

Energy + Environmental Science Education Research Center

a program update for the UT Institute of Agriculture - Knoxville, TN

Volume II



Issued July 20, 2018 | **FINAL DRAFT**

Energy + Environmental Science Education Research Center



VOLUME 1 of 2
Original Issued Dec. 5, 2013
Draft Revision Issued May 17, 2018
Final Draft Issued July 20, 2018

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view towards Connector between Ellington [left] and Plant Biotech Building [right]

Tennessee's forests, pastures, and farmlands are our classrooms.

So are the state's gardens and arboretums, wetlands, and watersheds. The classrooms and teaching programs of the University of Tennessee Institute of Agriculture are as varied as the people they serve. Our programs assist students, farmers, families, 4-H and other youth, agribusinesses, state and federal agencies, consumers and the general public.



400 appendix

This program document was originally prepared in 2013. The 2018 update and revision included strategic space revisions, schedule updates, and and adjusted total project budget. the 2018 update did not include MEP, Civil, Landscape, or Structural consultants updating those respective sections of the program. However, UT Facility Services provided limited updates to those sections.

401 Contextual Designn

The design of both the new Ellington Complex and the Surge building shall take their material cues rfm the surrounding buildings. The material palette shall include brick, metal panel, stone, and glass. Roof profiles may be flat or pitched.



C



A



D



B



E

- A Veterinary Teaching Hospital
- B Business Incubator
- C Brehm Animal Science Building
- D North Greenhouse
- E Plant Biotechnology Building

THEC SPACE GUIDELINE & FACULTY ASSESSMENT

The existing building (Ellington Plant Science and Hollingsworth Auditorium) was built in 1966 and is approximately 51 years old. The need for major renovation has been documented by THEC evaluation and confirmed by consulting engineers. Programmatically, it no longer meets the needs of the disciplines it now serves: classrooms and laboratories are too small and lack infrastructure for today's pedagogy and inquiry; the design is not flexible, and the offices are not well located or designed. All building systems are now obsolete and do not meet today's HVAC, Electrical and Plumbing Standards, Life-Safety and Code-Related issues are numerous. The facility assessment score is 59.0/Fall 2009. Since that time, no major upgrades have taken place; the building's brick structure has continued to show signs of cracking due to the lack of no vertical expansion joints. Mechanical and Electrical equipment have required continual maintenance. The Building is under negative air pressure due to insufficient treated make-up air. Limited floor-to-floor height restricts HVAC duct improvements to create a make-up air system to maintain positive building pressure. The building is not sprinkled and has no standpipes. Hazardous materials are numerous.

UTIA entered into a contract for program consulting services with LORD AECK SARGENT, Architecture in 2013. The completed program document for the Energy and Environmental Science Education Center is dated October 2013. This project is specifically for the University of Tennessee Institute of Agriculture and is to be located on the western section of the UT Knoxville campus containing the Ag Campus. The Institute contains four units that provide instruction, research and public service. These are: AgResearch, College of Agricultural Science and Natural Resources (CASNR), College of Veterinary Medicine and UT Extension.

The building program is primarily comprised of teaching labs, research labs, support labs, and offices supporting the departmental needs. There are also programmatic elements for general classrooms, academic support space, informal learning spaces, 500-seat multi-purpose auditorium, commons areas, food service areas, faculty and building support spaces, outdoor gathering in courtyards and green spaces. Departments included in this program: Biosystems Engineering and Soil Science, Entomology & Plant Science, Forestry, Wildlife & Fisheries, Plant Sciences, and Biosafety. Additionally, the building will house Interdisciplinary spaces designed to promote student-faculty interactions. This new building is the Number One priority for the Institute.

THEC space guidelines only partially apply for UTIA (non-formula unit). Where applicable, the consultants, LORD AECK SARGENT applied the THEC Space Allocation Guidelines. Research drives this project and the details of the Program Summary and the Projected Space Utilization is identified on the program detail [See Volume I, pages 19-28]

See:

Tennessee Higher Education Commission Space Allocation Guidelines User's Manual Rev. 2013
<https://www.tbr.edu/sites/tbr.edu/files/media/2015/04/THEC%20Space%20Guide%20-%20Manual%20-%20September%202013.pdf>

A-100 | Faculty - Student Commons

1. SPACE REQUIRED	
Name:	Faculty - Student Commons
Occupancy:	6 Occupants
Net Square Footage	200 SF
Unit Square Footage:	N/A
Space No.:	A-100
2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES	
Relationships:	
a. Contiguous:	N/A
b. Adjacent:	N/A
c. Convenient:	Locate convenient to both student spaces and faculty spaces. Faculty-Student Commons to sit in the buffer zone between the two.
Services and Features:	
a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 5 CFM per person Area Outdoor Air Rate Ra = 0.06 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintained Average Illumination: 50 footcandles Lighting Power Density: 1.3 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, minimum 10' O.C. wall
d. Communications:	Communication general outlets, minimum one location Wireless Internet connectivity
e. Plumbing:	Break room sink
f. Music/Video:	N/A
Finishes:	
This section is to record specific requirements for all surface areas.	
a. Floor & Base:	Resilient Tile Flooring with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS
Informal gathering area for both faculty and students to meet.
Space could be either a closed room or open to public spaces such as a lobby or a corridor.
4. LIST OF FURNISHINGS AND EQUIPMENT
A = Built-in equipment to be furnished and installed by the General Contractor.
1 Whiteboard (12'-0" W x 4'-0" H)
10 linear feet of wall cabinets, base cabinets, and countertop with 1 sink
B = Specified and procured through Interior Designer (not furnished by GC)
1 Break Room Style Table
4 Student Chairs
C = Specified and procured through A/V Consultant (not furnished by GC)
N/A
D = Specified and procured through I.T. Consultant (not by GC)
N/A
E = Supplied by Owner (in project budget)
N/A
F = Supplied by Owner (not in project budget)
N/A

A-200 | Seminar and Conference Room

1. SPACE REQUIRED	
Name:	Seminar and Conference Room
Occupancy:	30 Occupants
Net Square Footage	600 SF
Unit Square Footage:	N/A
Space No.:	A-200
2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES	
Relationships:	
a. Contiguous:	N/A
b. Adjacent:	N/A
c. Convenient:	Distribute evenly per floors, in between the classroom/research spaces and the faculty office spaces.
Services and Features:	
a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 5 CFM per person Area Outdoor Air Rate Ra = 0.06 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintaned Average Illumination: 50 footcandles Lighting Power Density: 1.3 watts per square foot Preset lighting control system with A/V interface
c. Electrical:	120 V floor receptacle outlets, minimum two locations 120 V general receptacle outlets, minimum 10' O.C. wall 120 V ceiling mount for projector 120 V ceiling mount for projector screen 120 V receptacle for A/V credenza
d. Communications:	Communication floor outlets, minimum two locations Communication ceiling mount outlet for projector Communication outlet for A/V credenza Wireless Internet connectivity
e. Plumbing:	No plumbing requirements
f. Music/Video:	Ceiling mounted Digital Projector Ceiling recessed, motorized Projection Screen
Finishes:	
This section is to record specific requirements for all surface areas.	
a. Floor & Base:	Carpet Tile with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile throughout with Gypsum Board Soffit at Teaching Wall
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS	Quiet room to serve as a Seminar style classroom. Room may also be used for Faculty Conference Space.
4. LIST OF FURNISHINGS AND EQUIPMENT	
A = Built-in equipment to be furnished and installed by the General Contractor.	5 Whiteboards (12'-0" W x 4'-0" H) 1 Projector Mount
B = Specified and procured through Interior Designer (not furnished by GC)	10 Training Tables (60" W x 30" D) 20 Student Chairs
C = Specified and procured through A/V Consultant (not furnished by GC)	1 Digital Projector 1 A/V Credenza with A/V Rack inside AV Equipment Items (to be determined by the University)
D = Specified and procured through I.T. Consultant (not by GC)	N/A
E = Supplied by Owner (in project budget)	N/A
F = Supplied by Owner (not in project budget)	N/A

