auxiliary	134,295	72,563	6%
Residential	517,611	399,571	32%
Inactive/Conversion Space	41,371	34,961	3%
Farm	16,885	15,197	1%
TOTAL SPACE	**1,875,122**	**1,229,722**	**100%**



The facilities inventory contained taxonomy codes for only a portion of the inventory. Including a taxonomy code or a departmental code to all spaces in the inventory should be considered in future data-keeping efforts to allow for a more detailed analysis. Table 3 details all facilities on the main campus by building by room use code.

4. SPACE PER STUDENT / COMPARATIVE ANALYSIS

TBR Comparative Analysis

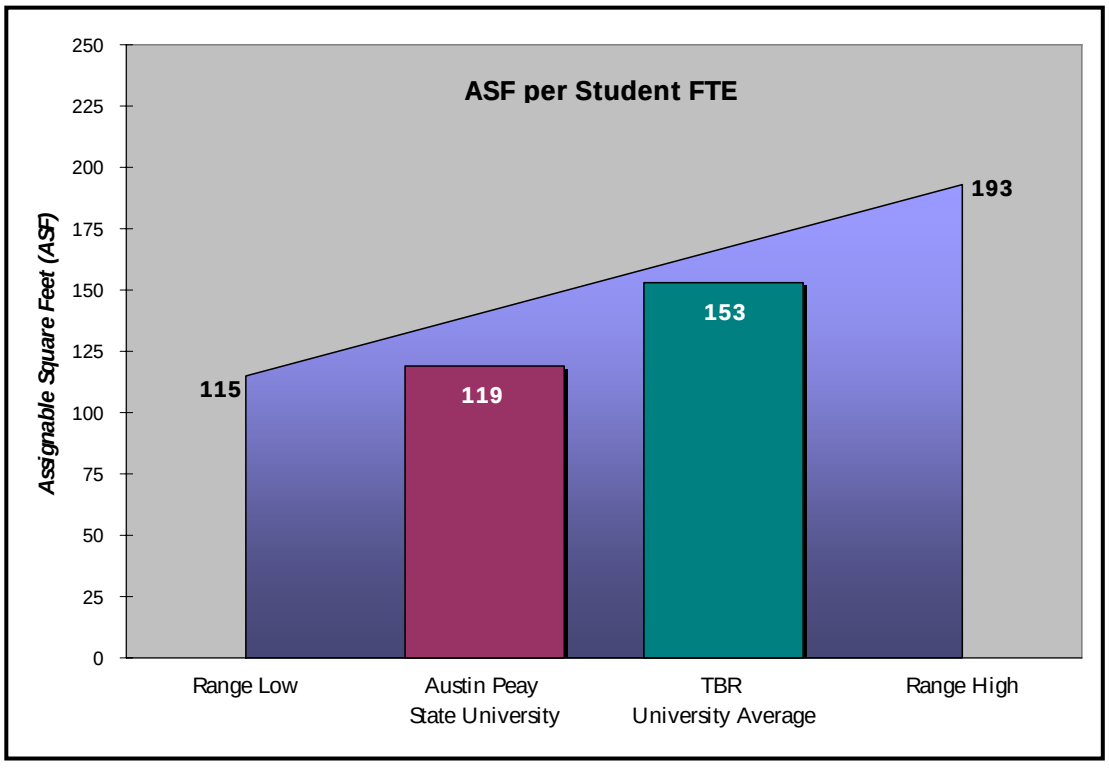
According to the Tennessee Board of Regents PFI for Fall 2006: In general, APSU has:

- 41% fewer students than the TBR University Average
- 52% less space than the TBR University Average

Most important to the university's ability to deliver high-quality academic coursework in a contemporary academic environment, APSU has:

- 22% less assignable square footage (ASF) per student FTE than the TBR University Average of 153 ASF/FTE.

The TBR PFI shows that Austin Peay has approximately 119 ASF per student FTE (see Table 4).



Out-of-State Comparative Analysis

Austin Peay planning team members provided the consultants with a list of sixteen institutions, peer and aspiration, in order to conduct a comparative analysis. Of the sixteen, the consultants were able to collect data on the following institutions – Westchester University of Pennsylvania, Tennessee Technological University, Western

Carolina University; Southern Illinois University Edwardsville; Idaho State University, Northern Kentucky University, and University of Tennessee Chattanooga.

The benchmark average of the select institutions was 140 ASF per student FTE. The space per student FTE ranged from a low of 99 ASF to a high of 205 ASF.

T e c h n i c a l M e m o r a n d u m

Date March 2007

Project Austin Peay State University Master Plan

Subject III. Existing Campus Conditions
A. Campus Grounds
3b. Facility Assessment

From HGA, Inc.

To Austin Peay State University

The objective of this work element is to gain an understanding of the general physical quality and functional quality (or suitability of a building to support the functions it presently houses) of primary buildings on the main and agriculture campuses at Austin Peay State University.

1. PHYSICAL QUALITY

Major buildings on campus are in varying states of physical condition. This assessment classifies those buildings according to their overall condition. Buildings are identified as Satisfactory, Deteriorating, and Unsatisfactory.

Satisfactory buildings are typically the newest or those that have had significant recent remodeling. These buildings are in good to excellent condition and require little or no physical updating. Examples would be Morgan University Center, Sundquist Science Complex (both new buildings), and McCord Hall (a significant renovation project completed and opened for Fall 2006).

Deteriorating buildings are typically those that are over 20 years old with little or no updating or those which may have been remodeled and are now in need of additional work. These buildings are in average condition and require moderate to significant physical updating. Examples would be Claxton Hall, Kimbrough, and Shasteen.

Unsatisfactory buildings are typically those that are in need of major renovation or demolition. These buildings should be considered, first for a change in use or, second for possible demolition. Examples would be Archwood, Woodward Library, Ellington Hall, Marks, Trahern and Memorial Health.

Many buildings have had recent mechanical, life safety and ADA upgrades, however significant maintenance and upgrade needs still remain on the campus. An extensive roof replacement program was recently completed following the tornado of 1999.

Almost all of the buildings, except the newest ones, need mechanical renovation and upgrade. The control systems throughout the campus are in poor condition and should be upgraded.

Electrical systems in most of the older buildings are at capacity. They are not necessarily overloaded but the number of spare circuit breakers and spaces for additional loads such as computers do not exist, thereby limiting their functionality.

A. Building Code Considerations. Construction documents for campus projects must be prepared in accordance with all state laws and code requirements. In addition, they shall conform to requirements set by the State Fire Marshall (which are the same as the National Fire Code as published by the National Fire Protection Association) as well as the Life Safety Code.

In addition to the Standard Building Code requirements, the Board of Regents requires all building projects to comply with criteria set forth in the Building Project Manual document.

B. Accessibility Compliance. All new facilities and areas in existing facilities under renovation must comply with the Americans with Disabilities Act (ADA). The only exemption from compliance with the ADA occurs if it is proven technically infeasible to make accessibility modifications. APSU uses the Americans with Disabilities Act as a guide for building construction and renovation projects.

The campus has made a significant effort to bring campus buildings into compliance ADA. Among the improvements observed were designated seating, rest room upgrades, telephone upgrades and general circulation and entrance upgrades. Some buildings or areas within buildings still need to be made accessible on an ongoing basis. Door redesign (including hardware replacement), rest room redesign, and drinking fountain, and signage replacements should be done as building renovations are planned.

C. Maintenance Issues. Due to their age, certain buildings have a long list of deferred maintenance issues. These include exterior walls and window systems, and ceilings. Many systems were not built to current standards for energy efficiency, thus resulting in added operational costs. Mechanical systems are in need of upgrade and/or repair in some buildings.

APSU's Major Capital Outlay Projects for FY2006 included:

- New Recreation Center (opened Spring 2007)
- Renovation of McCord Hall (opened Fall 2006)

APSU's Minor Capital Outlay Projects for FY2006 include:

- Infrastructure and Assets

D. Building Interior Issues. Overall lighting levels vary according to the age of building. Some areas are inadequately lit, either due to lack of proper intensities for the tasks, or to glare. Consideration of energy efficient fixtures may offset the increased power requirements for upgraded lighting and result in operational savings.

.

2. FUNCTIONAL QUALITY

Primary non-residential buildings on the APSU campus were evaluated for their "functional quality" or suitability to support the functions they currently house in terms of information technology, lab equipment, fixtures & furnishings, lighting, acoustics, configuration, building envelope, MEP (mechanical, electrical & plumbing) systems, and accessibility.

Below is a synopsis of conditions observed at APSU for each of the functional quality items evaluated. Following each synopsis, is a brief description of the planning team's expectations for functional quality based on observations and experience at other academic institutions. These expectations serve as a benchmark to judge functional quality conditions at APSU.

A. Information Technology. Levels of information technology in buildings at APSU are generally sufficient in classrooms, teaching laboratories and student areas inside of buildings.

Contemporary classrooms are most often planned around one of four levels of technology: 1) basic audiovisual/TV; 2) plug-&-show presentation capability with computer access at the front of each room; 3) active learning classrooms with computers at each student station; and 4) two-way video classrooms. Equipment often found in classroom settings includes video data projectors, TVs, plasma screens, HDTVs, VCRs, and DVDs; computers for presenters; classrooms wired (or wireless) for student laptop computer use; computers at each student workstation; key response systems; interactive electronic whiteboards; digitizing tablets; overhead projectors; document cameras; slide projectors; microphones; video, film, CD and audiotape sound; assistive listening devices; audio mixers, amplifiers, speakers and feedback eliminators; teleconferencing, distance learning and two-way video; video compression and web streaming video; centralized audiovisual distribution systems; and video to VGA converters to change between video and data sources for the video/data projector.

Lecterns for "plug and show" computer controls are common and need to be small and placed on the right or left front side of the room facing the students. Display connections, data jacks, and AC power are typically included in the lectern. During lectures, a user supplied computer is connected to a ceiling mounted video projector with a multi-pin connector at the lectern. Plug and show capabilities are frequently incorporated in undergraduate science teaching laboratories as well as classrooms. Ethernet connections make it possible to interact in real time with distant individual personal computers, workstations, databases, or banks of stored text and images.

B. Laboratory Equipment. The Sundquist Science Center and the newly remodeled McCord Hall both contain a significant number of teaching and research labs that appear well equipped with technology, laboratory equipment and furnishings appropriate for this use.

Safety, flexibility, functionality, efficiency, "research-rich" environments and equipment intensive are terms used to describe contemporary teaching and research laboratories. Equipment commonly found in undergraduate science teaching laboratories include fume hoods, canopy hoods, hood stations, ductless fume hoods, laminar flow stations, bio-safety cabinets, incubators, freezers, refrigerators, autoclaves, nuclear magnetic resonators, growth chambers, glassware washer, balances, flammable storage cabinets, acid storage cabinets, chemical storage rooms, computers, ovens, glove boxes, water baths, centrifuges, atomic absorption spectrometers, water purification systems, environmental rooms and plant growth chambers. Research laboratories often include the equipment listed above plus specialized equipment necessary for investigation into specific areas of research.

C. Fixtures & Furnishings. Fixtures and furnishings in buildings at APSU are generally acceptable. While some of the furnishings appear to have been upgraded recently, other buildings are working with older and outdated furnishings. Furniture of different styles and ages are often combined in a single building or room. For example at Ellington Hall, offices and student areas appeared to lack furniture and fixtures necessary to adequately support the functions that they house.

In contemporary classrooms, oversized tablet arm chairs are generally preferred by students to maximize space for note taking, calculators and exam materials. And industry standards dictate that approximately 10% of tablet-arm chairs in classrooms be designed for left-handed students. Adherence to this standard was not observed at APSU. When possible, and especially in larger classrooms, continuous writing surfaces (tables), common in professional schools, should be used to provide students with additional room to spread out materials. A movable 2' x 5' lecturer's table and chair are desirable in the front of each classroom. The facilities in McCord adhere to this standard but most other buildings were found lacking in this area.

Faculty members often choose chalkboards over whiteboards. If chalkboards are used, they should be black for contrast. Front teaching wall chalkboards often extend from one side of the classroom to the other. Chalk dust is un-compatible with classroom technology such as computers, video data projectors, VCRs, and DVDs. For this reason, whiteboards should be considered as a highly desirable alternative to blackboards. Movable aluminum honeycomb core chalkboards can provide additional flexible board space. McCord is well equipped in this manner but other buildings were found lacking.

The teaching wall is often designed to permit the simultaneous use of projection screens and boards giving the presenter the option to project images on a screen and write on the board. One or two matte projection screens mounted above the chalkboard in the front of the classroom will fill video, data, slide and overhead projection needs. Consider a 3 x 5.3 ratio (9 x 16) for DVD and HDTV. Fit screens to the size of the audience basing the screen size on room depth and seating capacity. Mount screens high enough for the students in the back of the classroom to see the bottom of the screen, typically 48" above the floor. Overhead transparencies are projected from a table in the front of the classroom, video and data from a ceiling-mounted video/data projector and slides from a table in the rear of the room. For additional flexibility, add one or two screens on either side of the one center screen. Sometimes a classroom will lend itself to an additional corner screen at 45 degree angle. McCord demonstrates these variations in design.

D. Lighting. Corridors, offices, classrooms and laboratories need to be appropriately lit for the function they serve. Glare on computer monitors, improper light intensity, inappropriate placement of light fixtures and lack of energy saving features are all common in buildings at APSU.

Four lighting zones are common in contemporary classrooms: 1) student back row, 2) student center seating area, 3) front presentation area, and 4) lectern/side board lights. Chalkboard lights are controlled to maintain readability without lighting the projection screen. Lights are typically switched parallel to the front of the room or "teaching wall". Lights above student zones are switched at the entry door and presentation zone lights in the front of the classroom.

When lights in the student zone of a classroom are turned on, no more than 3-5 foot candles of ambient room light should fall on the screen. During projection, room light should be bright enough (40-50 foot candles) for student interaction. Consider all-spectrum, 35 degree Kelvin fluorescent tubes for natural color. Fluorescent light fixtures should include recessed parabolic louvers to minimize glare on computer and TV monitors as well as light spillage onto projection screens. Sufficient light is needed at the lectern and on the board, but it must be controlled to minimized ambient light that washes out the images on the screen. Room darkening shades should cover all windows to block light and assure that glare from windows does not appear on computer monitors, TV or projection screens. And vision panels in doors should be narrow to reduce spillage of light from the hallway. These conditions are typically present in APSU newer buildings but absent from most older structures.

Incorporating occupancy sensors to turn lights off when the room is vacated for a set period of time will provide energy savings ranging from 10% to 50%, depending on occupant habits. Dual sensors, comprised of passive and infrared and ultrasonic technologies, require the absence of heat and motion to shut off, minimizing false triggering problems. These systems are present in many APSU facilities but not all.

In large lecture halls, there should be separate pairs of front podium "spotlights" to focus on a speaker at stage left or stage right to provide light on the presenter while projecting images. Switch lights from the booth and from the front of the hall so they can be controlled from either location. All entry and exit doors to large lecture halls should be designed so that light from outside the room does not fall on the screen when doors are opened. These conditions are present in Trahern and Morgan Student Center but absent form other facilities on campus.

E. Acoustics. Reverberation times (echo) present in some classrooms at APSU may be outside acceptable ranges for contemporary classrooms. The classrooms at Claxton Hall for example have "hard" wall and floor surfaces, i.e. they have no acoustical qualities of sound absorption; only reflection. The room's only absorptive surface is the acoustical ceiling and that appeared to be older, not offering the absorptive quality of ceiling tile currently available, resulting in unnecessarily "live" room acoustics which make clarity difficult, especially for the hearing impaired or where background noise is present (such as loud mechanical systems).

Acoustical treatment is typically designed to address the multiple concerns of hearing the presenter as well as containing the room sound so it does not disturb adjacent classrooms and offices. Ideally classrooms should have reverberation times in the range of 0.4-0.6 seconds. Carpeting, acoustical ceiling treatment, and sound absorption panels help minimize unwanted noise in the classroom. Additionally, carpet absorbs disturbing sounds such as chairs being moved or shuffling feet. Noise levels should not exceed NC 25 to 30. Most of these adverse conditions exists at APSU.

In large lecture halls, side walls should not be parallel, nor should they be a constructed of a continuous hard surface. Front walls should use hard surface materials. Sound dampening panels should be applied to rear and side walls. Ceiling speakers and an amplifier are necessary for voice, CD, TV and computer sound. It is generally true that larger classrooms on campus adhere to this design standard.

F. Configuration. Few academic buildings at APSU offer the amenities and space necessary to foster student interaction and congregation outside of the classroom setting which is a common teaching/learning method employed by contemporary faculty. Some buildings, such as Harned Hall do not offer appropriately configured classrooms to support contemporary teaching for the programs they house. And the variety of configurations of classrooms available at APSU is limited compared to other academic institutions, with most classrooms 1 unit wide and 1.5 to 2.0 deep. Instructor space at the front of some classrooms is inadequate for easy movement between and around the first row of students or equipment used for teaching.

Wider vs. deeper (1 unit deep and 1.3 units wide) classrooms where the wide wall is the front wall are generally preferred by today's faculty because this configuration places students closer to the instructor and offers the instructor a wide range of presentation media. And curved seating rows serve to foster essential eye contact between instructor and student. Typically 9'-0" to 12'-0" is necessary at the front of the room to accommodate instructor's table, lectern as well as position students far enough back from the projection screen to fall within the optimal viewing angle of the projection screen. Some faculty prefer entry doors at the rear of the room so late comers do not disturb the class while others

prefer them at the front to encourage students to sit up front. Tiered floors and staggered seating improves sight lines and sound transmission in larger classrooms.

Sundquist Science Center is a good example of a contemporary science building that is planned with spaces to encourage interaction with non-science students by including public regions within the building to put “science on display”, thereby engaging non-science students, faculty, staff and visitors in the activities traditionally found behind laboratory doors. It also includes 1) casual meeting/interaction spaces; 2) outdoor gathering spaces that are highly visible and inviting; 3) display / announcement boards that serve as gathering places for informal contact and 4) connections to other campus buildings to facilitate interaction with faculty and staff in nearby buildings.

G. Building Envelope Issues. Water marks on interior walls and ceilings due to exterior envelop leakage, and exterior building areas in need of scraping, painting and window repair, were noted for many buildings on the APSU campus. Sundquist Science Center and recently completed Hand Village apartments both are showing signs of moisture penetration of the exterior envelope; likely due to poor detailing and construction techniques. In both cases, these buildings are in need of essential repair work to control the flow of water run-off and air infiltration (bringing with it unwanted moisture) to prevent further degradation. Additional information regarding the condition of exterior walls, roofs, windows and doors can be found in the Quality Assessment Forms.

H. Mechanical, Electrical and Plumbing Issues. Water marks on ceilings due to pipe sweating, hot and cold occupied spaces, poor ventilation and roof leaks were observed in new and old buildings on the APSU campus. Harvill and Blount Halls were undergoing an emergency mold abatement project because of a inadequate mechanical ventilation system. Additional information regarding the condition of air conditioning, electrical, plumbing and fire protection can be found in the Quality Assessment Forms.

I. Accessibility. Portions of many buildings on the APSU campus were not in compliance with the Americans with Disabilities Act. Refer to Quality Assessment Forms for additional detail.

J. Preservation Issues. Browning, Pace Alumni Center, Harned, and Archwood, were identified as being of architectural significance. Their preservation should be carefully and regularly monitored.

K. Decommissioned Space. Marks and McReynolds Hall were in the process of being decommissioned at the time this report was initiated and were used for storage. Currently, both are in various stages of renovation. The swimming pool in Memorial Health was also decommissioned.

Appendix lll.A.3-1 following this Memorandum documents the planning team’s assessment of the condition of the primary facilities located on the main campus.

building use classification

Legend:

Color	Code	Use
	100	Classroom
	200	Lab
	300	Office
	400	Library
	500	Special Use
	600	General Use
	700	Support
	800	Health Care
	900	Residence
		Unassignable

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

SEPTEMBER 2006

III.A.3 figure 1

physical quality assessment

Legend:

- Satisfactory
- Deteriorating
- Unsatisfactory
- Unclassified Campus Facilities

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

SEPTEMBER 2006

hga

III.A.3 figure 2

functional quality assessment

Legend:

- Good
- Marginal
- Poor
- Unclassified Campus Facilities

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

SEPTEMBER 2006

hga

III.A.3 figure 3

T e c h n i c a l M e m o r a n d u m

Date	February 2007
Project	Austin Peay State University Master Plan
Subject	III. Existing Campus Conditions A. Campus Grounds 4. Open Space and Pedestrian Circulation
From	HGA, Inc.
To	Austin Peay State University

The objective of this work element is for the planning team to gain an understanding of the character and pattern of the open space and pedestrian circulation system.

1. OPEN SPACE CHARACTER

The APSU campus has a variety of open spaces which exist between buildings in a landscape of formal and informal green areas. The historic quadrangle at the south end of campus along College Drive at University Avenue is a formal, rectangular shaped space defined by some of the university's oldest buildings. A geometric layout of sidewalks parallels the edges and cross in the center at a public art piece. Trees of varying ages are randomly located in the space. The space is also the ceremonial campus entrance from the south, serving more as visual entrance from the older section of Clarksville today than in the past when it was functionally more the main door to campus.

The campus core contains an informal mall as it is a pedestrian environment surrounded by buildings on all sides. The space serves as the outdoor living room for the entire campus. Three (3) sinkholes are the primary focal point of space with pedestrian walks criss-crossing in a fluid pattern throughout the entire area. The depressions themselves serve more as visual amenities than functional space with one being fully enveloped with the APSU logo depicted in colored rock. This last sink hole was the location of the only formal exterior teaching space. Substantial interest in developing another exterior teaching space was expressed in our focus groups.

The character of other spaces on the main campus is also informal. Sidewalks connecting among the campus buildings bisect open lawn and scattered trees as they traverse the scattered sinkholes. A pedestrian and vehicular "promenade" flows through the core of campus, south of the University Center, providing spectators with some of the most visually appealing spatial qualities on campus.

The space surrounding campus on the south side contains a semi formal buffer with uniform spaces, formal plantings, the demarcation of ingress and egress points, and some fencing / gateway signage. The spaces surrounding the remaining portion of campus are ill-defined as the property line does not present a recognizable boundary between campus and the surrounding residential neighborhoods.

There are two multi-purpose recreation fields south of Marion Street in front of Memorial Health. North of the Dunn center is a baseball field, softball field, and soccer field. The

northwest portion of campus surrounding the Emerald Hill area is primarily open woodland with steep topography. Refer to Part III.A.2 Memorandum for acreage of open space types. Refer to the following Open Space and Pedestrian Circulation Framework Figure 1 for a graphic depiction of the spaces.

2. PEDESTRIAN CIRCULATION

The campus appears to be adequately serviced by its pedestrian pattern of sidewalks and paths. However, there are opportunities for improvement. The link between the core and student housing area on the west side of campus needs improvement, as there are disconnects due to the topography, parking and buildings. Additional sidewalks are needed to connect the main campus with the Emerald Hill area, as currently there are none. This condition exists primarily because there is no actual property continuity between these two parcels of land. While pedestrian/vehicular crossings are generally safe on campus, safer crossing conditions are also desired at University Boulevard and College Street linking the University with downtown Clarksville and commuter parking.

With the exception of Emerald Hill, all campus academic and student residencies are within a ten-minute walk of the University Center, which is generally the center of campus. The compact size of the campus means that automobile use is not essential to movement by pedestrians from one location on campus to another within the allotted time between classes. However, there is, at present, considerable vehicular access to campus and movement of cars and trucks around the campus core which should be reduced where possible for safety and aesthetic purposes.

An improved sidewalk and/or trail system between campus and downtown may encourage more student use of facilities and businesses in downtown Clarksville. In addition, there would be a substantial benefit in connecting the campus with the Cumberland River corridor and the recreational, housing and commercial functions that are currently located, and developing, there.

Refer to the following Open Space and Pedestrian Circulation Figure 1.

3. STUDENT GATHERING SPACES

The most active gathering place on campus is on the east side of the University Center underneath the protective canopy of the building in the center of campus. Small groups of students can also usually be found near the library entrance, near Harvill Cafe, between Trahern and Sundquist, within the intramural fields, in the large space between Rawlings, Killebrew, Cross, and Ellington, and at the designated smoking areas within the parking lots. Outdoor seating areas have recently been placed in a number of locations throughout campus to provide areas for repose and socialization. However, they do not attract very large numbers of people who sit and stay as they are placed in outdoor areas that are sterile, uninviting and often uncomfortable during the hot and moist conditions which are present during spring summer and fall.

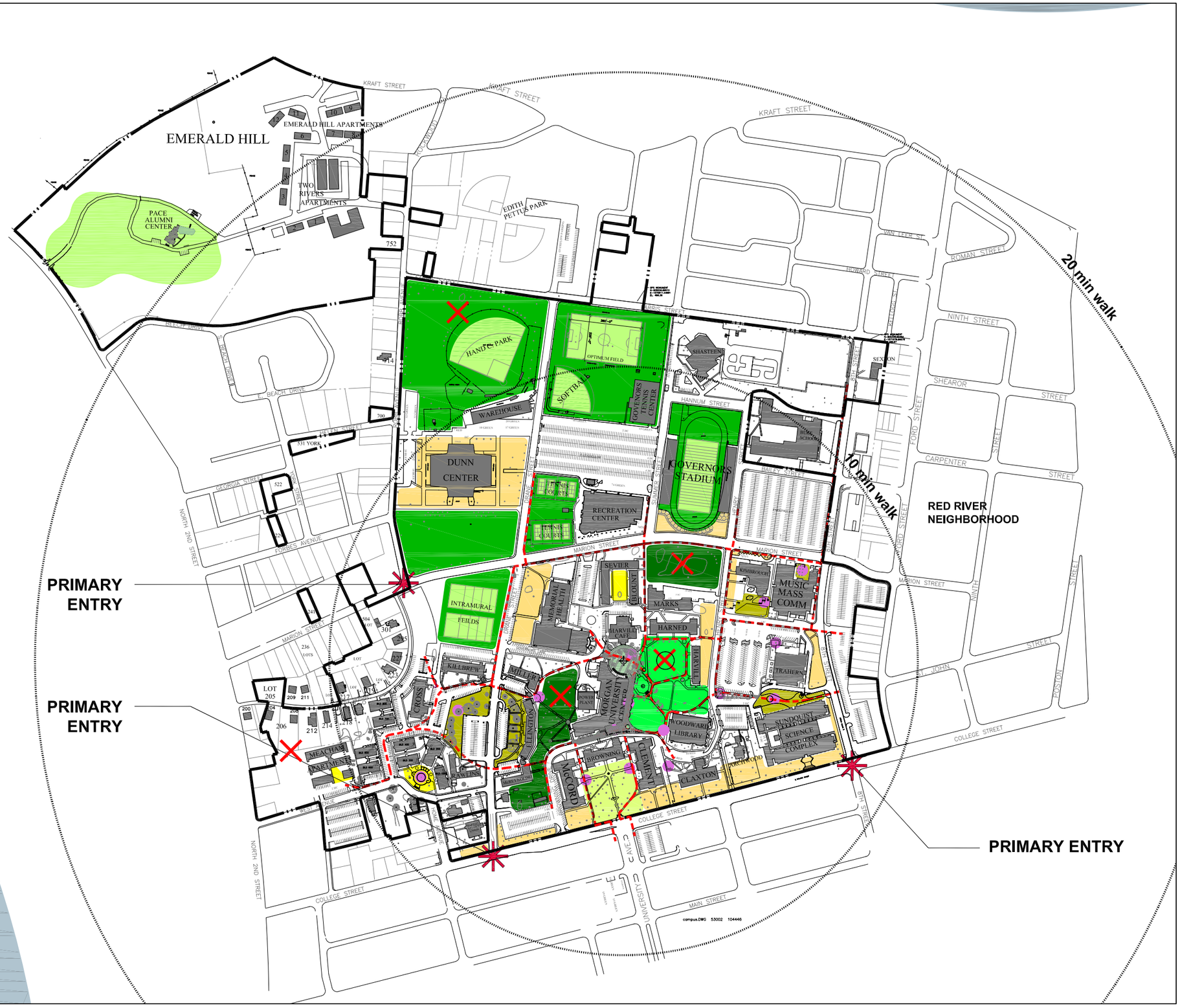
4. OPEN SPACE QUALITY

While the overall campus open space is attractive, the landscape elements are generally simple and sparse. The sinkholes are unavoidable elements on campus having a large impact upon the aesthetic and functional quality of space. These areas are also prone to experience additional subsidence and larger storm water issues if major alterations were to occur. There is no consistent landscape design standard for plantings and although the spaces are well maintained they lack an inviting aesthetic quality. The sinkholes remain generally unused and un-maintained. Rather than demonstrating the unique characteristics of world-class geological conditions, the sinkholes on campus appear to be neglected

5. ADA COMPLIANCE

APSU has an American With Disabilities Act Transition Plan to guide campus construction. Most areas of campus are accessible. The accessibility of campus buildings is addressed in Part III.A.3-1 Building Condition Assessment - *Appendix*.

open space and pedestrian circulation



Legend:

- Busy Pedestrian Routes
- Formal Mall
- Informal Mall
- Campus / Landscape Buffer
- Housing Courtyards
- Passive Recreation Areas
- Informal Open Spaces
- Recreation / Sport Fields
- Existing Buildings
- Gathering Spaces
- Site Constraints

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

SEPTEMBER 2006

III.A.4 figure 1

T e c h n i c a l M e m o r a n d u m

Date	February 2007
Project	Austin Peay State University
Subject	III. Existing Campus Conditions A. Campus Grounds 5. Vehicular Circulation and Parking
From	HGA
To	Austin Peay State University

The objective of this work element is to assess the existing vehicular circulation and parking conditions for the campus of Austin Peay State University (APSU).

Refer to the following Figure 1 for a graphic depiction of the circulation and parking.

1. EXTERNAL ROADWAYS

APSU is located in the northwest corner of Tennessee in the central portion of Montgomery County. The University is easily accessed by a variety of roadways as it is situated on the north end of downtown Clarksville, the county seat. The main vehicular entrances to campus are along College Street and Marion Street (accessed form North 2nd Street and 8th Street), both east / west roadways. College Street defines the southern edge of campus providing entry from the south and east. Marion Street runs through the center of campus providing entry from the north.

Streets leading into either College Street or Marion Street include a variety of collector roadways spiraling in from various directions. University Avenue runs perpendicular to College Street, terminating at APSU's main quadrangle, and is the main route to the historic district of downtown Clarksville from exit #11 of Interstate Highway 24. North 2nd Street (Hwy 41A) runs along the west side of campus providing access from Fort Campbell and Kentucky. Kraft Street runs along the north side of campus providing a bridged access to North 2nd Street (Hwy 41A) and William Rudolph Boulevard (College Street). Each of these roadways will be discussed in further detail in the following sections.

Refer to the Campus Physical Setting III.A.1 Figures 1, 2, 3 and 4 for a graphic depiction of the existing roadways.

1.1 College Street

The majority of first time visitors are directed to campus via College Street, a major collector street leading to Interstate Highway 24, roughly seven (7) miles east of campus. College Street eventually turns into William Rudolph Boulevard one (1) mile east of campus which provides access to two (2) exits off Interstate 24, exit 8 and exit 4 (the most common). The character of College Street (William Rudolph Blvd) is a very

auto-dominated roadway lined with big box commercial businesses, auto dealerships, fast-food restaurants and industrial uses spread out in a linear fashion along the roadway for several miles. As a result, the transition from a primarily vehicular, high-volume roadway to an intimate pedestrian oriented campus landscape is rather abrupt, creating an unexpected sense of arrival and less than desired first impression. Future considerations should be given to the aesthetic and transitional qualities at the east end of campus periphery to smooth the abrupt transition and enhance the sense of arrival; especially for first-time visitors.

1.2 University Avenue

University Avenue is a minor collector street running north / south, linking APSU with downtown Clarksville University Avenue terminates at the historic quadrangle or "old" campus front door creating the most visually appealing sense of arrival to campus of the various entry points. However, University Avenue today is the least utilized campus entry and it no longer provides direct vehicular entry onto campus. Since College Street / exit 4 have become more efficient in term of access to Interstate 24, it is unlikely that primary vehicular access will return to the University Avenue corridor. This intersection however, presents a major opportunity to provide a meaningful link between "town and gown" environments. The current commercial uses along College Street are unlikely to continue to be viable, suggesting possible acquisition for development of student housing, parking, and other APSU facilities. The easternmost site at 8th Street was recently acquired by a private developer, bidding against APSU, as the location for additional parking made necessary by new, off-campus private residential apartments designed primarily for student use.

1.3 North 2nd Street

North 2nd Street or Hwy 41A is an arterial roadway providing access to campus from the north, primarily Fort Campbell and Kentucky. North 2nd Street runs north / south along the west side of campus, never actually penetrating campus, but permitting four via (4) separate entry points for local collector streets; those located at West Avenue, Castle Heights, Marion Street and the Emerald Hill/Pace Alumni Center. The North 2nd Street / Marion Street intersection is the most heavily used and easily accessed point of entry to campus.

1.4 8th Street

8th Street, a minor collector street running north / south, runs along the east side of campus. The intersection of 8th Street and College Street is one of the most heavily used intersections for students, faculty and first time visitors as it offers the first visual cue (Sundquist Hall) for vehicular and pedestrian access to campus from the east. However, this intersection is not marked or identified in a significant way as a campus portal making it less functional and symbolic than desired. Future consideration should be given to the development of this important entry to campus.

1.5 Kraft Street

Kraft Street, a local collector street running east / west, lies north of campus linking North 2nd Street with College Street (William Rudolph Blvd). Kraft Street currently does not serve a significant amount of APSU traffic, However, given its location and ease of access, Kraft street may serve as an alternate route or secondary point of entry during special events (i.e. athletic events, graduation ceremonies, etc.) and could become an important point of entry as the western precinct of campus develops. Future consideration

should be given to developing a means for alleviating the circulation conflicts that will result as the campus continues to expand north.

2. INTERNAL ROADWAYS

Circulation within the APSU Campus is provided by several minor internal roadways. All roadways within the interior of the campus are two lanes and there are no signalized intersections.

The primary east-west route within the APSU campus is Marion Street, which intersects with North 2nd Street to the west and 8th Street to the east. This route provides access to interior parking lots located within the campus core as well as servicing access to the Dunn Center and New Foy Recreation Center by the general public. The other two (2) significant internal roadways are Drane Street and Henry Street. Drane Street runs through the west side of campus intersecting with Kraft Street at the northernmost point of campus and College Street at the south end of campus. Drane Street is of low quality, ironically does not drain water well, often contains ponding and has speed bumps which slows traffic but presents a barrier to cross-campus pedestrian traffic. Henry Street runs through the core of campus wrapping around Governors Stadium on the north end of campus and transitioning to Browning Drive on the south end of campus ending at College Street. Castle Heights and West Avenue are two (2) other internal roadways providing access to student housing on the west side of campus. Governors Lane is a short roadway providing access to the University Center and parking and the campus core. Bailey Street, Hannum Street, and Summer Street are all short roadways on the north end of campus providing access to parking, sport facilities, and campus grounds facilities.

3. VEHICULAR CIRCULATION

Vehicular circulation is readily available to most portions of campus. Short roadways and small parking lots are dispersed throughout making it easy to drive most places. The ease of vehicular access however has created several issues related to circulation as identified below.

<u>Pedestrian and Vehicular Circulation Conflicts</u>
The condition, design and location of many of the campus streets has created conflicts between pedestrians and vehicular traffic in several locations due to their overlap in use. The most noticeable is at the campus core Henry Street, south of Marion Street and Browning Drive, throughout its length. The area is highly utilized by pedestrians and vehicles creating a variety of concerns from a safety, wayfinding, and aesthetic/image standpoint. Future consideration should be given to this area to reduce or eliminate the issues as identified above.

Marion Street between 8th Street and Drane Street is another area where conflicts occur. Marion Street a major roadway slicing through the center of campus creating a division and barrier between the north and south side of campus. Future considerations should be given to Marion Street to help soften the division and improve circulation conflicts between pedestrians and vehicles.

Many of the parking aisles and parking lot islands in and around the campus core also create conflicts as pedestrian routes and vehicular routes overlap adding to the issues previously identified with regard to safety, aesthetics/image, and wayfinding. Adding to the negative impact of these issues are the designated smoking areas within the

parking lots, which cause un-excessive pedestrian and vehicular overlap. Serious consideration should be given to eliminating these areas of conflict. Additional thought should be given to the hierarchy of pedestrian and vehicular circulation routes throughout campus.

Wayfinding

In general most entries to campus with the exception of that at College Street and University Avenue, are ill-defined. As a result, it is not readily apparent to visitors where to enter campus or where to park creating confusion and frustration on the part of prospective students, faculty and staff. This is especially problematic for motorists approaching the campus from the east along College Street, or from the north along North Second Street. Thought should be given to improving the wayfinding system campus-wide from the perspective of vehicular circulation, parking and pedestrian routes.

Proximity Parking

The parking lots at, or near, the campus core are “prized” stalls due to their proximity to surrounding office and classroom destinations. While on-site we observed many vehicles traveling through lots several times in hopes of finding an open parking space or waiting for a parking space to open up. However, at the same time parking lots one block away were half full. This circulation pattern of “stalking” creates unnecessary traffic congestion along surrounding roadways and increases the probability of conflicts developing between pedestrians and vehicles. Considerations should be given to reducing the “stalking” pattern mentality by creating an even distribution of parking lots as well as a means of informing motorists where open spaces exist. Generally speaking, the campus should consider the gradual elimination of parking facilities in the “core” areas, in preference to lots located along the periphery. This being the case, it can be concluded that current APSU parking facilities vary considerably in condition and equipment, ranging from dirt/gravel to asphalt and concrete

4. PEDESTRIAN / BICYCLE CIRCULATION

Currently, there are sidewalks for pedestrians and bicycles through much of the campus that provide access to and from campus facilities, but there are no routes designated exclusively for bicycles. However, minimal bicycle usage was observed on campus. Standard signage and striping for bicycle and pedestrian routes/crossings should be implemented to encourage this alternate mode of travel. Refer to the Existing Open Space and Pedestrian Framework III.A.4 Figure 1 for a graphic depiction of the pedestrian circulation routes.

5. PUBLIC TRANSPORTATION

The Clarksville Transit System operates a public bus system with several routes serving the APSU campus. The overall system has an average 1,200 passengers a day, and is equipped with 32-passenger Orion coaches and five 18-passenger para-transit vans. For cross-country transportation, Brooks Bus Lines, Inc. and Greyhound Bus Lines provide service from a local bus station. It appears that public transportation adequately serves the APSU campus.