A-300 | 45 Seat Classroom

1. SPACE REQUIRED	
Name:	45 Seat Classroom
Occupancy:	45 Occupants
Net Square Footage	1,125 SF
Unit Square Footage:	N/A
Space No.:	A-300
2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES	
Relationships:	
a. Contiguous:	N/A
b. Adjacent:	Locate adjacent to other Classroom spaces and small, informal meeting areas.
c. Convenient:	Locate remotely from all department suites and faculty offices.
Services and Features:	
a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 7.5 CFM per person Area Outdoor Air Rate Ra = 0.06 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintaned Average Illumination: 50 footcandles Lighting Power Density: 1.4 watts per square foot Preset lighting control system with A/V interface
c. Electrical:	120 V floor receptacle outlets, minimum six locations 120 V general receptacle outlets, minimum 10' O.C. wall 120 V ceiling mount for projector 120 V ceiling mount for projector screen 120 V receptacle for Teaching Lecturn (with A/V rack)
d. Communications:	Communication floor outlets, minimum six locations Communication ceiling mount outlet for projector Communication outlet for Teaching Lecturn (with A/V rack) Wireless Internet connectivity
e. Plumbing:	No plumbing requirements
f. Music/Video:	Ceiling mounted Digital Projector Ceiling recessed, motorized Projection Screen
Finishes:	
This section is to record specific requirements for all surface areas.	
a. Floor & Base:	Carpet Tile with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile throughout with Gypsum Board Soffit at Teaching Wall
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS
A flexible classroom space that will accommodate multiple teaching styles (lecture style, small group, and large group,etc.) through furniture layout options. Recessed floorboxes will provide power and data to the interior of the space while writable surfaces and large screen displays will line the perimeter walls.
4. LIST OF FURNISHINGS AND EQUIPMENT
A = Built-in equipment to be furnished and installed by the General Contractor.
2 Whiteboards (10'-0" W x 4'-0" H)
4 Whiteboards (12'-0" W x 4'-0" H)
1 Projection Screen (12'-6" W x 7'-6" H)
1 Projector Mount
B = Specified and procured through Interior Designer (not furnished by GC)
Option 1
50 Rolling Tablet Arm Charms
Option 2
22 Training Tables (60" W x 21" D)
44 Student Chairs
C = Specified and procured through A/V Consultant (not furnished by GC)
1 Digital Projector
1 Teaching Lecturn with A/V Rack inside
AV Equipment Items (to be determined by the University)
D = Specified and procured through I.T. Consultant (not by GC)
N/A
E = Supplied by Owner (in project budget)
N/A
F = Supplied by Owner (not in project budget)
N/A

A-400 | 100 Seat Classroom

1. SPACE REQUIRED

Name:	100 Seat Classroom
Occupancy:	100 Occupants
Net Square Footage	2,500 SF
Unit Square Footage:	N/A
Space No.:	A-400

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	N/A
b. Adjacent:	Locate adjacent to other Classroom spaces and small, informal meeting areas.
c. Convenient:	Locate remotely from all department suites and faculty offices.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 7.5 CFM per person Area Outdoor Air Rate Ra = 0.06 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintained Average Illumination: 50 footcandles Lighting Power Density: 1.4 watts per square foot Preset lighting control system with A/V interface
c. Electrical:	120 V floor receptacle outlets, minimum nine locations 120 V general receptacle outlets, minimum 10' O.C. wall 120 V ceiling mount for projector, minimum two locations 120 V ceiling mount for projector screen, minimum two locations 120 V receptacle for Teaching Lecturn (with A/V rack)
d. Communications:	Communication floor outlets, minimum nine locations Communication ceiling mount outlet for projector, minimum two locations Communication outlet for Teaching Lecturn (with A/V rack) Wireless Internet connectivity
e. Plumbing:	No plumbing requirements
f. Music/Video:	Ceiling mounted Digital Projector Ceiling recessed, motorized Projection Screen

Finishes:
This section is to record specific requirements for all surface areas.

a. Floor & Base:	Carpet Tile with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile throughout with Gypsum Board Soffit at Teaching Wall
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

A flexible classroom space that will accommodate multiple teaching styles (lecture style, small group, and large group,etc.) through furniture layout options. Recessed floorboxes will provide power and data to the interior of the space while writable surfaces and large screen displays will line the perimeter walls.

4. LIST OF FURNISHINGS AND EQUIPMENT

- A = Built-in equipment to be furnished and installed by the General Contractor.
- 4 Whiteboards (12'-0" W x 4'-0" H)
 - 2 Whiteboards (16'-0" W x 4'-0" H)
 - 2 Projection Screens (12'-6" W x 7'-6" H)
 - 2 Projector Mounts
- B = Specified and procured through Interior Designer (not furnished by GC)
- Option 1
 - 75 Rolling Tablet Arm Charms
 - 15 Rolling Whiteboards (2'-6" W x 4'-0" H)
 - Option 2
 - 38 Training Tables (60" W x 21" D)
 - 76 Student Chairs
- C = Specified and procured through A/V Consultant (not furnished by GC)
- 2 Digital Projectors
 - 1 Teaching Lecturn with A/V Rack inside
 - AV Equipment Items (to be determined by the University)
- D = Specified and procured through I.T. Consultant (not by GC)
- N/A
- E = Supplied by Owner (in project budget)
- N/A
- F = Supplied by Owner (not in project budget)
- N/A

A-600 | 135 Seat Classroom

1. SPACE REQUIRED

Name:	135 Seat Classroom - tiered
Occupancy:	135 Occupants
Net Square Footage	3,375 SF
Unit Square Footage:	N/A
Space No.:	A-600

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	N/A
b. Adjacent:	Locate adjacent to other Classroom spaces and small, informal meeting areas.
c. Convenient:	Locate remotely from all department suites and faculty offices.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 7.5 CFM per person Area Outdoor Air Rate Ra = 0.06 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintained Average Illumination: 50 footcandles Lighting Power Density: 1.4 watts per square foot Preset lighting control system with A/V interface
c. Electrical:	120 V floor receptacle outlets, minimum nine locations 120 V general receptacle outlets, minimum 10' O.C. wall 120 V ceiling mount for projector, minimum two locations 120 V ceiling mount for projector screen, minimum two locations 120 V receptacle for Teaching Lecturn (with A/V rack)
d. Communications:	Communication floor outlets, minimum nine locations Communication ceiling mount outlet for projector, minimum two locations Communication outlet for Teaching Lecturn (with A/V rack) Wireless Internet connectivity
e. Plumbing:	No plumbing requirements
f. Music/Video:	Ceiling mounted Digital Projector Ceiling recessed, motorized Projection Screen

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Carpet Tile with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile throughout with Gypsum Board Soffit at Teaching Wall
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

A flexible classroom space that will accommodate multiple teaching styles (lecture style, small group, and large group,etc.) through furniture layout options. Recessed floorboxes will provide power and data to the interior of the space while writable surfaces and large screen displays will line the perimeter walls.

4. LIST OF FURNISHINGS AND EQUIPMENT

A = Built-in equipment to be furnished and installed by the General Contractor.

- 4 Whiteboards (12'-0" W x 4'-0" H)
- 2 Whiteboards (16'-0" W x 4'-0" H)
- 2 Projection Screens (12'-6" W x 7'-6" H)
- 2 Projector Mounts

B = Specified and procured through Interior Designer (not furnished by GC)

- Option 1
- 75 Rolling Tablet Arm Charms
- 15 Rolling Whiteboards (2'-6" W x 4'-0" H)
- Option 2
- 38 Training Tables (60" W x 21" D)
- 76 Student Chairs

C = Specified and procured through A/V Consultant (not furnished by GC)

- 2 Digital Projectors
- 1 Teaching Lecturn with A/V Rack inside
- AV Equipment Items (to be determined by the University)

D = Specified and procured through I.T. Consultant (not by GC)

N/A

E = Supplied by Owner (in project budget)

N/A

F = Supplied by Owner (not in project budget)

N/A

A-500 | 500 Seat Conference Center

1. SPACE REQUIRED

Name:	500 Seat Conference Center
Occupancy:	500 Occupants
Net Square Footage	7,500 SF
Unit Square Footage:	N/A
Space No.:	A-500

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	Locate contiguous to large collaboration area, storage room (chairs), kitchen, and AV control room.
b. Adjacent:	Locate adjacent to main entrance / building lobby for additional pre-function activity space.
c. Convenient:	Locate remotely from all department suites and faculty offices.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 7.5 CFM per person Area Outdoor Air Rate Ra = 0.06 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintained Average Illumination: 50 footcandles Lighting Power Density: 1.4 watts per square foot Preset lighting control system with A/V interface
c. Electrical:	120 V floor receptacle outlets, minimum three locations 120 V general receptacle outlets, minimum 10' O.C. wall 120 V ceiling mount for projectors, minimum four locations 120 V ceiling mount for projector screens, minimum four locations 120 V receptacles for A/V equipment
d. Communications:	Communication floor outlets, minimum three locations Communication ceiling mount outlet for projectors, minimum four locations Communication outlets for A/V equipment Wireless Internet connectivity
e. Plumbing:	No plumbing requirements
f. Music/Video:	4 Ceiling mounted Digital Projectors 4 Ceiling recessed, motorized Projection Screens Sound system equipped with voice amplification and surround sound. AV system equipped with both audio and video capture.

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Resilient Tile Flooring with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile throughout with Gypsum Board Soffit at Room Perimeter
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	Aluminum framed glazed system if required
f. Window Treatments:	Black out shades are required if windows are present

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

The conference center is intended to host both formal and informal events. Loose furniture arrangements will accommodate both lecture style events and sit down dining events. The conference center should be located contiguous to a pre-function space and should be convenient to public restrooms. The conference center is to have direct access to both a storage room (for tables and chairs) and a warming kitchen for catered events. The space is to be equipped with state of the art, audio and video technologies capable of audio capture, audio amplification, video capture, and video projection. Space should be capable of splitting into two smaller rooms with a moveable partition.

4. LIST OF FURNISHINGS AND EQUIPMENT

A = Built-in equipment to be furnished and installed by the General Contractor.

2 Projection Screens (20'-0" W x 12'-0" H)

2 Projector Mounts

B = Specified and procured through Interior Designer (not furnished by GC)

500 Conference Chairs

70 Conference Tables (8'-0"W x 2'-6"D)

C = Specified and procured through A/V Consultant (not furnished by GC)

2 Digital Projectors

A/V and Sound System Rack

AV Equipment Items (to be determined by the University)

D = Specified and procured through I.T. Consultant (not by GC)

N/A

E = Supplied by Owner (in project budget)

N/A

F = Supplied by Owner (not in project budget)

N/A

B-100 | Department Suites

1. SPACE REQUIRED

Name:	Department Suite (Medium Large)
Occupancy:	2 4 6 Occupants
Net Square Footage	400 SF (EPP) 600 SF (Biosafety) 700 SF (PS) 900 SF (FWF)
Unit Square Footage:	(per THEC standards and NASF of individual Department offices)
Space No.:	B-100

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	Locate contiguous to Department Head office and Assistant Head Office (if applicable).
b. Adjacent:	Locate relatively close to 20 Seat Seminar / Conference Room.
c. Convenient:	Locate convenient to faculty, lecturer, and adjunct offices of the same department. Locate remotely from all student spaces and classroom spaces.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 5 CFM per person Area Outdoor Air Rate Ra = 0.06 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintained Average Illumination: 50 footcandles Lighting Power Density: 1.1 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, minimum 10' O.C. wall 120 V quad receptacle outlets for office desks, minimum 2 locations 120 V dedicated receptacle outlets for large Work Room equipment, min. 2 locations 120 V receptacle outlets for other Work Room equipment
d. Communications:	Communication outlets for office desks, minimum 2 locations Communication outlets for Work Room equipment, minimum 2 locations Wireless Internet connectivity
e. Plumbing:	Break room sink.
f. Music/Video:	N/A

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Carpet Tile with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	Aluminum framed glazed system if required
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

The Department Suite provides a “face” for specific departments where students, faculty, and potentially the public can access a central location. The department suite will provide space for administrative staff, a reception and waiting area, and a department workroom. The workroom will provide space for a break room area, layout area for teaching materials, and an area for copier/fax machines to be used exclusively for that departments faculty and staff. Where applicable, the department suite should provide direct (contiguous) access to the Department Chair’s office, an Assistant Department Chair’s office, and the Department Chair’s Conference Room.

4. LIST OF FURNISHINGS AND EQUIPMENT

- A = Built-in equipment to be furnished and installed by the General Contractor.
27 - 47 linear feet of wall cabinets, base cabinets, and countertop with 1 sink
- B = Specified and procured through Interior Designer (not furnished by GC)
- 1-6 Reception Desks
 - 1-3 Work Study Desks
 - 2-9 Desk Chairs
 - 5-8 Guest Chairs
 - 2-4 End Tables
 - 2-9 Lateral File Cabinets (15” W x 28” H)
 - 4-15 Lateral File Cabinets (36” W x 28” H)
 - 3-6 Lateral File Cabinets (42” W x 60” H)
 - 2-8 Wire Shelving Racks (36” W x 72” H)
- C = Specified and procured through A/V Consultant (not furnished by GC)
- N/A
- D = Specified and procured through I.T. Consultant (not by GC)
- N/A
- E = Supplied by Owner (in project budget)
- N/A
- F = Supplied by Owner (not in project budget)
- 1-3 Copy/Scanner machines

B-200 | Department Head Conference Room

1. SPACE REQUIRED

Name:	Department Head Conference Room
Occupancy:	6 Occupants
Net Square Footage	150 SF (per THEC standards)
Unit Square Footage:	N/A
Space No.:	B-200

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	Locate contiguous to Department Suite and Department Head.
b. Adjacent:	Locate adjacent to Assistant Department Head Office (if applicable).
c. Convenient:	Locate convenient to faculty, lecturer, and adjunct offices of the same department.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 5 CFM per person Area Outdoor Air Rate Ra = 0.06 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintained Average Illumination: 50 footcandles Lighting Power Density: 1.3 watts per square foot Preset lighting control system with A/V interface
c. Electrical:	120 V floor receptacle outlets, minimum 1 location 120 V general receptacle outlets, minimum 10' O.C. wall
d. Communications:	Communication floor outlet, minimum 1 location General Communication outlet Wireless Internet connectivity
e. Plumbing:	No plumbing requirements
f. Music/Video:	N/A

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Carpet Tile with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

Small Conference Room for the Department Head to meet with Faculty.