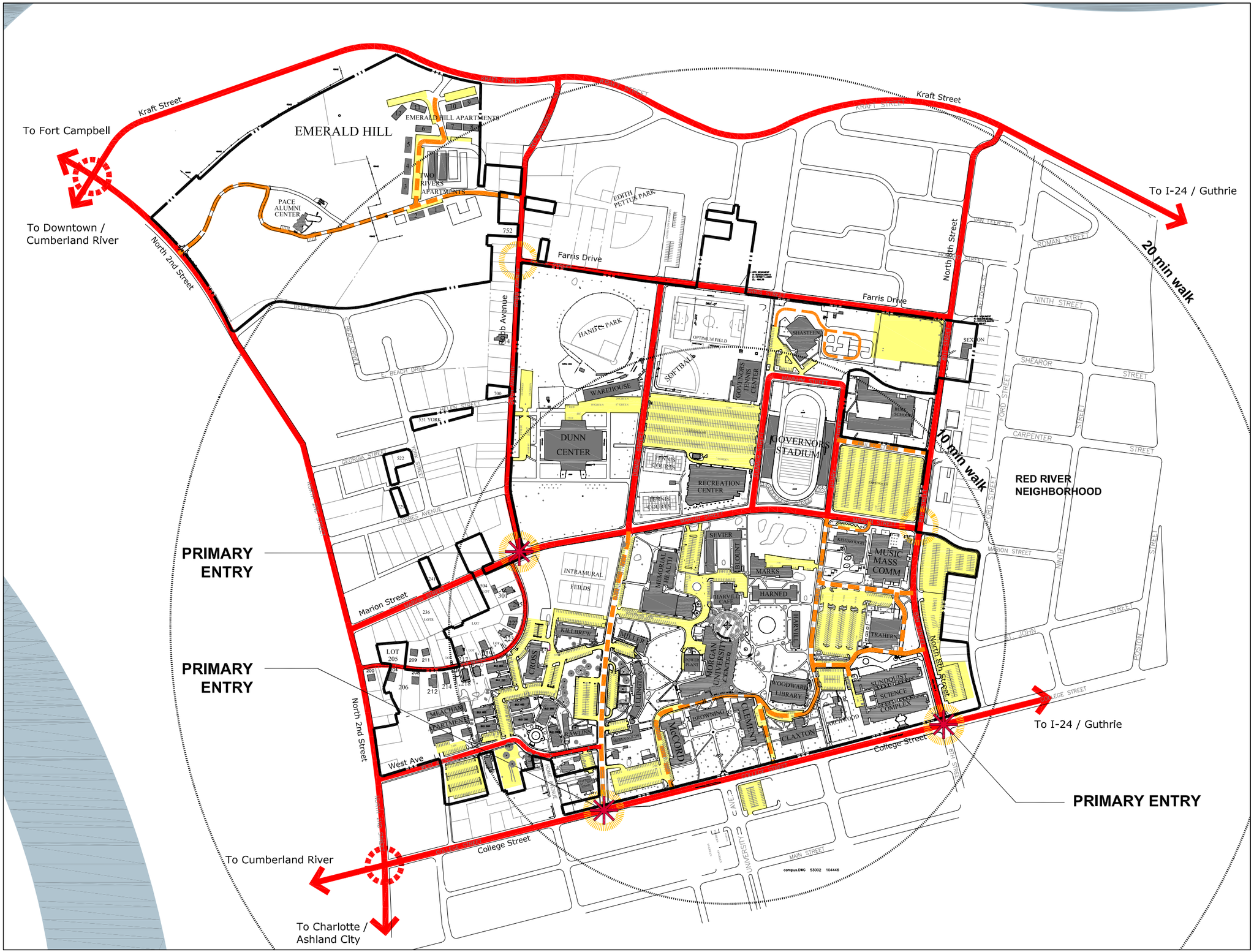
6. ON-CAMPUS PARKING FACILITIES

There are approximately 3,854 parking spaces on the APSU campus. With a student headcount of 9,205 *(2006)* and a staff headcount of 1,341 *(2006)* the campus has a parking ratio of approx 0.40 parking spaces per person. This ratio is considered to be on the high end of the normal spectrum although, in comparison to ratios ranging from 0.22 and 0.33 commonly found on other campuses across the county *(source; 2004 Institute of Transportation Engineers – Parking Generations, 3rd Edition)* APSU enjoys a substantial parking advantage. The large make up of non-traditional students and community event spaces present on the APSU campus warrants a higher parking ratio than other more traditional institutions. During peak times of 10 AM to 2 PM, campus parking lots are typically full with the exception of the lot near Shasteen.

During peak periods, parking demand exceeds the capacity in several lots, especially those that lie closest to "core" campus facilities. Outlying lots such as the stadium lot, however, provide excess capacity to accommodate parking overflow during peak periods. During a typical weekday peak period (with no special event traffic) there is available parking on the campus. As is often the case, the most convenient parking spaces fill up first and there is not adequate event parking near Morgan University Center for guests participating in events held there. This condition lies outside of the normal visitor expectation. Most visitors are not accustomed to significant walking distances between parking their car and their final destination.

The 3,854 parking stalls are distributed unevenly across 38 separate parking lots. The "median" number of parking stalls per lot is 45 stalls. In other words, over half the parking lots have 45 or fewer stalls in them with five (5) of the parking lots having fewer than ten parking spaces. Additionally, all but ten lots are located between Marion Street and College Street. The large distribution of small parking lots across the campus core adds to the confusion for unfamiliar visitors coming to campus who have difficulty understanding where to find parking. The distribution also adds to the circulation conflicts between pedestrian and vehicles as it requires more drive time when lots are full. Furthermore, the location of many lots and the sheer number of lots, while perhaps serving individual faculty and administrators, detracts from the open space qualities of the campus core. Consideration should be given to the consolidation of lots and to their physical location to improve circulation, efficiency, safety, and aesthetics.

vehicular circulation and parking



Legend:

- Existing Buildings
- Parking Lot
- Municipal Roadway
- Campus Roadway
- Campus Boundary
- Major Intersection
- Campus Entry
- Main Campus Entry

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

SEPTEMBER 2006

III.A.5 figure 1

T e c h n i c a l M e m o r a n d u m

Date February 2007

Project Austin Peay State University Master Plan

Subject III. Existing Campus Conditions
A. Campus Grounds
6. Athletic and Recreational Facilities

From HGA, Inc.

To Austin Peay State University

The objective of this work element is to assess the existing intercollegiate, intramural sports and recreational facilities.

1. ATHLETIC AND RECREATIONAL PROGRAMS

The APSU intercollegiate athletics program now includes:

- men's baseball
- men's football
- men's and women's basketball
- men's and women's cross country
- men's and women's golf
- men's and women's tennis
- women's riffle
- women's soccer
- women's softball
- women's track and field
- women's volleyball

In addition, an organized program of intramural sports is structured to provide competitive recreational activities APSU community. All activities are offered as men's, women's, and co-recreational divisions. Intramurals include:

- Flag football (team)
- Basketball (team)
- Volleyball (team)
- Ultimate Frisbee (team)
- Soccer (team)
- Softball (team)
- Dodgeball (team)
- Badminton (individual/dual)
- Racquetball (individual/dual)
- Card games (individual/dual)
- Tennis (individual/dual)

The University also has an Adventure Recreation program which conducts trips/outings to empower people developing their own skill and self reliance,

to communicate and work as a group. The program schedules local outdoor pursuits and regional activities.

APSU currently competes at the NCAA Division I level in the Ohio Valley Athletics Conference, and no plans are under consideration to change Division level.

2. CAMPUS OUTDOOR ATHLETIC FACILTIES

Described below are the existing outdoor athletic facilities on campus. Refer to the following Athletic and Recreation Facilities Figure 1.

a) Governors Stadium includes an artificial turf football field encircled by an 8-lane quarter-mile track. Restroom/concession facilities are located beneath the bleachers. There is a press box on the east side of the stadium above the bleachers.

b) Raymond C. Hand Park is the men's baseball field. The field houses a set of bleachers, dugouts, fencing, lighting, and batting cages for men's practice and games.

c) There is a women's softball field immediately east of Raymond C. Hand Park. The field housing some bleachers, dugouts, fencing, and lighting for women's practice and games.

d) There is a women's soccer field just north to the women's softball field. The field houses some bleachers and lighting for women's practice and games.

e) There are eight tennis courts adjacent to the new Athletic Center. The courts were recently resurface and re-fenced.

f) There are two informal recreation fields north of Killbrew which are heavily used for intramural activities and band practices. Another ill-defined, informal outdoor recreation space exists north of the intramural fields north of Marion Street and south of the Dunn Center. The field is used for a variety of recreational purposes, including community little league games.

3. DUNN CENTER

The 132,000 square foot facility is a multipurpose facility built in 1973. The facility houses the basketball and volleyball teams in addition to practice facilities for track, baseball, and indoor softball workouts. The Dunn Center also houses the University's training facility where APSU's sports medicine staff administers treatment and rehabilitates injured athletes.

It also is home to the athletic department's academic services, weight room, Hall of Fame, and offices, with the exception of tennis, which is located in the Governors Tennis Center, and rifle, which is located in the ROTC Armory. Both of these facilities are in close proximity to the Dunn Center. In winter 2004, the Governors baseball team's administrative offices were moved to

the former home of the student newspaper, The All-State, to be closer to Raymond C. Hand Park.

4. TENNIS CENTER

The Tennis Center is an indoor tennis facility consisting of four lighted courts with dressing facilities for men and women. In addition to serving the university, the facility also services families, individuals and corporations who are encouraged to join as members.

5. MEMORIAL HEALTH

The Memorial Health Building, commonly called the “Red Barn,” has a long history with the health and wellness of the University family. Time and periodic upgrades have transformed the original structure, which was built in 1953 and (housed health and physical education departments), into a modern, full-service recreational facility. The facility currently supports indoor basketball, volleyball, racquetball, weight room, aerobics room and indoor heated pool. Additionally, the facility contains floor space which can accommodate large exhibits and receptions. The pool area to the north of Memorial Hall is in poor condition and is generally an under-utilized resource.

6. FOY FITTNESS AND RECREATION CENTER

The newest facility on campus, finished construction in 2007. The Foy Center features a climbing wall, juice and snack bar, basketball and racquetball courts, expanded group fitness and cardio/weight facilities, a walking/jogging track and meeting space.

7. FACILITY NEEDS

Based on interviews with representatives of the Recreation and Athletics Staff, the following list of needs was developed:

- 10,000 sq.ft. field house (north of the football field)
- New presidents box above the football field (east side)
- New press box above the football field (west side)
- General restrooms / concessions for outdoor sporting events
- Athletic practice fields
- Intramural basketball courts
- Nature / bike trail
- New outdoor swimming pool

existing athletic and recreational facilities

Legend:

- Athletic / Rec Facilities
- Playing Fields / Courts

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

SEPTEMBER 2006

III.A.6 figure 1

T e c h n i c a l M e m o r a n d u m

Date March 2007

Project Austin Peay State University

Subject III. Existing Campus Conditions
B. Campus Infrastructure
1. Domestic & Fire Protection Water

From HGA, Inc.

To Austin Peay State University

The objective of this work is to discuss the condition and capability of the existing utility systems.

1. DOMESTIC & FIRE PROTECTION WATER

Introduction

The analysis of the existing domestic and fire protection water distribution system evaluates present infrastructure conditions for both the public and private portions of the water system. The delineation of the public water system from the private water system is generally made at the meter, with the actual meter being a portion of the public water system. This delineation can be uncertain throughout the APSU Campus, thus necessitating the need to analyze both portions of the system. In addition, the domestic and fire protection water distribution systems are analyzed together because of their shared dependency on the public water mains.

A generalized Existing Water Plan (III.B.1 Figure 1) of the water distribution system analyzed in this study is included with this report.

Analysis

The APSU water distribution system analysis is based on historical data, field observation, and coordination with various representatives of the owner and local regulatory agencies. The most recent contacts include representatives of the City of Clarksville Gas & Water Department, Austin Peay State University Physical Plant, and various consultants from past campus improvement projects.

The portion of the APSU campus water distribution system included in this study is served almost entirely by public utility mains. Moderate volume mains exist in College Street (12-inch), and Marion Street (8-inch), while the majority of public mains on the APSU campus are 6-inch mains, the exception being a 4-inch main in Robb Avenue serving the Emerald Hill area. The Clarksville Gas & Water Department is currently designing an upgrade of the 4-inch main in Robb Avenue to an 8-inch main.

The City of Clarksville water system in the Austin Peay State University campus area is characterized as generally fair to good, from a domestic water and fire protection volume and pressure standpoint.

Items or areas of concern are as follows:

1. Age of infrastructure - With age, rust deposits form within the gray cast iron water mains, begin to clog and pit the inside pipe walls of the system, and thus cause failures in the pipe. Based on historical data, these failures may have been the cause of several sinkholes in the area.
2. Reliability of existing metering and backflow prevention devices – As some utility districts switch from standard meters to MXU (radio read) meters, they require existing services to be updated. In addition, the lack of stricter backflow prevention requirements are a concern.

Recommendations

The proposed recommendations for the above mentioned items or areas of concern are as follows:

1. Age of Infrastructure – As most of the major water supply lines located in and around the APSU campus are the responsibility of the City of Clarksville Gas & Water Department, planning and maintenance may be left to them. Although it is advisable to replace poor quality pipe, any improvements or repairs associated with the small private service lines may best be handled on an as-needed basis. It is recommended that campus maintenance personnel request and log fire hydrant flow test data from the City of Clarksville as a means of monitoring any significant changes in operating pressures and flows.
2. Reliability of existing metering and backflow prevention devices – The City of Clarksville does not currently require or have future plans to require MXU meters. In addition, APSU has recently installed City of Clarksville approved backflow prevention devices in buildings in which they had not previously been installed. Two buildings remain that need to have backflow prevention devices installed / updated; McReynolds Hall and Governors Stadium. Any significant renovation of these facilities should include the installation of backflow prevention devices. Finally, open channels of discussion should be maintained with City of Clarksville employees concerning metering and backflow prevention.

master plan

Existing Water Plan

Legend:

- Existing Water Lines
- Campus Boundary
- (6) Denotes Water Line Size (Inches)

0 250 500

APSU

AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

JANUARY 2007

hga.

III.B.1 figure 1

T e c h n i c a l M e m o r a n d u m

Date	April, 2007
Project	Austin Peay State University
Subject	III. Existing Campus Conditions B. Campus Infrastructure 2. Electric Power
From	I. C. Thomasson Associates, Inc.
To	Austin Peay State University

The objective of this work is to discuss the condition and capability of the existing electrical systems.

1. System Description

Most of the APSU campus is fed from an outdoor 15kV metal-enclosed switchgear lineup on Marion Street. This switchgear feeds the core campus, with the exception of the Hand Village Student Housing, Emerald Hill Apartments, Governor Stadium, and several small services. The campus 13.2kV power system is an underground distribution system that originates from the outdoor 15kV switchgear, and is owned by APSU. The 15kV switchgear lineup has only one (1) incoming service feeder from the Utility and five (5) main underground circuits that feed most of the campus facilities.

The five (5) distribution circuits include thirty-five (35) 15kV padmounted cable junction enclosures (CJE) that distribute power to buildings via padmounted switches and transformers. The first four (4) 13.27kV circuits can be tied to adjacent circuits through the CJE's in the event of a 15kV cable fault(s) or other system component failure. The fifth circuit is standalone and does not have the capability to tie to any of the other four (4) circuits. In the event of a fault on this circuit, the entire circuit will be down until the fault is repaired. The overall One-Line Diagram of the APSU primary electrical distribution system is shown on drawing III.B.2 Figure 1 and the Site Plan is shown on drawing III.B.2 Figure 2.

1.1 Main 15kV Metal-Enclosed Switchgear

The 15kV metal-enclosed switchgear is approximately thirty-two (32) years old. It is Owned and operated by APSU. The switchgear is rated for 1200 Amps at 13.2kV and consists of an incoming switch and five (5) fused switches for each of the five (5) underground circuits. It is an outdoor lineup that does not have a walk-in enclosure, i.e., maintenance must be done while exposed to the environment. There are no power meters on any the circuits in the switchgear, which means that the power consumption and quality of individual 12.47kV circuits cannot be monitored or measured. Fuses are replaced in the switchgear as needed.

1.2 Primary 15kV Cable

Approximately 50 percent of the underground 15kV cable is thirty-two (32) years old, which is the original cable. About 30 percent of the primary cable is between fifteen (15)

and twenty (20) years old. The remaining 20 percent of the primary cable is less than 12 years old. The original cable and some of the 20-year-old cable is installed in underground conduit that is direct-buried and not concrete-encased. The newest 15kV cable is installed in concrete-encased duct banks. The APSU electrical staff has noted that the some of the original direct-buried conduit is crumbling.

In addition to age, a potential problem with the 15kV cable on the five (5) circuits is capacity. The primary 15kV circuits consist of #2/0 Awg, 15kV, copper conductors, which have an ampacity of 255 Amps in underground ducts. As the campus has grown, the five (5) circuits have been tapped to feed the growth. While no individual circuit is in danger of being overloaded during normal operation, there is the possibility of a circuit becoming overloaded should it be required to carry one (1) or two (2) of the other primary circuits during an emergency situation. Some of the most recent large campus additions, e.g. Hand Village Student Housing, presented such an increase in load that the Utility was required to feed them separately from the campus distribution system.

1.3 Cable Junction Enclosures

Another major problem observed with the primary distribution system is the condition of the terminations inside the padmount cable junction enclosures. Many of the loadbreak elbow terminations and their corona shields inside these enclosures are in decay. The APSU electrical staff said that there have been at least three (3) termination failures per year during the last several years. When this occurs, the electrical staff must isolate the fault and then tie the circuit with the failure to an adjacent circuit. The system will operate in this condition until the local Utility can make the repairs inside the CJE.

2. Campus Loading

There is one (1) primary (13.2kV) Utility meter for the main 15kV outdoor switchgear that feeds a majority of the APSU campus. Since there are no electrical power meters in this switchgear, the actual loads on the five (5) individual 13.2kV circuits are not known. The individual building transformers are not metered either. The only demand data given by APSU is from the utility electric bills, which include the peak kilowatts (kW) for the primary meter. From this billing data, it is determined that the campus has a peak load of approximately 255 Amps at 13.2kV. This gives no indication of the power usage and load on the five (5) 13.2kV circuits, though.

3. Recommendations

Based on the conditions of the electrical distribution system as described in this section, there are several recommended upgrades. They are listed in order of priority as follows:

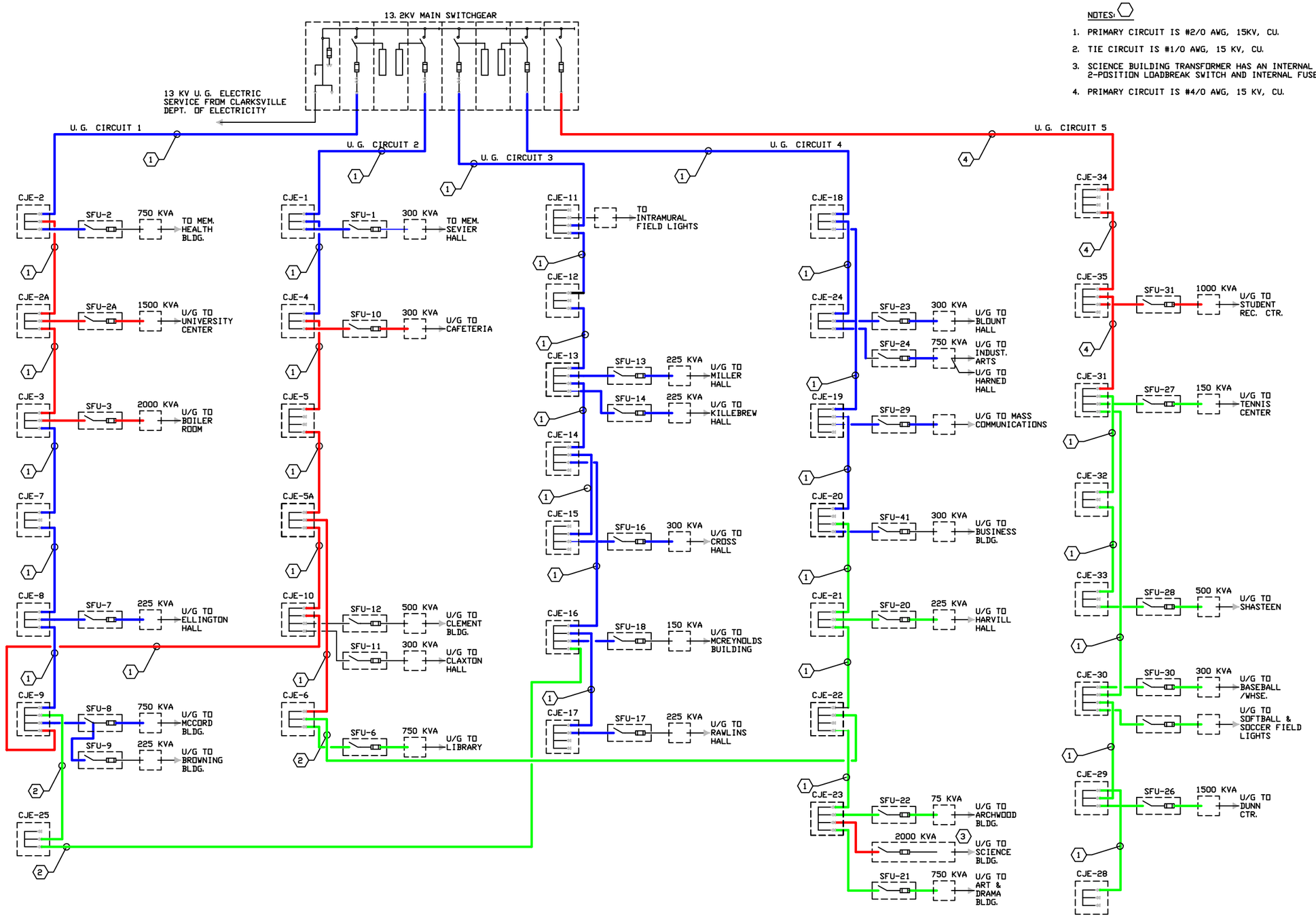
Priority 1: Install a new 15kV underground ductbank to connect Circuit #5 to Circuit #3, approximately 330 feet. This will provide redundancy to Circuit #5 in the event of a fault, so that it can be back-fed from Circuit #3 once the fault is discovered and isolated.

Priority 2: Replace the oldest underground direct-buried distribution with new concrete-encased ductbanks and 15kV cable. The cable size should be increased to accommodate future loads.

Priority 3: Visually inspect all thirty-five (35) Cable Junction Enclosures (CJE) and replace as necessary. Estimate replacing twenty (20) CJEs.

Priority 4: Replace outdoor 15kV metal-enclosed switchgear lineup on Marion Street with new outdoor 15kV metal-clad switchgear.

OVERALL 13.2 KV ONE-LINE DIAGRAM



NOTES:

1. PRIMARY CIRCUIT IS #2/0 AWG, 15KV, CU.
2. TIE CIRCUIT IS #1/0 AWG, 15 KV, CU.
3. SCIENCE BUILDING TRANSFORMER HAS AN INTERNAL 2-POSITION LOADBREAK SWITCH AND INTERNAL FUSES.
4. PRIMARY CIRCUIT IS #4/0 AWG, 15 KV, CU.

Legend:

- ORIGINAL 15KV CABLE (APPROX. 30 YEARS OLD)
- 15KV CABLE (BETWEEN 15-20 YEARS OLD)
- 15KV CABLE (LESS THAN 15 YEARS OLD)

SFU-27 — PADMOUNT SWITCHGEAR

150 KVA — PADMOUNT TRANSFORMER, SIZE AS NOTED

CJE — PADMOUNT CABLE JUNCTION ENCLOSURE

I.C. Thomasson Associates, Inc.

CONSULTING ENGINEERS
2950 KRAFT DRIVE, SUITE 500
NASHVILLE, TENNESSEE 37204
PHONE (615) 346-3400
FAX (615)346-3550
www.icthomasson.com

ICT PROJECT No. JOB#206435

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

APRIL 2007

III.B.2 figure 1

ELECTRICAL SITE PLAN

- ORIGINAL 15KV CABLE (APPROX. 30 YEARS OLD)
- 15KV CABLE (BETWEEN 15-20 YEARS OLD)
- 15KV CABLE (LESS THAN 15 YEARS OLD)
- UE DEMO UNDERGROUND ELECTRIC
- UE UNDERGROUND ELECTRIC
- TRANSFORMER PAD
- CJE (15kV) CABLE JUNCTION ENCLOSURE
- SFU (15kV) PAD MOUNTED SWITCH

I.C. Thomasson Associates, Inc.

CONSULTING ENGINEERS
2950 KRAFT DRIVE, SUITE 500
NASHVILLE, TENNESSEE 37204
PHONE (615) 346-3400
FAX (615)346-3550
www.icthomasson.com

ICT PROJECT No. JOB#206435

0 250 500

APSU

AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

APRIL 2007

III.B.2 figure 2

T e c h n i c a l M e m o r a n d u m

Date	March 2007
Project	Austin Peay State University
Subject	III. Existing Campus Conditions B. Campus Infrastructure 3. Sanitary & Storm Sewer
From	HGA, Inc.
To	Austin Peay State University

The objective of this work is to discuss the condition and capability of the existing utility systems.

1. SANITARY & STORM SEWER

Introduction

The existing sanitary and storm sewer system analysis evaluates present infrastructure conditions for both the public and private portions of the sanitary sewer system and storm sewer system. Both the sanitary and storm sewer systems are analyzed together because of their shared dependency on the large diameter combination sewer systems that run through the campus.

A generalized Existing Storm & Sanitary Sewer Plan (III.B.3 Figure 1) of the storm, sanitary, and combination sewer systems analyzed in this study is included with this report.

Analysis

The APSU sewer system analysis is based on historical data, field observation, and coordination with various representatives of the owner and local regulatory agencies. The most recent contacts include representatives of the City of Clarksville Gas & Water Department, the City of Clarksville Street Department, Austin Peay State University Physical Plant, and various consultants from past campus improvement projects.

The portion of the APSU sewer system included in this study is served by 2 main combination sewer branches. The first branch runs in a southwesterly direction on the west side of campus and leaves the campus at the intersection of College Street and Drane Street. The second branch runs in a northerly direction on the east side of campus and leaves the campus at the intersection of Farris Street and 8th Street.

The modern sewer system in and around the APSU campus area, from a storm and sanitary standpoint is characterized as generally fair to poor.

Items or areas of concern are as follows:

1. Age of Infrastructure – With age, the existing clay and brick sewer lines begin to crack and corrode and thus affect flow characteristics and possibly cause failures in the pipe. In addition, other issues, such as infiltration of stormwater and

groundwater, and damage to systems due to tree roots and adjacent construction are all likely.

2. Dunn Center – The sink hole area on the south side of the Dunn Center receives stormwater from Robb Avenue with no apparent outlet, possibly contributing to a future subsidence in this area which would make it difficult/impossible to use for recreational purposes.
3. Marks Building – The Marks Building entrances flood during heavy rainfall events. The associated site seems to have general grading deficiencies and inadequate stormwater infrastructure.
4. Woodward Library – The Woodward Library entrances flood during heavy rainfall events. The associated site and drainage system seem to have general grading and capacity deficiencies respectively.
5. Combination Sewer Capacity and Flow Deficiencies
    a. Drane Street near Ellington, Killbrew, Cross, and Rawlins – This general area is a convergence point for many storm and sanitary sewer lines, as well as a natural low area, and is served by the first combination sewer mentioned above. The general capacity and flow deficiencies in this area, along with the relatively low elevation, have caused significant flooding in the past.
        i. Buildings suspected of tying into combination sewer system – The Memorial Health Building, the Trahern Building, and the Woodward Library.

Recommendations

The proposed recommendations for the above mentioned items or areas of concern are as follows:

1. Age of Infrastructure – Any improvements or repairs associated with the small private service lines may be best handled on an as-needed basis. APSU should coordinate with the City of Clarksville for copies of any video analysis of sewer pipelines to further identify potential problem areas.
2. Dunn Center – The drainage associated with Robb Avenue should be the responsibility of the City of Clarksville. Given that the existing conditions have caused no significant property damage in the past, it is recommended that the issue be addressed during ongoing and future discussions with the City of Clarksville. This issue may be addressed in conjunction with the Master Plan residential development proposed in this general area.
3. Marks Building – Given that the Master Plan proposes the demolition of the Marks Building, it is suggested that no improvements be implemented. Further investigation and analysis could be enacted if this issue was deemed more urgent.
4. Woodward Library – Given that the Master Plan proposes the demolition of the Woodward Library, it is suggested that no improvements be implemented. Further investigation and analysis could be enacted if this issue was deemed more urgent.
5. Combination Sewer Capacity and Flow Deficiencies – As with many university campuses, the separation of ownership and responsibility between public utility mains and private utility services is blurred in, and around, the APSU campus. The combination sewer main that begins at the Henry Street / Bailey Street intersection and stretches in a southwesterly direction to the Drane Street / College Street intersection falls under the jurisdiction of the City of Clarksville Gas & Water Department, although APSU's ownership of Drane Street further complicates the issue in relation to storm sewer drainage. Thus, the sewer issues related to this area can be defined as a joint issue of both APSU and the City of Clarksville. As such, both entities should bear the responsibility for any capital projects dealing with corrections or improvements related to these issues. Any improvements to this section of the combination sewer system would not necessarily eliminate the Drane Street issues because of the capacity and flow

deficiencies associated with the downstream combination sewer that runs in a westerly direction under College Street. The issues related to this College Street main can be defined as more of a regional infrastructure issue that falls under the jurisdiction of the City of Clarksville Gas & Water Department and the City of Clarksville Street Department. As such, the City of Clarksville Gas & Water Department and the City of Clarksville Street Department should bear the responsibility for any capital projects associated with this combination sewer system. It should be noted that it is conceivable that the City of Clarksville could request the participation of APSU in capital improvement projects associated with the College Street combination sewer. In the past, similar scenarios have resulted in project costs being split equitably between the associated city and university. It should be noted that any measures/projects undertaken to rectify these issues would likely be large in scope and potential cost.
There have been preliminary discussions with the City of Clarksville Gas & Water Department and the City of Clarksville Street Department regarding correcting these problems. Alternate solutions discussed have included separating the sanitary sewer and storm sewer, or installing a large diameter pipe to replace or supplement the existing combination sewers. These discussions have not resulted in a definite plan of action. The City of Clarksville addresses this combination sewer, along with other combination sewers in the downtown area, in their Combined Sewer Overflow (CSO) study. In addition, the City has initiated a Sewer System Evaluation Survey (SSES), in which smoke tests are conducted to identify storm sewer connections to sanitary sewers and thus plan for the separation of these systems. The City has no immediate plans to address further the combination sewer systems near APSU, as their most immediate efforts will be concentrated on the south side of College Street. Given the capacity and flow deficiencies of the existing combination sewers, along with the age of this infrastructure, it is recommended that discussions with the City of Clarksville Gas & Water Department and the City of Clarksville Street Department be continued.

Given this, two possible means of addressing the flooding issues related to Drane Street near Ellington, Killbrew, Cross, and Rawlins are as follows:

1. Abandon and demolish a portion of Drane Street and redevelop the area as a green space / detention basin. Given the capacity deficiencies of the combination sewer in this area, Drane Street and the adjacent parking areas currently act as an unintentional detention basin. If a green space / detention basin were created in this general area, the flooding would still occur but would minimize actual property damage. This possible solution is supported by the long-range land-use development plan recommendation found in this document.
2. Separate the storm sewer and sanitary sewer in this area. It is proposed that approximately 1400 L.F. of 18-inch/21-inch combination sewer be replaced with 1400 L.F. of 30-inch RCP storm sewer and 1400 L.F. of 8-inch D.I. sanitary sewer. This would reach the edge of campus at the intersection of College Street and Drane Street. In addition, it is proposed that approximately 2500 L.F. of existing 21-inch/24-inch/54-inch combination sewer be replaced with 2500 L.F. of 72-inch RCP storm sewer and 2500 L.F. of 24-inch D.I. sanitary sewer. These new sewers would effectively separate the storm sewer and sanitary sewer in this area and provide adequate capacity for both utilities. As stated before, it could be argued that both of these above-described routes are the responsibility of the City of Clarksville, but they would most likely look to APSU for financial assistance in renovating these systems. Given the relative elevation of the low spot in Drane Street and the capacity and flow deficiencies of the downstream combination sewer,

both of the above mentioned sewer projects would have to be completed to alleviate the issues.

Preliminary Opinion of Probable Construction Costs
III.B.3 Table 1 - Sanitary and Storm Sewer
Draft Master Plan

	Item		Units		Unit Cost	Cost	Total
1	**DRANE STREET ABANDONMENT**						$106,000.00
	5. Storm Sewer						
		Manholes	2	EA	$3,000.00	$6,000.00	
		Detention Basin	1	EA	$100,000.00	$100,000.00	
2	**COMBINED SEWER SEPARATION**						$962,800.00
	3. Sanitary Sewer	8"	1400	LF	$32.00	$44,800.00	
		24"	2500	LF	$60.00	$150,000.00	
		Manholes	11	EA	$3,000.00	$33,000.00	
	5. Storm Sewer	30"	1100	LF	$70.00	$77,000.00	
		72"	2500	LF	$250.00	$625,000.00	
		Manholes	11	EA	$3,000.00	$33,000.00	

master plan

Existing Storm and
Sanitary Sewer Plan

Legend:

- Existing Storm Sewer
- Existing Sanitary Sewer
- Campus Boundary
- (18) Denotes Line Size (Inches)

0 250 500

APSU

AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

JANUARY 2007

hga.

III.B.3 figure 1

T e c h n i c a l M e m o r a n d u m

Date	April, 2007
Project	Austin Peay State University
Subject	III. Existing Campus Conditions B. Campus Infrastructure 4. Steam and Chilled Water
From	I.C. Thomasson Associates, Inc.
To	Austin Peay State University

The objective of this work is to discuss the condition and capability of the existing steam and chilled water systems. Table III.B.1 lists the buildings currently on the central steam or chilled water system along with gross square footage date and estimated steam and chilled water loads. These are used to determine the adequacy of each system's capacity.

1. Steam

A majority of the larger buildings on campus are served by the campus central steam plant, originally built in 1929 and located in the center of campus. The original coal fired boilers were replaced in 1954. The existing boilers, installed in the 70's and early 80's, are Cleaver Brooks. Boiler (Blr) #1 is an 800 Boiler Horse Power (BHP) fire tube boiler operating at 75 PSIG and producing approximately 33,500 pounds per hour (PPH) of steam. This is operated as the summer boiler. Blr #2, the winter boiler, is an 1100 BHP watertube operating at 100 PSIG and producing 40,000 PPH of steam. Although the boilers are still operating well, some of the peripheral equipment, including feedwater pumps, condensate tank, and the 54-year-old deaerator are in need of replacement.

The total combined capacity of the two boilers is more than adequate for the current campus-heating load of 55,240 PPH. If the winter boiler required maintenance during a time of peak heating load, the summer boiler would be able to keep all buildings above freezing, but not necessarily at a comfortable temperature for the occupants.

The steam is distributed through four primary branches ranging in size from 4" to 8" as shown in III.B.4 Figure 1. The branches are designated North, East, West, and University Center (UC). Most of the piping is direct buried. Except for the new branch to the University Center, the new lines to the Science Center, and a few sections that have been replaced in the North and West sections, the steam lines are original, and many are badly in need of replacement. At present the central plant receives no condensate from the West section costing the university as much as $5,000 to $10,000/year in wasted water and chemicals. Isolation valves in the North and West sections do not shut off properly making repairs difficult. There are several steam leaks visible around campus giving active witness, in the forms of "plumes", to the deteriorating condition of the associated below-grade piping. In all roughly 5100 feet of the approximately 9000 feet of steam line is due for replacement. The parallel condensate return lines will likewise require replacement. This old piping is shown as a solid line in Figure 1 while the relatively new line is indicated by a dashed line. The replacement would be done most economically at the same time as the chilled water lines since they were installed in the

same trench. The logistics of replacing these lines without disrupting campus operations may require separate work so that steam can remain connected during the heating season. Further study on how to stage this is recommended.

2. Chilled Water

The Central Plant was enlarged in 1964 to include chilled water production equipment that now cools 24 of the campus's main buildings. There are currently two 1200-ton chillers and one 600-ton chiller for a combined capacity of 3000 tons. This is adequate to serve the diversified campus load of 2,805 tons, but leaves little room for growth and no back-up capacity. The new Fitness Center was designed with its own chiller due to lack of capacity at the central plant. The chillers range in age from 2 to 10 years old and therefore should have many years of service left in their useful life. Two of the three cooling towers are almost 20 years old and beginning to show damage from corrosion. There is no redundancy in the installed chilled water pumps.

An additional issue with the central plant is its location in the middle of campus, particularly now that the new University Center essentially surrounds it on two sides. From an engineering standpoint, this is an ideal location, but it detracts aesthetically from the campus, and there is no room for further expansion. Possible alternate locations will be addressed in a later section of this master plan.

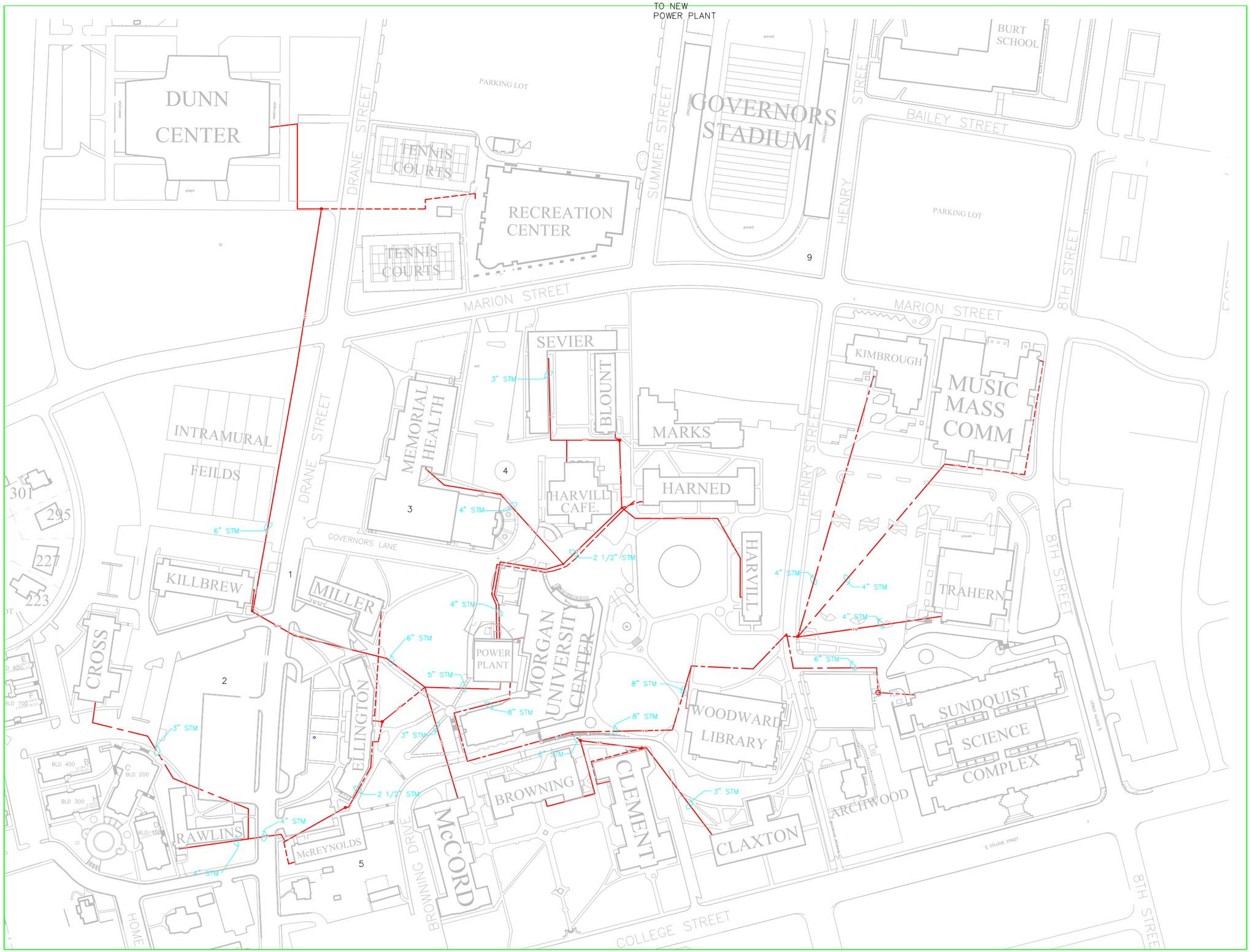
Chilled water is distributed around campus through four primary branches ranging in size from 8 to 16 inches as shown in III.B.4 Figure 2. These are roughly parallel to the steam lines. A new 12" line was installed most recently when the new University Center was built. The east branch was largely replaced with a new 16" line when the Science Center was built. The remaining sections date largely back to the 1960's. As with the steam lines, approximately 5100 feet each of chilled water supply and chilled water return lines should be considered for replacement. Several years ago a leak in the chilled water line serving the west branch was responsible for shutting down both steam and chilled water service to that section of campus unexpectedly for several days. It is in the best interest of the campus to plan outages to replace old lines rather than be taken by surprise on a peak-cooling day by a sudden failure of a chilled water line. As mentioned in the steam section, the pipe replacement would be most economical if done at the same time as the steam line if a suitable time could be found.