4. LIST OF FURNISHINGS AND EQUIPMENT

- A = Built-in equipment to be furnished and installed by the General Contractor.
N/A
B = Specified and procured through Interior Designer (not furnished by GC)
6 Conference Chairs
1 Conference Table
C = Specified and procured through A/V Consultant (not furnished by GC)
N/A
D = Specified and procured through I.T. Consultant (not by GC)
N/A
E = Supplied by Owner (in project budget)
N/A
F = Supplied by Owner (not in project budget)
N/A

B-300 | Department Head Office | Faculty Office | Emeriti Office

1. SPACE REQUIRED

Name:	Department Head Office Faculty Office Emeriti Office
Occupancy:	1 Occupant
Net Square Footage	150 SF (per THEC standards)
Unit Square Footage:	N/A
Space No.:	B-300

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	N/A
b. Adjacent:	Locate adjacent to faculty, lecturer, and adjunct offices of the same department.
c. Convenient:	Locate convenient to the Department Suite, primarily the Work Mail Room, of the same department. Locate remotely from all student spaces and classroom spaces.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 5 CFM per person Area Outdoor Air Rate Ra = 0.06 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintained Average Illumination: 50 footcandles Lighting Power Density: 1.1 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, minimum 10' O.C. wall 120 V quad receptacle outlet for Faculty desk
d. Communications:	Communication outlet for Faculty desk Wireless Internet connectivity
e. Plumbing:	No plumbing requirements
f. Music/Video:	N/A

Finishes:
This section is to record specific requirements for all surface areas.

a. Floor & Base:	Carpet Tile with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

Private Office for one Full Time Faculty Member or Emeriti Faculty.

4. LIST OF FURNISHINGS AND EQUIPMENT

- A = Built-in equipment to be furnished and installed by the General Contractor.
N/A
B = Specified and procured through Interior Designer (not furnished by GC)
1 Desk
1 Associated Computer Work Station
1 Desk Chair
2 Guest Chairs
3 Bookshelf Units (3'-0" W)
1 Lateral File Cabinets (36" W x 28"H)
C = Specified and procured through A/V Consultant (not furnished by GC)
N/A
D = Specified and procured through I.T. Consultant (not by GC)
N/A
E = Supplied by Owner (in project budget)
N/A
F = Supplied by Owner (not in project budget)
N/A

B-400 | Lecturer Office | Part-Time Office | Adjunct Office | Technical Office

1. SPACE REQUIRED

Name:	Lecturer Office Part-Time Office Adjunct Office Technical Office
Occupancy:	1 Occupant
Net Square Footage	100 SF (per THEC standards)
Unit Square Footage:	N/A
Space No.:	B-400

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	N/A
b. Adjacent:	Locate adjacent to faculty, lecturer, and adjunct offices of the same department.
c. Convenient:	Locate convenient to the Department Suite, primarily the Work Mail Room, of the same department. Locate remotely from all student spaces and classroom spaces.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 5 CFM per person Area Outdoor Air Rate Ra = 0.06 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintained Average Illumination: 50 footcandles Lighting Power Density: 1.1 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, minimum 10' O.C. wall 120 V quad receptacle outlet for Lecturer desk
d. Communications:	Communication outlet for Lecturer desk Wireless Internet connectivity
e. Plumbing:	No plumbing requirements
f. Music/Video:	N/A

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Carpet Tile with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

Private Office for one Full Time Lecturer, Part Time Faculty, Adjunct Faculty or Technical Staff.

4. LIST OF FURNISHINGS AND EQUIPMENT

A = Built-in equipment to be furnished and installed by the General Contractor.

N/A

B = Specified and procured through Interior Designer (not furnished by GC)

- 1 Desk
- 1 Associated Computer Work Station
- 1 Desk Chair
- 2 Guest Chairs
- 1 Bookshelf Unit (3'-0" W)
- 1 Lateral File Cabinets (15" W x 28"H)

C = Specified and procured through A/V Consultant (not furnished by GC)

N/A

D = Specified and procured through I.T. Consultant (not by GC)

N/A

E = Supplied by Owner (in project budget)

N/A

F = Supplied by Owner (not in project budget)

N/A

403 Space Requirements

B-500 | Grad Student Office | Post-Doc Office | GTA Office

1. SPACE REQUIRED

Name:	Grad Student Office Post-Doc Office GTA Office
Occupancy:	4 Occupants
Net Square Footage	60 SF per Occupant (per THEC standards)
Unit Square Footage:	240 SF
Space No.:	B-500

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	N/A
b. Adjacent:	N/A
c. Convenient:	Locate convenient to faculty, lecturer, and adjunct offices of the same department. Locate remotely from all student spaces and classroom spaces.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 5 CFM per person Area Outdoor Air Rate Ra = 0.06 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintained Average Illumination: 50 footcandles Lighting Power Density: 1.1 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, minimum 10' O.C. wall 120 V quad receptacle outlet for desks, minimum four locations
d. Communications:	Communication outlet for desks, minimum four locations Wireless Internet connectivity
e. Plumbing:	No plumbing requirements
f. Music/Video:	N/A

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Carpet Tile with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

Shared Office for 4 Graduate Teaching Assistants. Can be in closed room or open to a larger Office Suite.

4. LIST OF FURNISHINGS AND EQUIPMENT

A = Built-in equipment to be furnished and installed by the General Contractor.
N/A
B = Specified and procured through Interior Designer (not furnished by GC)
4 Desks
4 Desk Chairs
2 Bookshelf Units (3'-0" W)
8 Lateral File Cabinets (15" W x 28"H)
C = Specified and procured through A/V Consultant (not furnished by GC)
N/A
D = Specified and procured through I.T. Consultant (not by GC)
N/A
E = Supplied by Owner (in project budget)
N/A
F = Supplied by Owner (not in project budget)
N/A

B-600 | UTIA Safety Office

1. SPACE REQUIRED

Name:	UTIA Safety Office
Occupancy:	2 Occupants
Net Square Footage	100 SF per Occupant (per THEC standards)
Unit Square Footage:	200 SF
Space No.:	B-600

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	N/A
b. Adjacent:	Locate adjacent to faculty offices of the Biosafety, IACUC, OHP and OLAC groups.
c. Convenient:	Locate remotely from all student spaces and classroom spaces.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 5 CFM per person Area Outdoor Air Rate Ra = 0.06 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintained Average Illumination: 50 footcandles Lighting Power Density: 1.1 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, minimum 10' O.C. wall 120 V quad receptacle outlet for desks, minimum two locations
d. Communications:	Communication outlet for desks, minimum two locations Wireless Internet connectivity
e. Plumbing:	No plumbing requirements
f. Music/Video:	N/A

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Carpet Tile with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

Shared Office for 2 Safety Officers

4. LIST OF FURNISHINGS AND EQUIPMENT

- A = Built-in equipment to be furnished and installed by the General Contractor.
N/A
B = Specified and procured through Interior Designer (not furnished by GC)
2 Desks
2 Desk Chairs
2 Storage Closets
1 Small Table
C = Specified and procured through A/V Consultant (not furnished by GC)
N/A
D = Specified and procured through I.T. Consultant (not by GC)
N/A
E = Supplied by Owner (in project budget)
N/A
F = Supplied by Owner (not in project budget)
N/A

B-700 | Pod Cast Room | Advising

1. SPACE REQUIRED

Name:	Pod Cast Room / Advising
Occupancy:	2 Occupants
Net Square Footage	100 SF
Unit Square Footage:	N/A
Space No.:	B-700

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	N/A
b. Adjacent:	N/A
c. Convenient:	Locate convenient to the Plant Sciences Department. Locate remotely from all student spaces and classroom spaces.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 5 CFM per person Area Outdoor Air Rate Ra = 0.06 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintained Average Illumination: 50 footcandles Lighting Power Density: 1.1 watts per square foot Multi-level lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, minimum 10' O.C. wall 120 V general receptacle for flat screen TV
d. Communications:	Communication outlet for flat screen TV Communication general outlets, minimum one location Wireless Internet connectivity
e. Plumbing:	No plumbing requirements
f. Music/Video:	Flat Screen TV Audio and Video Recording Equipment

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Carpet Tile with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

Room for 1-2 people to privately record pod casts.