Table III.B.4.1 APSU Masterplan Building Data

Bldg No.	Name	Gross SF	CHW (TONS)	CHW GPM	STM (PPH)	CHW Zone	STM Zone
30	Blount Hall	22,675	60	144	950	N	N
1	Browning Admin	34,071	100	240	1,430	E	E
28	C E H Bookstore	18,400	50	120	770	N	N
34	Claxton	41,597	120	288	1,750	E	E
29	Clement	57,320	160	384	2,410	E	E
35	Cross hall	34,818	100	240	1,470	W	W
60	Dunn Conv Center	131,970	380	912	5,560	W	W
8	Ellington Hall	41,966	120	288	1,770	W	W
27	Harvill Hall	18,520	50	120	780	N	N
55	Killebrew Hall	37,572	110	264	1,580	W	W
71	Kimbrough	32,000	90	216	1,350	E	E
17	McCord Science	52,222	150	360	2,200	E	W
10	McReynolds	18,250	50	120	770	W	W
12	Memorial Health	58,395	170	408	2,460	N	N
26	Miller Hall	16,905	50	120	710	W	W
76	Music/Mass-Comm	86,860	250	600	3,660	E	E
11	Harned Hall	52,932	150	360	2,230	N	N
13	Power House	7,895	20	48	330		
36	Rawlins Hall	22,762	70	168	960	W	W
95	Science Bldg	221,213	630	1,512	9,310	E	E
31	Sevier Hall	47,085	130	312	1,980	N	N
59	Trahern Art Drama	60,253	170	408	2,540	E	E
96	University Ctr	115,895	330	792	4,880	U	U
32	Woodward Library	80,614	230	552	3,390	E	E
	EXISTING SUBTOTAL	1,312,190	3,740	8,976	55,240		
	DIVERSIFIED AT	75%	2,805	6,732	41,430		

CHW CALCULATED AT	350	SF/TON
STM CALCULATED AT	40	BTUH/SF
CHW flow calculated at	10	deg DT
STM flow calculated at	950	BTU/lb

EXISTING STEAM DISTRIBUTION



Legend:

- EXISTING OLD STEAM LINE
- EXISTING NEW (1980 & LATER) STEAM LINE

I.C.Thomasson Associates, Inc.

CONSULTING ENGINEERS
2950 KRAFT DRIVE, SUITE 500
NASHVILLE, TENNESSEE 37204
PHONE (615) 346-3400
FAX (615)346-3550
www.icthomasson.com

ICT PROJECT No. JOB#206435

SCALE: 1"=250'-0"

APSU

AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

APRIL 2007

III.B.4 figure 1

EXISTING CHILLED WATER DISTRIBUTION

Legend:

EXISTING OLD CHW LINE

EXISTING NEW (1980 & LATER) CHW LINE

I.C.Thomasson Associates, Inc.

CONSULTING ENGINEERS
2950 KRAFT DRIVE, SUITE 500
NASHVILLE, TENNESSEE 37204
PHONE (615) 346-3400
FAX (615)346-3550
www.icthomasson.com

ICT PROJECT No. JOB#206435

SCALE: 1"=100'-0"

APSU

AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

APRIL 2007

III.B.4 figure 2

T e c h n i c a l M e m o r a n d u m

Date	April, 2007
Project	Austin Peay State University
Subject	III. Existing Campus Conditions B. Campus Infrastructure 6. Telecommunications
From	I.C. Thomasson Associates, Inc.
To	Austin Peay State University

The objective of this work is to discuss the condition and capability of the existing telecommunications systems.

1. Telecommunications

The existing telecommunications campus infrastructure at APSU consists of various counts of voice grade copper cabling and various counts of single mode and multimode fiber optic cabling along with numerous hand holes, pedestals, and pull points throughout the campus. The main data head-end room and the main telephone head-end room are located in the Browning building. These cables and counts are identified on the drawings associated with this master plan study through compiling record documents resourced from APSU, APSU contractors, and I.C. Thomasson Associates (ICT),.

The existing fiber optic cabling campus infrastructure seems to be functioning properly. From ICT's research, we identified that most of the fiber optic cabling campus infrastructure is installed in conduit from building to building. However, a large percentage of the copper cabling campus infrastructure is direct buried. This means these cables are not placed in any protective housing or raceway. With construction and maintenance being an ongoing process on campus, the copper cabling campus infrastructure is highly vulnerable to damage. Damage to these cables could result in lost phone service to a building or buildings on campus.

2. Recommendations

It is our recommendation that the copper cabling campus infrastructure direct buried cables be verified for not only exact location, but for use as well. After all cables have been located and verified that the cable is in use, these cables should be replaced with cabling housed in conduit as necessary within a maintenance budget. If the future plans for the campus is to convert to Voice-Over I/P, then replacement of the direct-buried copper cable is not required.

TELECOM SITE PLAN

DUCT BANK SYSTEM

Legend:

	COLOR
1X4 — 1x4" DUCT BANK	1
2X4 — 2X4" DUCT BANK	2
3X4 — 3X4" DUCT BANK	3
4X4 — 4X4" DUCT BANK	4
6X4 — 6X4" DUCT BANK	5
4X1.5 — 4X1.5" DUCT BANK	6

I.C.Thomasson Associates, Inc.

CONSULTING ENGINEERS
2950 KRAFT DRIVE, SUITE 500
NASHVILLE, TENNESSEE 37204
PHONE (615) 346-3400
FAX (615)346-3550
www.icthomasson.com

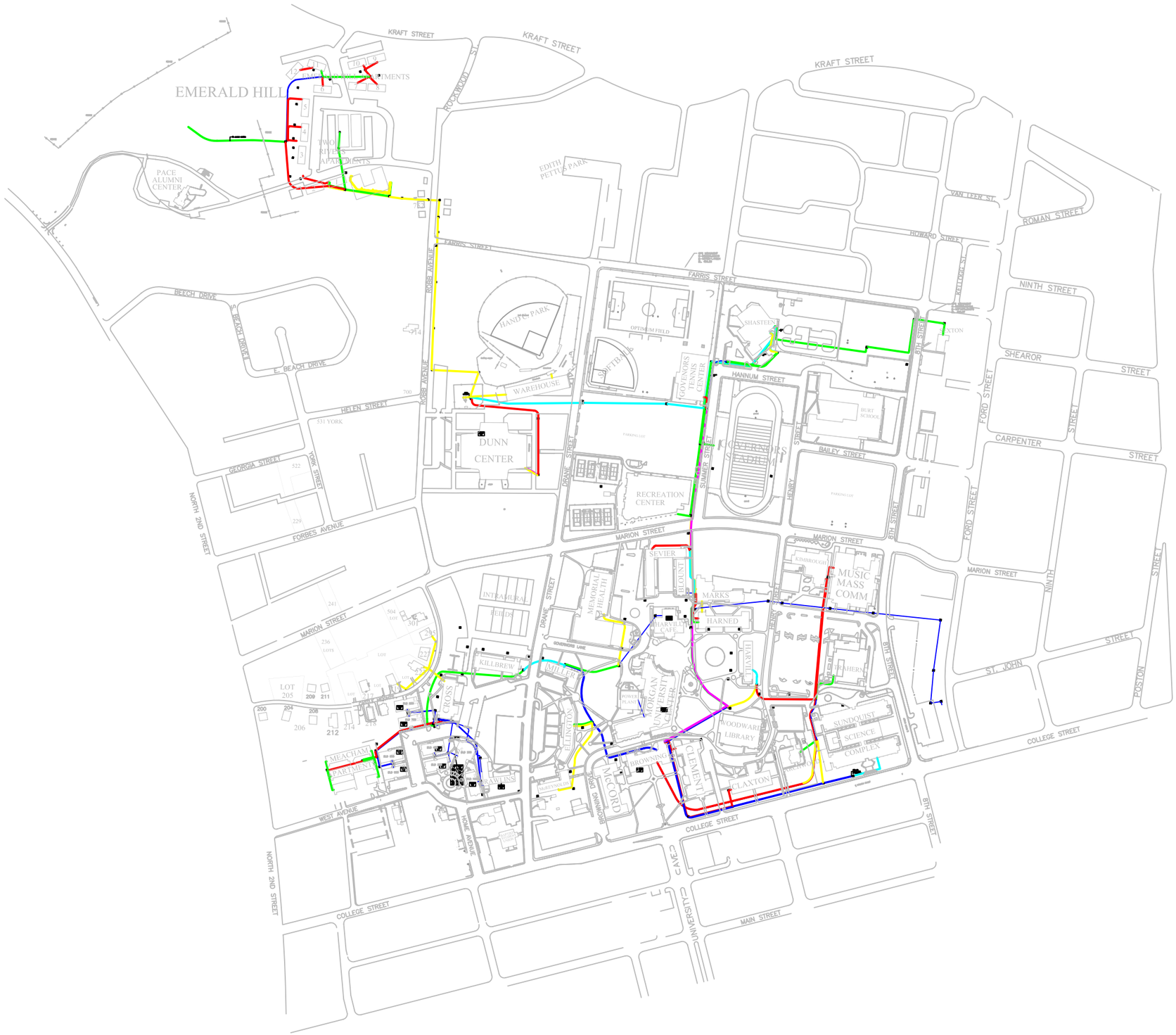
ICT PROJECT No. JOB#206435

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

APRIL 2007

III.B.6 figure 1



TELECOM SITE PLAN

COPPER PLANT

Legend:

	COLOR
12–24	12 PAIR 24 AWG 1
25–24	25 PAIR AWG 2
50–24	50 PAIR 24 AWG 3
75–24	75 PAIR 24 AWG 4
100–24	100 PAIR 24 AWG 5
150–24	150 PAIR 24 AWG 6
200–24	200 PAIR 24 AWG 1
300–24	300 PAIR 24 AWG 2
400–24	400 PAIR 24 AWG 3
600–24	600 PAIR 24 AWG 4
900–24	900 PAIR 24 AWG 5
1200–24	1200 PAIR 24 AWG 6

I.C.Thomasson Associates, Inc.
CONSULTING ENGINEERS
2950 KRAFT DRIVE, SUITE 500
NASHVILLE, TENNESSEE 37204
PHONE (615) 346-3400
FAX (615)346-3550
www.icthomasson.com
ICT PROJECT No. JOB#206435

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

APRIL 2007

III.B.6 figure 2

TELECOM SITE PLAN

FIBER OPTIC PLANT

legend:
fiber optic linetypes

color	
6SM — 6SM	1
6MM–6SM	2
12MM–6SM	3
18MM–6SM	4
12MM–12SM	5
24MM–24SM	6
12SM–36MM	1
36MM–36SM	2

I.C.Thomasson Associates, Inc.

CONSULTING ENGINEERS
2950 KRAFT DRIVE, SUITE 500
NASHVILLE, TENNESSEE 37204
PHONE (615) 346–3400
FAX (615)346–3550
www.icthomasson.com

ICT PROJECT No. JOB#206435

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

APRIL 2007

III.B.6 figure 3

T e c h n i c a l M e m o r a n d u m

Date	April, 2007
Project	Austin Peay State University
Subject	III. Existing Campus Conditions B. Campus Infrastructure 7. Natural Gas
From	I.C. Thomasson Associates, Inc.
To	Austin Peay State University

The objective of this work is to discuss the condition and capability of the existing natural gas distribution system.

1. Natural Gas

Natural gas is delivered to the campus by way of a 4" high pressure (100 psi) steel pipe running along Marion Street and various sizes of low pressure (45 psi) steel pipe in Farris, College, Drane, Summer, and Henry. Gas to the central plant comes through a 2" high pressure line that runs from Marion down Drane and then along Governor's Lane. Currently only a small number of buildings other than the central plant utilize natural gas. These include Marks, McCord, Claxton, Archwood, Shasteen, Music/Mass Communication, and the Warehouse. According to personnel at both Clarkesville Gas and APSU, all lines are in good shape and adequately sized with room for expansion.

GAS DISTRIBUTION

Legend:

- EXISTING GAS LINE
- PROPOSED GAS LINE TO NEW PLANT

I.C.Thomasson Associates, Inc.

CONSULTING ENGINEERS
2950 KRAFT DRIVE, SUITE 500
NASHVILLE, TENNESSEE 37204
PHONE (615) 346-3400
FAX (615)346-3550
www.icthomasson.com

ICT PROJECT No. JOB#206435

SCALE: 1"=100'-0"

APSU

AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

APRIL 2007

III.B.7 figure 1

T e c h n i c a l M e m o r a n d u m

Date February 2007

Project Austin Peay State University Master Plan

Subject III. Existing Campus Conditions
C. Community Settings
1. Regulatory Issues

From HGA, Inc.

To Austin Peay State University

The objective of this work element is to inform the planning team of regulatory issues which should be addressed by the physical master plan or which will influence its form, existing zoning and impact on development of the campus.

1. POLITICAL BOUNDARIES
The limits of Clarksville encompass approximately 95.5 square miles of land. With a population of 123,395 (2005) the city has a density of approximately 1,090 people per square mile. The APSU campus is located just north of the historic downtown, east of the Cumberland River.

Refer to Part III.A.1 Memorandum, for more information regarding Physical Setting.

2. REGULATORY REQUIREMENTS
Board of Regents property is exempt from local zoning and building code regulations and must comply with state codes (refer to Part III.A.3 Memorandum). The Clarksville-Montgomery County Regional Planning Commission (RPC) is responsible for recommendations concerning the rezoning of land and the proper subdivision of new developments in the city and county. Construction is governed by the Southern Building Code. Inspections are performed by the building inspector in both the city and county. The building inspector does not review construction at APSU.

3. ADJACENT PROPERTIES
Land use activites surrounding the APSU campus are discussed in Part III.A.1 Campus Physical Setting Memorandum.

4. ADJACENT PARCELS ISSUES
Land adjacent to APSU that has the most potential to change in terms of land use is the land along College Street south and east of campus. The area, which is zoned commercial, has received development speculation which would convert the auto related uses to parking lots or private university student housing. Future development in this area of campus should take into consideration the surrounding speculative development nature of it commercial land use.

5. ADA COMPLIANCE
This subject is covered in Part III.A.4 Memorandum.

T e c h n i c a l M e m o r a n d u m

Date February 2007

Project Austin Peay State University Master Plan

Subject III. Existing Campus Conditions
C. Community Setting
2. Environmental Issues

From HGA, Inc.

To Austin Peay State University

The objective of this work element is to inform the planning team of areas of concern and environmental regulations, which affect the development of the campus.

1. NATURAL RESOURCES
Natural systems on campus are described in Part III.A.1 Memorandum, regarding topography, water systems, vegetation, and soils.

2. HAZARDOUS ENVIRONMENTAL CONDITIONS
No known hazardous environmental conditions are adjacent to the FVSU campus.

3. RESOURCE PROTECTION
Historic campus resources are protected in a variety of ways. As discussed in Part I.A. Memorandum, historic structures on campus are subject to the regulations of the Historic National Register and State Register. There are no known threatened or endangered species on campus. Logging, agriculture, and development in the past 100 years have disturbed all campus property. Refer to the following Environmental Issues Figure 1.

4. STORMWATER QUALITY
This subject is discussed in Part III.B.3 Memorandum.

5. FLOOD ZONES
The majority of campus lies within “Zone C”, according to the national Flood Insurance Program, Flood Insurance Rate Map for the City of Clarksville, TN - Community Panel # 470137 0010C dated (June 15, 1984). Zone C is defined as “Areas of minimal flooding.”

The only areas outside of Zone C are in the northwest corner of campus at the base the Emerald Hill area, just east of North 2nd Street. The area is identified as Zone “A16” and Zone “B”, according to the Flood Insurance Rate Map – Community Panel # 470137 0008C dated (June 15, 1984). Zone A16 is defined as “Areas of 100-yr flood, base flood elevations and flood factor hazards determined”. Zone B is defined as “Areas between the limits of the 100-yr flood and 500-yr flood; or certain areas subject to 100-yr flooding with average depths less than one (1) foot or where the contributing drainage areas is less than one square mile; or areas protected by levees from the base flood.

6. WETLANDS

There are no identified wetlands on APSU property, as shown on the National Wetlands Inventory. The wetlands have been mapped by aerial photographic interpretation, and no ground-based delineation has been done. On-site delineation should be completed in suspect areas to determine exact limits of wetlands prior to any land disturbing activity.

Refer to the following Existing Environmental Issues Figure 1.

existing environmental issues

Legend:

- Steep Slopes
- Wooded Areas
- Sinkhole

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

SEPTEMBER 2006

hga.

III.C.2 figure 1

T e c h n i c a l M e m o r a n d u m

Date June 2007

Project Austin Peay State University Master Plan

Subject IV. Future Campus Requirements
A. Executive Summary and Introduction

From HGA, Inc. / Paulien & Associates, Inc.

To Austin Peay State University

EXECUTIVE SUMMARY

The space needs analysis found Austin Peay to have an existing space deficit of approximately 138,000 assignable square feet (ASF) when comparing guidelines to actual space, excluding housing. The targeted enrollment level at APSU is 10,000 headcount. When the projected assignable square footage is compared to target guidelines, the deficit is projected to increase to 279,000 ASF or a 35% space shortage, excluding housing.

While the Space Needs Analysis does not take into consideration quality or age of facilities, APSU has some unique challenges concerning these issues. Many of Its facilities are aging and are being renovated for functions never intended in the space (i.e., renovated dormitories). It has a major academic building that appears to be rapidly deteriorating, and a library that is woefully undersized for a liberal arts college. Additionally, there is no flex space available with which to start major renovations.

In order for Austin Peay to recruit potential students, increase retention, and attract quality faculty, APSU will have to stay competitive in the marketplace. This requires the University to incorporate facilities which possess amenities contemporaneous with the expectations of students and faculty alike.

FALL 2006 BASE YEAR (refer to Table 1)

- At current enrollment and staffing levels APSU shows an 18% deficit of non-residential space (138,100 ASF). Assignable square footage is defined as the usable space inside classrooms, laboratories, offices, etc. It does not include circulation and building service space or the thickness of walls. For most types of space, gross square footage is 30% to 40% more than assignable square feet.
- The Academic space categories show a deficit of 36,800 ASF over existing space. Academic Support space categories also show a space shortage of 37,500 ASF. Auxiliary space excluding residential space, has a deficit of 63,700 ASF.
- The space categories with the greatest space needs include:

  Athletics with a deficit of 47,500 ASF
  Library space with a 28,800 ASF deficit
  Teaching Laboratories with a 18,500 ASF deficit

Student Center space with a deficit of 15,600 ASF

- On the average, Austin Peay's 54 classrooms have scheduled use of 33 hours per week with a 68% student station occupancy rate. While the McCord Building's classrooms came back online for Fall 2006, there is a disconnect between the course data and inventory file. In order to not distort the utilization findings, the eight (8) McCord classrooms are excluded from the utilization analysis.
- The 59 teaching laboratories are utilized between 17 and 22 hours per week at a 51% student station occupancy rate.

Table 1: Space Needs Analysis

	Fall 2006 Student Headcount = 7,648 *Student FTE = 6,558*				10,000 Student Headcount *Student FTE = 8,575*			
SPACE CATEGORY	**Existing ASF**	**Guideline ASF**	**Surplus/ (Deficit)**	**Percent Surplus/ (Deficit)**	**Projected Existing ASF**	**Guideline ASF**	**Surplus/ (Deficit)**	**Percent Surplus/ (Deficit)**
Academic Space								
Classroom & Service	57,948	65,146	(7,198)	(12%)	57,948	84,100	(26,152)	(45%)
Teaching Laboratories & Service	93,143	111,665	(18,522)	(20%)	93,143	143,257	(50,114)	(54%)
Open Laboratories & Service	25,897	32,791	(6,894)	(27%)	25,897	42,875	(16,978)	(66%)
Research Laboratories & Service	16,022	16,150	(128)	(1%)	16,022	21,000	(4,978)	(31%)
Offices & Service	169,952	161,020	8,932	5%	169,952	194,380	(24,428)	(14%)
Physical Education & Recreation	44,281	57,290	(13,009)	(29%)	97,074	67,375	29,699	31%
Academic Space Subtotal	*407,243*	*444,062*	*(36,819)*	*(9%)*	*460,036*	*552,987*	*(92,951)*	*(20%)*
Academic Support Space								
Library	49,398	78,245	(28,847)	(58%)	49,398	97,701	(48,303)	(98%)
Assembly & Exhibit	45,197	36,798	8,399	19%	45,197	48,902	(3,705)	(8%)
Physical Plant	32,938	36,508	(3,570)	(11%)	32,938	50,755	(17,817)	(54%)
Other Department Space	52,074	65,580	(13,506)	(26%)	52,074	85,752	(33,678)	(65%)
Farm	15,197	15,197	0	0%	15,197	15,197	0	0%
Academic Support Space Subtotal	*194,804*	*232,328*	*(37,524)*	*(19%)*	*194,804*	*298,307*	*(103,503)*	*(53%)*
SUBTOTAL	**602,047**	**676,390**	**(74,343)**	**(12%)**	**654,840**	**851,294**	**(196,454)**	**(30%)**
Auxiliary Space								
Athletics	102,541	150,000	(47,459)	(46%)	102,541	150,000	(47,459)	(46%)
Student Union	43,414	59,022	(15,608)	(36%)	43,414	77,175	(33,761)	(78%)
Health Care Facilities	1,309	1,967	(658)	(50%)	1,309	2,573	(1,264)	(97%)
Auxiliary Space Subtotal	*147,264*	*210,989*	*(63,725)*	*(43%)*	*147,264*	*229,748*	*(82,484)*	*(56%)*
CAMPUS TOTAL	**749,311**	**887,379**	**(138,068)**	**(18%)**	**802,104**	**1,081,042**	**(278,938)**	**(35%)**
Inactive/Conversion Space	*28,977*				*28,977*			
Residence Life	*394,998*				*394,998*			

ASF = Assignable Square Feet

PLANNING TARGET – 10,000 STUDENT HEADCOUNT (refer to Table 1)

- APSU shows an overall need for an additional 278,900 ASF of space excluding housing. This is a 35% deficit in square footage when comparing guideline assignable square feet to projected existing assignable square feet on campus.

- The Academic space categories show a need for 93,000 ASF over projected existing space. Academic support space categories show a deficit of 103,500 ASF. Auxiliary space excluding residential space, shows a deficit of 82,500 ASF.
- The space categories with the greatest space needs include:

  Teaching Laboratories with a deficit of 50,100 ASF
  Library with a 48,300 ASF deficit
  Athletics with a deficit of 47,500 ASF
  Student Center with a 33,800 ASF deficit

INTRODUCTION

Paulien & Associates, Inc. was contracted to examine the space needs at Austin Peay's main campus. The major responsibility of Paulien & Associates, Inc. is to:

- apply appropriate space guidelines to determine current and future space needs; and
- compare projected space needs to the existing and projected existing facilities.

The operating assumption is to provide APSU with a reasonable amount of space to conduct its current and projected activities. The study was conducted on a campuswide basis. The base year is Fall 2006 and the one planning target for which this analysis was conducted is 10,000 Student Headcount. Paulien & Associates was provided detailed data files containing the facilities inventory, course, and staffing data by APSU representatives. Meetings were held with the deans and vice presidents on the campus to become familiar with the unique needs of the colleges and administrative units. In addition, visits were made to various spaces throughout the campus to gain familiarity with campus facilities.

The facilities inventory provided by APSU did not have a departmental coding for every room. The facilities inventory provides building, square footage, room use, and some program information on a room–by–room basis.

The course data contains the course number and description, enrollment, start and stop times, meeting location, and program on a section–by–section basis. The course data was used to study current classroom and teaching laboratory utilization. It was also used to project classroom and teaching laboratory space needs. The enrollment projections were applied on a course by course basis to the weekly student contact hours.

The staffing data contains the headcount, employee title, and EEO and IPEDS job category on a departmental basis. The detailed staffing file was used to project existing and future office needs. Growth percentages were applied by program to the subtotaled headcounts of each job category in order to project faculty and staff for the target planning scenarios.

Space Categories Used in the Analysis

The space categories used in this analysis are not based solely on room use codes but on functional as well as departmental assignments. Furthermore, space guidelines are not applied purely by room use code but are sometimes based on multiple room use codes and by intended functions. Some examples are (numbers in parentheses refer to room use codes):

- ***Library Space*** – Library guidelines encompass the 400 series room use codes as well as office space (300's), lounge space (650), and sometimes classrooms (110) and open computer laboratories (220). Most library guidelines do not apply to departmental libraries, unless the library is a professional library (i.e., like music, law, and medical libraries) that is staffed on a full-time basis. Library office space is included in the service space portion of the library guideline; and therefore, library staff headcounts or ftes are not used to generate library office space and are omitted in the office guideline analysis. Small departmental libraries are included in "Other Academic or Administrative Department Space" and not in the "Library" category and are not used to offset the library guideline space needs.
- ***Lounge spaces*** (650) used for the student body at-large are typically included in the student center/union guideline along with food facilities (630's), meeting room space (680's), merchandising (660's), recreational rooms (670's), and student activity/ government offices (300's). But not all facilities with the above room use codes should be used to offset the student center/union guideline. Lounge spaces used for faculty, administrative personnel, or specific student groups are counted in "Other Academic or Administrative Department Space". Food facilities used for closed faculty dining should not be counted towards student center/union space.
- ***Classrooms*** (100's) and teaching laboratories (210's) used for regular instruction but not for instruction that is traceable through the registrar's course database or other specific records should not be counted with classroom and teaching laboratory space. The reason is that the justification for these rooms cannot be measured through weekly student contact hours or student credit hours. One could argue that these rooms should then be recoded as another room use.

To the degree possible, each space category definition is provided in Sections 4B3 along with a description of the guideline used. The primary source of the guidelines applied in this analysis is the Council of Educational Facility Planners, International, July 1985, Space Planning Guidelines (CEFPI). For some space categories, CEFPI does not have appropriate guidelines and the consultants used other methods for determining the space needs for that category.

Limitations of Analysis

The consultants analyzed campus data provided by Austin Peay State University for staffing, course, and facilities information. The data provides a "snapshot in time" of staff, course enrollments, and facilities at the University. As with other large institutions that the consultants have studied, many changes are occurring simultaneously on a continuous basis. Of necessity, all these analyses are "snapshots in time," but nevertheless, are consistently used as valuable tools for institutional planning.

The Space Needs Analysis is a quantitative analysis only. All permanent existing space is counted regardless of its quality or suitability. Estimated square footages are used for buildings currently under construction or renovation. Because several rooms in the facilities inventory have multiple functions (i.e., one room containing a reception space, clerical workstation, storage, and filing), it is impossible to accurately distribute the existing space among the appropriate room use and functional categories. However, the proposed area calculations are distributed among the room use and functional categories. Therefore, the relationship between existing space and proposed guideline space for

individual categories should be considered as rough comparisons. The only true comparison is between a unit's total existing space and proposed guideline space.

Space needs analysis for the purpose of master planning is a process that estimates space amounts likely to be needed by various units of an institution at current and projected enrollment, staffing, and activity levels. Reliability of the findings of any space needs study depends on several factors including the quality of the data, the appropriateness of the space standards used, and the validity of the projections. Data used in this study was updated and refined to a high level of accuracy and currency. Future projections of enrollment and research levels were carefully developed. The consultants, therefore, believe that the findings and recommendations of this study may be considered reliable and may be used with confidence by the University for its campus master planning effort. Throughout this study, space amounts are rounded for reading ease.

The study was conducted at a campuswide level and was intended for use within the context of master planning. This study was not intended to replace program plan level analysis.

Unless otherwise noted, all findings are in assignable square feet (ASF). ASF is defined as the area measured within the interior walls of a room that can be assigned to a program. It does not include circulation, mechanical, or building service spaces. Converting assignable space to gross square feet usually adds about 35% to 40% to the assignable space.

T e c h n i c a l M e m o r a n d u m

Date June 2007

Project Austin Peay State University Master Plan

Subject IV. Future Campus Requirements
B. Space Needs
1. Student Enrollment Assumptions

From HGA, Inc. / Paulien & Associates, Inc.

To Austin Peay State University

---

1. STUDENT ENROLLMENT ASSUMPTIONS

Austin Peay State University's enrollment has been steadily increasing over the last five years. The on-campus enrollment goal is 10,000 headcount students – a 31% increase. In conjunction with increasing its enrollment, a stated objective in APSU's Strategic Plan is that APSU will strengthen admission standards and continue to expand the university's geographic reach in attracting first-time freshmen and transfers. Specific activities and initiatives:

1. Continue enrollment growth trends and geographic reach while increasing the quality of the student body.
2. Attain optimal enrollment based on revised and more selective admissions policies while retaining access and ensuring success of underprepared students through conditional admission strategies.

The enrollment projections anticipate no real change in the current undergraduate graduate mix. Additionally, Student FTE was projected using the Fall 2006 FTE/headcount ratio.

Table 1: Enrollment Projections

	Fall 2006 Enrollments	Target Year
Student Headcount	**7,648**	**10,000**
Undergraduate	*6,908*	*9,032*
Graduate	*740*	*968*
Student FTE	**6,558**	**8,575**
Undergraduate	*6,105*	*0*
Graduate	*453*	*1*
Percent Increase		**31%**

NOTE: Fort Campbell student enrollment is excluded from these figures.

The enrollment projections are the foundation for all projected classroom and laboratory space needs and any other space needs based upon total number of headcount or FTE's.

T e c h n i c a l M e m o r a n d u m

Date June 2007

Project Austin Peay State University Master Plan

Subject IV. Future Campus Requirements
B. Space Needs
2. Faculty and Staff Projections

From HGA, Inc. / Paulien & Associates, Inc.

To Austin Peay State University

---

1. FACULTY AND STAFF PROJECTIONS

On average, faculty and staff growth will be constant with student growth. Key trends highlighted include:

- No change in the percentage of part-time Faculty to full-time Faculty
- Maintain existing Faculty/Student ratios

Enrollment projections were provided as campus wide totals – a 31% increase for the target year. If existing faculty student ratios are to be maintained, then faculty will need to grow at the same rate as student enrollments. Staff growth is factored at half the rate of the faculty growth (15.5%).

The growth percentages were applied at a detailed level to the staffing file supplied by the University. The actual staff growth rate is lower than the 15.5% projected increase (half of the faculty growth rates). Because there are specific employee positions/titles that are not projected to grow the overall staff growth rate is eight percent (10%). These positions are in the executive/administrative classification and include the president, vice presidents, deans, chief officers, chairs and directors. The overall faculty and staff growth is approximately 19.5%.

Table 1: Staffing Projections

	Fall 2006	Target Year
Faculty/Staff Headount	**905**	**1,082**
Faculty	*464*	*604*
Staff	*441*	*478*
Faculty/Staff FTE	**808**	**967**
Faculty	*377*	*492*
Staff	*431*	*475*

T e c h n i c a l M e m o r a n d u m

Date June 2007

Project Austin Peay State University Master Plan

Subject IV. Future Campus Requirements
B. Space Needs
3. Space Needs Analysis

From HGA, Inc. / Paulien & Associates, Inc.

To Austin Peay State University

CLASSROOM ANALYSIS

Classrooms are defined as any room generally used for scheduled instruction requiring no special equipment and referred to as a "general purpose" classroom, seminar room, or lecture hall. Classroom service space directly supports one or more classrooms as an extension of the classroom activities by providing media space, preparation areas, or storage. The classroom station size includes the classroom service area space; however, additional service space can be justified on a program or classroom basis.

CLASSROOM UTILIZATION

Process

Utilization of classrooms was reviewed using Fall 2006 course and facility data. Understanding how classrooms scheduled and utilized provides the foundation for and assists in the formulation of the classroom guideline application.

The utilization analysis includes scheduled classroom use by day and time of day, as well as classroom utilization analyzing weekly room hours of use and student station occupancy percentage. The information is used to guide the space needs analysis component in the overall master planning process.

Utilization for a room is determined by calculating the average enrollment of the courses taught in the room along with the total weekly student contact hours, weekly room hours, and its student station occupancy percentage. Weekly student contact hours are calculated by multiplying the enrollment of a course by the weekly contact or room hours that the course is held. Weekly room/contact hours are determined by calculating the number of hours a course meets (start and end times) and multiplying the result by the number of days the course meets each week. Both of these factors are totaled on a room-by-room basis. If a course does not meet for a full term, the number of hours is prorated by the number of weeks in a semester. The student station occupancy for a room is determined by dividing the room's weekly student contact hours by the room's weekly student contact hour capacity (a course's weekly contact hours times the room's number of student stations). This study did not include analysis of quality of space, sight lines, acoustics, or equipment in rooms.

WEEKLY ROOM/CONTACT HOURS (WRH OR WCH) = No. of Days X ((End Time - Start Time)/60)
WEEKLY STUDENT CONTACT HOURS (WSCH) = Students X Weekly Room/Contact Hours
WEEKLY STUDENT CONTACT HOUR CAPACITY = Student Stations X Weekly Room/Contact Hours
STUDENT STATION OCCUPANCY % = WSCH / WSCH Capacity

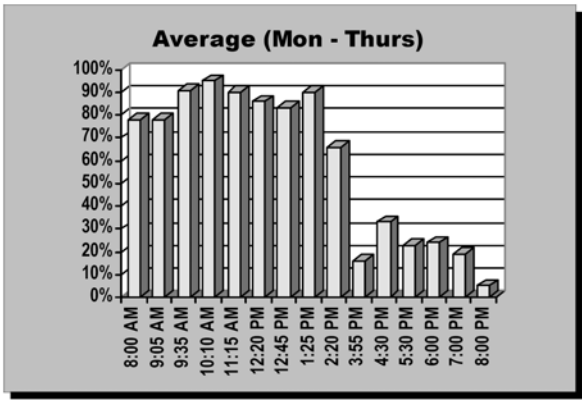
The McCord Building

McCord was under renovation and was available for use for the fall 2006 semester. However, the McCord room data is consistent with the course data file. According to the data files provided, the classrooms in McCord were scheduled an average of ten (10) weekly room hours (WRH) thus lowering the campuswide average by approximately 20%. Therefore in order to depict a somewhat accurate picture of classroom utilization, the eight (8) classrooms in McCord have been excluded from the utilization analysis.

Scheduled Classroom Use by Day and Hour

For purposes of this analysis, Austin Peay has a total of 54 classrooms. McCord was under renovation and was available for use for the fall semester. However, the McCord room data is consistent with the course data file. Therefore in order to depict a somewhat accurate picture of classroom utilization, the McCord classrooms have been excluded from the utilization analysis. The number of classrooms in use from Monday through Friday by hour shows that peak start times are from 8:00 AM to 1:25 PM. At a few times during this timeframe 100% of the classrooms are scheduled. Many campuses show lower use of classrooms on Friday afternoons. APSU maintains a consistent level of classroom use Monday through Friday with a much later dip in classroom usage, starting at 2:20 PM. There is no scheduled activity on the weekends.

AVERAGE PERCENT OF CLASSROOMS IN USE



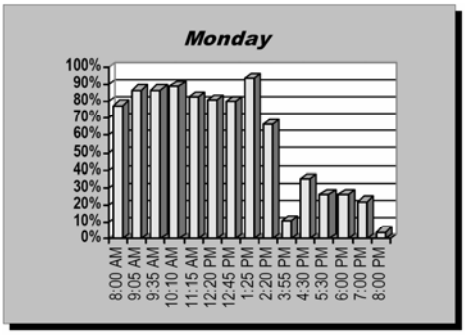
The following table and graphs illustrate the classroom use by hour for each day of the week. The average percent of classrooms in use is based on Monday through Thursday and excludes Friday. Including Friday in the average distorts how well the rooms are scheduled Monday through Thursday and does not reflect scheduling trends.

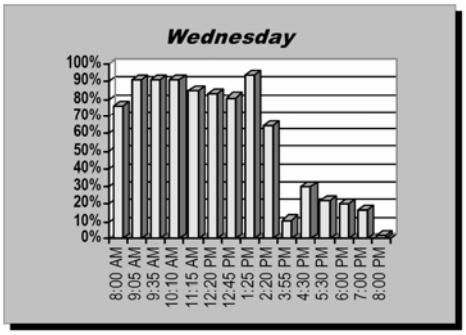
Table 1: Scheduled Classroom Use by Day and Hour

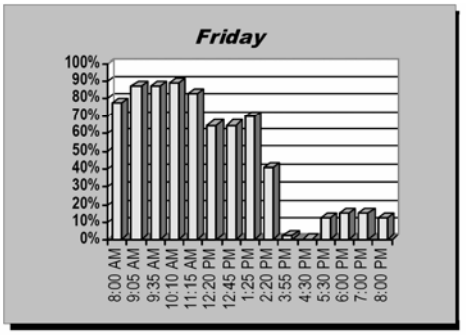
Time of Day	Monday		Tuesday		Wednesday		Thursday		Friday		Average*	
	Rooms in Use	% In Use	Rooms in Use	% In Use	Rooms in Use	% In Use	Rooms in Use	% In Use	Rooms in Use	% In Use	Rooms in Use	% In Use
8:00 AM	42	78%	43	80%	41	76%	42	78%	42	78%	42	78%
9:05 AM	47	87%	36	67%	49	91%	37	69%	47	87%	42	78%
9:35 AM	47	87%	51	94%	49	91%	50	93%	47	87%	49	91%
10:10 AM	48	89%	54	100%	49	91%	54	100%	48	89%	51	95%
11:15 AM	45	83%	51	94%	46	85%	53	98%	45	83%	49	90%
12:20 PM	44	81%	47	87%	45	83%	49	91%	35	65%	46	86%
12:45 PM	43	80%	45	83%	44	81%	48	89%	35	65%	45	83%
1:25 PM	51	94%	45	83%	51	94%	48	89%	38	70%	49	90%
2:20 PM	36	67%	37	69%	35	65%	34	63%	22	41%	36	66%
3:55 PM	6	11%	12	22%	6	11%	10	19%	1	2%	9	16%
4:30 PM	19	35%	21	39%	16	30%	16	30%	0	0%	18	33%
5:30 PM	14	26%	13	24%	12	22%	10	19%	7	13%	12	23%
6:00 PM	14	26%	14	26%	11	20%	12	22%	8	15%	13	24%
7:00 PM	12	22%	11	20%	9	17%	9	17%	8	15%	10	19%
8:00 PM	2	4%	4	7%	1	2%	4	7%	7	13%	3	5%

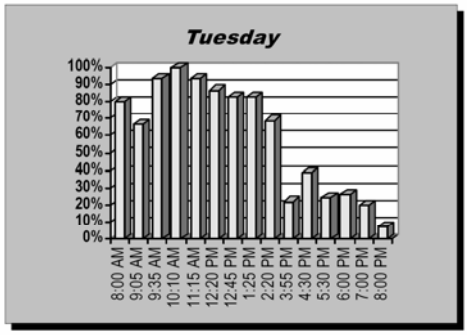
Note: Based on total classrooms of 54

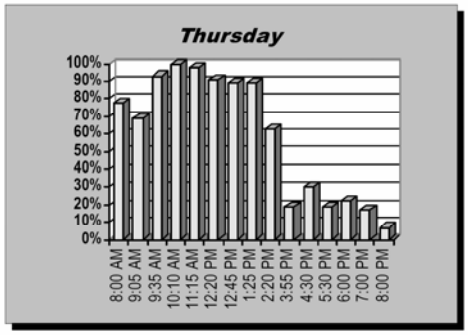
* Based upon the consultant's experience, Friday is typically underutilized, therefore the average is calculated on Monday thru Thursday use.











Classroom Utilization Analysis by Room Capacity

The consultants maintain a database of the different utilization expectations various states and systems use. The CEFPI Planning Standards are comparable to these utilization expectations. APSU uses its 54 classrooms slightly more than CEFPI's weekly room hour expectation of 30 hours per week. When the classrooms are in use, the student station occupancy exceeds the CEFPI standard expectation of 67%.