4. LIST OF FURNISHINGS AND EQUIPMENT

- A = Built-in equipment to be furnished and installed by the General Contractor.
1 Whiteboard (6'-0" W x 4'-0" H)
B = Specified and procured through Interior Designer (not furnished by GC)
2 Chairs
1 Small Table
C = Specified and procured through A/V Consultant (not furnished by GC)
1 Flat Screen TV with Camera for Pod Casting
D = Specified and procured through I.T. Consultant (not by GC)
N/A
E = Supplied by Owner (in project budget)
N/A
F = Supplied by Owner (not in project budget)
N/A

B-800 | Poster and Printer Room

1. SPACE REQUIRED

Name:	Poster and Printer Room
Occupancy:	2 Occupants
Net Square Footage	180 SF
Unit Square Footage:	N/A
Space No.:	B-800

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	N/A
b. Adjacent:	N/A
c. Convenient:	Locate convenient to the Plant Sciences Department. Locate remotely from all student spaces and classroom spaces.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 5 CFM per person Area Outdoor Air Rate Ra = 0.06 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintained Average Illumination: 50 footcandles Lighting Power Density: 1.1 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, minimum 10' O.C. wall 120 V receptacle outlet for printer and plotter, minimum two locations
d. Communications:	Communication general outlets, minimum one location Communication outlet for printer and plotter, minimum two locations Wireless Internet connectivity
e. Plumbing:	No plumbing requirements
f. Music/Video:	N/A

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Resilient Tile Flooring with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

Secured space to store the large format plotter and other miscellaneous printers for the Plant Sciences Department.

4. LIST OF FURNISHINGS AND EQUIPMENT

A = Built-in equipment to be furnished and installed by the General Contractor.

21 linear feet of wall cabinets, base cabinets, and countertop

B = Specified and procured through Interior Designer (not furnished by GC)

N/A

C = Specified and procured through A/V Consultant (not furnished by GC)

N/A

D = Specified and procured through I.T. Consultant (not by GC)

N/A

E = Supplied by Owner (in project budget)

N/A

F = Supplied by Owner (not in project budget)

Large Format Plotter

C-100 | 32 Seat Specialty Seat

1. SPACE REQUIRED

Name:	32 Seat Specialty Classroom
Occupancy:	32 Occupants
Net Square Footage	945 SF
Unit Square Footage:	N/A
Space No.:	C-100

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	N/A
b. Adjacent:	Locate adjacent to other classroom spaces and informal public spaces.
c. Convenient:	Locate remotely from all department suites, faculty offices, and research labs.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 7.5 CFM per person Area Outdoor Air Rate Ra = 0.06 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintained Average Illumination: 50 footcandles Lighting Power Density: 1.4 watts per square foot Preset lighting control system with A/V interface
c. Electrical:	120 V floor receptacle outlets, minimum four locations 120 V general receptacle outlets, minimum 10' O.C. at wall 120 V general receptacle outlets, 2'-0" O.C. at casework (above counter in surface mounted raceway) 120 V ceiling mount for projector 120 V ceiling mount for projector screen 120 V receptacle for Teaching Lecturn (with A/V rack)
d. Communications:	Communication floor outlets, minimum four locations Communication wall outlets, 6'-0" O.C. at casework (above counter in surface mounted raceway) Communication ceiling mount outlet for projector Communication outlet for Teaching Lecturn (with A/V rack) Wireless Internet connectivity
e. Plumbing:	Casework-mounted sink
f. Music/Video:	Ceiling mounted Digital Projector Ceiling recessed, motorized Projection Screen

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Resilient Tile Flooring with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile throughout with Gypsum Board Soffit at Teaching Wall
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

A flexible teaching space for specialized classes that require the functionality and durability of laboratory casework.

4. LIST OF FURNISHINGS AND EQUIPMENT

A = Built-in equipment to be furnished and installed by the General Contractor.

- 50 Linear Feet of Fixed Casework (Base Cabinets, Wall Cabinets, Wall Shelves, Countertops)
- 17 Casework Tables, Loose (60" x 24")
- 2 Whiteboards (10'-0" W x 4'-0" H)
- 1 Whiteboards (16'-0" W x 4'-0" H)
- 1 Projection Screen (12'-6" W x 7'-6" H)
- 1 Projector Mount
- 1 Fire Extinguisher and Cabinet

B = Specified and procured through Interior Designer (not furnished by GC)

- 32 Student Chairs
- 1 Professor Chair

C = Specified and procured through A/V Consultant (not furnished by GC)

- 1 Digital Projector
- 1 Teaching Lecturn with A/V Rack inside
- AV Equipment Items (to be determined by the University)

D = Specified and procured through I.T. Consultant (not by GC)

N/A

E = Supplied by Owner (in project budget)

N/A

F = Supplied by Owner (not in project budget)

N/A

C-200 | 40 Seat Specialty Classroom

1. SPACE REQUIRED

Name:	40 Seat Specialty Classroom
Occupancy:	40 Occupants
Net Square Footage	1,103 SF
Unit Square Footage:	N/A
Space No.:	C-200

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	N/A
b. Adjacent:	Locate adjacent to other classroom spaces and informal public spaces.
c. Convenient:	Locate remotely from all department suites, faculty offices, and research labs.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 7.5 CFM per person Area Outdoor Air Rate Ra = 0.06 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintained Average Illumination: 50 footcandles Lighting Power Density: 1.4 watts per square foot Preset lighting control system with A/V interface
c. Electrical:	120 V floor receptacle outlets, minimum six locations 120 V general receptacle outlets, minimum 10' O.C. at wall 120 V general receptacle outlets, 2'-0" O.C. at casework (above counter in surface mounted raceway) 120 V ceiling mount for projector 120 V ceiling mount for projector screen 120 V receptacle for Teaching Lecturn (with A/V rack)
d. Communications:	Communication floor outlets, minimum six locations Communication wall outlets, 6'-0" O.C. at casework (above counter in surface mounted raceway) Communication ceiling mount outlet for projector Communication outlet for Teaching Lecturn (with A/V rack) Wireless Internet connectivity
e. Plumbing:	Casework-mounted sink
f. Music/Video:	Ceiling mounted Digital Projector Ceiling recessed, motorized Projection Screen

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Resilient Tile Flooring with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile throughout with Gypsum Board Soffit at Teaching Wall
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

A flexible teaching space for specialized classes that require the functionality and durability of laboratory casework.