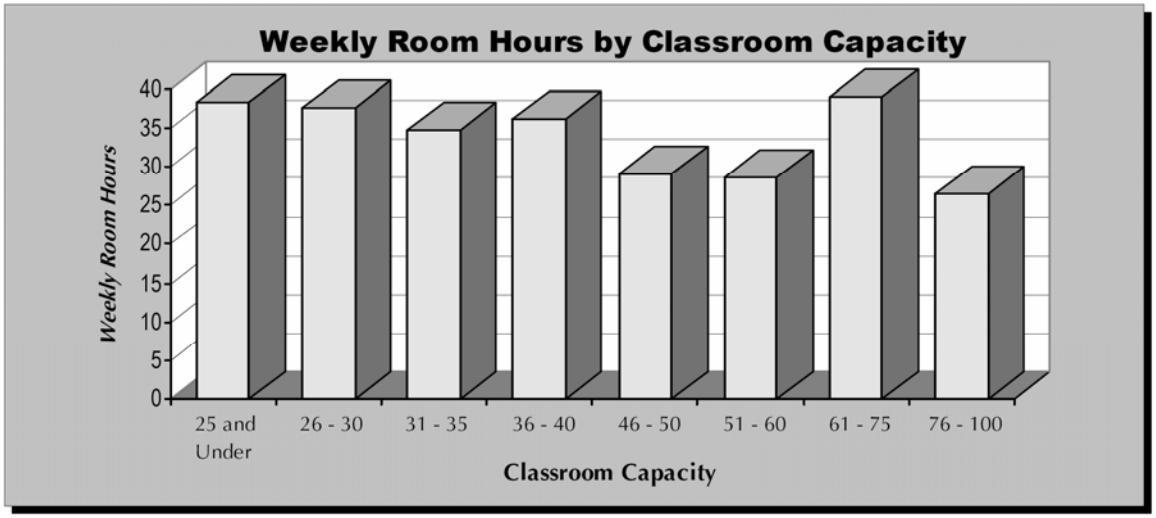
	Weekly Room Hours	Student Station Occupancy Percentage
Average of Guidelines	35	64%
Median	32	65%
Most Used Guideline	30	60%
Planning Standards used in Analysis	32	67%
Austin Peay State University	**33**	**68%**

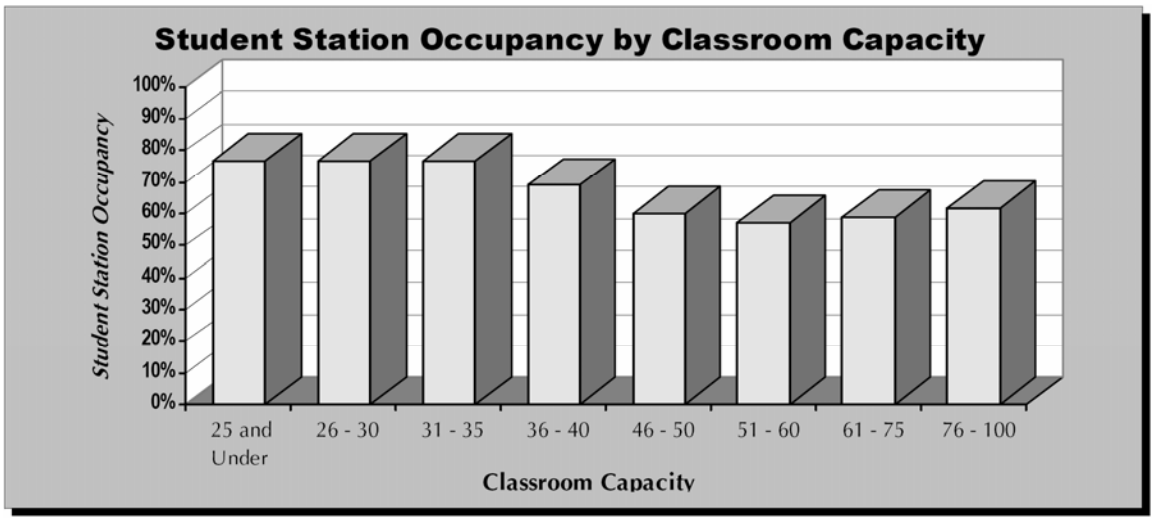
When reviewing the classroom utilization by room capacity, the classrooms with the greatest utilization are in the 61-75 capacity group. This one (1) room is scheduled the most at 39 hours per week per week at a 59% student station occupancy rate. While the overall average is 33 hours per week over 72% of the rooms have over 38 hours of scheduled use. The capacity grouping with the lowest utilization are the two classrooms in the 76 -100 group.

The graphs on the following page illustrate a common trend. Smaller classrooms typically are not scheduled as much as the larger classrooms, so as the capacity of the classrooms increase so do the weekly room hours. Conversely, smaller classrooms tend to have a greater student station occupancy ratio while the larger rooms have a lower student station occupancy ratio.

Table 2: Classroom Utilization by Room Capacity

Room Capacity	No. of Rooms	Average Room Size	Average ASF per Station	Average Section Size	Average Weekly Room Hours	Hours in Use Student Station Occupancy %
25 and Under	3	437	20	17	38	77%
26 - 30	7	571	21	21	38	77%
31 - 35	9	686	20	26	35	77%
36 - 40	10	749	20	25	36	69%
46 - 50	15	1,142	24	28	29	60%
51 - 60	7	1,166	21	30	29	57%
61 - 75	1	1,482	20	43	39	59%
76 - 100	2	2,341	23	63	27	62%
AVERAGE		**934**	**22**	**27**	**33**	**68%**
TOTAL	**54**					



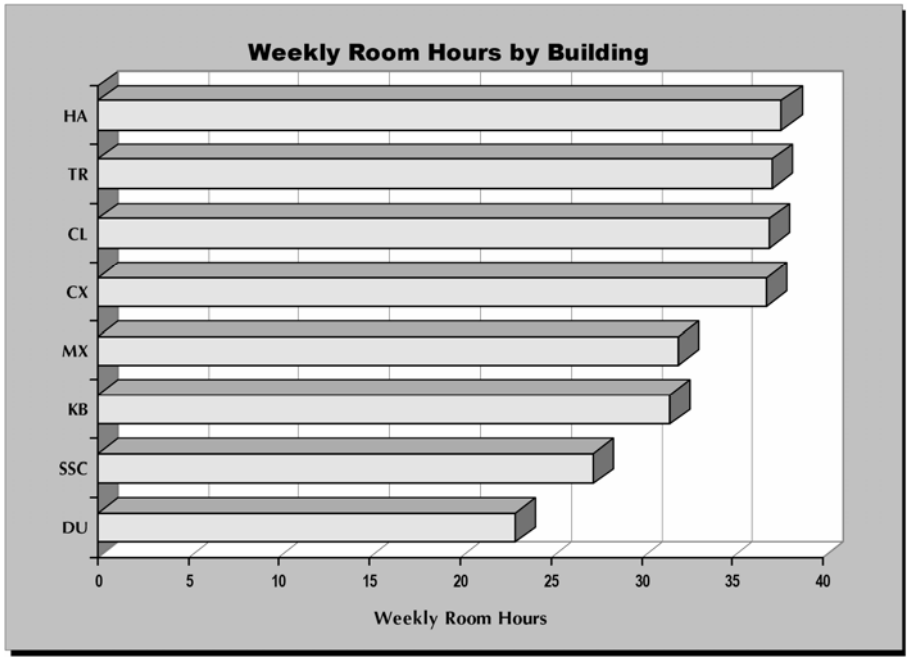


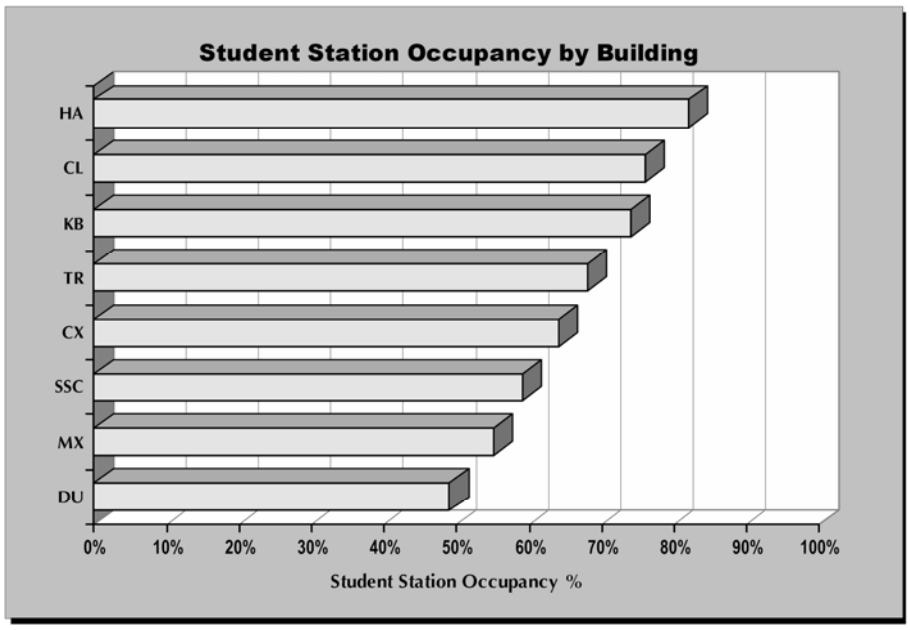
Classroom Utilization Analysis by Building Summary

The seven (7) classrooms in Harned are utilized an average of 38 hours per week at a student station occupancy of 82%. The two buildings with the lowest average weekly room hour usage are the Dunn Center and Sundquist Science Complex at 23 and 27 hours respectively. The tables and charts on the following page show the utilization for all buildings.

Table 3: Classroom Utilization by Building

Building Name and Id		No. of Rooms	Average Room Size	Average ASF per Station	Average Section Size	Average Weekly Room Hours	Hours in Use Student Station Occupancy %
Ben S Kimbrough	*KB*	8	820	20	29	32	74%
Claxton	*CX*	11	890	21	26	37	64%
Clement Building	*CL*	8	692	20	26	37	76%
Dunn Center	*DU*	5	1,215	24	24	23	49%
Harned Hall	*HA*	7	564	20	23	38	82%
Marks	*MX*	2	856	20	23	32	55%
Sundquist Science Complex	*SSC*	10	1,411	24	34	27	59%
Trahern Building	*TR*	3	897	20	28	37	68%
	AVERAGE		**934**	**22**	**27**	**33**	**68%**
	TOTAL	**54**					





CLASSROOM SPACE NEEDS ANALYSIS

The CEFPI guideline specifies a classroom utilization goal of 32 hours of use per week at 67% student station occupancy. The guideline also calls for 15 ASF as the average classroom station size. This guideline was developed in 1985 when tablet armchair classrooms predominated and it is significantly lower than what many of today's active classrooms require. Classrooms that have good sight lines which are required by technology and flexible seating arrangements usually average between 20 and 25 ASF per student station. For this analysis, the consultants used 25 ASF per student station for classrooms.

Classroom space requirements were determined by a formula that takes the target utilization of hours per week, multiplies it by the average student occupancy target, and divides the result into the specified ASF per student station. This calculation produces a guideline of .995 ASF per weekly student contact hour for classrooms. Assignable square feet per weekly student contact hour (ASF/WSCH) is calculated as follows:

Lecture Guideline per Weekly Student Contact Hour (WSCH):

$$\frac{\text{25 ASF/STATION}}{\text{32 WEEKLY ROOM HOURS X 67\% STUDENT STATION OCCUPANCY}} = \text{1.17 ASF/WSCH}$$

For seminar rooms a similar calculation was made. CEFPI recommends 25 hours per week at 62.5% student station occupancy and 20 ASF per student station. For the reasons stated earlier, the consultants adjusted the square footage guideline to 25 ASF per student station. These factors produce a guideline that is equal to 2.0 ASF per weekly student contact hour.

As further explanation, the total number of weekly student contact hours for a lecture course section is obtained by multiplying the enrollment of the course section by the number of meeting hours in one week. For example: a history course with 70 students enrolled which meets three (3) times a week for one hour produces 210 weekly student

contact hours (WSCH). Multiplying the 210 weekly student contact hours by the classroom guideline of 1.17 ASF per WSCH generates 245 ASF of classroom space.

EXAMPLE OF CLASSROOM GUIDELINE APPLICATION:

Step 1 • Calculate Weekly Student Contact Hours for Lecture Section
Enrollment (70) X Weekly Room Hours (3) = Weekly Student Contact Hours (210)

Step 2 • Calculate Classroom Guideline

$$\frac{\text{25 ASF/Station}}{\text{32 Weekly Room Hours X 67\% Student Station Occupancy}} = \text{1.17 ASF/WSCH}$$

Step 3 • Calculate Guideline Square Footage
Weekly Student Contact Hours (210) X ASF/WSCH (1.17) = Guideline Square Footage (245)

The classroom guideline application for the University showed a deficit of 12%, approximately 7,200 ASF, which does reflect the classrooms in the McCord Building. The enrollment projection growth percentages were applied to the course data on a section–by–section basis by level to determine projected enrollments. At the target year, the deficit increases to 45% (26,200 ASF).

TEACHING LABORATORY ANALYSIS

Teaching Laboratories, are defined as rooms used primarily by regularly scheduled classes that require special purpose equipment to serve the needs of particular disciplines for group instruction, participation, observation, experimentation, or practice. Station sizes in teaching laboratories vary by discipline. Space requirements are calculated with a formula which is similar to that used to determine classroom space requirements, except that the ASF per student station varies by discipline.

The CEFPI space per student station guideline has approximately 50 different subject areas for which it provides teaching laboratory modules. The guideline space per station in each discipline includes service space for laboratories and takes into account the need for enough space for new paradigms in teaching methodology requiring collaborative learning environments such as mediated laboratories. CEFPI Guidelines indicate a standard of 80% student station occupancy. The weekly room hour standard varies by discipline.

The consultants reduced the weekly room hour expectations in certain disciplines based upon the program's ability to attain the utilization expectations. Program size and existing laboratory usage were also reviewed in making this decision. This review was conducted so that the teaching laboratory space needs would not be understated.

In addition to the above listed categories, the consultants used 20 hours per week for computer based laboratories used by many of the disciplines. These laboratories tend to be used and scheduled more like classrooms where a higher weekly room hour use can be achieved.

Table 5: Teaching Laboratory Guidelines

Lab Guidelines	ASF/ Station	Student Station Occupancy	Weekly Room Hours	ASF/WSCH
College of Arts & Letters				
Art	80	80%	20.00	5.00
Music	60	80%	20.00	3.75
Communications	50	80%	11.25	5.56
Dramatic Art / Theatre	150	80%	20.00	9.38
College of Professional Programs & Social Sciences				
Business	40	80%	20.00	2.50
Education	40	80%	20.00	2.50
Nursing	65	80%	20.00	4.06
Physical Education/Health	75	80%	20.00	4.69
Psychology	50	80%	20.00	3.13
Social Work	50	80%	20.00	3.13
Sociology	40	80%	20.00	2.50
College of Science & Mathematics				
Agriculture	80	80%	11.25	8.89
Biological Sciences	65	80%	20.00	2.50
Chemistry	75	80%	11.25	8.33
Computer Science & Information Technology	60	80%	20.00	3.75
Geology & Geography	60	80%	20.00	3.75
Mathematics & Computer Science	30	80%	20.00	1.88
Physics	75	80%	20.00	4.69
General Purpose • Computer based Lab	40	80%	20.00	2.50

At the base year, there is a 20% deficit of space – approximately 18,500 ASF. At the target year, the deficit increases to 50,100 ASF

Table 6: Teaching Laboratory Analysis

	Fall 2006		Target Year	
	Weekly Student Contact Hours	Guideline ASF	Weekly Student Contact Hours	Guideline ASF
College of Arts & Letters	13,280	51,221	17,035	65,621
College of Professional Programs & Social Sciences	3,675	10,096	4,724	12,982
College of Science & Mathematics	10,409	50,348	13,371	64,654
TOTAL	**27,364**	**111,665**	**35,130**	**143,257**

ASF = Assignable Square Feet

OPEN LABORATORY ANALYSIS

The category of open laboratory space (220's) consists of rooms that are open for student use and are not used on a regularly scheduled basis. These rooms provide equipment to serve the needs of particular disciplines for group instruction in informally or irregularly scheduled classes. Alternatively, these rooms are used for individual student

experimentation, observation, or practice in a particular field of study. The size of these laboratories is based on equipment size and/or on the station size and student count desired and should be determined on an individual basis. Types of rooms included in this category are computer laboratories, language laboratories, music practice rooms, and tutoring and testing facilities.

Open laboratories are not specifically addressed by the CEFPI guidelines. In recent benchmarking and consulting work with several statewide systems, the consultants found between five (5) and ten (10) ASF per student FTE allocated for space in this category. The consultants note that the amount of space APSU has classified in this category is approximately four (4) ASF per student FTE which is lower than the benchmarked range. For this analysis five (5) ASF per student FTE was used as the space standard. For Fall 2006, the analysis shows a deficit of 6,900 ASF, at the target year this deficit increases to 17,000 ASF. Some of the spaces not readily present on campus include collaborative learning areas. These spaces are becoming increasingly important to institutions, particularly at liberal arts institutions. There does not appear to be adequate art studios and senior capstone spaces across campus.

RESEARCH LABORATORY ANALYSIS

Research laboratories (250's) are rooms used for unscheduled laboratory experimentation or training in research methods and observation. The research may be conducted by either faculty or students for both funded and non-funded research. This room type does not have utilization expectations.

APSU has 16,000 ASF in research space split among Art, Biological Sciences, Chemistry, Physics, and Computer Science and Information Technology. The current amount of research space is inadequate to support Austin Peay's current mission much less having the resources to allow for future endeavors.

Determining research space needs is a complex issue which requires an examination of many different factors including, but not limited to, research expenditures, number of faculty conducting research, research space per expenditure dollar, space per faculty, etc. For this analysis, the consultants decided to apply research guidelines to programs that currently have research space (listed earlier).

The methodology used to determine research space needs was developed by the consultants based on space per faculty. The consultants have tested this model at many different universities with a great deal of confidence. The guidelines vary depending on the existing level of research and type of research lab space required by particular disciplines. The guidelines used and the guideline results are as follows:

Table 7: Research Analysis

	ASF/ Faculty	Fall 2006 No. of Faculty	Fall 2006 Guideline ASF	Target Year Projected No. of Faculty	Target Year Guideline ASF
College of Arts and Letters					
Art	50	23	1,150	30	1,500
College of Science and Mathematics					
Biological Sciences	300	29	8,700	38	11,400
Chemistry	300	8	2,400	10	3,000
Physics	300	8	2,400	10	3,000
Computer Science and Information Technology	300	5	1,500	7	2,100
	Subtotal	*50*	*15,000*	*65*	*19,500*
TOTAL		**73**	**16,150**	**95**	**21,000**

ASF = Assignable Square Feet

The consultant's method based on square footage per faculty generated approximately the amount of space currently identified as research space. The target year analysis shows a deficit of approximately 5,000 ASF.

The space requirements shown above are approximate. As research activity increases, research space needs should be re-examined based on the types of research programs. The objective of the research analysis is to point to the magnitude of need and bring to light the deficit in this space category.

OFFICE SPACE ANALYSIS (ACADEMIC AND ADMINISTRATIVE)

Process

The CEFPI guideline determines office space needs based on major categories of staff and application of space amounts for office service and conference space needs. Fort Valley State University provided staffing information by EEO and IPEDS job category for each college and major administrative unit. The consultants then applied the CEFPI guidelines to each major category. The amount of office space allotted to each position is specified based on the status and duties of the employee.

Table 8: Office Guidelines

Employee Type: *Applied per Headcount*	Office ASF	Conference ASF	Service ASF
Executive / Administrator	250	50	30
Faculty	140	20	30
Faculty req Studio Office	220	20	30
Professional	140	20	30
Technical/Paraprofessional	120	20	30
Clerical / Secretarial	120	20	30
Graduate Assistant	55	0	0
Student Workers	30	0	0
Skilled Crafts	0	0	0
Service Maintenance	0	0	0

CEFPI identifies certain units to receive an additional amount (80 ASF) of office space per headcount for extra office space or studio space. These units are Art and Music. The existing offices in the Music/Mass Communication building average 195 ASF per office while the average office size in the Trahern building is 162 ASF.

When viewing the guidelines for office space, it is important to note that many older buildings on campus have offices that are larger than the size specified by the CEFPI guidelines. Austin Peay has many old dormitories that have been renovated into office space. These buildings, Ellington, Harned, and Miller, average between 185 and 211 ASF per office. Campuswide, the average office size is 159 ASF whereas the most commonly used guideline is 140 ASF. When using the 140 ASF per office to calculate space needs and comparing the calculation to the average of 159 ASF per office of existing office space, the analysis under-represents the amount of space needed for offices and indicates a surplus of office space. If the guidelines were applied using the average size of existing offices the surplus would be reduced. It is necessary to balance the guidelines against the reality of the average size of existing offices when interpreting the results of this analysis for use in detailed program planning in new construction or renovation.

Because the entire facilities inventory file did not reflect the users of each space, it was not possible to break out the administrative offices needs from the academic office needs. Therefore the office needs are illustrated as a campuswide analysis.

Guideline Application

The units included in the Academic Office Analysis are the three Colleges and all programs under each college, plus the Office of the Vice President for Academic Affairs and all the units under its purview. The average office size is 161 ASF which is approximately 24% greater than the most used office guideline of 130 ASF.

The base year guideline analysis shows a surplus of 8,900 ASF which changes to a deficit of 24,400 at the target year. The Total Office Guideline column in Table 9 represents the total of all three guidelines, office, service, and conference room space.

Table 9: Office Analysis

Staffing Type	Total Office Guideline (Office + Service + Conference)	Fall 2006 Faculty & Staff FTE	Fall 2006 Faculty & Staff Headcount	Fall 2006 Total Guideline ASF	Target Year Faculty & Staff Headcount	Target Year Total Guideline ASF
Executive / Administrator	330	33.00	33	10,890	33	10,890
Faculty	190	323.50	398	75,620	519	98,610
Faculty (Studio Office)	270	42.50	55	14,850	72	19,440
Professional (Non-faculty)	190	145.50	148	28,120	160	30,400
Technical/Paraprofessional	170	13.00	13	2,210	14	2,380
Clerical / Secretarial	170	131.00	136	23,120	145	24,650
Student Workers	30		207	6,210	267	8,010
Student Workers (No Office Needed)	0		229	0	266	0
Library Personnel						
(Office Space included in the Library Guidelines)	0	24.50	25	0	29	0
Service / Maintenance Workers	0	68.00	70	0	80	0
Skilled Craft Workers	0	27.00	27	0	30	0
TOTAL		**808.00**	**1,341**	**161,020**	**1,615**	**194,380**
Existing ASF / Projected Existing ASF				*169,952*		*169,952*
Surplus/(Deficit)				**8,932**		**(24,428)**
Percent Surplus/(Deficit)				**5%**		**(14%)**

PHYSICAL EDUCATION AND RECREATION SPACE ANALYSIS

This category includes spaces that are coded in the 520's used by the general student population for recreation and health and physical education programs that are not dedicated to intercollegiate athletic programs. The consultants used the CEFPI guidelines to generate physical education and recreation space.

The CEFPI formula for physical education and recreation space uses a core of 20,000 ASF for the first 1,000 headcount students. An additional five (5) ASF per headcount is added to the base of 20,000 ASF for the students over the first 1,000. If the headcount enrollment is over 2,000 then the Student FTE is substituted for the student headcount. Student FTE was used for this analysis. An additional 9,500 ASF is added for a swimming pool. The analysis of the base year shows a deficit of 13,000 ASF before the Foy Fitness and Recreation Center was completed. The deficit changes into a surplus of 29,700 ASF once the Foy Fitness Recreation Center is added to the existing space. ***The surplus reflects the fact that none of the existing space has been reassigned to other uses.***

LIBRARY ANALYSIS

Most of the guideline systems for library space utilize one set of factors for collections, another for readers, and a third for service space. This approach is used by the CEFPI guidelines. The library analysis is based on collections data reported to the consultants. Growth is assumed at approximately 1-2% per year depending on the time frame that the student growth is achieved. The analysis includes all space assigned to and used by the

library (room use codes 300's, 400's, 600's, and 700's). The space reflected in the Space Needs Analysis Tables 1 and 2 in memorandum 4B does not reflect all the space in the Woodward Library building as the building is used for other functions besides the Library.

The CEFPI Guidelines for library collections assumes a sliding scale starting with .10 ASF per volume to .07 ASF per volume for collection space. Refer to the table below. Reader space calculations are based on a percentage of total population as follows: 15% factor for undergraduate students FTE, 20% factor for graduate students FTE, and 10% to the total full-time equivalent faculty. In determining the guidelines for reader station sizes, the consultants believe the 25 square feet per reader station recommended by CEFPI is not adequate because of the increased use of electronic study stations. The consultants applied 30 ASF per reader station for all reader stations knowing that some will require less and others will require more.

CEFPI suggests 25% of the total collection and reader station space for service and staff space. ACRL, in their most recent guidelines, changed this category to 12.5%. The consultants used the 12.5% figure because the 25% factor appears to over generate service space needs. The service space calculation is intended to include office space for the library staff. Lounge space is calculated using the CEFPI recommendation of three (3) ASF per reader station.

The library shows a significant deficit of space at the base year of approximately 28,900 ASF a 58% deficit. This deficit increases significantly at the target year to 48,300 ASF – a 98% deficit. It should be noted the library does not reflect today's student expectations. While many of the services are present, the look and feel of the library is not representative of other libraries similar to Austin Peay.

Table 10: Library Guideline Application

						Fall 2006 Guideline ASF	10,000 Students Target Year
VOLUME GENERATION	**Current Items**	**Conversion Factor**	**Fall 2006 Volumes**				
Books/Serials (Volumes)	375,000	1.00	375,000				
Unbound Serials (Display)	1,240	0.50	2,480				
Microforms	667,000	80.00	8,338				
Audio/Visual Materials	5,100	5.00	1,020				
					TOTAL VOLUME EQUIVALENTS	**386,838**	**471,942**
			No. of Volumes				
Collection Space	**0 - 150,000**	**150,001 - 300,000**	**300,001 - 600,000**	**600,001 - 2,000,000**	**2,000,001 and above**		
ASF per Volume	*0.100*	*0.090*	*0.080*	*0.070*	*0.030*		
Fall 2006 Collection Space	15,000	13,500	6,947	0	0		
10,000 Students Collection Space	15,000	13,500	13,755	0	0		
					Total Collection Space	35,447	42,255
Study Space	**Percent of FTE**	**Fall 2006 FTE**	**Fall 2006 Stations**	**10,000 Students / Projected FTE**	**10,000 Students No. of Stations**		
Undergraduate Students	15%	6,105	916	7,982	1,197		
Graduate Students	20%	453	91	593	119		
Faculty (FTE)	10%	377	38	492	49		
		Total Study Stations	**1,044**		**1,365**		
Study Stations	*100% @ 30 ASF/Station*		31,320		40,950		
					Total Study Space	31,320	40,950
					TOTAL COLLECTION & STUDY SPACE	**66,767**	**83,205**
					Service Space *(12.5% of Total Collection and Study Space)*	8,346	10,401
					Lounge Space *(3 ASF per Study Station)*	3,132	4,095
					TOTAL LIBRARY GUIDELINE SPACE	**78,245**	**97,701**

ASSEMBLY & EXHIBIT SPACE ANALYSIS

Assembly and exhibit space is defined as any room designed and equipped for the assembly of large numbers of people (610's). This includes theaters, auditoriums, concert halls, arenas, and chapels. Exhibit spaces (620's) are used for exhibition of materials, works of art, or artifacts and specimens intended for use by students and the campus community. One of the key qualifications for this space category is that the space should be in direct support of academic programs.

The CEFPI guideline has a core allowance of 22,450 ASF for institutions with enrollments of over 5,000 student FTE and an active Fine Arts program plus an additional six (6) ASF per student FTE over the 5,000 minimum. An additional 5,000 ASF is provided for institutions with active music programs. For Austin Peay, all three additions were

calculated and added to the 22,450 ASF core. Application of the CEFPI guidelines shows a current surplus of approximately 8,400 ASF and projects a deficit of 3,700 ASF at the target year.

The space in this category includes the auditorium and gallery area in Clement, the gallery in Harned, the auditorium in Kimbrough, the auditoria in the Music/Mass Communications Building, the exhibition spaces in Sundquist Science Complex, and the galleries and auditorium in Trahern.

OTHER DEPARTMENT SPACE ANALYSIS

Other department space consists of a variety of space types. Again, no guideline has been developed by CEFPI to deal with such a diverse set of space types. In recent benchmarking studies, the consultants found other department space to have a wide range of space from as little as one (1) ASF per Student FTE to as much as 46 ASF per Student FTE. The types of space included in this space category at APSU include:

- departmental study/reading/resource rooms (400's) like spaces assigned to Chemistry, Education, Music, and Nursing
- media production space (530's) like spaces assigned to Communication and Extended and Distance Education
- demonstration rooms (550's)
- animal quarters (570's)
- greenhouses (580's)
- lounges (650's) for faculty and staff and select student groups
- meeting rooms (680's)
- computer rooms (710's)
- shops (720's) like spaces assigned to Physics
- vehicle storage (740's) likes spaces assigned to Biological Sciences in the Sundquist Science building

Other departmental space averages eight (8) ASF per Student FTE at the University. The consultants believe that a reasonable guideline for this space category at APSU is ten (10) ASF per Student FTE. The consultant's assessment of the different spaces at the campus as well as the different meetings held at the campus point to additional space needs that would fall into this category. For example, as APSU starts to develop more on-line curriculum or curriculum using alternate delivery methods (i.e., pod casting), more curriculum development space and professional development spaces will be needed. The studio spaces required would fall in this category. Some the existing spaces need to be expanded like the Education Resource Center in Claxton. Communications needs additional studio and support spaces. Computer Services needs additional space to support its server rooms, testing needs, and maintenance needs.

For this space category the analysis at the base year showed a deficit of 13,500 ASF. At the target year the deficit increases to 33,700 ASF.

PHYSICAL PLANT ANALYSIS

Physical plant space includes room use codes 720 through 765 but excludes parking decks. If central storage space (730's) is not space assigned to and controlled by

physical plant operations, it is counted in other space categories such as other department space, library, or athletics.

Most guidelines suggest a percentage of seven (7) to eight percent (8%) of all square footage on campus, minus existing physical plant, residence life and farm space, be used to determine space needs in this category. CEFPI recommends eight percent (8%). In most cases, these percentages generate a space need that is greater than the amount of physical plant space typically found at an institution. From previous studies, the consultants have found that the average percentage used to calculate physical plant space needs is approximately four (4) to seven percent (7%).

For this analysis, the consultants used five percent (5%) as the guideline. The base year guideline analysis shows a deficit of 3,600 ASF, a shortage of 11%. For the target year, the guideline is based on the projected need in all the other space categories. The deficit then increases to about 17,800 ASF.

FARM SPACE

Austin Peay has a farm that is used as a teaching resource now known as the Environmental Education Center. The buildings with space included in this category include: Burley Barn; Cattle Barn; Dark Fired T Barn; Farm Equipment Buildings 1, 2, and 3; and the Farm Residence building. There are not any master planning guidelines for this space type. The consultant met with the Interim Dean for the College of Science and Mathematics and learned that the quantity of space located at the Center is adequate. Therefore, the consultants used the existing space as the guideline.

ATHLETIC SPACE NEEDS

Due to the varied space requirements of indoor athletics program space, there is not one guideline that addresses this space category. Athletic space needs are usually based on the number and competitive level of the intercollegiate athletic activities. Austin Peay competes as an NCAA Division I institution.

In order to quantify an appropriate amount of indoor space for athletics, the consultants already possessed some comparative data. The consultants reviewed athletic facilities data contained in their data warehouse of institutions of the same student body size and institutions competing in Division I. The average amount of square footage for athletic space was 139,000 ASF, ranging from a low of 66,000 ASF to a high of 190,000 ASF. The conclusion of the analysis was that 150,000 ASF for athletic space is a reasonable amount of square footage to use as a guideline for this master planning exercise.

The amount of space generated for this space type does not include offices for the staff. It includes only the 520 range of room use codes plus space for concessions, training facilities, locker/shower rooms, and meeting/viewing/conference facilities required to support intercollegiate athletics. Space needs calculated in this report are for indoor space only and do not include the needs for outdoor athletic fields.

The existing space includes space in the Dunn Center, Governor's Stadium, and the Tennis Center. The comparative guideline suggests that there is an approximate deficit of 47,500 ASF of athletic space.

STUDENT CENTER SPACE

The older CEFPI recommends a formula of nine (9) ASF per student for generating student union space. These guidelines for space application provide space for the various functions and the room use code designations that are typically found in a comprehensive student union including: food service (630's), bookstore (660's), lounge (650's),

recreation space (670's), meeting space (680's), student government/club space (300's and 680's), and other student service type space categories. While the Morgan University Center is one of the newest buildings on campus, only 50% of the space can be considered student center space. This building houses many administrative offices and the majority of the meeting room spaces are used more like a conference center than typical student meeting facilities.

At the base year, the application of space guideline shows APSU with a space shortage of approximately 15,600 ASF (36%). At the target year the deficit increases to 33,800 ASF.

STUDENT HEALTH CARE FACILITIES

These facilities are usually coded in the 800's and are defined as clinics established for the use of students. Health care facilities are not specifically addressed by the CEFPI guidelines. In recent benchmarking and consulting work with several statewide systems, the consultants found amounts of space in this category ranging from 0.3 ASF per Student FTE to four (4) ASF per Student FTE. The average space per Student FTE for this category at the University was approximately 0.19 ASF per Student FTE. The consultants believe that a reasonable guideline for the University is 0.30 ASF per Student FTE.

The guideline application shows a small deficit of about 700 ASF or a 50% deficit at the base year. This deficit increases to approximately 1,300 ASF for the target year.

INACTIVE / CONVERSION SPACE

Spaces in the facilities inventory database coded as inactive / conversion space include the majority of space in Marks, all of McReynolds, and include the 319 Home Avenue building.

T e c h n i c a l M e m o r a n d u m

Date February 2007

Project Austin Peay State University Master Plan

Subject IV. Future Campus Requirements
C. Parking Space Projections

From HGA, Inc

To Austin Peay State University

The objective of this work element is to project future parking requirements. This memorandum summarizes the studies of future parking needs for APSU based on projected school population.

1. PARKING GENERATION RATES

Generation rates are used to determine parking demand. The Institute of Transportation Engineers (ITE), in its Parking Generation (Third Edition, 2004) provides a source for generation rates for a variety of land uses. Colleges and universities are included in these land uses.

In order to determine the anticipated future number of spaces needed for the campus, HGA reviewed the parking ratios contained in the Parking Generation Manual. In the manual, an average rate of 0.33 spaces per total number of students, faculty, and staff (school population) is given for college campuses in suburban areas and 0.22 spaces per school population in urban areas. Based on the location of campus, APSU may be categorized someplace between the suburban and urban ratios. The range of vehicles per school population was between 0.22 and 0.38 for suburban campuses and 0.14 and 0.19 for urban campuses. The ITE data for suburban universities/colleges was obtained from eight (8) samples described as four-year institutions and the data for urban campuses was obtained from three (3) samples. Given this data set, HGA looked at the current parking ratio for use in determining the recommended future parking rate for campus.

2. PARKING GENERATION RATE DEVELOPMENT

As described in Memorandum III.A.5 Vehicular Circulation and Parking, the current parking ratio on campus is 0.45. HGA proposes to maintain the existing parking ratio for determining future requirements, based on the recommended parking ranges as discussed above. The recommended ratio is on the high side of the national average but, due to the non-traditional student body makeup and community event spaces found on campus, a higher than average parking ratio is warranted to meet current and anticipated parking demands. It could be argued that the campus supports more than sufficient parking spaces to meet current demand and that a small reduction in spaces (eliminating some of the smaller lots which could become building sites or green-space) would bring APSU into alignment with national standards. However, parking is one of the most contentious battles waged between faculty and students against the administration and is quickly becoming one of the “service level” issues that faculty and students use as part of

their selection criteria. For this reason, we recommend maintenance of the current .45 parking ratio. Refer to Table IV.C.1 for calculations determining the recommended number of future parking places based on the projected enrollment growth.

TABLE IV.C.1

The recommended parking rate was applied to the future student, faculty and staff enrollment projections.

APSU - projected parking

existing parking - 2006		
total headcount (students + staffing)		8,553
total existing parking		3,854
	parking ratio	**0.45**
proposed parking - 10 years		
proposed total headcount (students + staffing)		11,082
parking ratio (maintain existing)		0.45
	total campus stalls	**4,994**
	existing parking	3,854
	proposed parking	4,994
	difference	**1,140**

T e c h n i c a l M e m o r a n d u m

Date March 2007

Project Austin Peay State University Master Plan

Subject IV. Future Campus Requirements
D. Athletic and Recreational Facilities Projections

From HGA, Inc.

To Austin Peay State University

The objective of this work element is to project future open space requirement for athletic and recreational facilities including space for intercollegiate sport programs, scheduled intramural sports and general recreation.

1. GOALS & PRIORITIES

Priorities for indoor athletic facilities are described and documented in Memorandum IV.B, which sets forth space and facility needs. Goals and priorities for outdoor athletic and intramural facilities are documented in Memorandum III.A.6, and summarized below.

Based on interviews with representatives of the Recreation and Athletics Staff, the following list of needs was developed:

- 10,000 sq.ft. field house (north of the football field)
- New presidents box above the football field (east side)
- New press box above the football field (west side)
- General restrooms / concessions for outdoor sporting events
- Athletic practice fields
- Intramural basketball courts
- Nature / bike trail

2. LOCATION CRITERIA

The area of campus north of Marion Street is the logical place for most of the athletic and recreational facilities listed in Item 1 above. The area would enable a clustering of sport facilities adjacent to existing facilities including the football stadium and track, the new Recreation Center, and the Dunn Center. Vehicular access is to the northern portion of campus is somewhat removed from the surrounding major roadway.

of campus, surrounding this open space, from State University Drive, University Boulevard, and Carver Drive. This access will be beneficial for athletic competitions where large groups of athletes and spectators are coming to FVSU. Informal outdoor recreation opportunities should be preserved within the campus core and incorporated into future development.

3. COMPARISON TO NCAA/TITLE IX STANDARDS

FVSU currently competes at the NCAA Division II level in the Southern Intercollegiate Athletics Conference, and no plans are under consideration to change Division level. The

main needs to accommodate competition for existing athletic teams are: a) the softball stadium; b) upgrades to track and field facilities; and, c) additional tennis courts. The proposed walking and jogging trail system could also serve the needs of the cross country competition team.

Facilities are not needed to meet Title IX requirements, unless and until FVSU were to elevate to Division I.

T e c h n i c a l M e m o r a n d u m

Date	March 2007
Project	Austin Peay State University
Subject	IV. Future Campus Requirements E. Campus Infrastructure Projections 1. Domestic Water and Fire Protection
From	Barge Cauthen and Associates
To	Austin Peay State University

The objective of this work is to address the future campus infrastructure growth needs.

1. DOMESTIC & FIRE PROTECTION WATER

Introduction

The Austin Peay State University (APSU) domestic and fire protection water distribution system analysis evaluates present infrastructure conditions and proposed Master Plan campus flow characteristics and capacities. This analysis is used to identify system vulnerabilities that exist in terms of water volumes and pressures and propose possible future improvements to alleviate problems arising from these vulnerabilities. As in the Existing Campus Conditions section of this Master Plan, the water distribution system analysis includes both the public and private portions of the water system.

The proposed Master Plan values are broken up into two planning periods (5-Year and Long Range). As such, the 5-Year Planning Period will include all the proposed residential buildings (r1-r12) and a few of the academic buildings (a2-a3). The Long Range Planning Period will include the remaining academic buildings (a1, a4-a8).

Analysis

Items or areas of concern are as follows:

1. Residential Development Zone (5-Year Planning Period) – Using the new bed counts associated with the proposed residential buildings, an approximate water usage value and peak flow rate can be calculated. Based on the assumption that one dorm bed will require 100 gallons per day (GPD) of water, the following equation can be used:

   Q = 1,134 beds x 100 GPD
   Q = 113,400 GPD

   This water usage estimate can be translated into a peak flow of 0.70 cubic feet per second (cfs). Given that the estimated water usage for the proposed student residential development zone will be much larger than the existing water usage associated with the current low density residential development and the relative age of the existing infrastructure, new water mains will be needed to serve this planned growth in bed count.
2. Academic Development Zone (5-Year Planning Period) – Using the new square footage associated with the proposed academic buildings, an approximate water usage value and peak flow rate can be calculated. Based on the assumption that one square foot will require 0.1 GPD of water, the following equation can be used:

Q = 194,100 square feet x 0.1 GPD
Q = 19,410 GPD

This water usage estimate can be translated into a peak flow of 0.12 cfs. Given that this estimated water usage for the proposed academic development zone will be only slightly larger (0.07 cfs) than the existing water usage associated with the current academic development in this area, no water improvements will be needed to serve this future growth in bed count.