4. LIST OF FURNISHINGS AND EQUIPMENT

- A = Built-in equipment to be furnished and installed by the General Contractor.
- 55 Linear Feet of Fixed Casework (Base Cabinets, Wall Cabinets, Wall Shelves, Countertops)
 - 21 Casework Tables, Loose (60" x 24")
 - 2 Whiteboards (12'-0" W x 4'-0" H)
 - 1 Whiteboards (16'-0" W x 4'-0" H)
 - 1 Projection Screen (12'-6" W x 7'-6" H)
 - 1 Projector Mount
 - 1 Fire Extinguisher and Cabinet
- B = Specified and procured through Interior Designer (not furnished by GC)
- 40 Student Chairs
 - 1 Professor Chair
- C = Specified and procured through A/V Consultant (not furnished by GC)
- 1 Digital Projector
 - 1 Teaching Lecturn with A/V Rack inside
 - AV Equipment Items (to be determined by the University)
- D = Specified and procured through I.T. Consultant (not by GC)
- N/A
- E = Supplied by Owner (in project budget)
- N/A
- F = Supplied by Owner (not in project budget)
- N/A

D-100 | General Teaching Lab

1. SPACE REQUIRED	
Name:	General Teaching Lab
Occupancy:	24 Occupants
Net Square Footage	1,260 SF
Unit Square Footage:	N/A
Space No.:	D-100
2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES	
Relationships:	
a. Contiguous:	Locate contiguous to General Prep Labs.
b. Adjacent:	Locate adjacent to other classroom spaces and informal public spaces.
c. Convenient:	Locate remotely from all department suites, faculty offices, and research labs.
Services and Features:	
a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 10 CFM per person Area Outdoor Air Rate Ra = 0.18 CFM per square foot Pressurization: Negative 100% exhausted
b. Illumination:	Maintained Average Illumination: 50 footcandles Lighting Power Density: 1.4 watts per square foot Preset lighting control system with A/V interface
c. Electrical:	120 V floor receptacle outlets, minimum six locations 120 V general receptacle outlets, minimum 10' O.C. at wall 120 V general receptacle outlets, 2'-0" O.C. at casework (above counter in surface mounted raceway) 120 V ceiling mount for projector 120 V ceiling mount for projector screen 120 V receptacle for Teaching Lecturn (with A/V rack) 208 V general receptacle outlet at Future Equipment Space, minimum two locations
d. Communications:	Communication floor outlets, minimum six locations Communication wall outlets, 6'-0" O.C. at casework (above counter in surface mounted raceway) Communication ceiling mount outlet for projector Communication outlet for Teaching Lecturn (with A/V rack) Wireless Internet connectivity
e. Plumbing:	2 casework mounted sinks with Hot and Cold Water and Eyewash fixtures Single Air, Gas, Vacuum Connections Emergency Shower and Eyewash Combination Unit
f. Music/Video:	Ceiling mounted Digital Projector Ceiling recessed, motorized Projection Screen

Finishes:	
This section is to record specific requirements for all surface areas.	
a. Floor & Base:	Resilient Tile Flooring with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile throughout with Gypsum Board Soffit at Teaching Wall
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames At least one door into lab to provide a 48" minimum clear horizontal entry for equipment
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS
- A flexible laboratory space suitable for teaching both wet and dry sciences.

4. LIST OF FURNISHINGS AND EQUIPMENT
- A = Built-in equipment to be furnished and installed by the General Contractor.
- 76 Linear Feet of Fixed Casework (Base Cabinets, Wall Cabinets, Wall Shelves, Countertops)
 - 12 Casework Tables, Loose (72" x 30")
 - 1 Casework Table, Loose (60" x 30")
 - 2 Whiteboards (12'-0" W x 4'-0" H)
 - 1 Projection Screen (12'-6" W x 7'-6" H)
 - 1 Projector Mount
 - 1 Fire Extinguisher and Cabinet
- B = Specified and procured through Interior Designer (not furnished by GC)
- 24 Student Chairs
 - 1 Professor Chair
- C = Specified and procured through A/V Consultant (not furnished by GC)
- 1 Digital Projector
 - 1 Teaching Lecturn with A/V Rack inside
 - AV Equipment Items (to be determined by the University)
- D = Specified and procured through I.T. Consultant (not by GC)
- N/A
- E = Supplied by Owner (in project budget)
- N/A
- F = Supplied by Owner (not in project budget)
- N/A

D-200 | General Prep Lab

1. SPACE REQUIRED

Name:	General Prep Lab
Occupancy:	0 Occupant
Net Square Footage	315 SF
Unit Square Footage:	N/A
Space No.:	D-200

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	Locate contiguous to General Teaching Labs.
b. Adjacent:	Locate adjacent to other classroom spaces and informal public spaces.
c. Convenient:	Locate remotely from all department suites, faculty offices, and research labs.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 10 CFM per person Area Outdoor Air Rate Ra = 0.18 CFM per square foot Pressurization: Negative 100% exhausted
b. Illumination:	Maintained Average Illumination: 75 footcandles Lighting Power Density: 1.4 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, 2'-0" O.C. at casework (above counter in surface mounted raceway) 120 V emergency power receptacle outlets, minimum four locations 120 V general receptacle outlet at Future Equipment Space, minimum two locations 208 V general receptacle outlet at Future Equipment Space, minimum one location 120 V ceiling mount for Fume Hood
d. Communications:	Communication wall outlets, 6'-0" O.C. at casework (above counter in surface mounted raceway) Communication wall outlet at Future Equipment Space, minimum 1 location Wireless Internet connectivity
e. Plumbing:	1 casework mounted sink with Hot and Cold Water and Eyewash fixture Fume Hood Connections <ul style="list-style-type: none">1 Cold Water connection for cup sink1 Air connection1 Vacuum connection1 Gas connection
f. Music/Video:	N/A

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Resilient Tile Flooring with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames At least one door into lab to provide a 48" minimum clear horizontal entry for equipment
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

Laboratory space to serve as a preparation area for teaching materials and/or experiments to be used in the General Teaching Lab.

4. LIST OF FURNISHINGS AND EQUIPMENT

A = Built-in equipment to be furnished and installed by the General Contractor.
39 Linear Feet of Fixed Casework (Base Cabinets, Wall Cabinets, Wall Shelves, Countertops)
One 4'-0" wide Fume Hood
1 Fire Extinguisher and Cabinet
B = Specified and procured through Interior Designer (not furnished by GC)
N/A
C = Specified and procured through A/V Consultant (not furnished by GC)
N/A
D = Specified and procured through I.T. Consultant (not by GC)
N/A
E = Supplied by Owner (in project budget)
N/A
F = Supplied by Owner (not in project budget)
N/A

D-300 | Necropsy Teaching Lab

1. SPACE REQUIRED

Name:	Necropsy Teaching Lab
Occupancy:	15 Occupants
Net Square Footage	630 SF
Unit Square Footage:	N/A
Space No.:	D-300

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	Locate contiguous to Gowning Room. Locate contiguous to Necropsy Prep Lab.
b. Adjacent:	Locate adjacent to other classroom spaces and informal public spaces.
c. Convenient:	Locate remotely from all department suites, faculty offices, and research labs. Locate at elevated slabs,do not locate at Slab on Grade.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 10 CFM per person Area Outdoor Air Rate Ra = 0.18 CFM per square foot Pressurization: Negative 100% exhausted Exhaust connection for down draft necropsy tables from floor below
b. Illumination:	Maintained Average Illumination: 75 footcandles Lighting Power Density: 1.4 watts per square foot Lighting control system with automatic shutoff Surgical Light over Necropsy Tables
c. Electrical:	120 V floor receptacle outlets, minimum two locations 120 V wall receptacle outlets for microscopes, minimum four locations 120 V general receptacle outlets, minimum 10' O.C. wall 120 V ceiling mount outlet for surgical light 120 V floor mount outlet for necropsy table, minimum two locations
d. Communications:	Communication floor outlets, minimum two locations Communication wall outlets, minimum four locations Wireless Internet connectivity
e. Plumbing:	2 Handwash sinks with Hot and Cold Water and IR sensors Hot and Cold water connections at sinks built-into necropsy tables
f. Music/Video:	N/A

Finishes:
This section is to record specific requirements for all surface areas.

a. Floor & Base:	Resinous Flooring
b. Walls:	Epoxy Painted Gypsum Board
c. Ceiling:	Cleanroom Grade Ceiling Tile
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

Laboratory space for both animal autopsy, to be performed on fixed down-draft necropsy tables, and microscope stations. Space is to be considered a clean (sterile) room with entrance and exit only through a gowning anteroom.