3. Academic Development Zone (Long Range Planning Period) – Using the new square footage associated with the proposed academic buildings, an approximate water usage value and peak flow rate can be calculated. Based on the assumption that one square foot will require 0.1 GPD of water, the following equation can be used:

   Q = 511,800 square feet x 0.1 GPD
   Q = 51,180 GPD

   This water usage estimate can be translated into a peak flow of 0.32 cfs. Given that the estimated water usage for the proposed academic development zone will be much larger than the existing water usage associated with the current low density residential development and the relative age of the existing infrastructure, new water mains will be needed to serve this growth in academic square footage.
4. Requirements (flow, installation of backflow prevention devices, installation of master meters on domestic services and/or fire services) of local governing authorities have jurisdiction on future development.

T e c h n i c a l M e m o r a n d u m

Date	April, 2007
Project	Austin Peay State University
Subject	IV. Future Campus Requirements E. Campus Infrastructure Projections 2. Electric Power
From	I.C. Thomasson Associates, Inc.
To	Austin Peay State University

The objective of this work is to discuss the ability of the existing electric system to meet the future needs of the campus based on the projected growth and to make suggestions for modifying the system if necessary to meet that need.

1. Main Distribution Switchgear

Based on the proposed campus master plan, the main 13.2kV switchgear on Marion Street can support the new buildings in the 5-year plan (a2 & a3) without upgrades. However, Section III of this study recommends replacing this switchgear due to age and condition. It is recommended to replace the main 13.2kV switchgear prior to adding the new buildings that are scheduled beyond the 5-year plan.

2. Distribution

Based on the proposed campus master plan, the existing underground distribution system can support the new buildings in the 5-year plan without upgrades. The new buildings in the 5-year plan (a2 & a3) can be fed from existing 13.2kV underground Circuit #4. However, Section III of this study recommends replacing the oldest 15kV cable due to age and condition. Much of this cable is in Circuit #4, and should be replaced prior to adding significant new loads.

Assuming the oldest 13.2kV underground cable is replaced as recommended in Section III, the existing distribution system can accommodate all of the new Residential buildings that are scheduled beyond the 5-year plan. It is likely that the underground distribution system will have to be upgraded to support many of the new Academic buildings that are scheduled beyond the 5-year plan. A future load study will be required to determine the necessary upgrades for these buildings.

T e c h n i c a l M e m o r a n d u m

Date	March 2007
Project	Austin Peay State University
Subject	IV. Future Campus Requirements E. Campus Infrastructure Projections 3. Sanitary Sewer
From	Barge Cauthen and Associates
To	Austin Peay State University

The objective of this work is to address the future campus infrastructure growth needs.

1. SANITARY SEWER

Introduction

The APSU sanitary sewer system analysis evaluates present infrastructure conditions and proposed Master Plan campus flow characteristics and capacities. This analysis is used to identify system vulnerabilities that exist in terms of condition and capacity and propose possible future improvements to alleviate problems arising from these vulnerabilities. As in the Existing Campus Conditions section of this Utility Master Plan, the sewer system analysis includes both the public and private portions of the sanitary sewer system.

Analysis

Items or areas of concern are as follows:

1. Residential Development Zone (5-Year Planning Period) – Sanitary sewer usage values and peak flow rates are assumed to be the same as those calculated for domestic water usage. Therefore, the estimated sanitary sewer usage will be 113,400 GPD and the estimated peak flow rate will be 0.70 cfs. Given that the estimated sanitary sewer usage for the proposed student residential zone will be much larger than the existing sanitary sewer usage associated with the current low density residential development and the relative age of the existing infrastructure, new sanitary sewer mains will be needed to serve this future growth in bed count.
2. Academic Development Zone (5-Year Planning Period) – Sanitary sewer usage values and peak flow rates are assumed to be the same as those calculated for domestic water usage. Therefore, the estimated sanitary sewer usage will be 19,410 GPD and the estimated peak flow rate will be 0.12 cfs. Given that this estimated sanitary sewer usage for the proposed academic development zone will be only slightly larger (0.07 cfs) than the existing water usage associated with the current academic development in this area, no sanitary sewer improvements will be needed to serve this future growth in bed count.
3. Academic Development Zone (Long Range Planning Period) – Sanitary sewer usage values and peak flow rates are assumed to be the same as those calculated for domestic water usage. Therefore, the estimated sanitary sewer usage will be 51,180 GPD and the estimated peak flow rate will be 0.32 cfs. Given that the estimated sanitary sewer usage for the proposed student residential zone will be much larger than the existing sanitary sewer usage associated with the current low density residential development and the relative age of the existing infrastructure, new sanitary sewer mains will be needed to serve this future growth in bed count.

T e c h n i c a l M e m o r a n d u m

Date	April, 2007
Project	Austin Peay State University
Subject	IV . Future Campus Requirements E. Campus Infrastructure Projections 4. Steam and Chilled Water
From	I.C. Thomasson Associates, Inc.
To	Austin Peay State University

The objective of this work is to discuss the ability of the existing steam and chilled water systems to meet the future needs of the campus based on the projected growth.

1. Steam

It will be necessary to construct additional educational facilities in order to serve a student body of 10,000 FTE students. The load required, if added to the existing steam system, will increase the load on current equipment past a prudent operating point. Table IV.E.4.1 shows the effects of adding the load demands of 1,000,000 square feet of new academic buildings and 100,000 square feet of new dormitories on the existing steam system. The resultant load increases from 55,240 to 101,560 PPH. This undiversified load exceeds the total existing installed capacity of 73,500 PPH. While there is usually some diversity in the heating load, and theoretically the two existing boilers could carry the expected diversified load, it is recommended that the plant be capable of serving the undiversified load, since peak heating typically occurs when buildings are unoccupied (at night when temperatures are lowest) unless the campus has a sophisticated night setback program in most of the buildings (an obvious recommendation of this planning document). Therefore the diversity is often not as great as for the cooling load. There is also no back-up capacity with the increased load even in the five-year scenario.

It is therefore recommended that at least one more boiler be added to the system. In principal this shortfall could be met in a number of ways, including expanding the existing plant, relocating the central plant, installing a satellite plant, or installing boilers in individual buildings; either new facilities or those which are being substantially remodeled and added onto.

Capacity of the distribution system must also be considered. If the central plant is kept at its present location, the sizes and flows of each branch will need to be evaluated more carefully to determine more precisely the flow and pressure drop in each section of the pipe. Because much of the pipe is in need of replacement (except for the new lines to the University Center and the Science Building) they should be considered for a size increase at the same time they are replaced due to degradation of condition and increased unreliability of service. If alternate locations for the central plant are chosen, then the costs to “tie back” into the existing distribution at the appropriate place and size will need to be addressed.

2. Chilled Water

The construction of additional new buildings made necessary to serve future growth and the consequent increased demand for cooling will also push the chilled water load beyond the capabilities of the existing plant. Table IV.E.4.1 shows the additional chilled water load associated with new academic and residential buildings. The future diversified load of 5,168 tons is beyond the plant's installed capacity of 3000 tons. There is very limited room for expansion in the current facility and there is a reasonable desire to create back-up capacity which does not currently exist. It is recommended that two more 1200 ton chillers be installed, giving the plant full capacity of 5400 tons. This could happen in two phases with the first chiller being installed to handle the five-year forecast buildings, and the second chiller coming on line as additional buildings are added to the system. The long range plan would need to include increasing the size of some lines. This is discussed further in Section VI.

Table IV.E.4.1 APSU Masterplan Future Building Steam Data

Bldg No.	Name	Use	Year	Gross SF	STM (PPH)	STM FLOW PPH N	E	W	U
	EXISTING SUBTOTAL			1,312,190	55,240	9,170	25,840	15,020	4,880
	DIVERSIFIED AT			75%	41,430	6,878	19,380	11,265	3,660
FUTURE BUILDINGS - FIVE YEAR									
A2	Academic	10		126,000	5,310	-	5,310	-	-
A3	Trahern Add'n	13		68,100	2,870	-	2,870	-	-
	SUBTOTAL FIVE YEAR			194,100	8,180	-	8,180	-	-
	DIVERSIFIED AT			75%	6,135	-	6,135	-	-
TOTAL FIVE YEAR				1,506,290	63,420	9,170	34,020	15,020	4,880
	DIVERSIFIED AT			75%	47,565	6,878	25,515	11,265	3,660
FUTURE BUILDINGS - LONG RANGE									
A1	Claxton Add'n	10		76,500	3,220	-	3,220	-	-
A4	Academic	10		69,000	2,910	-	2,910	-	-
A5	Academic	10		101,100	4,260	-	4,260	-	-
A6	Academic	10		82,200	3,460	-	3,460	-	-
A7	Academic	10		102,000	4,290	-	4,290	-	-
A8	Academic	10		81,000	3,410	-	3,410	-	-
R1	Residential	50		45,900	1,930	-	-	1,930	-
R2	Residential	50		27,000	1,140	-	-	1,140	-
R8	Residential	50		45,000	1,890	-	-	1,890	-
DEMOLISHED BUILDINGS									
32	Woodward Library	17		(80,614)	(3,390)	-	(3,390)	-	-
35	Cross hall	50		(34,818)	(1,470)	-	-	(1,470)	-
36	Rawlins Hall	50		(22,762)	(960)	-	-	(960)	-
55	Killebrew Hall	50		(37,572)	(1,580)	-	-	(1,580)	-
									-
	SUBTOTAL LONG RANGE			453,934	19,110	-	18,160	950	-
	DIVERSIFIED AT			75%	14,333	-	13,620	713	-
TOTAL FUTURE				1,960,224	82,530	9,170	52,180	15,970	4,880
	DIVERSIFIED AT			75%	61,898	6,878	39,135	11,978	3,660
	Installed Capacity			TOTAL	73,500	6,000	40,000	11,000	6,000
				BLR -1	40,000				
				BLR -2	33,500				

CHW CALCULATED AT	350	SF/TON
STM CALCULATED AT	40	BTUH/SF
CHW flow calculated at	10	deg DT
STM flow calculated at	950	BTU/lb

Table IV.E.4.2 APSU Masterplan Future Building Chilled WaterData

Bldg No.	Name	Gross SF	CHW (TONS)	CHW GPM	CHW FLOW GPM N	E	W	U
	EXISTING SUBTOTAL	1,312,190	3,740	8,976	1,464	4,560	2,112	792
	DIVERSIFIED AT	75%	2,805	6,732	1,098	3,420	1,584	594
FUTURE BUILDINGS - FIVE YEAR								
A2	Academic	126,000	360	864	-	864	-	-
A3	Trahern Add'n	68,100	190	456	-	456	-	-
	SUBTOTAL FIVE YEAR	194,100	550	1,320	-	1,320	-	-
	DIVERSIFIED AT	75%	413	990	-	990	-	-
TOTAL FIVE YEAR		1,506,290	4,290	10,296	1,464	5,880	2,112	792
	DIVERSIFIED AT	75%	3,218	7,722	1,098	4,410	1,584	594
FUTURE BUILDINGS - LONG RANGE								
A1	Claxton Add'n	76,500	220	528	-	528	-	-
A4	Academic	69,000	200	480	-	480	-	-
A5	Academic	101,100	290	696	-	696	-	-
A6	Academic	82,200	230	552	-	552	-	-
A7	Academic	102,000	290	696	-	696	-	-
A8	Academic	81,000	230	552	-	552	-	-
R1	Residential	45,900	130	312	-	-	312	-
R2	Residential	27,000	80	192	-	-	192	-
R8	Residential	45,000	130	312	-	-	312	-
DEMOLISHED BUILDINGS								
32	Woodward Library	(80,614)	(230)	(552)	-	(552)	-	-
35	Cross hall	(34,818)	(100)	(240)	-	-	(240)	-
36	Rawlins Hall	(22,762)	(70)	(168)	-	-	(168)	-
55	Killebrew Hall	(37,572)	(110)	(264)	-	-	(264)	-
								-
	SUBTOTAL LONG RANG	453,934	1,290	3,096	-	2,952	144	-
	DIVERSIFIED AT	75%	968	2,322	-	2,214	108	-
TOTAL FUTURE		1,960,224	5,580	13,392	1,464	8,832	2,256	792
	DIVERSIFIED AT	75%	4,185	10,044	1,098	6,624	1,692	594
	Installed Capacity	TOTAL	3,000		2,500	7,000	1,400	800
		CH-1	1,200					
		CH-2	600					
		CH-3	1,200					
	CHW CALCULATED AT	350						
	STM CALCULATED AT	40						
	CHW flow calculated at	10						
	STM flow calculated at	950						

T e c h n i c a l M e m o r a n d u m

Date	March 2007
Project	Austin Peay State University
Subject	IV. Future Campus Requirements E. Campus Infrastructure Projections 5. Storm Sewer
From	Barge Cauthen and Associates
To	Austin Peay State University

The objective of this work is to address the future campus infrastructure growth needs.

1. STORM SEWER

Introduction

The APSU storm sewer system analysis evaluates present infrastructure conditions and proposed Master Plan campus flow characteristics and capacities. This analysis is used to identify system vulnerabilities that exist in terms of the condition and capacity of current systems, and to propose possible future improvements to alleviate problems arising from these vulnerabilities. As in the Existing Campus Conditions section of this Utility Master Plan, the sewer system analysis includes both the public and private portions of the storm sewer system.

Analysis

Items or areas of concern are as follows:

1. Residential Development Zone (5-Year Planning Period) – Using an impervious area estimated from the proposed Master Plan, an approximate runoff flow can be calculated. Given that the estimated impervious surface area for the proposed residential development zone will be much larger than the existing impervious surface area associated with the current low density residential development, a new stormwater detention facility and associated conveyance system will be required.
2. Academic Development Zone (5-Year Planning Period) – Using an impervious area estimated from the proposed Master Plan, an approximate runoff flow can be calculated. Given that the estimated impervious surface area for the proposed academic development zone will be very near the existing impervious surface area associated with the current academic development in this area, no stormwater improvements will be required.
3. Academic Development Zone (Long Range Planning Period) – Using an impervious area estimated from the proposed Master Plan, an approximate runoff flow can be calculated. Given that the estimated impervious surface area for the proposed academic development zone will be much larger than the existing impervious surface area associated with the current low density residential development, a new stormwater detention facility and associated conveyance system will be required.

T e c h n i c a l M e m o r a n d u m

Date	April, 2007
Project	Austin Peay State University
Subject	IV. Future Campus Requirements E. Campus Infrastructure Projections 6. Telecommunications
From	I.C. Thomasson Associates, Inc.
To	Austin Peay State University

The objective of this work is to discuss the ability of the existing telecommunication system to meet the future needs of the campus based on the projected growth and to make suggestions for modifying the system if necessary to meet that need.

1. Copper

The existing copper network appears to be adequate for the five year scenario. Plans to move much of the functions now served by this network to Voice Over Internet Protocol (VOIP) could render much of this network obsolete.

2. Fiber

Shifting functions to VOIP could add to the load currently carried by the fiber optic network. The University will need to define how it intends to proceed before conjectures can be made regarding any shortfalls in the existing fiber optic infrastructure. It is reasonable to assume, however, that some additional fiber optic cabling would be required to service future demands placed upon the system by increased numbers of students and increased demand for data.

3. Wireless

Many campuses are beginning the process of converting from copper or fiber optic cable to wireless communications in order to support their need for data. Many cities of generally larger populations are also evaluating the potential for wireless service of all data (VOIP and Internet). APSU should give serious consideration to the cost/benefit of abandoning the copper and optical fiber network (or using the fiber optic cable as the “backbone” of any future system. The resultant system would be faster, more universally available to a wide variety of computing devices and should prove to be the more versatile, long-range solution.

T e c h n i c a l M e m o r a n d u m

Date	April, 2007
Project	Austin Peay State University
Subject	IV. Future Campus Requirements E. Campus Infrastructure Projections 7. Natural Gas
From	I.C. Thomasson Associates, Inc.
To	Austin Peay State University

The objective of this work is to discuss the ability of the existing natural gas distribution system to meet the future needs of the campus based on the projected growth and to make suggestions for modifying the system if necessary to meet that need.

1. City

The campus' gas consumption will increase as new buildings are added, but Clarksville Gas has ample capacity to handle the increased load.

2. Campus

If the central heating and cooling plant is relocated so that it can more easily expand, it will be necessary to run a new gas line back to the 4" high pressure gas line in Marion Street. This line would also be the tie-in point for a satellite plant. Any boilers that were installed in individuals could be served from the low pressure gas distribution system that runs in every campus street except for Drane.

T e c h n i c a l M e m o r a n d u m

Date February 2007

Project Austin Peay State University Master Plan

Subject IV. Future Campus Requirements
F. Proposed Land Acquisition/Disposition

From HGA, Inc.

To Austin Peay State University

The objective of this work element is to project the direction of campus growth and future land requirements in order to meet programmatic requirements.

1. DIRECTION OF CAMPUS GROWTH

Any future growth of campus property would be aimed at preserving the physical attributes of the current campus grounds and facilities as well as building upon the current open space layout and form to accommodate the renovation of and addition to existing facilities or the construction of new facilities required to serve future, projected space needs developed within this planning document. The growth pattern is anticipated to accommodate future development over time, as funding becomes available; either through public (state or locally funded) or public/private mechanisms. Buildings are proposed to be either renovated and/or replaced over time, based on the information summarized in the attached building assessment survey, as described in Part III.A.3A Building Use and III.A.3B Facility Assessment Memorandums.

The growth pattern described by the following documents is intended to present a cohesive development plan for all academic, support, and residential buildings which , by their construction or renovation, create distinct campus precincts which, when viewed as a whole, unite the entire campus. The locations of future facilities and the creation of compact groupings enable all buildings, new and old, to be within a ten (10) minute walk to the center of campus. The only exception to this rule, being the Emerald Hill area which is currently used infrequently by students and is unlikely to become a hub for future academic facility development given its topography and distance fro the existing campus core. Future athletic and recreational growth is anticipated to be clustered around existing facilities on the north end of campus. This could include expansion into Pettit Park should that land become available for purchase in the future.

The physical layout and direction of growth for the Master Plan is flexible enough to accommodate growth up to 10,000 headcount students in the target year, as described in Part IV.B.1 Future Enrollment Projections Memorandum.

Refer to the following Proposed Land Acquisition Figure 1 and 2.

2. FUTURE LAND ACQUISITION

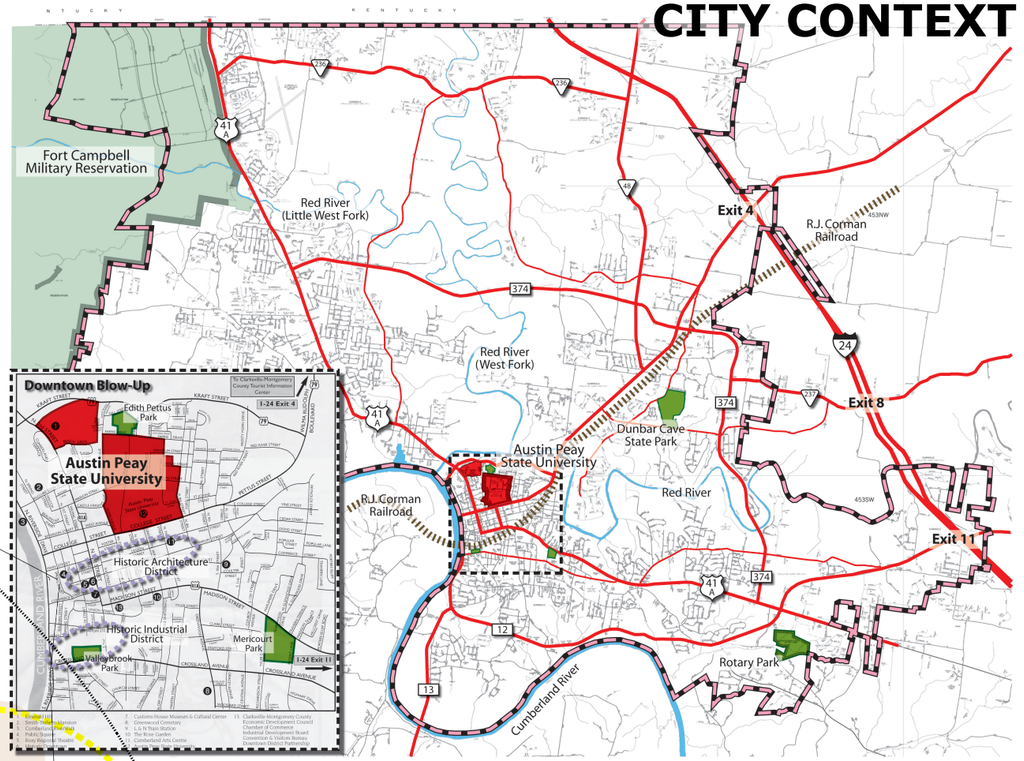
Proposed future land acquisition recommendations follow the existing pattern of growth already underway by suggesting that the campus gradually acquire adjacent parcels to the east, west and north of campus as they become available. The intent of this recommendation is to purchase parcels immediately adjacent to the University in order to accommodate the relatively short-term campus growth needs and to create a contiguous campus as that development occurs. Long term, as the University continues to grow, it may be conceivable and advisable for the campus to envelope the entire area between North 2nd Street (west side), Kraft Street (north side), North 9th Street (east side), and College Street (south side).

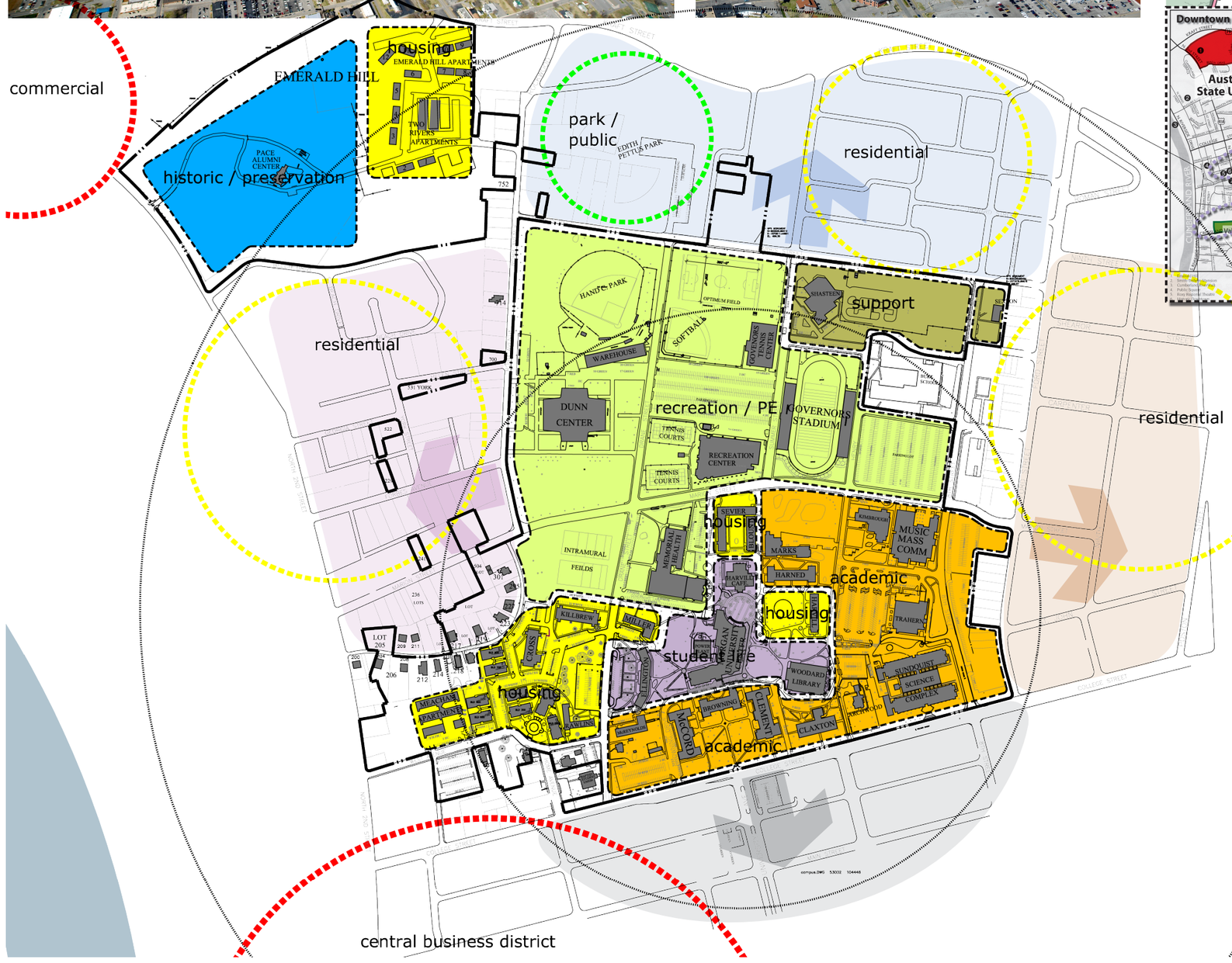
Areas of primary and critical interest include parcels neighboring the eastern boundary of campus along 8th Street and west of campus in the Castle Heights neighborhood. East of campus includes those parcels found between campus and North 9th Street north of College Street and south of St. Johns Street. Areas west of campus include those parcels on both sides of Marion Street between Drane Street and North 2nd Street in addition to those parcels found along the entire length of Castle Heights. Additional acquisitions include those parcels found between the Emerald Hill area and the main campus, connecting these now separate areas.

The University should also considerer several areas surrounding the campus as “opportunistic” acquisitions, i.e. not seek them out for purchase; those which could be purchased only if they were to become available. These areas include the southwestern quadrant along College Street which is currently commercial, Edith Pettis Park to the north, and residential land to the north and east. Currently these areas are serving as another use and appear to be highly valued by the community. There are no planned or immediate desires for acquiring such areas.

Refer to the following Proposed Land Acquisition Figure 1 and 2.

CITY CONTEXT





APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

OCTOBER 2006

IV.F figure 1

proposed land acquisition

Legend:

- Existing Buildings
- Campus Boundary
- Campus Expansion
- Long Term Expansion
- Opportunistic Acquisition

0 250 500

APSU

AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

FEBRUARY 2007

hga.

IV.F. figure 2

T e c h n i c a l M e m o r a n d u m

Date March 2007

Project Austin Peay State University Master Plan

Subject V. Preliminary Physical Master Plan
A. Alternative Concepts

From HGA, Inc

To Austin Peay State University

The objective of the work element is to test future programmatic requirements for accommodating land and building use and to test conceptual alternative configurations for the campus plan which address the goals and issues identified in previous Sections.

1. CAMPUS CHARACTER

The overall campus character may be defined as those characteristics which make the University special or unique, and those that foster a sense of authentic human attachment and/or belonging. Defining these place-making characteristics and documenting them so that beneficial patterns can be re-used and negative design impacts avoided acts to solidify the University's location, history, culture, and physical form. It is highly recommended that APSU develop some additional level of design standards for campus land use, landscape, building aesthetic or furnishings and way-finding systems. Future campus growth should build upon these characteristics using them as guides to accentuate the "sense of place" on campus.

A diagrammatic model was created to assist the planning team in identifying an overall campus character. The model contained four (4) broad characteristics which by themselves define opposite ends of a possible planning spectrum. These four qualities are Compact vs. Dispersed and Karst vs. Champs Allee Peay (descriptions of each will follow). The APSU campus currently contains a mix of defining characteristics, inclusive of each of these qualities. The intent was, therefore, to determine which of these characteristics was most highly valued such that it could be used in defining the future growth and image of campus. These four characteristics or qualities were defined as follows:

<u>Compact Campus</u>
A compact campus was defined as one tending to be urban in nature, similar to downtown Clarksville, demonstrating a high degree of close physical association between buildings, thereby limiting the scale of surrounding open spaces. Forms, spaces and objects within a compact campus are usually clearly defined, accentuating formal relationships and a sense of hierarchy or grandeur. Open spaces often become a valued asset or amenity because much of the land is devoted to buildings. The central APSU campus core contains some of these attributes.

<u>Dispersed Campus</u>
A dispersed campus tends to be rural in nature, the spatial relationships, between buildings and open space are characteristically very visual with long sweeping views

across vast areas. Outdoor spaces are often ill-defined, appearing to be random with no real boundaries or edges; characterized by gradual transitions from one place to the next. Buildings may also be spread apart, responding more to the site than to each other. The vast abundance of open space makes it, by default, the common denominator and predominant design characteristic. The far northwest corner of campus contains some of these qualities.

Champs Allee Peay
The term "Champs Allee Peay" is derived from the Champs-Elysées in Paris, which is characterized by highly co-existent vehicular and pedestrian uses overlapping one another in a very structured and energized physical environment. At APSU, the Champs Allee Peay scheme draws its inspiration through a playful response to Paris' most famous avenue through a deliberate integration of people and vehicles within a common space that characterizes the campus plan. This scheme connects the entire campus, via multi-modal corridors, creating a consistent geometric typology across the campus landscape. The overall configuration establishes a rational building pattern along the corridors throughout campus.

Karst Campus
The Karst campus celebrates APSU's unique geographic location within a Karst topography, by accentuating the sinkholes, not only as a geologic element, but also as the center of the social fabric and circulation system of the campus plan. The concept embraces open space making it a major focal point for campus, centering and guiding all new development. The campus core is used exclusively by pedestrians with vehicular activity being relegated to the periphery. Buildings respond to the site characteristics of campus creating a free flowing (non-geometric) pastoral form; highly responsive to the immediate surroundings. The form creates an organic pattern across the entire campus physically connecting the various precincts while preserving the natural landscape.

Refer to the following Campus Character Figure 1.

2. ALTERNATIVE CONCEPTS

Two distinctly different concepts were developed. Each alternative attempted to satisfy the future campus plan and programmatic needs as defined by the planning and administrative teams throughout the planning process. The alternatives are briefly summarized below.

Option – Champs Allee Peay

(Refer to the following Option – Champs Allee Peay, Figure 2)

General Summary: This option creates a highly structured, geometrically ordered physical environment within which pedestrian movement and vehicular circulation overlap, sharing the same right-of-way, not unlike densely populated low-rise urban environments like Washington, DC and Paris. The planning concepts behind the Champs Allee scheme are intended to be very rational, accentuating the existing street pattern on campus and using the "grid" as a primary organizational tool. In such a highly ordered physical realm, buildings, both old and new, tend to be aligned in linear designs which emphasize a formal relationship between the street and the buildings which frame it. Radial or grid planning of this kind is not derivative of the local or regional landscape but is imposed upon it, much as Thomas Jefferson's 1-mile grid was imposed over the United States, creating a clearly recognizable, consistent geometric pattern. In this scheme, the planning team explored the implications of creating a very "energized" street-based environment. Of key concern was the impact that such a highly structured environment would have on

the location of new building sites, the development of landscape spaces, interactions between pedestrians, overall campus safety, service access to all buildings and the location of utility infrastructure. All academic, housing and athletic/recreational zones are located along these corridors, both existing and new. Existing and new buildings frame the streetscape, accentuate existing campus attributes, provide easy accessibility, and establish a sense of connectivity between campus destinations. The location of new development zones are derived from the configuration of the streets, the streets themselves and their location closer to or further away from the center of campus create a sense of campus uniformity while also developing a hierarchy of spaces. These spaces serve as the location for future construction; "land banks" for the construction of new student housing, academic, administrative support, athletic/recreational and/or parking facilities. This "axial" patterning of the campus environment is easily recognizable to most visitors, making navigation between campus facilities easy and intuitive.
.

The primary ordering concept in the Champs Allee scheme is the street itself. A new pattern of streets is developed within the eastern core of the academic precinct. Acquisition of new property to the east of 8th Street (made necessary to accommodate growth within the academic core, is subdivided into a series of angular city "blocks". Each "block is defined by new streets which extend east-west along alignments that run between the Mass Communication Building and Trahern and Trahern and Sundquist. Marion Street continues to be the major east-west connector as well as forming the edge of the academic and housing precincts to the south and the recreation/athletics Precinct to the north. A new north-south street is created to the south of Marion to the west of Kimbrough and the east of Harvill, defining a major site for development of new facilities west of Harvill; presumably the new Woodward Library. When Woodward Library is replaced, the existing building will be demolished and the new street created along the alignment between Sundquist and Trahern will connect with the eastern edge of existing Browning Drive, exiting campus onto College between Claxton and Clement.

The center of campus in the Champs Allee scheme continues to be the formal hardscape area between Harvil Café and Morgan University Center. All buildings on campus are within a 10-minute walk of the center of campus. Browning Drive currently allows for pedestrian and vehicular access east-west between Morgan University Center and Browning Hall. In the Champs Allee scheme, Browning Drive is closed to vehicular traffic other than to smaller campus maintenance vehicles, creating a pedestrian only zone which includes McReynolds, McCord, Browning, Clement, Morgan University Center, the Power Plant, Ellington, Miller, Memorial Health, Sevier, Blount, Harvil Café, Harned and Harvil Halls. Marks is scheduled for future demolition. When this is completed, a new street will be constructed connecting Summer Street to the new street located on the alignment running east-west between Mass Communications and Trahern.

Marion Street currently forms, and should remain, the major east-west connector through campus, Drain Street is currently, and should remain, the major north-south vehicular connector through campus. Both Marion and Drain should be upgraded by the addition of center islands, where possible, including trees and plantings that create a "boulevard" character. As the remaining properties in Castle Heights are purchased by APSU, a new entrance to campus from the west at the intersection of North Second Street and Marion should be developed. The Castle Heights neighborhood property will become the location of an expanded housing precinct including the construction of 1,000 new beds (400 replacing the outdated Cross, Killbrew and Rawlins buildings when they are demolished and 600 additional apartment-style beds.

The acquisition of additional property to the east of 8th Street will serve as the location for new academic facilities, housing and a welcome Center. New structured parking facilities

will be located on the site of the parking lot to the east of Governor's Stadium, to the west of the new Foy recreation Center and to the South of McReynolds, thereby serving the recreational/athletic precincts as well as Dunn Center to the North and the visitor population arriving along College adjacent to Browning and McCord. The confluence of new streets along the alignments between Mass Communication and Trahern and Trahern and Sundquist will create an ideal location for a new Welcome Center, providing visitors with a dramatic view of the campus. Finally, a new vehicular roundabout/drop off area will be located at the center of campus between the University Center and Harvil Café; a much needed access point for visitors.

General Affects Summary:

- *Affect on the Campus Landscape* – Combining pedestrian and vehicular activities on existing and proposed campus streets create a more traditional urban planning concept and will impact the campus experience in positive and negative ways. Positive outcomes include efficient access to all buildings and services, clear orientation for visitors and service vehicles, easily identifiable entry points to buildings, longer vistas and a more traditional arrangement of buildings. Neutral or negative impacts include potential for pedestrian/vehicular conflict, increased street maintenance and operational budgets and physical environment that is less responsive to the undulating landscape.
- *Affect on Existing External Roads* – The existing roadway network is largely unchanged. Roadway improvements include extensions of existing roadways to fully interconnect the street system and streetscaping enhancements to accommodate pedestrian and vehicles. The improvements lessen confusion and frustration on and off campus and establish campus unity.
- *Affect on Existing Parking* – Unifying the smaller individual parking lots in and around the campus core reduces confusion and increases parking capacity. Providing parking along the periphery and/or roadway corridors permits easy access to all portions of campus.
- *Roadway Closure* – Browning Drive is proposed to be closed, removing public vehicular activity within the campus core, other than that served by a new drop off at the student center. The campus core will still accommodate access for maintenance, shipment, and safety related vehicles.
- *New Roadway Design* – New roadways will be developed along the alignment between Mass Communications and Trahern and between Trahern and Sundquist. Additional extensions of these roadways will connect them to Henry Street. A new drop-off roadway will access the west side of the Morgan University Center from Drane Street.
- *Impact on Pedestrian / Vehicular Conflicts* – The elimination of vehicular traffic from the central core substantially reduces the potential for pedestrian/vehicle conflicts other than University vehicles which share the sidewalks and paths with pedestrians, as they are separated. Conflicts along the existing and new streets will continue to exist. Careful attention must be given to the design and layout of all intersections in order to control pedestrian/vehicular conflict.
- *Access to High Use Facilities* – The proposed new streets in addition to the enhanced existing streets along with the distribution of parking lots throughout campus provides easy access to all the major high use facilities.

Option B – Karst Campus

(Refer to the following Option – Karst Campus, Figure 3)

General Summary: The Karst option creates, in contrast to the Champs Allee scheme, a pastoral environment which is directly responsive to the existing campus topography, geology and built environment. It is characterized by an organic system of "internal"

walking paths and open spaces which connect existing buildings, form the location for new buildings, separate pedestrian and vehicular traffic and support the development of landscape spaces in a free flowing, somewhat random but meaningful pattern. In the Karst scheme, the campus celebrates its physical landscape by accentuating the undulating topography created by the "sinkhole" geology characteristic of this region of Tennessee. Current sinkholes become the center piece for all of campus open space development and form the structure around which the free flowing circulation system develops. The rationale for using sinkholes or "Karst" geology as the major organizing principal on campus is straightforward. These locations, because of their unpredictable geologic structure and tendency to "sink" without warning cannot be used as building sites (facilities or roadways). They must remain open and are of such size that they easily create the basis for open space development. In the Karst scheme, natural open spaces become the key component in establishing balance, order, and character for the campus, guiding the layout and arrangement of new buildings within the natural site features.

The scale of open spaces in the Karst scheme are typically larger than that of the Champs Allee scheme. Additionally, the Karst scheme attempts to reduce the potential for pedestrian/vehicular conflict by separating the vehicular streets form the pedestrian paths. The Karst scheme explores the potential for closing several existing roadways, thereby creating additional student recreation and gathering spaces. As additional land is acquired to the east of 8th Street, supporting the development of additional academic buildings and housing facilities, 8th Street could be closed between Sundquist and Mass Communication creating an open space connecting these facilities to the new Welcome Center located at 9th and College. Visitors arriving at the Welcome Center would have easy and safe walking access to the entire campus. Trahern, when remodeled and the new addition is constructed, would form the center around which pedestrian circulation would flow to the west. Henry Street could be closed between Woodward Library and Marion, increasing the scale of protected campus open spaces near the campus center. Drane Street could be closed between McReynolds and Marion Street connecting the campus housing precinct to the academic and student services core, thus providing a major, new recreational/gathering space between Ellington and Cross for student use. This would alleviate the poor drainage that exists along Drane Street at present, would increase the aesthetics and utility of the housing precinct and eliminate pedestrian/vehicular conflict. To the North of the housing precinct, Marion Street could be closed between Robb and Drane, connecting the intramural fields with the recreational area to the south of the Dunn Center, increasing the utility of this are for recreational and community events.

New development zones in the Karst scheme respond to site characteristics and are oriented towards the open space enhancing the natural site qualities. These internally-oriented open spaces also serve as the front door to campus and individual buildings. They are the primary means by which the buildings are accessed, relegating vehicular circulation to the periphery of campus. Service to all campus buildings would be accommodated by campus vehicles and strategically located loading zones. Secondary ingress/egress for buildings and new development zones are proposed along the roadways and services drives which would be located along the back side of buildings. New development zones would also be strategically placed to be easily accessed from existing roadway infrastructure while also contributing to the formation of open space. Pedestrian routes flow through the campus core in a car-free environment following the topographic forms of campus. The major pedestrian routes also serve as limited access for maintenance, shipment, and safety related vehicles. Pedestrian routes may also serve as recreational trails, providing continuous routes through campus, and opportunities to connect with the city trail system. Remaining campus roadways are proposed to be de-emphasized to blend harmoniously with the campus landscape. Roadways are envisioned to simply pass through campus giving precedence to the open space. New

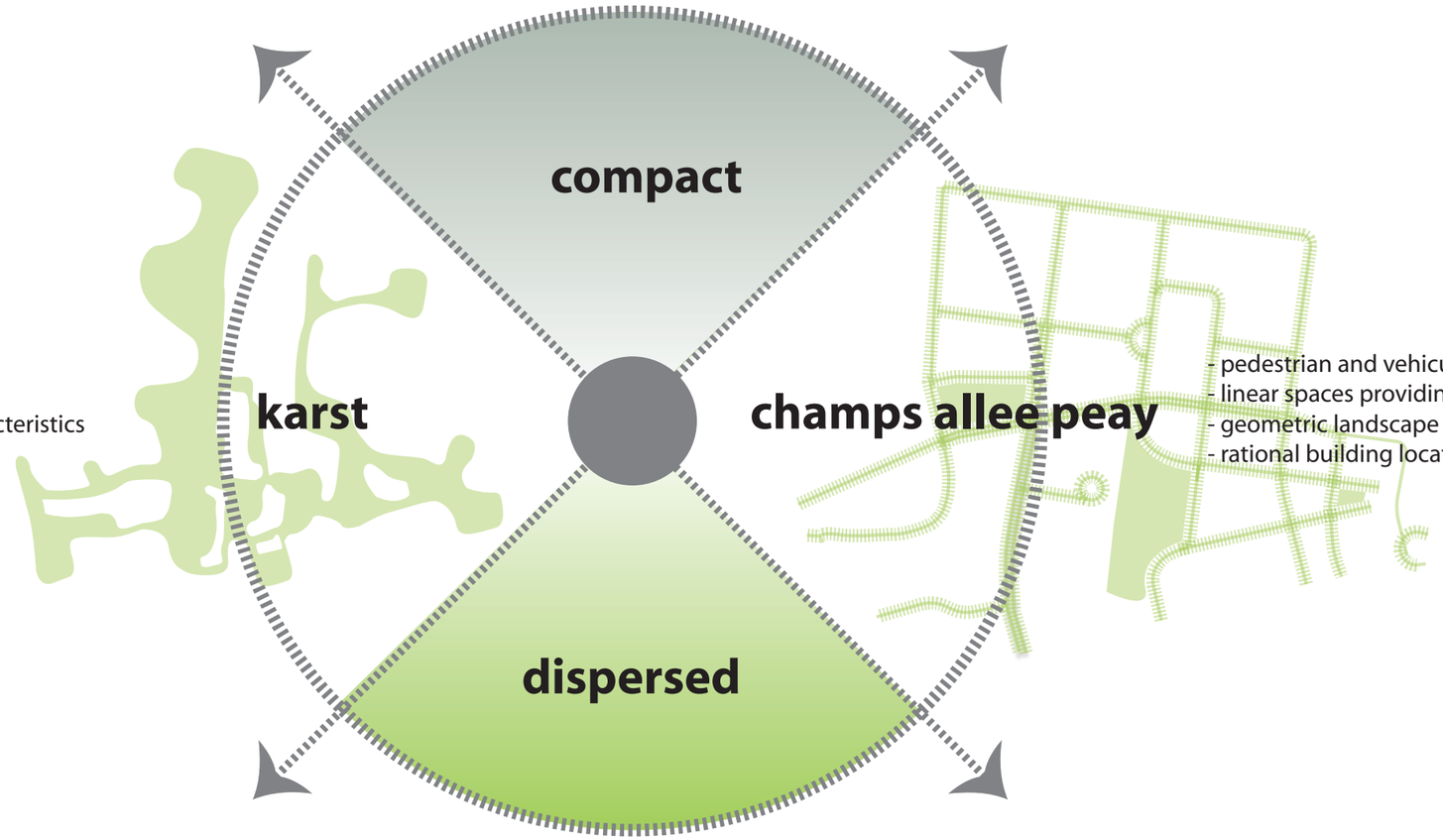
parking structures are placed adjacent to highly active zone to meet the anticipate parking demands, reduce confusion, and improve parking conditions.

Karst General Affects Summary:

- *Affect on the Campus Landscape* – Separating pedestrian and vehicular activities on existing and proposed campus streets will create a pedestrian-friendly environment based on less traditional "grid" style urban planning concepts and will generally have a positive impact on the campus experience, including substantially reduced pedestrian/vehicular conflict, a greater sense of responsiveness to the local landscape and Karst geology, increased areas for outdoor recreation and learning, emphasis on walking and access to all buildings and services.
- *Affect on Existing External Roads* – The existing roadway network is unchanged outside of the campus core, where streets were removed to create a continuous pedestrian environment, substantially reduce pedestrian/vehicular conflict and create a unified series of public gathering and recreational spaces, thereby adding to the safety of all who use the campus while also adding to the character of campus; its "sense of place". The improvements also lessen confusion and frustration on and off campus establishing campus unity.
- *Affect on Existing Parking* – Unifying the smaller individual parking lots in and around the campus core reduces confusion and increases parking capacity. Providing parking along the periphery and/or roadway corridors permits easy access to all portions of campus.
- *Roadway Closure* – Browning Drive and sections of Drane, Henry and Summer would be closed, removing public vehicular activity within the campus core. These vehicular areas will be replaced by open space or gathering, pre-game activities and recreation. The campus core will still accommodate access for maintenance and safety related vehicles.
- *Impact on Pedestrian / Vehicular Conflicts* – The largely pedestrian environment created in the central core substantially reduces the potential for pedestrian/vehicle conflicts, as they are separated.
- *Access to High Use Facilities* – The proposed new open space corridors, in addition to the distribution of parking lots, provides easy access to all the major high-use facilities throughout campus. Key drop-off locations will need to be identified in order to accommodate the large crowds at Morgan, Dunn, Foy Recreation, Governor's Stadium, Trahern and Mass Communication/Music.

CAMPUS CHARACTER?
(identity)

- urban in nature
- close physical relationships
- clearly defined spaces
- open space is a premium



- open space is focal point
- separation of pedestrians and vehicles
- pastoral landscape responding to site characteristics
- free flowing form (non geometric)
- random building locations

(preservation of the natural landscape)

- pedestrian and vehicular circulation integrated
- linear spaces providing connection
- geometric landscape forms
- rational building locations

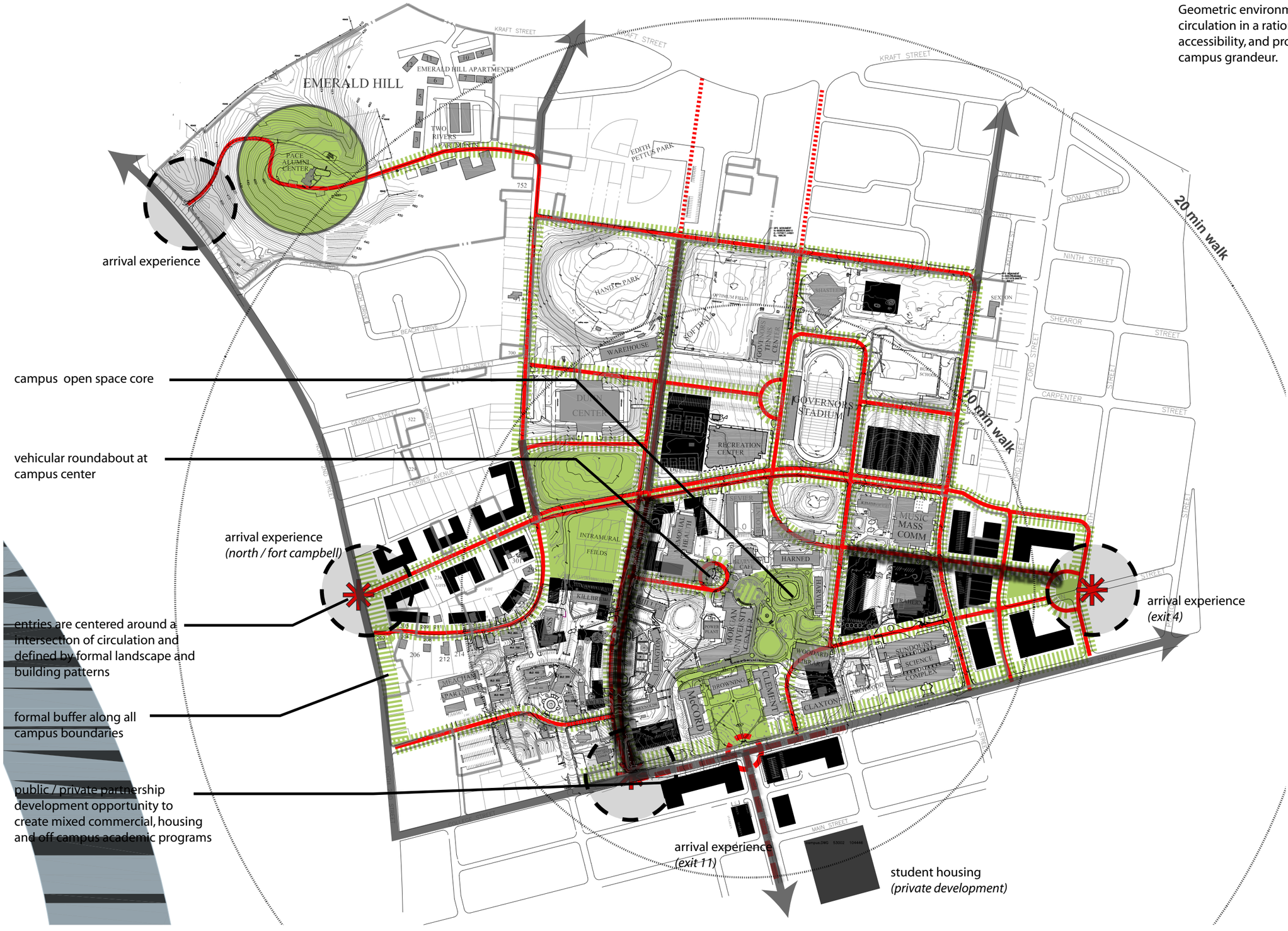
- rural in nature
- visual spatial relationships
- spaces are less defined
- open space is the common denominator

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

OCTOBER 2006
V.A figure 1

CHAMPS ALLEE PEAY

Geometric environment integrating pedestrian and vehicular circulation in a rational linear form accentuating sightlines, accessibility, and promenade features to create a sense of campus grandeur.



arrival experience

campus open space core

vehicular roundabout at campus center

arrival experience *(north / fort campbell)*

entries are centered around a intersection of circulation and defined by formal landscape and building patterns

formal buffer along all campus boundaries

public / private partnership development opportunity to create mixed commercial, housing and off campus academic programs

arrival experience *(exit 11)*

student housing *(private development)*

arrival experience *(exit 4)*

Legend:

- mulitmodal corridors
- major municipal corridors
- open space
- development zones
- existing buildings
- main entries

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

OCTOBER 2006

V.A figure 2

KARST CAMPUS

Pastoral open space environment responding to the site characteristics separating pedestrians and vehicles in a free flowing form.

pedestrian routes may serve as recreation trails and provide connection to the city trail system

arrival experience

major pedestrian routes serve as limited access for maintenance, shipment, and safety vehicles

pedestrian routes flow through the campus core in a car free environment

buildings are oriented towards the open space to enhance the natural landscape

entries are centered around a open space which is contiguous through the entire campus

arrival experience *(north / fort campbell)*

arrival experience *(exit 11)*

arrival experience *(exit 4)*

public vehicular access to the core of campus is removed *between (Marion, North 8th, College, and Drane)*

20 min walk

10 min walk

Legend:

- central open space
- major pedestrian routes
- development zone
- existing building
- main entries
- major roadways

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

OCTOBER 2006

V.A figure 3

T e c h n i c a l M e m o r a n d u m

Date March 2007

Project Austin Peay State University Master Plan

Subject V. Preliminary Physical Master Plan
B. Selection of Preferred Alternative

From HGA, Inc

To Austin Peay State University

The objective of the work element is to prepare a Preliminary Draft Physical Master Plan. Following review and discussion of the two (2) Alternative Master Plan Options with representatives of APSU, a Preliminary Physical Master Plan was developed. The Preliminary Plan incorporates some elements from each alternative, as well as responding to APSU's objectives and preferences.

1. Plan Description

The Preliminary Plan builds upon the existing campus structure and natural site amenities to create a pedestrian campus core. This concept embraces open space as one of the guiding principals influencing the layout and arrangement of new buildings. The plan proposes to create a contiguous open space flowing throughout campus, defining pedestrian circulation and future building sites. This approach preserves and strengthens the historic quadrangle extending many of its qualities to other areas of the campus. New building locations respond to site characteristics preserving the natural landscape.

The arrangement of buildings creates a hierarchy of spaces within the campus. The large continuous open space winding through the center of campus is intended to become the major formal public space, accessible to the entire campus community. This central space is defined by a series of building types ranging from student housing to academic. Smaller spaces are created between these buildings, off to the side of the central space, connecting portions of campus together. Small intimate spaces are created at the forecourt to many of the buildings offering daily breakout areas in a semi-tranquil environment.

The proposed concept establishes a consistent campus style and form that supports and strengthens the "sense of place". Overall, the plan strives to meet the physical goals and objectives that were established as part of the preliminary on-campus meetings.

Refer to the following Preferred Alternative Figure 1.

2. Building Use

This plan articulates many of the concepts reflected in the previous alternatives, in particular, the creation buildings precincts around a pedestrian core. The plan takes advantage of the existing site characteristics to distribute buildings around open space. Buildings are specifically organized to create larger precincts or districts. Three (3) major precincts are proposed a residential precinct (west side), academic precinct (east side), and an athletic precinct (north side).

New building sites are used to define and articulate the extension of the campus core. For example, the new academic precinct on the east side of campus, across 8th Street, extends the campus core qualities eastward. The removal of surface parking in this area reinforces a greater sense of cohesion and pedestrian-only circulation through the center of campus. New buildings define open space corridors flowing through campus in a free flowing form linking a new west campus entry with the campus core. Three areas within the existing campus core have been identified for future development, specifically Trahern, the Library and Claxton. West of 8th Street, a new quadrangle and gracious entry / drop-off area is formed between five (5) new buildings. Together the new buildings and open space create a strong visual impression and sense of grandeur for those coming to campus.

Buildings on the west side of campus expand upon the existing residential configuration to create a larger unified residential precinct. New residential buildings respond to the existing site characteristics and campus infrastructure to create a cohesive pedestrian friendly environment. The outdated existing residential halls of Rawlings, Killbrew, and Cross in addition to the scattered parking lots would be removed. New housing facilities would be oriented around a common open space helping bridge existing facilities with new facilities. To the extend possible, new buildings are proposed to work with the existing topography to create parking below and housing above, creating and integrated building preserving the natural site qualities. New housing facilities are also proposed along Marion Street extending the campus further east to North Second Street. The buildings help form a new forecourt or entry area for the east side of campus. All new facilities are proposed to have a “public” front door facing the open space and a “service” back door facing the parking / roadway. Overall the build configurations help to establish a contiguous open space throughout campus.

The athletic and recreation precinct on the north side of campus (north of Marion Street) is enhanced through the introduction of new facilities and structured parking. A portion of Summer Street is proposed to be removed and converted to open space. Additionally, the large surface lot between the Dunn Center and Governors Stadium is proposed to be reconfigured enabling a new outdoor athletic walk / open space be constructed between the two. The new space would serve as the center piece for all sporting related activities providing a commonality between them for rallies, tailgating, and game day celebrations. The space also provides a bridge back to the campus core, expanding upon the pedestrian environment.

A outdoor recreation and education precinct is created on the far northwest end of campus, defining an extension of open space and pedestrian circulation north towards Emerald Hill. Several locations for new apartment / family style housing are sited adjacent to existing apartments, providing expansion opportunities. Additionally, a new community education / recreation was sited to provide outreach opportunities between APSU and the community.

3. Pedestrian Circulation

Pedestrian pathways are concentrated at the core of campus, helping to define the primary axis and uniting the campus. Pedestrian circulation routes traverse through open spaces connecting buildings and parking, contributing to the campus experience for students, faculty, staff, and visitors. The major pedestrian routes running east / west provide connection from the new campus entries to the campus core, bridging together the academic and residential precincts. The major north / south pedestrian routes connect the athletic and recreation precinct to the campus core, bridging the gap across Marion Street. The pedestrian routes in the far northwest side of campus serve as recreation trails and link Emerald Hill with the campus core. Overall the pedestrian routes create a campus matrix providing access to areas in a safe and aesthetically pleasing

manner. Pedestrian circulation routes function as the primary mode of transportation within the campus and corresponding site characteristics.

4. Parking and Vehicular Circulation

The Preferred Alternative shows several reconfigurations of roadways and parking across campus. In the southwest corner of campus Drane, between Memorial Health, and McReynolds is proposed to be closed and converted to open space, with a vehicular terminus/roundabout at each end. The terminus at the south end provides vehicles with an orientation on campus and major drop-off area. A new parking structure is also proposed adjacent to the roundabout, south of McReynolds, providing sufficient parking adjacent to the campus core in an efficient manner. The proposed new parking structure may take advantage of the topography to hide a level of parking below the College Street elevation. Additionally, a formal vehicular drop-off is proposed on the backside of the University Center providing access to the campus core for major events. The formal drop-off embraces the backside of the University Center and neglected open space behind Ellington. The new drop off is also conveniently adjacent to the new parking structure along College Street and Drane Street.

The west side of campus is the Castle Heights neighborhood, the location of a large student housing surface parking lot accessible to a variety of existing and proposed new housing facilities. Marion Street, within the center of campus, is proposed to be enhanced with streetscape elements and a boulevard helping to unify the campus visually and physically. The proposed improvements would slow traffic and help with the creation of campus identity (i.e. a single campus environment).

Parking and vehicular circulation within the campus core is proposed to be removed and converted to open space. The core is proposed to be pedestrian oriented with vehicular movement occurring along the periphery. Limited access will be provided within the core for service, maintenance, and safety related vehicles. Summer Street between Marion Street and Governors Stadium is proposed to closed and converted to open space and the parking lot between Governors Stadium and the Dunn Center is proposed to be reconfigured and converted to open space. The proposed conversion creates open space opportunities at the core of the athletic and recreation precinct and improves access to parking.

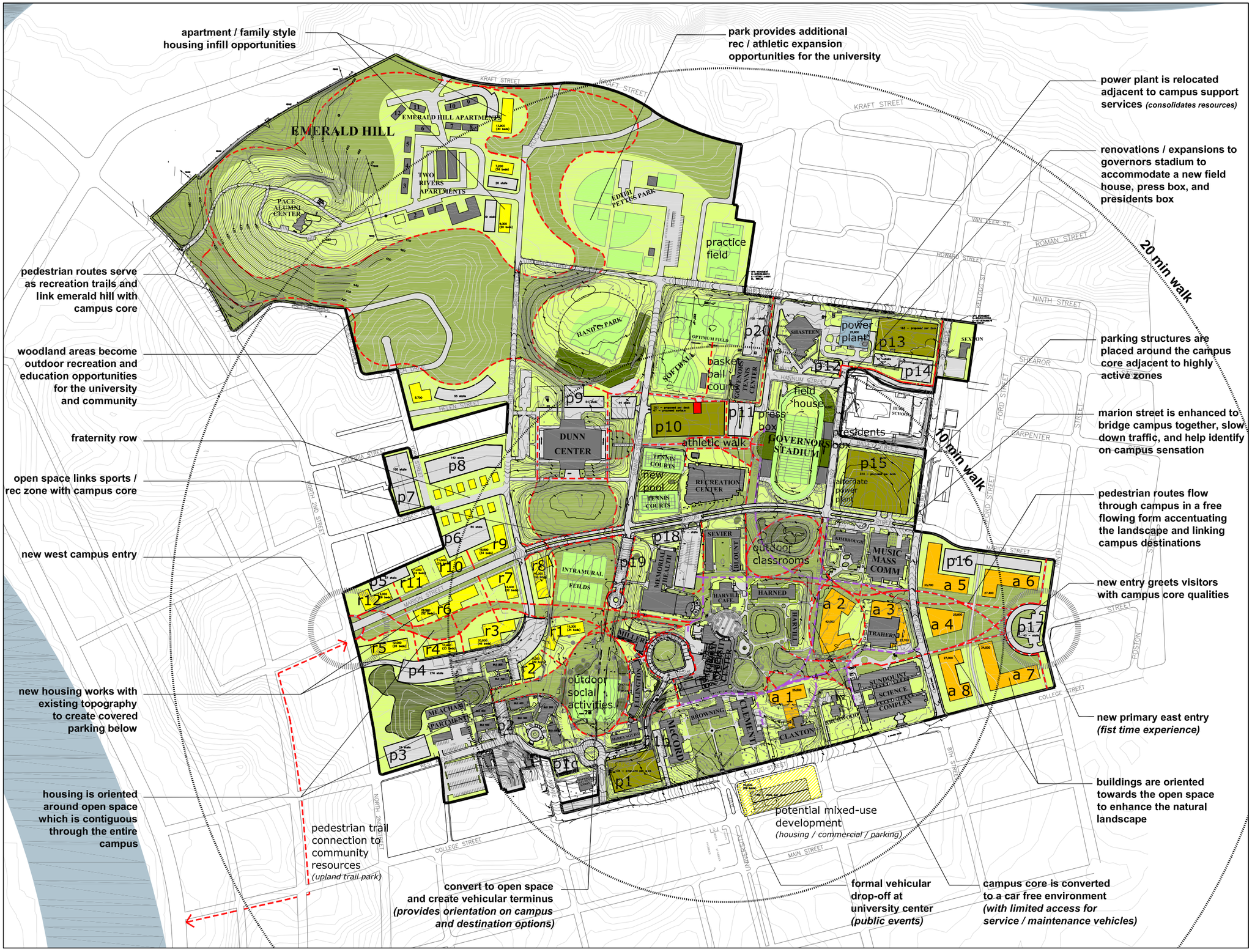
New gateways are proposed on the west end of campus of campus along 9th Street and east end of campus along north 2nd Street to improve wayfinding and campus entry in addition to the overall “sense of arrival”.

Parking lots are distributed around the edges of campus to provide easy access to all the major high use facilities. Smaller lots along the west side of campus have been unified to reduce confusion and increase parking capacity. New structured parking facilities are proposed adjacent to the campus core and athletic areas to increase parking capacity, reduce confusion, and create equal access opportunities for everyone.

5. Community Outreach

The Preferred Alternative provides opportunities for community development, academic outreach, and recreational development. The plan offers economic, social, and environmental improvements for the campus and community. Gateway and economic nodes are proposed along the south side of campus along College Street, on the east side of campus along 9th Street, and on the west side of campus along North 2nd Street. On the northwest end of campus opportunities for community recreation and education exists within the proposed woodland areas and pedestrian trails.

preferred master plan alternative



Legend:

- Existing Building
- Core Open Space
- Secondary Open Space
- PE / Rec Fields
- New Academic Buildings
- New Housing
- New Structured Parking
- Pedestrian Route
- Limited Service Vehicles

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

FEBRUARY 2007

V.B figure 1

T e c h n i c a l M e m o r a n d u m

Date March 2007

Project Austin Peay State University Master Plan

Subject VI. Physical Master Plan
A. Land and Building Use

From HGA, Inc

To Austin Peay State University

The objective of this work element is to provide a clear direction for land and building use as part of the future development for the Physical Master Plan.

1. PROPOSED LAND AND BUILDING USE – MAIN CAMPUS

The Master Plan proposes to maximize infill building sites on the APSU campus, with the intent of strengthening the existing land use precincts. This campus' growth pattern creates a higher, more efficient density and contributes to the formation of organized and well structured outdoor spaces. Future buildings are proposed to be no more than three (3) stories to respect the existing campus scale.

The proposed master plan builds on current land use patterns and emphasizes strengthening current precincts. The existing housing precinct on the west side of campus has been expanded to create a larger housing zone, centered around a series of open spaces. Administrative and Support Services remain along at the center of campus north of College Street. Student Services and Student Life are also centrally located along the major pedestrian walks linking the entire campus. Athletics and Physical Education complexes remain clustered together along north end of campus. The physical plant is proposed to be relocated from the center of campus towards the campus periphery, several sites are promising ranging from adjacent to Shasteen to becoming co-located with new academic buildings. Campus maintenance service is proposed to remain on the northeast side of campus. The eastern portion of the main campus has been expanded and reserved for future academic buildings helping to create a new quadrangle and entry forecourt. The northwest portion of campus has been expanded south towards the main campus, bridging the gap between. The land has been reserved for athletic and recreational related uses.

Refer to the following Building Use Figure 1.

Community development, academic outreach, and recreational development opportunities are also proposed along various portions of the campus periphery. The plan offers economic, social, and environmental improvements for the campus and community. Gateway and economic nodes are proposed along the south side of campus along College Street, on the east side of campus along 9th Street, and on the west side of campus along North 2nd Street. On the northwest end of campus opportunities for community recreation and education exists within the proposed woodland areas and pedestrian trails.

Surface parking has been located at the perimeter of the main campus so that the center can be reserved for additions to existing buildings, new buildings and open space. The goal was to keep the parking convenient and at the same time create a campus that was geared towards pedestrians. For additional information on parking see Part VI.B Circulation and Parking Memorandum.

The University Farm is also anticipated to function as currently exists with the opportunity for future growth and new projects. The University Farm was outside the detailed planning scope of this Master Plan.

master plan
building use

Legend:

Color	Code	Use
	100	Classroom
	200	Lab
	300	Office
	400	Library
	500	Special Use
	600	General Use
	700	Support
	800	Health Care
	900	Residence
		Unassignable

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

MARCH 2007

VI.A Figure 1

T e c h n i c a l M e m o r a n d u m

Date March 2007

Project Austin Peay State University Master Plan

Subject VI. Physical Master Plan
B. Vehicular Circulation and Parking

From HGA, Inc

To Austin Peay State University

The objective of this work element is to provide a clear direction for vehicular circulation and parking as part of the future development for the Physical Master Plan.

Refer to the following Vehicular Circulation and Parking VI.B Figure 1 for a graphic depiction of the circulation and parking.

1. VEHICULAR CIRCULATION AND PARKING

The vehicular circulation and parking recommendations are in response to the overall vision of the proposed Physical Master Plan. Specific recommendations include the following:

Vehicular Circulation:

A. *Marion Street:* Streetscaping improvements and the addition of a boulevard are proposed along Marion Street between North 2nd Street and 8th Street to help bridge the gap between the north and south side of campus. The improvements are envisioned to help soften the existing barrier permitting a fluid movement between both sides, both visually and physically in terms of pedestrian crossings. The improvements are also envisioned to slow down traffic evoking a sense of arrival onto campus, when entering from adjacent roadways. Once on the roadway vehicles should experience qualities of being immersed within an academic institution, setting it self apart from other roadways and contributing to the “sense of place”.
B. *Drane Street:* Drane Street between Memorial Health and McReynolds is proposed to be closed and converted to open space. The closure creates a vehicular terminus on the south end of campus off College Street. The terminus creates a new roundabout or campus drop-off / entry. The terminus helps orient vehicles as to their location on campus and provides glimpses into the campus core. The terminus on the north side of the road closure creates another roundabout / drop-off point along one of the major pedestrian corridors running through the center of campus.
C. *New Roadway – University Center Drive:* A formal vehicular drop-off is proposed on the backside of the Morgan University Center providing access to the campus core for major events. The formal drop-off embraces the backside of the University Center and neglected open space or sinkhole behind Ellington. The new drop-off is also conveniently adjacent to the new parking structure along College Street and Drane Street.
D. *Castle Heights:* The existing Castle Heights roadway is proposed to be expanded upon to provide bays of parking on both sides. The roadway itself transitions into a

large surface parking lot serving both existing and new residential housing facilities on either side. The roadway is envisioned to be a minor local roadway used primarily by APSU residents, service, and maintenance vehicles.

E. *Henry Street:* Henry Street south of Marion Street is proposed to be closed to vehicular traffic and converted to pedestrian corridors and open space as it passes through the campus core. The newly converted space will continue to accommodate limited service vehicles.
F. *Summer Street:* Summer Street between Marion Street and Governors Stadium is proposed to be closed and converted to pedestrian corridors and open space helping to bridge the north and south side of campus. The newly converted space will still accommodate limited service vehicles.
G. *Ninth Street:* Ninth Street, just north of College Street is proposed to become a new campus gateway on the west side of campus. A new academic quad / vehicular forecourt is also proposed as the campus expands west. Ninth Street will serves as the campus threshold for entry onto campus.
H. College Street / University Avenue: The intersection of College Street and University Avenue provides an opportunity to make a meaningful link between the "town and gown" environments. The current commercial uses along College Street are unlikely to continue to be viable suggesting possible acquisition for development of student housing, parking, and other APSU facilities.

Parking:

Existing parking lots on-campus should be reconstructed as is indicated in the following Vehicular Circulation and Parking Figure 1. The reconstructed parking lots simplify the arrangement of parking lots reducing confusion and increasing parking capacity.

Proposed parking lots are also illustrated in the following Vehicular Circulation and Parking Figure 1, in several new locations around the periphery of campus. Several lots are recommended to be added on the west and north side of campus to accommodate additional on-campus housing and enrollment.

As illustrated in the following Vehicular Circulation and Parking Figure 1, there is a more even distribution of parking lots across campus. The distribution enables equal access to all portions of campus, reducing the distance traveled between parking lot and destination.

master plan vehicular circulation and parking

improved roadways to accommodate increased vehicular activity

new parking structure in the heart of the athletic precinct to accommodate major sporting and ceremonial related events

conversion to open space for pedestrian activity

new west entry

reconfigured parking lot to increasing parking capacity and decrease confusion for students

new roadway / public plaza providing vehicular access to the University Center for special events

new roundabout / drop-off (vehicular terminus)

new parking structure to increase parking capacity near the campus core (at a major entry point)

reopen connection to improve campus ingress / egress from the north during special events

new parking structure near the academic core

new boulevard and streetscaping improvements

new vehicular entry gate / drop off with visitor parking

public vehicular activity is removed from the campus core *(limited access vehicles only)*

20 min walk

10 min walk

Legend:

- Existing Building
- New Surface Parking
- Parking Reconfiguration or Expansion
- Vehicular Route
- Limited Access
- Major Pedestrian Route

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

MARCH 2007

VI.B Figure 1

T e c h n i c a l M e m o r a n d u m

Date March 2007

Project Austin Peay State University Master Plan

Subject VI. Physical Master Plan
C. Open Space and Pedestrian Circulation

From HGA, Inc.

To Austin Peay State University

Open spaces are the non-built spaces on campus shaped by buildings, circulation, topography, and vegetation. They are the key component in establishing balance, order, and character for campus, guiding the layout and arrangement of new buildings within the natural site features.

The major design component of the master plan places open space at the center of campus. The location contributes to the overall sense of *place*, which is aesthetically pleasing serving as a community gathering place to stimulate the scholarly mind and support the interaction between students and faculty. The open space also creates a pedestrian precinct that is connected by circulation pathways through which the students and staff pass in their movement from parking, walkways, and buildings. Additionally, open spaces function as the bridge between historic site characteristics and new development contributing to a uniform campus character and an enduring academic environment.

The open space master plan divides the campus into eight (8) major spaces as discussed and described below. The eight open space categorizations include the following:

1. Central Gathering Space,
2. Communal / Social Corridors
3. Passive Outdoor Rooms
4. Residential Courtyards
5. Athletic Parks
6. Streetscaping and Buffers
7. Sport Fields
8. Remediation Areas

Refer to the following Open Space and Pedestrian Circulation Figure 1.

1. Central Gathering Space

The central gathering space, which serves and the heart and backbone to the entire campus, is distributed across campus in eight (8) separate locations. The majority of campus development is positioned around these gathering spaces, creating a balanced, uniformed, and ordered campus character. The open spaces utilize the existing spatial qualities in terms of positioning buildings, massing and scale to establish an overall pattern of quality for the entire campus. The spaces, which are void of vehicles, also

function as the front door to the majority of buildings on campus creating a pedestrian precinct.

The core of campus contains several of these spaces. Two spaces currently exist, the old quad and the central core which were discussed previously in Memorandum III.A.4 Open Space and Pedestrian Circulation. These spaces are proposed to remain within some minor improvements. The plan also proposes to create two new oval shaped gathering spaces to help orient future housing and academic development near the core of campus.

A new oval shaped gathering place is proposed between Ellington and Hand Village, where Drane Street Currently exists. The new open space provides solutions to existing problems and new opportunities for enhancing the overall campus character. The space helps connect student housing with the academic core, provides outdoor social and recreation environments near student housing, addresses stormwater flooding issues affiliated with the existing infrastructure, and guides the location for future housing developments.

The second new oval shaped gathering place is proposed between Harned and the Governors Stadium. A portion of the new space is proposed to occupy the current Marks building location, establishing a relationship between the athletic precinct on the north side of Marion Street with the academic core south of Marion Street. The new gathering space will embrace the existing sinkhole and large mature trees creating a sanctuary and place of refuge within the middle.

Two new central gathering spaces are also proposed on the east and west side of campus helping to establish new development opportunities at the campus periphery. The new space on the west side of campus, between Marion Street and Castle Heights, serves as the focal point for a new housing quad. The space helps orient new buildings along the surrounding roadways while preserving the natural site characteristics within the center. The new space on the east side of campus between 8th Street and 9th Street orients a new academic quad and entry/forecourt drive. The new space is proposed to extend the characteristics and typologies found within the older core out at the new entry/gateway, creating cohesion across campus.

The northern portion of campus is also slightly reconfigured to accommodate a new athletic promenade between the Dunn Center and Governors Stadium. The new space replaces surface parking to create a centralized gathering space for the surrounding athletic facilities. The space is proposed to serve as an area for prep rally's, tailgating, event tents, and ceremonial celebrations for all the University athletic and recreational programs. The location, at the heart of the athletic precinct, adequately serves all facilities and establishes a sense of campus tradition, pride, and grandeur for everyone to experience.

2. Communal / Social Corridors

Communal / Social Corridors are spaces that are created either by the confluence of major circulation routes or element placements that generate activity (i.e. student union, recreation center, etc.). Their function and activity is similar to what one could expect to find in a hallway of a building. They are the social spaces connecting various portions of campus together and are busy with the daily movement of students, faculty, and staff.

There are variety of these types of spaces scattered across, often acting as the linkage between the Central Gathering Spaces. The general character of these spaces is similar in terms of scale, appearance, shape, and activity. They are fairly narrow linear spaces, defined by the sides of buildings. Communal / Social Corridors are some of the most

highly utilized areas on campus with pedestrian movement, as they link the Central Gathering Spaces together and are adjacent to some of the most active facilities on campus. The Communal / Social Corridors are often lined with trees and vegetation emphasizing the movement patterns and overall connectedness to other portions of campus.

3. Passive Outdoor Rooms

Passive Outdoor Rooms are the smaller aesthetically pleasing centerpieces created at the forecourt to major entries. They are often semi-tranquil spaces offering an escape from the indoor environment, complete with small seating areas, garden like paths, and planting beds. The character of Passive Outdoor Rooms varies from one another in terms of scale, appearance, and shape.

There are a variety of Passive Outdoor Rooms scattered across campus. Their functions vary greatly depending on the location. Some of the Passive Outdoor Rooms are intimate personal spaces functioning as entry gardens or entry plazas while others or more communal functioning as a communal front door courtyard or threshold into a larger public space.

4. Residential Courtyards

Residential courtyards are the spaces formed by the layout of student housing. The spaces are intended to be used by residents of the housing facilities for unstructured outdoor activities. The courtyards are typically placed between adjacent residential structures or parking, opposite the large public open spaces (i.e. Central Gathering Space). The Residential Courtyards are scattered throughout various portions of campus in and around the student housing complexes.

5. Athletic Parks

Athletic Parks are the open spaces surrounding the Sport Fields on the north end of campus. They are primarily unstructured leisure spaces containing expansive areas of turf. The Athletic Parks serve as the foundation and setting for Sport Fields, establishing a uniform aesthetic park like quality for the north end of campus.

6. Streetscapes and Buffers

Streetscapes and Buffers are the spaces surrounding all major roadways in and around campus. Their location serves as the stage or forecourt to viewers passing by, contributing to the overall visual perception of campus. Streetscapes and Buffers are often heavily landscaped with a consistent plant pallet adding to the uniform cohesion of the University. They are spaces which are heavily viewed by University students, faculty, staff, and general public yet are rarely inhabited by people. They also function as a physical buffer and transition zone between the University and community.

7. Sport Fields

Sports Fields are sites used for structured outdoor athletic games or informal recreational use. These are concentrated in the north and west central portion of campus and consist of controlled access athletic spaces (baseball field, softball field, football field and practice fields, track and field, and tennis courts) and some informal multi-purpose recreational fields.

8. Remediation Areas

Remediation Areas are opens spaces that have been restored to their natural state for the general protection of the environment. The Remediation Areas enable the re-growth of vegetation to areas that had previously been distributed, helping to stabilize the environment. Two (2) major Remediation Areas exist on campus, one on the southwest side of campus north of West Avenue where the stormwater pond exists, and one large area encompassing the northwest corner of campus. Both Remediation Areas are to assist in stabilizing steep slope and erosion control issues while providing outdoor learning and recreation opportunities.

9. Contributing Elements and Specialty Open Spaces

A. Nodes / Gathering Space:
Gathering Space / Nodes typically form at the crossroads of major pedestrian circulation routs and around activity generation programmed spaces (i.e. Student Center, Library, etc.) Nodes should be supported with group-oriented seating that promotes and accommodates lingering. Nodes are also prime locations for public art, sculpture, and other sensory elements that benefit from exposure and contribute to a pleasant aesthetic environment. Nodes are also effective in supporting campus safety.

B. Gateway Signage:
Gateway signage provides APSU's identification to the adjacent community through text based signs or other University identifiable emblems. Name signs are located at all major vehicular access roads and designed large enough for automotive visibility. All the signage should be convenient and easy to follow from a vehicular perspective, as it will typically be the first experience one has to APSU.

C. Landmarks / Focal Points:
Landmarks and focal points are important contributors to circulation and place identification and useful wayfinding surrogates for signage. Optimally, focal point elements contribute to use and appeal of an adjacent open space and/or circulation system, and/or emphasize proximate building programming. The intersections of major pedestrian circulation routes are highly visible and well used locations worthy of a prominent focal point, delimiting the importance of the space and assisting in movement.

master plan
open space

remediation area
(restoration of natural envionrment for outdoor learning and recreation)

athletic promenade
(central gathering space)

residential courtyard
(outdoor student social opportunities)

student housing quad
(central gathering space)

new community oval
(central gathering space)

new plaza / node
(vehicular drop-off / pickup for major events at the University Center)

athletic park expansion
(expanding upon the unstructured leisure park like opportunities)

new sport fields
(expansion of structured outdoor spaces for athletic and recreation opportunities)

social corridor and streetscaping
(bridging the gap across Marion Street)

new community oval
(gathering space)

communal / social corridors
(linkage between central gathering spaces)

new academic quad and entry / forecourt drive
(gathering space - east side)

streetscape /buffer
(overall visual perception of campus)

expanded central campus core
(gathering space)

ceremonial campus front door / old academic quad
(gathering space)

- Central Gathering Space
- Communal / Social Corridor
- Passive Outdoor Rooms
- Residential Courtyards
- Athletic Parks
- Remediation Areas
- Streetscaping and Buffers
- Sport Fields
- Nodes / Gathering Space
- Gateway Signage
- Landmarks / Focal Points

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

MARCH 2007

VI.C Figure 1

T e c h n i c a l M e m o r a n d u m

Date March 2007

Project Austin Peay State University Master Plan

Subject VI. Physical Master Plan
D. Athletic and Recreational Facilities

From HGA, Inc.

To Austin Peay State University

The Athletic and Recreational Facilities are used by University teams, students, and visitors for games and special events. All the athletic fields are concentrated in the northern portion of campus. The recreational facilities, which include the new Foy Fitness and Recreation Center and Memorial Heal "Red Barn", are located on the northern end of campus. The Athletic and Recreational Fields are in walking distance from campus and act as buffers between the campus and the residential district to the north. Based on interviews with representatives of the Recreation and Athletics Staff, the following list of needs was developed:

- 10,000 SF. field house (north of the football field)
- New presidents box above the football field (east side)
- New press box above the football field (west side)
- General restrooms / concessions for outdoor sporting events
- Athletic practice fields
- Intramural basketball courts
- Nature / bike trail

Refer to the following Athletic and Recreational Facilities Figure 1.

1. Governors Stadium

The proposed upgrades to Governors Stadium will provide the University with a new field house, presidents box, and press box for football, track and field, and special events. The new field house will provide new locker room and training room facilities for athletic teaming events. The field house is proposed to be located on the north side of the existing stadium and integrated within the existing stadium configuration to maximize space and enhance the overall character of the facility.