4. LIST OF FURNISHINGS AND EQUIPMENT

- A = Built-in equipment to be furnished and installed by the General Contractor.
36 Linear Feet of Fixed Casework (Base Cabinets, Wall Cabinets, Wall Shelves, Countertops)
Two Down Draft Necropsy Tables
One Surgical Light Fixture with 2 arms
1 Fire Extinguisher and Cabinet
B = Specified and procured through Interior Designer (not furnished by GC)
14 Student Chairs
8 Microscope Tables (48"W x 24"D)
C = Specified and procured through A/V Consultant (not furnished by GC)
N/A
D = Specified and procured through I.T. Consultant (not by GC)
N/A
E = Supplied by Owner (in project budget)
N/A
F = Supplied by Owner (not in project budget)
14 Microscopes

D-400 | Necropsy Prep Lab and Gowning Room

1. SPACE REQUIRED

Name:	Necropsy Prep Lab and Gowning Room
Occupancy:	0 Occupant
Net Square Footage	315 SF
Unit Square Footage:	N/A
Space No.:	D-400

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	Locate contiguous to Necropsy Teaching Lab.
b. Adjacent:	Locate adjacent to other classroom spaces and informal public spaces.
c. Convenient:	Locate remotely from all department suites, faculty offices, and research labs.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 10 CFM per person Area Outdoor Air Rate Ra = 0.18 CFM per square foot Pressurization: Negative 100% exhausted
b. Illumination:	Maintained Average Illumination: 75 footcandles Lighting Power Density: 1.4 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, 2'-0" O.C. at casework (above counter in surface mounted raceway) 120 V general receptacle outlet at Future Equipment Space, minimum two locations 208 V general receptacle outlet at Future Equipment Space, minimum one location 120 V emergency power receptacle outlets, minimum four locations 120 V ceiling mount for Fume Hood
d. Communications:	Communication wall outlets, 6'-0" O.C. at casework (above counter in surface mounted raceway) Communication wall outlet at Future Equipment Space, minimum one location Wireless Internet connectivity
e. Plumbing:	1 casework mounted sink with Hot and Cold Water and Eyewash fixture in Prep Lab 1 Handwash sink with Hot and Cold Water and IR sensor in Gowning Room
f. Music/Video:	N/A

Finishes:
This section is to record specific requirements for all surface areas.

a. Floor & Base:	Resinous Flooring
b. Walls:	Epoxy Painted Gypsum Board
c. Ceiling:	Cleanroom Grade Ceiling Tile
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

The gowning room is to serve as an anteroom before entering or exiting the Necropsy Teaching Space. It will provide space and storage to apply gowns and other personal protection equipment (PPE). It is to include a handwash sink for proper cleaning upon entering or exiting. The prep lab is a laboratory environment to serve as a preparation area for teaching materials and/or experiments to be used in the Necropsy Teaching Lab.

4. LIST OF FURNISHINGS AND EQUIPMENT

- A = Built-in equipment to be furnished and installed by the General Contractor.
28 Linear Feet of Fixed Casework (Base Cabinets, Wall Cabinets, Wall Shelves, Countertops)
1 Fire Extinguisher and Cabinet
B = Specified and procured through Interior Designer (not furnished by GC)
One Shelving Unit for Gowns and other Personal Protection Equipment
C = Specified and procured through A/V Consultant (not furnished by GC)
N/A
D = Specified and procured through I.T. Consultant (not by GC)
N/A
E = Supplied by Owner (in project budget)
N/A
F = Supplied by Owner (not in project budget)
N/A

E-100 | Research Lab - Wet

1. SPACE REQUIRED

Name:	Research Lab - Wet
Occupancy:	2 Occupants
Net Square Footage	630 SF
Unit Square Footage:	N/A
Space No.:	E-100

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	N/A
b. Adjacent:	Locate adjacent to Research Lab Support Space.
c. Convenient:	Locate remote from Public Spaces and Classroom Spaces.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 10 CFM per person Area Outdoor Air Rate Ra = 0.18 CFM per square foot Pressurization: Negative 100% exhausted
b. Illumination:	Maintained Average Illumination: 75 footcandles Lighting Power Density: 1.4 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V ceiling receptacle outlets, minimum two locations 120 V general receptacle outlets, minimum 10' O.C. at wall 120 V general receptacle outlets, 2'-0" O.C. at casework (above counter in surface mounted raceway) 208 V general receptacle outlet at Future Equipment Space, minimum one location 120 V emergency power receptacle outlets, minimum eight locations 208 V emergency power receptacle outlet at Future Equipment Space
d. Communications:	Communication ceiling outlets, minimum two locations Communication wall outlets, 6'-0" O.C. at casework (above counter in surface mounted raceway) Wireless Internet connectivity
e. Plumbing:	2 casework mounted sinks with Hot and Cold Water and Eyewash fixtures Single Air, Gas, Vacuum Connections Fume Hood Connections <ul style="list-style-type: none">1 Cold Water connection for cup sink2 Air connections2 Vacuum connections2 Gas connections Emergency Shower and Eyewash Combination Unit
f. Music/Video:	N/A

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Resilient Tile Flooring with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile throughout
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames, minimum 42" clear entry
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

A flexible research laboratory space for wet research.

4. LIST OF FURNISHINGS AND EQUIPMENT

A = Built-in equipment to be furnished and installed by the General Contractor.

- 61 Linear Feet of Fixed Casework (Base Cabinets, Wall Cabinets, Wall Shelves, Countertops)
- 6 Casework Tables, Loose (60" x 30")
- One 6'-0" Fume Hood
- 1 Fire Extinguisher and Cabinet

B = Specified and procured through Interior Designer (not furnished by GC)

- 2 Lab Stools

C = Specified and procured through A/V Consultant (not furnished by GC)

N/A

D = Specified and procured through I.T. Consultant (not by GC)

N/A

E = Supplied by Owner (in project budget)

N/A

F = Supplied by Owner (not in project budget)

N/A

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E-101 | Research Lab - Wet

1. SPACE REQUIRED

Name:	Research Lab - Wet
Occupancy:	2 Occupants
Net Square Footage	315 SF
Unit Square Footage:	N/A
Space No.:	E-101

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	N/A
b. Adjacent:	Locate adjacent to Research Lab Support Space.
c. Convenient:	Locate remote from Public Spaces and Classroom Spaces.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 10 CFM per person Area Outdoor Air Rate Ra = 0.18 CFM per square foot Pressurization: Negative 100% exhausted
b. Illumination:	Maintained Average Illumination: 75 footcandles Lighting Power Density: 1.4 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V quad receptacle outlet for Lab Tables, minimum two locations 120 V general receptacle outlets, minimum 10' O.C. at wall 120 V general receptacle outlets, 2'-0" O.C. at casework (above counter in surface mounted raceway) 208 V general receptacle outlet at Future Equipment Space 120 V ceiling mount outlet for Fume Hood 120 V emergency power receptacle outlets, minimum four locations 208 V emergency power receptacle outlet at Future Equipment Space
d. Communications:	Communication outlets for Lab Tables, minimum two locations Communication wall outlets, 6'-0" O.C. at casework (above counter in surface mounted raceway) Wireless Internet connectivity
e. Plumbing:	1 casework mounted sink with Hot and Cold Water and Eyewash fixture Single Air, Gas, Vacuum Connections Fume Hood Connections <ul style="list-style-type: none">1 Cold Water connection for cup sink2 Air connections2 Vacuum connections2 Gas connections Emergency Shower and Eyewash Combination Unit
f. Music/Video:	N/A

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Resilient Tile Flooring with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile throughout
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames, minimum 42" clear entry
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

A flexible research laboratory space for wet research.