The new presidents box is proposed to be located above the stadium seating on the east side while the new press box is proposed to be located above the stadium seating on the west side. Altogether the stadium upgrades improve the overall facility helping to re-establish it as a focal point at on the north end of campus.

2. Concession and Restroom Facilities

A new concessions and restroom facility is proposed to be integrated in the new parking structure at the center of the Athletic and Recreation precinct. The facility will provide concessions and restroom amenities for the public during the various outdoor athletic events. The proposed location is easily accessed and centrally located providing equal opportunity for any sporting event.

3. Woodland Preserve / Nature Trail

A new Woodland Preserve / Nature Trail is proposed for the expanded northwest corner of campus. The area is proposed to provide education and recreation opportunities for students, staff, facility and the community. The area is proposed to serve as a catalyst or bridge between the University and Community offering a variety of amenities that promote social interaction, education, and recreation.

4. Athletic Practice and Intramural Fields

New Athletic Practice and Intramural Fields are proposed on the north end of campus across Farris Street, at Edith Pettis Park. The area will include three (3) softball fields, one (1) soccer/football practice field, one intramural field, a playground area, and an outdoor pool.

master plan athletic and recreational facilities

Legend:

- Athletic / Recreational Facili
- Playing Fields
- Recreational Fields
- Woodland Trails
- Courts

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

MARCH 2007

VI.D Figure 1

T e c h n i c a l M e m o r a n d u m

Date	April, 2007
Project	Austin Peay State University
Subject	VI. Physical Master Plan E. Campus Infrastructure
From	I.C. Thomasson Associates, Inc. / Barge Cauthen and Associates
To	Austin Peay State University

The objective of this work is to explore further the most plausible alternative concepts for expanding the campus infrastructure to meet the future needs of the campus based on the projected growth.

1. DOMESTIC & FIRE PROTECTION WATER

Introduction

The proposed Master Plan values are broken up into two planning periods (5-Year and Long Range). As such, the 5-Year Planning Period will include all of the proposed residential buildings (r1-r12) and a few of the academic buildings (a2-a3). The Long Range Planning Period will include the remaining academic buildings (a1, a4-a8).

Recommendations

A. Residential Development Zone (5-Year Planning Period) – The residential development zone will have an approximate total water usage value of 113,400 GPD and associated peak flow of 0.70 cfs. Given that the estimated water usage for the proposed student residential development zone will be much larger than the existing water usage associated with the current low density residential development and the relative age of the existing infrastructure, new water mains will be needed. The proposed water system improvements shown on the generalized Proposed Water Plan (VI.E.1 Figure 1) will total approximately:
   - 2500 L.F. of 8” DIP
   - 4 Tapping Sleeves & Valves
   - 9 Fire Hydrants
   - In addition, several building connections will be needed.
   -

B. Academic Development Zone (5-Year Planning Period) – The academic development zone will have an approximate total water usage value of 19,410 GPD and associated peak flow of 0.12 cfs. Given that this estimated water usage for the proposed academic development zone will be only slightly larger (0.07cfs) than the existing water usage associated with the current academic development in this area, no water improvements will be needed.

C. Academic Development Zone (Long Range Planning Period) – The academic development zone will have an approximate total water usage value of 51,180 GPD and associated peak flow of 0.32 cfs. Given that the estimated water usage for the proposed academic development zone will be much larger than the existing water usage associated with the current low density residential development and the relative

age of the existing infrastructure, new water mains will be needed. The proposed water system improvements shown on the generalized Proposed Water Plan (VI.E.1 Figure 1) will total approximately:

- 1400 L.F. of 8" DIP
- 4 Tapping Sleeves & Valves
- 5 Fire Hydrants
- In addition, several building connections will be needed.

2. ELECTRIC POWER

Other than conditional issues discussed in Section III, there is no specific need to expand the electrical system to serve the proposed new buildings.

3. SANITARY SEWER

Recommendations

A. Residential Development Zone (5-Year Planning Period) – The residential development zone will have an approximate total sanitary sewer usage value of 113,400 GPD and associated peak flow of 0.70 cfs. Given that the estimated sanitary sewer usage for the proposed student residential development zone will be much larger than the existing sanitary sewer usage associated with the current low density residential development and the relative age of the existing infrastructure, new sanitary sewer mains will be needed. The proposed sanitary sewer system improvements shown on the generalized Proposed Storm & Sanitary Sewer Plan (VI.E.3 Figure 1) will total approximately:

- 2500 L.F. of 8" PVC, SDR-35 pipe
- 10 concrete manholes
- In addition, several building connections will be needed.

B. Academic Development Zone (5-Year Planning Period) – The academic development zone will have an approximate total sanitary sewer usage value of 19,410 GPD and associated peak flow of 0.12 cfs. Given that this estimated sanitary sewer usage for the proposed academic development zone will be only slightly larger (0.07cfs) than the existing sanitary sewer usage associated with the current academic development in this area, no sanitary sewer improvements will be needed.

C. Academic Development Zone (Long Range Planning Period) – The academic development zone will have an approximate total sanitary sewer usage value of 51,180 GPD and associated peak flow of 0.32 cfs. Given that the estimated sanitary sewer usage for the proposed academic development zone will be much larger than the existing sanitary sewer usage associated with the current low density residential development and the relative age of the existing infrastructure, new sanitary sewer mains will be needed. The proposed sanitary sewer system improvements shown on the generalized Proposed Storm & Sanitary Sewer Plan (VI.E.3 Figure 1) will total approximately:

- 1100 L.F. of 8" PVC, SDR-35 pipe
- 7 concrete manholes
- In addition, several building connections will be needed.

4. STEAM AND CHILLED WATER

As discussed in Section IV there are a number of alternative ways to serve the growing steam and chilled water needs of the campus. The three most likely to be implemented are discussed here.

- Expand the existing plant. Add a third boiler in the central plant sized at 33,500 PPH like the existing summer boiler. This would provide full capacity for the undiversified load and allow most of the load to be carried even if one boiler were out of operation. A fourth (1200 ton) chiller would be required to meet the increased cooling load and give the plant greatly longed for redundancy. Space constraints unfortunately make this option very difficult. The central plant is wedged in between the University Center and one of the campus's infamous sink holes, and there is very little room to expand beyond the footprint of the existing building. It has the further disadvantage of putting more mechanical equipment in view and within earshot of the University Center. Anticipated costs for this option are estimated at approximately $2,000,000 to $3,000,000 depending on how difficult the challenges of the geography are to overcome. This could include moving electrical equipment or cantilevering over the sinkhole. In addition to the space constraints, aesthetic issues make this a less than ideal option.

- Relocate the entire plant to a site on campus that has more room. The new plant would have three 35,000 PPH boilers and three 1200 ton chillers. Of the several possible locations shown in VI.E.4 Figure 1, the site adjacent to Shasteen is the least intrusive on the campus master plan concept. It does, however, require more piping to tie back into the existing distribution system. For redundancy reasons it is recommended that the steam and chilled water be distributed through at least two branches resulting in 3600 linear feet of new piping before the new plant it tied into existing piping. The estimated probable cause of construction of this concept is approximately $10,000,000 to $12,000,000 depending on how much equipment from the existing plant is re-used.

- Install a satellite plant in one of the sites shown in VI.E.4 Figure 1. Because a satellite plant would be smaller and possibly simpler to disguise within the architecture of a new or remodeled building, it could be acceptable to locate the satellite plant closer to the heart of campus and the heating and cooling loads. The most advantageous location would be directly in front of Trahern. However, this location is already slated to be occupied by proposed academic building A2. These projects could be achieved at the same time, but the renovation of Trahern, most likely to be funded first, will require additional cooling capacity to serve its increased footprint. The next best option is north of Kimbrough. This would locate new steam and chilled water production into the campus distribution system precisely where most of the future growth is anticipated. This satellite plant would consist of one 33,500 PPH boiler and one 1200 ton chiller similar to the central plant expansion. A second chiller would be needed to provide back-up and meet the needs of the long range plan, but this would not be necessary for the five year growth. The estimated probable cost of construction for this project is $2,750,000 to $3,500,000. While this is more than the central plant expansion for the same growth in capacity, it does not have the disadvantage of being cramped for space or for increasing the size and impact of what is considered by many to be a very visible campus eyesore. If the disadvantages of having chillers and boilers in two places are not too problematic for the campus physical plant personnel, this could be a reasonable compromise between the first two alternatives. In addition this plant would feed into the distribution system

at a point that would eliminate the need to replace most of the relatively new piping between Clement and the Science Building

Other less likely options include:

- Replace the existing summer boiler with a 64,000 PPH boiler. This could possibly be squeezed into the existing space if some of the electrical equipment were relocated, but again leaves no back-up if a boiler goes down.
- Install individual boilers in the new buildings. This would further decentralize boiler operation and maintenance, utilize valuable space in the new buildings, and require a stack and a cooling tower at each building, which can be difficult to treat aesthetically.

The choice between these options would best be made by performing a more thorough economic analysis than can be included in the scope of this master plan study. The analysis should consider the costs of new equipment, operating costs, and equipment and distribution replacement costs that are expected to be incurred due to conditional issues discussed in Section II.B.

The distribution system must also be considered in evaluating these choices. Several of the proposed new buildings sit directly atop existing steam and chilled water lines, particularly in the area between Trahern and Harville as shown in VI.E.4 Figures 2 and 3. If the buildings are actually built where shown, these lines will need to be relocated. The lines to Trahern, which are 45 years old, are included on the list of pipes to be replaced because of age, but the lines to Kimbrough and Music Mass Communication would otherwise be left in place.

Tables VI.E.4.1 and VI.E.4.2 show how adding the buildings proposed in the master plan would tie into the existing system. This also depicted graphically in VI.E.4 Figures 4 and 5. Table VI.E.4.1 shows the recommended steam flow through each major branch of the system. This is based on a maximum pressure drop of 1 PSIG/ 100 foot of pipe to ensure that there is adequate steam pressure available for the end buildings. The total flow is slightly beyond the recommended flow for each branch. If the central plant is kept at its present location, these sizes and flows will need to be evaluated more carefully to determine more precisely the flow and pressure drop in each section of the pipe.

From these it is clear that the East branch will need to absorb the great majority of the new campus growth. Therefore locating a satellite plant or relocating the central plant in its vicinity would keep distribution costs lower than for the other proposed locations. Therefore, the proposed locations shown near Trahern, Harned, and Kimbrough are most advantageous from a hydraulic and distribution cost point of view. Campus aesthetics would probably favor the Shasteen location.

The chilled water lines would need to be extended on the East loop to pick up the new buildings. Under the five year scenario, the existing line sizes appear to be adequate. However the long range plan would need to include increasing the size of the lines beginning at Clement if the central plant stays at the same location. A satellite plant on the west side of campus could tie in closer to the new science building leaving the rest of the relatively new piping intact.

One other topic that frequently comes up with central plant design is the feasibility of cogeneration. While “cogen” stands the best chance of being feasible in a centralized energy facility, the economics depend heavily on the relationship between the cost of the fuel and the cost of electricity. Coal has traditionally been the low cost fuel for which cogeneration has worked best. The recent trend of using gas turbines and heat recovery steam generators (HRSG’s) can work at a facility with a single feed for the campus so that

the electricity can be used by the campus rather than selling back to the utility. This also depends on the price of gas, which has been elevated for the past three years. This would not be an easy retrofit for APSU at the current since the switchgear would need to be relocated next to the steam generation. Further study would be required to determine if cogeneration could be economically feasible.

5. STORM SEWER

Recommendations

A. Residential Development Zone (5-Year Planning Period) – Given that the estimated impervious surface area for the proposed student residential development zone will be much larger than the existing impervious surface area associated with the current low density residential development, a new stormwater detention facility and associated conveyance system will be required. The proposed stormwater detention facility and associated conveyance system shown on the generalized Proposed Storm & Sanitary Sewer Plan (VI.E.3 Figure 1) will total approximately:
    - 2500 L.F. of 18" RCP, CL-III pipe
    - 13 concrete manholes
    - Expansion of pond / sinkhole near Meacham Apartments for stormwater detention.
    - In addition, several building connections will be needed.

B. Academic Development Zone (5-Year Planning Period) – Given that the estimated impervious surface area for the proposed academic development zone will be very near the existing impervious surface area associated with the current academic development in this area, no stormwater improvements will be required.

C. Academic Development Zone (Long Range Planning Period) – Given that the estimated impervious surface area for the proposed academic development zone will be much larger than the existing impervious surface area associated with the current low density residential development, a new stormwater detention facility and associated conveyance system will be required. The proposed stormwater detention facility and associated conveyance system shown on the generalized Proposed Storm & Sanitary Sewer Plan (VI.E.3 Figure 1) will total approximately:
    - 700 L.F. of 18" RCP, CL-III pipe
    - 4 concrete manholes
    - Stormwater detention.
    - In addition, several building connections will be needed.

6. TELECOMMUNICATIONS AND DATA

The network for both copper and fiber is in place in the areas where new buildings are projected. The concept design for serving specific areas cannot be undertaken until the functions and equipment of each building have been determined. This design should be the subject of a more detailed study once the building characteristics have become more defined.

7. NATURAL GAS

The natural gas network on campus does not require modification to meet the needs of the campus growth.

master plan

Proposed Water Plan

Legend:

- Existing Water Line
- Proposed Water Line
- Future City Of Clarksville Water Line Improvements
- (6) Denotes Water Line Size (Inches)

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

MARCH 2007

VI.E figure 1

master plan

Proposed Storm and
Sanitary Sewer Plan

Legend:

- Existing Storm Sewer
- Proposed Storm Sewer
- Existing Sanitary Sewer
- Proposed Sanitary Sewer
- (6) Denotes Line Size (Inches)

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

MARCH 2007

VI.E figure 2

TO NEW
POWER PLANT

CENTRAL PLANT LOCATIONS

Legend:

POSSIBLE NEW CENTRAL PLANT LOCATIONS

I.C. Thomasson Associates, Inc.

CONSULTING ENGINEERS
2950 KRAFT DRIVE, SUITE 500
NASHVILLE, TENNESSEE 37204
PHONE (615) 346-3400
FAX (615)346-3550
www.icthomasson.com

ICT PROJECT No. JOB#206435

SCALE: 1"=200'-0"

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

APRIL 2007

VI.E figure 3

STEAM DISTRIBUTION

TO NEW POWER PLANT

DUNN CENTER

TENNIS COURTS

TENNIS COURTS

RECREATION CENTER

DRANE STREET

SUMNER STREET

GOVERNORS STADIUM

HENRY STREET

BURT SCHOOL

BAILEY STREET

8TH STREET

MARION STREET

MARION STREET

SEVIER

BLOUNT

KIMBROUGH

MUSIC

MASS COMM

INTRAMURAL FEILDS

MEMORIAL HEALTH

HARVILL CAFE

HARNED

HARVILL

TRAHERN

a 2

a 3

a 4

a 5

3" STM

6" STM

4" STM

2 1/2" STM

5" STM

8" STM

GOVERNORS LANE

MILLER

MORGAN UNIVERSITY CENTER

POWER PLANT

ELLINGTON

BROWNING

CLEMENT

CLAXTON

ARCHWOOD

SUNDQUIST SCIENCE COMPLEX

McREYNOLDS

McCORD

BLD 400

BLD 200

BLD 300

BLD 100

BLD 800

BLD 700

HOME AVENUE

COLLEGE STREET

℄ COLLEGE STREET

℄ EIGHTH STREET

8TH STREET

Legend:

- EXISTING OLD STEAM LINE
- EXISTING NEW (1980 & LATER) STEAM LINE
- PROPOSED STEAM LINE TO NEW PLANT

I.C.Thomasson Associates, Inc.

CONSULTING ENGINEERS
2950 KRAFT DRIVE, SUITE 500
NASHVILLE, TENNESSEE 37204
PHONE (615) 346-3400
FAX (615)346-3550
www.icthomasson.com

ICT PROJECT No. JOB#206435

SCALE: 1"=100'-0"

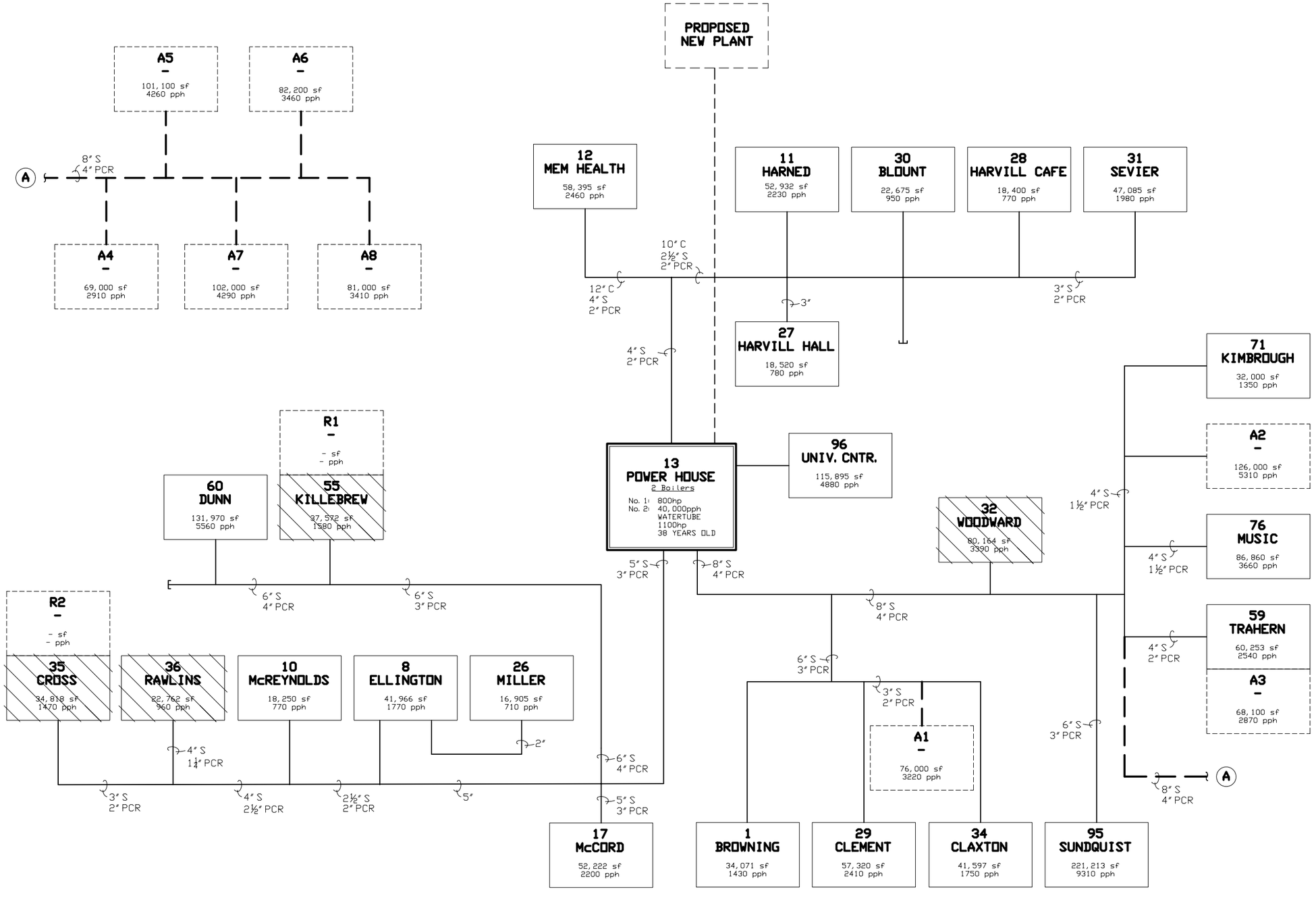
APSU

AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

APRIL 2007

VI.E figure 4

STEAM BLOCK DIAGRAM



Legend:

S STEAM
C CONDENSATE
P PUMPED CONDENSATE RETURN
——— EXISTING PIPING
— — — FUTURE PIPING

BLDG. No. BLDG. NAME
GROSS SQ. FOOT STEAM LOAD
EXISTING BUILDING

BUILDING TO BE DEMOLISHED

FUTURE BUILDING

ICT
I.C. Thomasson Associates, Inc.
CONSULTING ENGINEERS
2950 KRAFT DRIVE, SUITE 500
NASHVILLE, TENNESSEE 37204
PHONE (615) 346-3400
FAX (615)346-3550
www.icthomasson.com
ICT PROJECT No. JOB#206435

HGA

APSU

AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

APRIL 2007

VI.E figure 5

CHILLED WATER DISTRIBUTION

TO NEW POWER PLANT

DUNN CENTER
TENNIS COURTS
TENNIS COURTS
RECREATION CENTER
GOVERNORS STADIUM
BURT SCHOOL
DRANE STREET
SUMNER STREET
HENRY STREET
BAILEY STREET
8TH STREET
FORD STREET
MARION STREET
MARION STREET
SEVIER
BLOUNT
KIMBROUGH
MUSIC
MASS
COMM
INTRAMURAL
FEILDS
MEMORIAL HEALTH
DRANE STREET
HARVILL CAFE
HARNED
HENRY STREET
8TH STREET
a 5
4" CHW
3" CHW
6" CHW
3" CHW
GOVERNORS LANE
a 2
6" CHW
a 3
TRAHERN
a 4
HARVILL
MILLER
10" CHW
8" CHW
POWER PLANT
MORGAN UNIVERSITY CENTER
CHW
8" CHW
12" CHW
10" CHW
12" CHW
ELLINGTON
SUNDQUIST
SCIENCE
COMPLEX
BLD 400
BLD 200
BLD 300
BLD 100
BLD 800
BLD 700
3" CHW
8" CHW
BROWNING
CLEMENT
ARCHWOOD
8"
CLAXTON
3" CHW
McREYNOLDS
McCORD
COLLEGE STREET
COLLEGE STREET
8TH STREET
HOME AVENUE

Legend:

- EXISTING OLD CHW LINE
- EXISTING NEW (1980 & LATER) CHW LINE
- PROPOSED CHW LINE TO NEW PLANT

I.C.Thomasson Associates, Inc.

CONSULTING ENGINEERS
2950 KRAFT DRIVE, SUITE 500
NASHVILLE, TENNESSEE 37204
PHONE (615) 346-3400
FAX (615)346-3550
www.icthomasson.com
ICT PROJECT No. JOB#206435

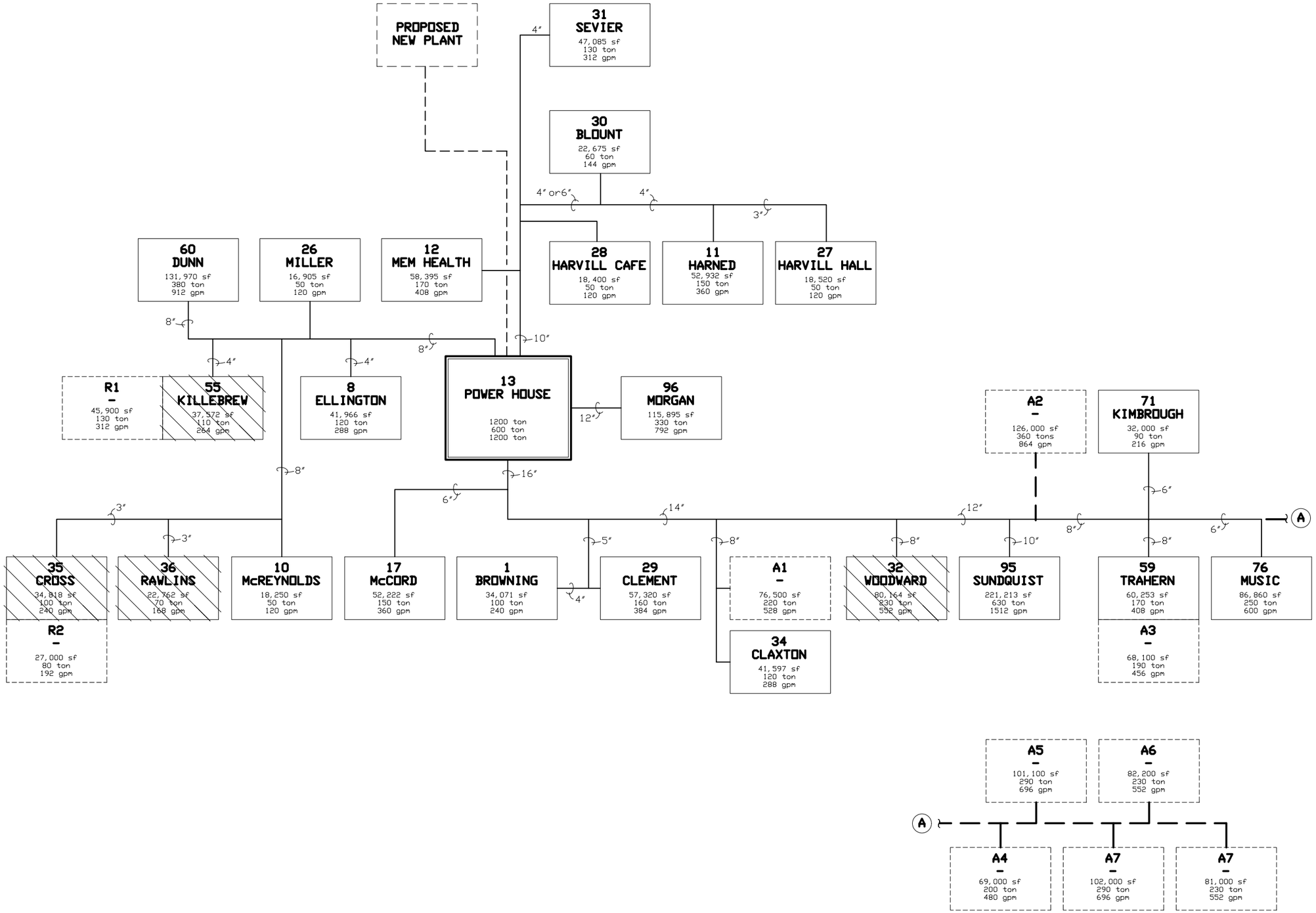
SCALE: 1"=100'-0"

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

APRIL 2007

VI.E figure 6

CHILLED WATER BLOCK DIAGRAM



Legend:

- EXISTING PIPING
- FUTURE PIPING
- BLDG. No. BLDG. NAME — GROSS SQ. FOOT, TONS, GPM — EXISTING BUILDING
- BUILDING TO BE DEMOLISHED
- FUTURE BUILDING

I.C. Thomasson Associates, Inc.

CONSULTING ENGINEERS
2950 KRAFT DRIVE, SUITE 500
NASHVILLE, TENNESSEE 37204
PHONE (615) 346-3400
FAX (615)346-3550
www.icthomasson.com

ICT PROJECT No. JOB#206435

HGA

APSU

AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

APRIL 2007

VI.E figure 7

comprehensive master plan

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

MARCH 2007

VI.F Figure 1

T e c h n i c a l M e m o r a n d u m

Date	March 2007
Project	Austin Peay State University Master Plan
Subject	VII. Implementation A. Phasing and Implementation Plan
From	HGA, Inc.
To	Austin Peay State University

The following memorandum describes the phasing and implementation strategy for realizing the projects identified in the Master Plan as of spring 2007 and may not reflect changes made on campus since that time. This narrative responds to the accompanying cost projections in Table 1, Table 2 and Table 3.

In addition to specific building projects, each phase includes the necessary parking and open space improvements. The summary cost estimate also includes costs such as building demolition and facility renovation requirements that can be associated with a specific phase. Utility infrastructure costs are detailed in VII.B Table 2 and VII.B Table 3.

It should be noted that the square foot budget costs for the major building, open space and utility projects in VII.B Table 1, VII.B Table 2 and VII.B Table 3 represent construction costs only. Any indirect project design and management costs along with building furnishings and other soft cost needs should be evaluated and added to these budgets as appropriate. Costs projections are valid for the year 2007 and include no escalation. Escalation should be applied to each project from 2007 to the actual period of construction. These budgets are derived using dollar-per-square-foot calculations based on past project data and experience with similar types of buildings. Variances from these budgets may occur for several reasons including design specifics, market conditions, program changes, etc.

For the purposes of this document, two phases have been established, where allocation for future building funding and construction has been optimistically assumed. The priority order is most important and the timeframes indicated will likely be longer because of current State budget constraints. Refer to the cost projection spreadsheet and figure drawings at the end of this section.

1. PHASE 1: 0 – 5 YEARS

Phase One includes:

- Trahern – Renovation
- Trahern – Addition
- New Library
- Marks Renovation (Academic / Administration)
- Student Housing Precinct – (1,000) beds totaling (12) new building sites
- New Athletic Filed House (Governors Stadium)

- Presidents Box (Governors Stadium)
- Press Box (Governors Stadium)
- Baseball Stadium – Seating and Dugouts (Hand Park)
- New Outdoor Pool

Campus improvements associated with the implementation of this phase include:

- Demolition of the Woodward Library
- Demolition of Cross Dormitory
- Demolition of Killbrew Dormitory
- Demolition of Rawlings Dormitory
- Demolition of Warehouse Building
- Renovation / Expansion of the Central Core Open Space including landscaping, lighting, site furnishings.
- Implementation of the new Student Housing Precinct. These spaces will help establish balance, order, and character for campus, guiding the layout and arrangement of new buildings while creating a pedestrian precinct.
- Reconfiguration of parking and access drives on the west side of campus around student housing. Reconfigurations include; reducing the number of smaller parking lots by creating a larger contiguous parking lot between student housing facilities. The reconfiguration increases parking capacity, reduces confusion, and provides easy access to student housing and surrounding facilities.
- Community Outreach and Development Opportunities, which may include streetscaping improvements along Marion Street, Housing Opportunities around the periphery of campus, Gateway Opportunities at the intersection of Marion Street and North 2nd Street.

Refer to the following Implementation Plan VII.B Table 1,2 and 3 and the 5 Year Master Plan Figure 1.

2. PHASE 2: +5 YEARS

Phase Two includes:

- *New Academic Quad* – five (5) new building sites and new gateway / entry on the east side of campus.
- Addition to Claxton
- New Community/Education Center in Woodland Area
- New Apartment Style Housing Options in the Emerald Hill Area (3 new building sites)
- New Roadway and Plaza behind University Center
- New Parking Structure and Restrooms/Concessions in heart of the Athletic Precinct (between the Dunn Center and Governors Stadium)
- New Football / Soccer Practice Field
- Three (3) New Intramural Softball Fields
- Four (4) New Intramural Basketball Courts
- Nature / Bike Trail (Woodland Area)

Campus improvements associated with the implementation of this phase include:

- Demolition of Marks
- Demolition of Central Power Plant
- Implementation of the Eastern Campus Quad and Vehicular Entry / Forecourt, providing a new campus gateway and outdoor learning space extending the qualities already established as part of the existing Central Campus Core.

- Implementation of the Western Campus Oval (replacement of Drane Street), providing outdoor recreation and learning opportunities near student housing and a new vehicular roundabout / drop on Drane Street on the south end of campus.
- Implementation of the Central Campus Oval (replacement of Marks), providing a universal gathering place near the heart of campus while bridging the gap between the north and south side of campus (across Marion Street).
- Implementation of the Athletic Promenade (replacement of surface parking), providing an outdoor gathering place at the heart of the Athletic Precinct for ceremonies, tailgating and various athletic events.
- Implementation of Woodland Area, providing outdoor recreation opportunities and onsite classroom learning environments for the University and Community – a Community Outreach and Development Opportunity.
- Reconfiguration of parking and access drives on the north and east side of campus around the Athletic Precinct and new Academic Quad. Specific improvements include a new parking structure and restrooms/concession stand at the heart of the Athletic Precinct (providing easy access to all the athletic and recreational facilities), a new parking structure on the northeast side of campus, and reconfiguration of existing surface lots to increase parking capacity, reduce confusion, and provide easy access to surrounding facilities.
- Design and development of additional open space projects to support campus community and connectivity. Particularly important is strengthen the relationship between the north and south side of campus, linking the entire campus across Marion Street.

Refer to the following Implementation Plan VII.B Table 1,3 and 3 and the +5 Year Master Plan Figure 2.

Preliminary Opinion of Probable Construction Costs
VII.B Table 2 Physical Master Plan (5-Year Planning Period)
Master Plan

Item		Units	Unit Cost	Cost	Total
1	**UTILITY/INFRASTRUCTURE**				$9,213,677.00
	1. Domestic & Fire Water				
	8"	2500 LF	$32.00	$80,000.00	
	Tapping Sleeve & Valve	4 EA	$3,200.00	$12,800.00	
	Fire Hydrant	9 EA	$2,000.00	$18,000.00	
					$110,800.00
	2. Electric Power				
	Ckt. #5 Ductbank	330 LF	$150.00	$49,500.00	
	Replacement Feeders	16000 LF	$8.50	$136,000.00	
	Replacement Ductbank	5333 LF	$125.00	$666,625.00	
	Replacement CJEs	20 EA	$2,500.00	$50,000.00	
	15KV Metal-Clad Swgr.	1 EA	$250,000.00	$250,000.00	
					$1,152,125.00
	3. Sanitary Sewer				
	8"	2500 LF	$32.00	$80,000.00	
	Manholes	10	$3,000.00	$30,000.00	
					$110,000.00
	4. Steam and Chilled Water				
	Replace Old Piping				
	Steam & Condensate				
	2.5" & 1.25"	1250 LF	$123.00	$153,750.00	
	3" & 1.5"	855 LF	$145.00	$123,975.00	
	4" & 2"	1360 LF	$166.00	$225,760.00	
	5" & 2.5"	150 LF	$207.00	$31,050.00	
	6" & 3"	1475 LF	$226.00	$333,350.00	
	Chilled Water				
	3"	665 LF	$202.20	$134,463.00	
	4"	1605 LF	$238.80	$383,274.00	
	6"	175 LF	$363.00	$63,525.00	
	8"	1975 LF	$492.80	$973,280.00	
	10"	655 LF	$615.00	$402,825.00	
					$2,825,252.00
	New Lines from New Shasteen Plant				
	Steam & Condensate				
	8" & 4"	3600 LF	$310.00	$1,116,000.00	
	Chilled Water	LF			
	12"	2000 LF	$764.00	$1,528,000.00	
	16"	1600 LF	$990.00	$1,584,000.00	
					$4,228,000.00
	New Lines from Kimbrough Satellite Plant				
	Steam & Condensate				
	6" & 3"	500 LF	$363.00	$181,500.00	
	Chilled Water				
	12"	500 LF	$764.00	$382,000.00	
					$563,500.00
	5. Storm Sewer				
	18"	2500 LF	$34.00	$85,000.00	
	Manholes	13 EA	$3,000.00	$39,000.00	
	Detention Basin	1 EA	$100,000.00	$100,000.00	
					$224,000.00
	6. Telecommunications & Data				
	7. Natural Gas				

2	**DEMOLITION**				$78,350.00
	1. Domestic & Fire Water				
	6"	2500	LF	$11.00	$27,500.00
	2. Electric Power				
	3. Sanitary Sewer				
	8"	3050	LF	$13.00	$39,650.00
	4. Steam and Chilled Water				
	5. Storm Sewer				
	12"	700	LF	$16.00	$11,200.00
	6. Telecommunications & Data				
	7. Natural Gas				

Preliminary Opinion of Probable Construction Costs
VI. Physical Master Plan (5-Year Planning Period)
Draft Master Plan

	Item		Units	Unit Cost	Cost	Total
1	**UTILITY/INFRASTRUCTURE**					$444,800.00
	1. Domestic & Fire Water					
	8"	2500	LF	$32.00	$80,000.00	
	Tapping Sleeve & Valve	4	EA	$3,200.00	$12,800.00	
	Fire Hydrant	9	EA	$2,000.00	$18,000.00	
	2. Electric Power					
	3. Sanitary Sewer					
	8"	2500	LF	$32.00	$80,000.00	
	Manholes	10		$3,000.00	$30,000.00	
	4. Steam and Chilled Water					
	5. Storm Sewer					
	18"	2500	LF	$34.00	$85,000.00	
	Manholes	13	EA	$3,000.00	$39,000.00	
	Detention Basin	1	EA	$100,000.00	$100,000.00	
	6. Telecommunications & Data					
	7. Natural Gas					
2	**DEMOLITION**					$78,350.00
	1. Domestic & Fire Water					
	6"	2500	LF	$11.00	$27,500.00	
	2. Electric Power					
	3. Sanitary Sewer					
	8"	3050	LF	$13.00	$39,650.00	
	4. Steam and Chilled Water					
	5. Storm Sewer					
	12"	700	LF	$16.00	$11,200.00	
	6. Telecommunications & Data					
	7. Natural Gas					

Preliminary Opinion of Probable Construction Costs
VI. Physical Master Plan (Long Range Planning Period)
Draft Master Plan

	Item		Units	Unit Cost	Cost	Total
1	**UTILITY/INFRASTRUCTURE**					$259,600.00
	1. Domestic & Fire Water					
	8"	1400	LF	$32.00	$44,800.00	
	Tapping Sleeve & Valve	4	EA	$3,200.00	$12,800.00	
	Fire Hydrant	5	EA	$2,000.00	$10,000.00	
	2. Electric Power					
	3. Sanitary Sewer					
	8"	1100	LF	$32.00	$35,200.00	
	Manholes	7		$3,000.00	$21,000.00	
	4. Steam and Chilled Water					
	5. Storm Sewer					
	18"	700	LF	$34.00	$23,800.00	
	Manholes	4	EA	$3,000.00	$12,000.00	
	Detention Basin	1	EA	$100,000.00	$100,000.00	
	6. Telecommunications & Data					
	7. Natural Gas					
2	**DEMOLITION**					$40,900.00
	1. Domestic & Fire Water					
	6"	1400	LF	$11.00	$15,400.00	
	2. Electric Power					
	3. Sanitary Sewer					
	8"	1100	LF	$13.00	$14,300.00	
	4. Steam and Chilled Water					
	5. Storm Sewer					
	12"	700	LF	$16.00	$11,200.00	
	6. Telecommunications & Data					
	7. Natural Gas					

Preliminary Opinion of Probable Construction Costs
VII.B Table 2 Physical Master Plan (Long Range Planning Period)
Master Plan

	Item		Units	Unit Cost	Cost	Total
1	**UTILITY/INFRASTRUCTURE**					$259,600.00
	1. Domestic & Fire Water					
	8"	1400	LF	$32.00	$44,800.00	
	Tapping Sleeve & Valve	4	EA	$3,200.00	$12,800.00	
	Fire Hydrant	5	EA	$2,000.00	$10,000.00	
	2. Electric Power					
	3. Sanitary Sewer					
	8"	1100	LF	$32.00	$35,200.00	
	Manholes	7		$3,000.00	$21,000.00	
	4. Steam and Chilled Water					
	5. Storm Sewer					
	18"	700	LF	$34.00	$23,800.00	
	Manholes	4	EA	$3,000.00	$12,000.00	
	Detention Basin	1	EA	$100,000.00	$100,000.00	
	6. Telecommunications & Data					
	7. Natural Gas					
2	**DEMOLITION**					$40,900.00
	1. Domestic & Fire Water					
	6"	1400	LF	$11.00	$15,400.00	
	2. Electric Power					
	3. Sanitary Sewer					
	8"	1100	LF	$13.00	$14,300.00	
	4. Steam and Chilled Water					
	5. Storm Sewer					
	12"	700	LF	$16.00	$11,200.00	
	6. Telecommunications & Data					
	7. Natural Gas					

Approx. Year Funded	Priority Construction Projects	Location	Floorplate (SF)	Floors	Building Gross SF	Estimated Cost	Funding Source	Notes		$ / SF
	Academic Buildigns:									
0-5	New Library	**a 2**	42,000	3	126,000	22,680,000	TBR	Submitted to TBR (not on list)		$180.00
0-5	Addition to Trahern	**a 3**	22,700	3	68,100	13,620,000	TBR	On the TBR List		$200.00
0-5	Renovation to Trahern				60,253	5,121,505		On the TBR List		$85.00
0-5	Renovation to McReynolds (Academic / Office)				18,633	0		Costs included in existing budget		$0.00
	Housing Units :									
0-5		**r1**	15,300	3	45,900	6,885,000	APSU Foundation	306 beds, incl. some parking capacity		$150.00
0-5		**r2**	9,000	3	27,000	4,050,000	APSU Foundation	180 beds, incl. some parking capacity		$150.00
0-5		**r3**	21,000	3	63,000	9,450,000	APSU Foundation	420 beds, incl. some parking capacity		$150.00
0-5		**r4**	10,400	3	31,200	4,680,000	APSU Foundation	208 beds, incl. some parking capacity		$150.00
0-5		**r5**	12,000	3	36,000	5,400,000	APSU Foundation	240 beds, incl. some parking capacity		$150.00
0-5		**r6**	23,500	3	70,500	10,575,000	APSU Foundation	470 beds, incl. some parking capacity		$150.00
0-5		**r7**	14,400	3	43,200	6,480,000	APSU Foundation	288 beds, incl. some parking capacity		$150.00
0-5		**r8**	15,000	3	45,000	6,750,000	APSU Foundation	300 beds, incl. some parking capacity		$150.00
0-5		**r9**	15,500	3	46,500	6,975,000	APSU Foundation	310 beds, incl. some parking capacity		$150.00
0-5		**r10**	11,000	3	33,000	4,950,000	APSU Foundation	220 beds, incl. some parking capacity		$150.00
0-5		**r11**	11,000	3	33,000	4,950,000	APSU Foundation	220 beds, incl. some parking capacity		$150.00
0-5		**r12**	12,000	3	20,092	3,013,800	APSU Foundation	134 beds, incl. some parking capacity		$150.00
	Demolitions:									
0-5	Woodward Library Demolition				80,614	403,070		Submitted to TBR (not on list)		$5.00
0-5	Cross Dormitory Demolition				34,818	174,090				$5.00
0-5	Killebrew Dormitory Demolition				37,573	187,865				$5.00
0-5	Rawlings Dormitory Demolition				22,762	113,810				$5.00
0-5	Warehouse Building Demolition				18,604	93,020				$5.00
	Parking *(assumes 350 sqft / stall):*									
0-5	Renovate Surface Parking	**p4**			17,150	39,200		49 stalls		$800.00
0-5	New Surface Parking	**p5**			27,300	93,600		78 stalls		$1,200.00
0-5	New Surface Parking	**p6**			96,600	331,200		276 stalls		$1,200.00
0-5	New Surface Parking	**p7**			12,950	44,400		37 stalls		$1,200.00
0-5	New Surface Parking	**p8**			29,750	102,000		85 stalls		$1,200.00
0-5	Renovate Surface Parking	**p11**			34,300	78,400		98 stalls		$800.00
	Roadways:									
	Athletic and Recreation:									
0-5	Field House				10,000	1,350,000				$135.00
0-5	Presidents Box - Govenors Stadium				4,000	700,000				$175.00
0-5	Press Box - Govenors Stadium				4,000	700,000				$175.00
0-5	Baseball Stadium (New Seating and Dugouts)				40,000	1,600,000				$40.00
0-5	New Outdoor Pool							Costs included in existing budget		
	Open Space:									
0-5	Main Quad Renovation / Expansion	**o 2**			55,000	165,000				$3.00
0-5	Student Housing Quad	**o 6**			30,000	90,000				$3.00

Austin Peay State University

Cost Projection and Implementation Plan
VII.B Table 1

Approx. Year Funded	Priority Construction Projects	Location	Floorplate (SF)	Floors	Building Gross SF	Estimated Cost	Funding Source	Notes		$ / SF
Approx. Year Funded	**Priority Construction Projects - Long Term (5+ years)**	**Location**	**Floorplate (SF)**	**Floors**	**Building Gross SF**	**Estimated Cost**	**Funding Source**	**Notes**		**$ / SF**
	Academic Buildigns:									
longterm	Addition to Claxton	**a 1**	25,500	3	76,500	15,300,000	TBR			$200.00
longterm	New Academic Building	**a 4**	23,000	3	69,000	15,180,000	TBR			$220.00
longterm	New Academic Building	**a 5**	33,700	3	101,100	22,242,000	TBR			$220.00
longterm	New Academic Building	**a 6**	27,400	3	82,200	18,084,000	TBR			$220.00
longterm	New Academic Building	**a 7**	34,000	3	102,000	22,440,000	TBR			$220.00
longterm	New Academic Building	**a 8**	27,000	3	81,000	17,820,000	TBR			$220.00
longterm	Community Center Building (Woodland Area)		6,000	1	6,000	1,080,000		Includes parking		$180.00
	Housing Units :									
longterm	Apartment Style Housing (Emerald Hill)		14,000	3	42,000	6,300,000	APSU Foundation	306 beds, incl. some parking capacity		$150.00
longterm	Apartment Style Housing (Emerald Hill)		7,200	3	21,600	3,240,000	APSU Foundation	180 beds, incl. some parking capacity		$150.00
longterm	Apartment Style Housing (Emerald Hill)		9,300	3	27,900	4,185,000	APSU Foundation	420 beds, incl. some parking capacity		$150.00
	Demolitions:									
long term	Marks Building Demolition				18,633	93,165				$5.00
long term	Power Plant Demolition				7,895	39,475				$5.00
	Parking *(assumes 350 sqft / stall):*									
longterm	Renovate Surface Parking	**p1**			5,600	12,800		16 stalls		$800.00
longterm	New Parking Structure	**p2**	46,900	4	187,600	4,288,000		536 stalls		$8,000.00
longterm	New Surface Parking	**p3**			11,200	38,400		32 stalls		$1,200.00
longterm	New Surface Parking	**p9**			36,750	126,000		105 stalls		$1,200.00
longterm	New Surface Parking	**p10**			49,700	170,400		142 stalls		$1,200.00
longterm	New Parking Structure	**p12**	48,300	4	193,200	4,416,000		552 stalls		$8,000.00
longterm	Renovate Surface Parking	**p13**			47,600	108,800		136 stalls		$800.00
longterm	New Surface Parking	**p14**			35,000	120,000		100 stalls		$1,200.00
longterm	New Surface Parking	**p15**			9,800	33,600		28 stalls		$1,200.00
longterm	New Parking Structure	**p16**	57,050	2	114,100	2,608,000		326 stalls		$8,000.00
longterm	New Surface Parking	**p17**			28,350	97,200		81 stalls		$1,200.00
longterm	New Parking Structure	**p18**	109,900	4	439,600	10,048,000		1256 stalls		$8,000.00
longterm	New Surface Parking	**p19**			41,650	142,800		119 stalls		$1,200.00
longterm	New Surface Parking	**p20**			15,750	54,000		45 stalls		$1,200.00
longterm	Renovate Surface Parking	**p21**			44,450	101,600		127 stalls		$800.00
longterm	Renovate Surface Parking	**p22**			17,500	40,000		50 stalls		$800.00
	Roadways:									
longterm	Drane Street @ West Avenue (Roundabout)				20,000	80,000		internal roadway roundabout & demo of existing through road		$4.00
longterm	Central Drive (Behind University Center)				50,000	600,000		w/ major grade change & retaining walls		$12.00
	Athletic and Recreation:									
longterm	Athletic Concession / Restrooms				2,500	375,000				$150.00
longterm	Athletic Practice Field (football / soccer)				65,000	162,500		1 new field		$2.50
longterm	Intramural Fields (softball)				200,000	300,000		field		$1.50
longterm	Intramural Basket Ball Courts				20,000	100,000		4 new courts		$5.00
longterm	Nature / Bike Trail (2.2 miles)					250,000		allowance		
	Open Space:									
longterm	New Quad / Entry Forecourt	**o 1**			128,000	448,000				$3.50
longterm	Universal Gathering Place	**o 3**			110,000	275,000				$2.50
longterm	New Vehicular Entry / Plaza	**o 4**			40,000	120,000				$3.00
longterm	Central Oval - Gathering Place	**o 5**			150,000	525,000				$3.50
	Athletic Promenade	**o 7**			75,000	262,500				$3.50
	Woodland / Recreation Open Space (30 acres)	**o 8**			30	250,000		woodland restoration allowance		

Austin Peay State University

Cost Projection and Implementation Plan
VII.B Table 1

master plan short-term (5 yrs) phasing and implementation

Legend:

- EXISTING BUILDING
- EXISTING ATHLETIC FIELDS
- NEW BUILDING
- BUILDING RENOVATION
- ROADS / PARKING RECONFIGURATION OR EXPANSION
- NEW ROADS / PARKING
- OPEN SPACE
- ATHLETIC FIELDS

0 250 500

APSU

AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

MARCH 2007

VII.C Figure 1

master plan
long-term (5+ yrs)
phasing and
implementation

Legend:

- EXISTING BUILDING
- EXISTING ATHLETIC FIELDS
- NEW BUILDING
- BUILDING RENOVATION
- ROADS / PARKING RECONFIGURATION OR EXPANSION
- NEW ROADS / PARKING
- OPEN SPACE
- ATHLETIC FIELDS

0 250 500

APSU
AUSTIN PEAY STATE UNIVERSITY
CAMPUS MASTER PLAN

MARCH 2007

VII.C Figure 2

University Advancement

Current

Building	Room	Use	SQ FT
Browning	219	Roy Gregory's office	241
	218	Brenda Harrison's office	184
	217	Kimberly Scott's office	132
	216A	Storage	75
	216	Monica Wirts office and Reception	259
	219A	Sharon Silva's office	159
	213	Heather Legg's office	159
	208	Ripp Watts's office	346
	208A	Closet	21
	210	Margret Bentley's office	75
	Current Total		**1,651**

Proposed

Building	Room	Use	SQ FT
McReynolds	113	Rip Watts's office	224
	117	Kimberly Scott's office	100
	124	Sharon Silva's office	212
	122	Brenda Harrison's office	127
	120	Conference room	422
	116	Roy Gregory's office	319
	112	Maraget Bentley's office	
		↕ Shared	423
	112	Heather Legg's office	
	111	Monica Wirts	274
	129	Storage	99
	Proposed Total		**2,201**

Increase/Decrease **550**

Institutional for Global Security Studies (IGSS)

Current

Building	Room	Use	SQ FT
Browning	205	June Lee's office	174
	205B	Closet	5
	205A	Greg Kaufman's office	157
	205C	Closet	9
		Current Total	345

Proposed

Building	Room	Use	SQ FT
McReynolds	125a	Greg Kaufman's office	250
	125	June Lee's office	159
	101	Furture Use	205
	103	Furture Use	205
	126	Shared Conference Room with Grants	324
		Proposed Total	1,143

Increase/Decrease **798**

Grants and Sponsored Programs

Current

Building	Room	Use	SQ FT
Browning	006a	Conference Room	151
	7	Jenifer Kennedy's office	107
	8	Storage	27
	8A	Beth Holiman's office	168
		Current Total	453

Proposed

Building	Room	Use	SQ FT
McReynolds	104	Jenifer Kennedy's office	208
	106	Beth Hoilman's office	208
	108	Conference Room	208
	110	Future Use	208
	126	Shared Conference Room with IGSS	324
		Proposed Total	1,156

Increase/Decrease	**703**	

Information Technology Help Desk (Includes Computer Technicians)

Current

Building	Room	Use	SQ FT
Browning	228	Jeff Walton's office	141
	229	Liz Gonzalez and Student Worker office	185
	211	Carl Moseley's office	74
	212	Student Worker and Reception office	93
	22	Four Computer Technicians Scott Shelton, J.L. Wooten, Jared Sneed and Thomas Smyth	400
	17F	Luke Henry's office	42
		Current Total	935

Proposed

Building	Room	Use	SQ FT
322 Ford Street	Living Room	Liz Gonzalez, Carl Moseley and 3 Student Workers	480
	Bedroom 1	Jeff Walton's office	110
	Back Room	Five Computer Technicians Luke Henry, Scott Shelton, Jarad Sneed J.L. Wooten and Thomas Smyth	480
	Bedroom 2	McIntosh storage and work area	64
	Closet	Network	42
	Downstairs Main Room	Inventory storage and PC work area	312
	Bedroom 3	Inventory storage and PC work area	144
		Proposed Total	1,042

Increase/Decrease	**107**	

Human Resourses and Affirmation Action - Director and Manager

Current

Building	Room	Use	SQ FT
Browning			
		Current Total	0

Proposed

Building	Room	Use	SQ FT
Browning		Space vacated by Grants and Sponsored Programs	
	006a	Future Use	151
	7	Future Use	107
	8	Future Use	27
	8A	Future Use	168
		Proposed Total	453

Increase/Decrease	**453**	

Information Technology Programmers

Current

Building	Room	Use	SQ FT
Clement	113	Christi Copes's office	102
	105	Christoper Haupt's office	100
		↕ Shared	
	105	Nikkolette Searle's office	

Proposed

Building	Room	Use	SQ FT
Browning	213	Office	159
	219A	Office	159
	219	Office	241
	218	Office	184
	217	Office	132

116	Brenda Hunt's office	124	216A	Storage	75
114	Anna Murray's office	151	216	Office	259
115	Beth Robinson's office	104			
117	Hayley Sellers's office	111			
118	John Lander's office	85			
251	Austin Siders	105			
	Current Total	882		Proposed Total	1,209
			Increase/Decrease	**327**	

Extended Education & Small Business Development Center

Current

Building	Room	Use	SQ FT
Public Square	10	Office	127
	11	Office	214
	12	Office	212
	13	Office	148
	14	Office	133
	15	Store Room	57
	16	Conference Room	244
	17	Office	96
	18	Office	96
	19	Office	140
	20	Classroom	414
	21	Office	203
	23	Classroom	249
		Secretary's office	130
		Office by conference room	102
	109	Office	103
Clement	111	Office	101
		Current Total	2,769

Proposed

Building	Room	Use	SQ FT
McReynolds	223	Office	130
	216	Office	150
	214	Mary Alice Burkhart'sOffice	169
	224A	Reception	116
	224	Stan Groppel's office	
		Shared wall addition	788
	224	Secretary's office	
	212	Computer Lab	423
	210A	Julia McGee's office	208
	210	Mary ???'s office	208
	208	Peter Siska's office	208
	206	RODP	208
	204	Online	208
	202	Office	134
	213	Custodial Closet	42
	200A	Copy Area	57
	201	ESL	407
	203	Classroom	215
	205	Classroom	100
	219	Storage	91
	207	Computer Lab	417
	105	Small Business Development Center Office	205
	107	Small Business Development Center Office	205
	109	Small Business Development Center Office	205
		Proposed Total	4,894
		Increase/Decrease	**2,125**

Disability Services

Current

Building	Room	Use	SQ FT
Clement	140	Reception	334
	140A	Office	56
	140B	Office	55
	140C	Office	55
	140D	Office	57
	140E	Storage	42
	140F	Office	144
	140G	Office	100
	140H	Office	141
	132	Conference Room	330
		Current Total	1,314

Proposed

Building	Room	Use	SQ FT
Mark	106	Assistant Director's office	141
	107	Testing	758
	104	Reception	190
	103	Secretary	183
	101	Beulah Oldham	200
	102	Copy Room	137
	105	File Room	75
		Proposed Total	1,684

Increase/Decrease **370**

Developmental Studies Program

Current

Building	Room	Use	SQ FT
Clement	102	Office	171
	103	Office	189
	103A	Storage Room	124
	104	Office	162

Proposed

Building	Room	Use	SQ FT
Marks	110	DSP Math	953
	112	DSP Math	986
	114	DSP Writing	640
	202	Office	216

	106	Office	169		204	Office	205
	107	Office	105		206	Office	217
	108	Office	182		208	Office	204
	110	Office	140		210	Office	185
	112	Office	151		212	DSP Coordinator	
	128	Computer Lab	941			Shared wall addition	283
	128A	Office	116		212	Secretary	
	133	Computer Lab	573		218	Office	172
	134	Conference Room	194		204	Office	187
	301	Classroom	645	**SCC**	E109	Computer Lab	822
	304	Classroom	570				
SSC	E109	Computer Lab	822				
		Current Total	5,254			Proposed Total	5,070
				Increase/Decrease		**-184**	

Academic Support

Current

Building	Room	Use	SQ FT
University Center	112	Office	517
	112A	Office	100
	112B	Office	120
	114	Computer Lab	336
	114A	Office	105
	114B	Office	100
	114C	Office	99
	114D	Office	100
	118	Tutoring Lab	1042

Proposed

Building	Room	Use	SQ FT
Marks	121	Office	582
	125	Office	210
	127	Office	165
	128	Office	56
	131	Office	80
	123	Office	255
	120	Office	128
	123	Office	255
	124	Computer Lab	1122
	124A	Office	221
	122B	Office	235
	122A	Office	158
	122	Office	685
	142	Office	283
	140	Office	885
	242	Office	245
	244	Office	245
	240	Office	206
	246	Office	207
	243	Office	136
	241	Office	345

Current Total	2,519	Proposed Total	6,704
Increase/Decrease	**4,185**		

Computer Science and Social Work

Current

Building	Room	Use	SQ FT
Claxton		Faculty Offices	
Claxton		Computer Science Labs	
Marks		Faculty Offices	
		Current Total	

Proposed

Building	Room	Use	SQ FT
Clement	102 - 118	Faculty Offices	2581
	133	Computer Science Lab	573
	128	Computer Science Lab	941
		Proposed Total	4,095

Increase/Decrease	**4,095**

Math

Current

Building	Room	Use	SQ FT
Claxton			
		Current Total	

Proposed

Building	Room	Use	SQ FT
Claxton		Space Computer Science will be vacating	
		Proposed Total	

Increase/Decrease	**0**

Public Relations

Current

Building	Room	Use	SQ FT
Browning			
		Current Total	

Proposed

Building	Room	Use	SQ FT
Browning		Space IGSS will be vacting	
	205	Future Use	174
	205B	Future Use	5
	205A	Future Use	157
	205C	Future Use	9
		Proposed Total	345

Increase/Decrease	**345**

Building Number:	A0041	Building Name:	Archwood
Total GSF:	8311	Built:	1901
Assigned S.F:		Renovated:	2000/2001

ARCHITECTURAL DESCRIPTION

This two story wood framed brick veneer building is home to the University President and is used for special social events. Significant renovation work completed in 2000, 2001, and 2003.

MECHANICAL/ELECTRICAL/PLUMBING

Plumbing:

Fire Protection:

Electrical:

PHYSICAL ASSESSMENT

Physical Quality Components	S	D	U	Remarks
Structure	X			
Exterior Walls	X			
Roof	X			New asphalt shingle roof in 1999.
Windows/Doors	X			
Interior Systems				Did not review the inside.
Building Accessibility				
Fire Alarm System	X			Smoke detection system
HVAC	X			
Electrical	X			
Site				

S = Satisfactory; D = Deteriorating; U = Unsatisfactory

Functional Quality Components	G	M	P	Remarks
Information Technology				NA
Lab Equipment				NA
Furniture & Furnishings				NA
Lighting				NA
Acoustics				NA
Configuration				
Building Envelope Issues	X			Minor repairs and painting required on fascia and soffit.
MEP Issues				
Preservation Issues				Historically important structure.
Decommissioned Spaces				
Other				

G = Good; M = Marginal; P = Poor

EXTERIOR PHOTO

EXTERIOR PHOTO

u:\2800\2828\001-00\work\reports\master plan\facility assessments\archwood.doc;jmb

Building Number:	A0001	Building Name:	Browning
Total GSF:	34071	Built:	1948
Assigned S.F:		Renovated:	

ARCHITECTURAL DESCRIPTION

Two story brick veneer building reminiscent of Independence Hall. This building is home to Administration Offices, Computer Services, Telephone Services, and the Human Resources Department.

MECHANICAL/ELECTRICAL/PLUMBING

Plumbing:

Fire Protection: Alarms with manual pull stations. Partially sprinklered.

Electrical:

PHYSICAL ASSESSMENT

Physical Quality Components	S	D	U	Remarks
Structure	X			
Exterior Walls	X			
Roof	X			New asphalt shingle roof in 1999.
Windows/Doors	X			
Interior Systems		X		Some areas very original and well maintained.
Building Accessibility			X	No elevator.
Fire Alarm System	X			
HVAC				
Electrical				
Site	X			

S = Satisfactory; D = Deteriorating; U = Unsatisfactory

Functional Quality Components	G	M	P	Remarks
Information Technology				NA
Lab Equipment				NA
Furniture & Furnishings		X		.
Lighting		X		
Acoustics		X		
Configuration		X		
Building Envelope Issues	X			
MEP Issues				
Preservation Issues				Historically important structure.
Decommissioned Spaces				
Other				

G = Good; M = Marginal; P = Poor

EXTERIOR PHOTO

INTERIOR PHOTO

Building Number:	A0034	Building Name:	Claxton
Total GSF:	41597	Built:	1967
Assigned S.F:		Renovated:	

ARCHITECTURAL DESCRIPTION

Three story brick veneer academic building with auditorium, classrooms and offices.

MECHANICAL/ELECTRICAL/PLUMBING

Plumbing: All fixtures appear to be original and are nearing the end of their serviceable life.

Fire Protection: Alarms with pull stations. No sprinkler system.

Electrical: Poor quality and inefficient lay-in lighting.

PHYSICAL ASSESSMENT

Physical Quality Components	S	D	U	Remarks
Structure	X			
Exterior Walls	X			
Roof	X			New roof in 1999 - 60 mil EPDM
Windows/Doors			X	Original aluminum doors and windows in need of replacement.
Interior Systems		X		Ceilings need replacement. Restrooms need renovation.
Building Accessibility			X	Elevator not ADA compliant
Fire Alarm System	X			
HVAC				
Electrical				
Site		X		Poorly water runoff at south entrance

S = Satisfactory; D = Deteriorating; U = Unsatisfactory

Functional Quality Components	G	M	P	Remarks
Information Technology	X			RM #227 - 21st Century classroom with interactive teaching
Lab Equipment	X			See above
Furniture & Furnishings			X	Some classroom FF & E in need of replacement.
Lighting			X	
Acoustics		X		
Configuration		X		
Building Envelope Issues				
MEP Issues				
Preservation Issues				NA
Decommissioned Spaces				NA
Other				

G = Good; M = Marginal; P = Poor

EXTERIOR PHOTO

INTERIOR PHOTO

u:\2800\2828\001-00\work\reports\master plan\facility assessments\claxton.doc;jmb

Building Number:	A0029	Building Name:	Clement
Total GSF:	57320	Built:	1959
Assigned S.F:		Renovated:	2000

ARCHITECTURAL DESCRIPTION

Three story brick veneer office/classroom building used by Psychology, Developmental Studies, and Disability Services.

MECHANICAL/ELECTRICAL/PLUMBING

Plumbing:

Fire Protection: Alarms with manual pull stations. Partially sprinklered.

Electrical:

PHYSICAL ASSESSMENT

Physical Quality Components	S	D	U	Remarks
Structure	X			
Exterior Walls	X			Sealant needs to be replaced. Rowlock water table shows signs of deterioration no thru wall flashing visible.
Roof	X			New asphalt shingle roof in 1999.
Windows/Doors	X			New exterior windows and doors in 1999.
Interior Systems			X	Some areas of interior need updating.
Building Accessibility			X	Restrooms not fully ADA compliance
Fire Alarm System	X			
HVAC				
Electrical				
Site	X			

S = Satisfactory; D = Deteriorating; U = Unsatisfactory

Functional Quality Components	G	M	P	Remarks
Information Technology		X		
Lab Equipment				NA
Furniture & Furnishings	X			.
Lighting		X		
Acoustics		X		
Configuration		X		
Building Envelope Issues				
MEP Issues				
Preservation Issues				
Decommissioned Spaces				
Other				

G = Good; M = Marginal; P = Poor

EXTERIOR PHOTO

EXTERIOR PHOTO

INTERIOR PHOTO

Building Number:	A0060	Building Name:	Dunn Center
Total GSF:	131,970	Built:	1975
Assigned S.F:		Renovated:	

ARCHITECTURAL DESCRIPTION

Four story brick veneer athletic arena and classroom building also used for special events by the University and local High Schools.

MECHANICAL/ELECTRICAL/PLUMBING

Plumbing:

Fire Protection:

Electrical:

PHYSICAL ASSESSMENT

Physical Quality Components	S	D	U	Remarks
Structure	X			
Exterior Walls		X		All sealant needs replacement. Numerous control joints are failing. Some brick pointing needs to be done.
Roof	X			Re-roofed in 2002 with single ply membrane.
Windows/Doors		X		West entrance need repair or replacement.
Interior Systems	X			
Building Accessibility	X			
Fire Alarm System	X			
HVAC	X			
Electrical	X			
Site	X			

S = Satisfactory; D = Deteriorating; U = Unsatisfactory

Functional Quality Components	G	M	P	Remarks
Information Technology	X			
Lab Equipment				NA
Furniture & Furnishings	X			
Lighting	X			
Acoustics	X			
Configuration	X			
Building Envelope Issues		X		Brick veneer needs pointing and sealant repairs
MEP Issues				
Preservation Issues				
Decommissioned Spaces				
Other				

G = Good; M = Marginal; P = Poor

EXTERIOR PHOTO

INTERIOR PHOTO

u:\2800\2828\001-00\work\reports\master plan\facility assessments\dunn center.doc;jmb

Building Number:	A0011	Building Name:	Harned Hall
Total GSF:	52,932	Built:	1931
Assigned S.F:		Renovated:	1986/1999

ARCHITECTURAL DESCRIPTION

Four story reinforced concrete and brick veneer building providing classroom and office space.

MECHANICAL/ELECTRICAL/PLUMBING

Plumbing:

Fire Protection:

Electrical:

PHYSICAL ASSESSMENT

Physical Quality Components	S	D	U	Remarks
Structure	X			
Exterior Walls	X			Exterior wood trim needs minor repair and painting.
Roof	X			New roof in 1999 – Asphalt shingle and 60 mil EPDM.
Windows/Doors	X			Windows replaced in 1999 with insulated units.
Interior Systems	X			
Building Accessibility	X			
Fire Alarm System	X			
HVAC				
Electrical				
Site	X			

S = Satisfactory; D = Deteriorating; U = Unsatisfactory

Functional Quality Components	G	M	P	Remarks
Information Technology	X			
Lab Equipment				NA
Furniture & Furnishings	X			FF & E in need of replacement.
Lighting	X			
Acoustics		X		
Configuration		X		
Building Envelope Issues	X			
MEP Issues				
Preservation Issues				
Decommissioned Spaces				NA
Other				

G = Good; M = Marginal; P = Poor

EXTERIOR PHOTO

INTERIOR PHOTO

u:\2800\2828\001-00\work\reports\master plan\facility assessments\harned.doc;jmb

Building Number:	A0028	Building Name:	Harvil Café
Total GSF:	18400	Built:	1957
Assigned S.F:		Renovated:	2001

ARCHITECTURAL DESCRIPTION

One story brick veneer building functioning as the campus bookstore and malt shop.

MECHANICAL/ELECTRICAL/PLUMBING

Plumbing:

Fire Protection:

Electrical:

PHYSICAL ASSESSMENT

Physical Quality Components	S	D	U	Remarks
Structure	X			
Exterior Walls	X			
Roof	X			
Windows/Doors	X			
Interior Systems	X			
Building Accessibility	X			
Fire Alarm System	X			
HVAC	X			
Electrical	X			
Site	X			

S = Satisfactory; D = Deteriorating; U = Unsatisfactory

Functional Quality Components	G	M	P	Remarks
Information Technology				NA
Lab Equipment				NA
Furniture & Furnishings	X			
Lighting	X			
Acoustics	X			
Configuration	X			
Building Envelope Issues				
MEP Issues				
Preservation Issues				
Decommissioned Spaces				
Other				

G = Good; M = Marginal; P = Poor

EXTERIOR PHOTO

T e c h n i c a l M e m o r a n d u m

Date	April 2007
Project	Austin Peay State University Master Plan
Subject	III. Existing Campus Conditions A. Campus Grounds 3. Building Condition Assessment
From	HGA, Inc
To	Austin Peay State University

This appendix includes the building condition assessment of the primary facilities on the APSU main campus.

Building Number:	A0071	Building Name:	Kimbrough
Total GSF:	32,000	Built:	1982
Assigned S.F:		Renovated:	

ARCHITECTURAL DESCRIPTION
Two story CMU and brick veneer academic building provides classrooms and offices.

MECHANICAL/ELECTRICAL/PLUMBING

Plumbing:

Fire Protection:

Electrical:

PHYSICAL ASSESSMENT

Physical Quality Components	S	D	U	Remarks
Structure	X			
Exterior Walls			X	Needs control joint sealant replaced, brick tuckpointing, and regrading where base flashing is exposed. .
Roof		X		
Windows/Doors		X		
Interior Systems		X		
Building Accessibility			X	
Fire Alarm System				
HVAC				
Electrical				
Site		X		Needs regrading at building base.

S = Satisfactory; D = Deteriorating; U = Unsatisfactory

Functional Quality Components	G	M	P	Remarks
Information Technology				
Lab Equipment				NA
Furniture & Furnishings	X			
Lighting	X			
Acoustics	X			
Configuration	X			
Building Envelope Issues		X		Building needs additional exterior control joints. Several areas show stress fractures in the brick.
MEP Issues				
Preservation Issues				
Decommissioned Spaces				
Other				

G = Good; M = Marginal; P = Poor

EXTERIOR PHOTO

INTERIOR PHOTO

u:\2800\2828\001-00\work\reports\master plan\facility assessments\kimbrough.doc;jmb

Building Number:	A0006	Building Name:	Marks
Total GSF:	18633	Built:	1942
Assigned S.F:		Renovated:	1999

ARCHITECTURAL DESCRIPTION

Two story brick veneer office/classroom building in partial use. This building suffers from poor site and entry accessibility. Internal circulation is poor and emergency exiting is not adequate. External exit stairs are not in compliance with building codes. Evidence of flooding is visible at exterior area ways and lower level offices.

MECHANICAL/ELECTRICAL/PLUMBING

Plumbing:

Fire Protection: No alarm system. Non sprinklered.

Electrical:

PHYSICAL ASSESSMENT

Physical Quality Components	S	D	U	Remarks
Structure			X	
Exterior Walls			X	Significant masonry restoration is required including tuckpointing, lintel replacement, and sealant replacement. Water damage to exterior walls visible at north side.
Roof	X			New 60 mil EPDM roof in 1999.
Windows/Doors	X			
Interior Systems			X	Some areas of interior need updating.
Building Accessibility			X	No elevator. Exterior exit stairs an not compliant.
Fire Alarm System			X	
HVAC				
Electrical				
Site			X	Entrance/exits are poorly designed.

S = Satisfactory; D = Deteriorating; U = Unsatisfactory

Functional Quality Components	G	M	P	Remarks
Information Technology		X		
Lab Equipment			X	
Furniture & Furnishings			X	.
Lighting			X	
Acoustics		X		
Configuration			X	
Building Envelope Issues			X	
MEP Issues				
Preservation Issues				NA
Decommissioned Spaces			X	Many areas of the building are vacant.
Other				

G = Good; M = Marginal; P = Poor

EXTERIOR PHOTO

INTERIOR PHOTO

Building Number:	A0017	Building Name:	McCord
Total GSF:	52,222	Built:	1949
Assigned S.F:		Renovated:	2006

ARCHITECTURAL DESCRIPTION

Three story brick veneer building in the final stages of a comprehensive renovation that will provide classroom, lab, and office space

MECHANICAL/ELECTRICAL/PLUMBING

Plumbing:

Fire Protection: Fully sprinklered.

Electrical:

PHYSICAL ASSESSMENT

Physical Quality Components	S	D	U	Remarks
Structure	X			
Exterior Walls	X			
Roof	X			
Windows/Doors	X			
Interior Systems	X			
Building Accessibility	X			
Fire Alarm System	X			
HVAC	X			
Electrical	X			
Site		X		Rowlock brick cap on site landscape retaining and privacy walls shows some deterioration.

S = Satisfactory; D = Deteriorating; U = Unsatisfactory

Functional Quality Components	G	M	P	Remarks
Information Technology	X			
Lab Equipment	X			
Furniture & Furnishings	X			.
Lighting	X			
Acoustics	X			
Configuration	X			
Building Envelope Issues	X			
MEP Issues				NA
Preservation Issues				NA
Decommissioned Spaces				NA
Other				

G = Good; M = Marginal; P = Poor

EXTERIOR PHOTO

INTERIOR PHOTO

Building Number:	A0012	Building Name:	Memorial Health
Total GSF:	58395	Built:	1953
Assigned S.F:		Renovated:	2005 addition/renovation

ARCHITECTURAL DESCRIPTION

One story load bearing masonry wall with face brick veneer. Recent addition/renovation on east side provides nice weight training area and locker rooms. Remainder of building needs significant repairs and restoration to make it serviceable.

MECHANICAL/ELECTRICAL/PLUMBING

Plumbing: All plumbing fixtures in non renovated areas need replacement

Fire Protection: Alarms with manual pull stations. Non sprinklered.

Electrical: Poor quality and inefficient lighting in non renovated areas.

PHYSICAL ASSESSMENT

Physical Quality Components	S	D	U	Remarks
Structure		X		
Exterior Walls		X		Exterior wood trim repair and painting. Lintels need replacement. All sealants need replacement. Shear cracks visible in masonry.
Roof	X			New asphalt shingle roof in 2003 over gym. Flat roof areas replaced in 1999 wiuth fully adhered 60 mil EPDM.
Windows/Doors	X			Windows need replacing
Interior Systems			X	
Building Accessibility			X	Renovated area only.
Fire Alarm System	X			
HVAC				
Electrical				
Site	X			

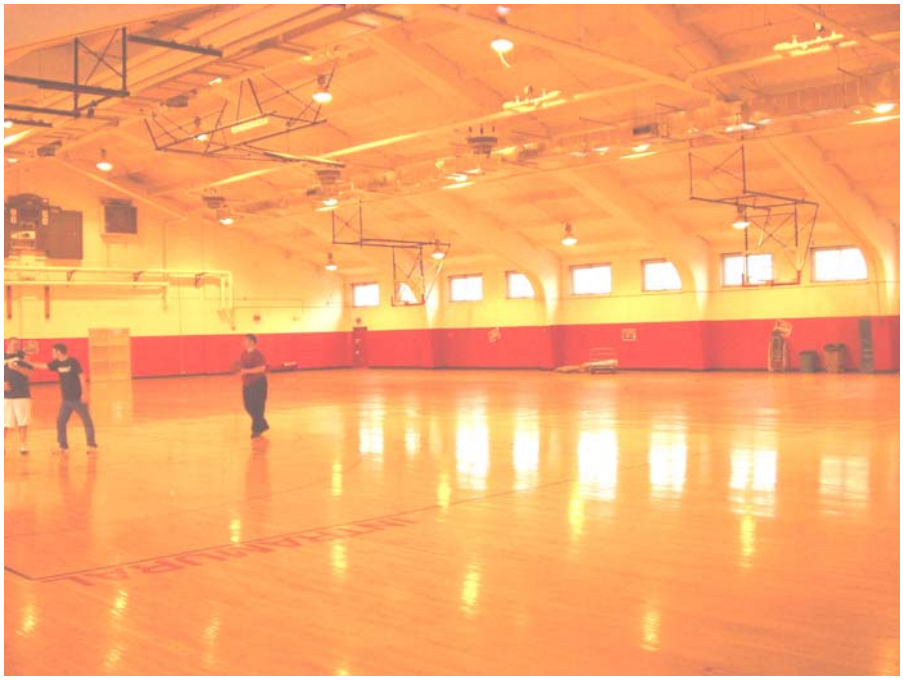
S = Satisfactory; D = Deteriorating; U = Unsatisfactory

Functional Quality Components	G	M	P	Remarks
Information Technology				NA
Lab Equipment				NA
Furniture & Furnishings			X	Good in renovated areas. .
Lighting			X	Good in renovated areas.
Acoustics		X		
Configuration		X		
Building Envelope Issues			X	
MEP Issues				
Preservation Issues				
Decommissioned Spaces				Pool area
Other				

G = Good; M = Marginal; P = Poor

EXTERIOR PHOTO

INTERIOR PHOTO



Building Number:	A0096	Building Name:	Morgan University Center
Total GSF:	115895	Built:	2002
Assigned S.F:		Renovated:	

ARCHITECTURAL DESCRIPTION

Three story brick veneer building housing student ancillary services , meeting rooms, dining rooms, and ballroom.

MECHANICAL/ELECTRICAL/PLUMBING

Plumbing:

Fire Protection: No alarm system. Non sprinklered.

Electrical:

PHYSICAL ASSESSMENT

Physical Quality Components	S	D	U	Remarks
Structure	X			
Exterior Walls	X			
Roof	X			
Windows/Doors	X			
Interior Systems	X			
Building Accessibility	X			
Fire Alarm System	X			
HVAC	X			
Electrical	X			
Site		X		Rowlock brick cap on site landscape retaining and privacy walls shows some deterioration.

S = Satisfactory; D = Deteriorating; U = Unsatisfactory

Functional Quality Components	G	M	P	Remarks
Information Technology	X			
Lab Equipment				NA
Furniture & Furnishings	X			.
Lighting	X			
Acoustics	X			
Configuration	X			
Building Envelope Issues	X			
MEP Issues				NA
Preservation Issues				NA
Decommissioned Spaces				NA
Other				

G = Good; M = Marginal; P = Poor

EXTERIOR PHOTO

EXTERIOR PHOTO

INTERIOR PHOTO

Building Number:	A0095	Building Name:	Sundquist Science Center
Total GSF:	221213	Built:	2001
Assigned S.F:		Renovated:	

ARCHITECTURAL DESCRIPTION
Four story brick veneer academic building equipped with science labs and classrooms

MECHANICAL/ELECTRICAL/PLUMBING

Plumbing:

Fire Protection:

Electrical:

PHYSICAL ASSESSMENT

Physical Quality Components	S	D	U	Remarks
Structure	X			
Exterior Walls			X	Moisture problems evident on brick below standing seam metal roof. No runoff water collection or control apparent. Brick spalling, moss, and discoloration apparent. No thru-wall flashing visible at garden walls..
Roof		X		
Windows/Doors	X			
Interior Systems	X			
Building Accessibility	X			
Fire Alarm System	X			
HVAC	X			
Electrical	X			
Site	X			

S = Satisfactory; D = Deteriorating; U = Unsatisfactory

Functional Quality Components	G	M	P	Remarks
Information Technology	X			
Lab Equipment	X			
Furniture & Furnishings	X			
Lighting	X			
Acoustics	X			
Configuration	X			
Building Envelope Issues				
MEP Issues				
Preservation Issues				
Decommissioned Spaces				
Other				

G = Good; M = Marginal; P = Poor

EXTERIOR PHOTO

INTERIOR PHOTO

Building Number:	A0032	Building Name:	Woodward Library
Total GSF:	80614	Built:	1967
Assigned S.F:		Renovated:	

ARCHITECTURAL DESCRIPTION

Two story reinforced concrete frame with precast exposed aggregate panels housing the University Library.

MECHANICAL/ELECTRICAL/PLUMBING

Plumbing: All fixtures appear to be original and are nearing the end of their serviceable life.

Fire Protection: Alarms with manual pull stations. Fully sprinkler.

Electrical: Poor quality and inefficient lighting.

PHYSICAL ASSESSMENT

Physical Quality Components	S	D	U	Remarks
Structure	X			
Exterior Walls			X	Significant deterioration of precast panels, lintels, and sealants.
Roof	X			New roof in 1999 – Fully adhered 60 mil EPDM.
Windows/Doors			X	Original aluminum doors and windows in need of replacement. Moisture problems evident at interior finishes around windows.
Interior Systems			X	Ceilings need replacement. Restrooms need renovation.
Building Accessibility			X	**Elevator not ADA compliant.** Restrooms not fully ADA compliant.
Fire Alarm System	X			
HVAC				
Electrical				
Site		X		Poor water runoff

S = Satisfactory; D = Deteriorating; U = Unsatisfactory

Functional Quality Components	G	M	P	Remarks
Information Technology			X	
Lab Equipment		X		
Furniture & Furnishings			X	FF & E in need of replacement.
Lighting			X	Poor light levels in book rack and reading areas.
Acoustics		X		
Configuration		X		
Building Envelope Issues			X	Significant moisture issues apparent around openings in exterior walls
MEP Issues				
Preservation Issues				NA
Decommissioned Spaces				NA
Other				

G = Good; M = Marginal; P = Poor

EXTERIOR PHOTO

INTERIOR PHOTO

u:\2800\2828\001-00\work\reports\master plan\facility assessments\woodward library.doc;jmb