4. LIST OF FURNISHINGS AND EQUIPMENT

A = Built-in equipment to be furnished and installed by the General Contractor.
33 Linear Feet of Fixed Casework (Base Cabinets, Wall Cabinets, Wall Shelves, Countertops)
2 Casework Tables, Loose (72" x 30")
One 6'-0" Fume Hood
1 Fire Extinguisher and Cabinet
B = Specified and procured through Interior Designer (not furnished by GC)
2 Lab Stools
C = Specified and procured through A/V Consultant (not furnished by GC)
N/A
D = Specified and procured through I.T. Consultant (not by GC)
N/A
E = Supplied by Owner (in project budget)
N/A
F = Supplied by Owner (not in project budget)
N/A

E-200 | Research Lab - Dry

1. SPACE REQUIRED

Name:	Research Lab - Dry
Occupancy:	2 Occupants
Net Square Footage	630 SF
Unit Square Footage:	N/A
Space No.:	E-200

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	N/A
b. Adjacent:	Locate adjacent to Research Lab Support Space.
c. Convenient:	Locate remote from Public Spaces and Classroom Spaces.

Services and Features:	
a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 10 CFM per person Area Outdoor Air Rate Ra = 0.18 CFM per square foot Pressurization: Negative 100% exhausted
b. Illumination:	Maintained Average Illumination: 75 footcandles Lighting Power Density: 1.4 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V ceiling receptacle outlets, minimum two locations 120 V general receptacle outlets, minimum 10' O.C. at wall 120 V general receptacle outlets, 2'-0" O.C. at casework (above counter in surface mounted raceway) 208 V general receptacle outlet at Future Equipment Space 120 V emergency power receptacle outlets, minimum eight locations 208 V emergency power receptacle outlet at Future Equipment Space
d. Communications:	Communication ceiling outlets, minimum two locations Communication wall outlets, 6'-0" O.C. at casework (above counter in surface mounted raceway) Wireless Internet connectivity
e. Plumbing:	No plumbing requirements
f. Music/Video:	N/A

Finishes:	
This section is to record specific requirements for all surface areas.	
a. Floor & Base:	Resilient Tile Flooring with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile throughout
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames, minimum 42" clear entry
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS	A flexible research laboratory space for dry research.
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4. LIST OF FURNISHINGS AND EQUIPMENT	
A = Built-in equipment to be furnished and installed by the General Contractor.	61 Linear Feet of Fixed Casework (Base Cabinets, Wall Cabinets, Wall Shelves, Countertops) 6 Casework Distinction Tables, Loose (60" x 30") 1 Fire Extinguisher and Cabinet
B = Specified and procured through Interior Designer (not furnished by GC)	2 Lab Stools
C = Specified and procured through A/V Consultant (not furnished by GC)	N/A
D = Specified and procured through I.T. Consultant (not by GC)	N/A
E = Supplied by Owner (in project budget)	N/A
F = Supplied by Owner (not in project budget)	N/A

E-201 | Research Lab - Dry

1. SPACE REQUIRED

Name:	Research Lab - Dry
Occupancy:	2 Occupants
Net Square Footage	315 SF
Unit Square Footage:	N/A
Space No.:	E-201

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	N/A
b. Adjacent:	Locate adjacent to Research Lab Support Space.
c. Convenient:	Locate remote from Public Spaces and Classroom Spaces.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 10 CFM per person Area Outdoor Air Rate Ra = 0.18 CFM per square foot Pressurization: Negative 100% exhausted
b. Illumination:	Maintained Average Illumination: 75 footcandles Lighting Power Density: 1.4 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, minimum 10' O.C. at wall 120 V general receptacle outlets, 2'-0" O.C. at casework (above counter in surface mounted raceway) 208 V general receptacle outlet at Future Equipment Space 120 V emergency power receptacle outlets, minimum six locations 208 V emergency power receptacle outlet at Future Equipment Space
d. Communications:	Communication wall outlets, 6'-0" O.C. at casework (above counter in surface mounted raceway) Wireless Internet connectivity
e. Plumbing:	No plumbing requirements
f. Music/Video:	N/A

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Resilient Tile Flooring with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile throughout
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames, minimum 42" clear entry
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

A flexible research laboratory space for dry research.

4. LIST OF FURNISHINGS AND EQUIPMENT

- A = Built-in equipment to be furnished and installed by the General Contractor.
33 Linear Feet of Fixed Casework (Base Cabinets, Wall Cabinets, Wall Shelves, Countertops)
2 Casework Distinction Tables, Loose (60" x 30")
1 Fire Extinguisher and Cabinet
B = Specified and procured through Interior Designer (not furnished by GC)
2 Lab Stools
C = Specified and procured through A/V Consultant (not furnished by GC)
N/A
D = Specified and procured through I.T. Consultant (not by GC)
N/A
E = Supplied by Owner (in project budget)
N/A
F = Supplied by Owner (not in project budget)
N/A

E-300 | Research Lab - OLAC

1. SPACE REQUIRED

Name:	Research Lab - OLAC
Occupancy:	2 Occupants
Net Square Footage	473 SF
Unit Square Footage:	N/A
Space No.:	E-300

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	N/A
b. Adjacent:	N/A
c. Convenient:	Locate convenient to OLAC Faculty Offices. Locate remote from Public Spaces and Classroom Spaces.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 10 CFM per person Area Outdoor Air Rate Ra = 0.18 CFM per square foot Pressurization: Negative 100% exhausted
b. Illumination:	Maintained Average Illumination: 75 footcandles Lighting Power Density: 1.4 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V ceiling receptacle outlets, minimum one location 120 V general receptacle outlets, minimum 10' O.C. at wall 120 V general receptacle outlets, 2'-0" O.C. at casework (above counter in surface mounted raceway) 208 V eneral receptacle outlet at Future Equipment Space, minimum two locations 120 V emergency power receptacle outlets, minimum six locations 208 V emergency power receptacle outlet at Future Equipment Space
d. Communications:	Communication ceiling outlets, minimum one location Communication wall outlets, 6'-0" O.C. at casework (above counter in surface mounted raceway) Wireless Internet connectivity
e. Plumbing:	2 casework mounted sinks with Hot and Cold Water and Eyewash fixtures Emergency Shower and Eyewash Combination Unit Fume Hood Connections <ul style="list-style-type: none">o 1 Cold Water connection for cup sinko 1 Air connectiono 1 Vacuum connectiono 1 Gas connection
f. Music/Video:	N/A

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Resilient Tile Flooring with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile throughout
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames, minimum 42" clear entry
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

A flexible research laboratory space for the OLAC staff. Space is to be divided into 2 individual areas; one space to serve as a shared research space and the other, as a prep space.

4. LIST OF FURNISHINGS AND EQUIPMENT

A = Built-in equipment to be furnished and installed by the General Contractor.

45 Linear Feet of Fixed Casework (Base Cabinets, Wall Cabinets, Wall Shelves, Countertops)
2 Casework Tables, Loose (72" x 30")
1 Fire Extinguisher and Cabinet
One 4'-0" Fume Hood
One 6'-0" Biosafety Cabinet

B = Specified and procured through Interior Designer (not furnished by GC)

2 Lab Stools

C = Specified and procured through A/V Consultant (not furnished by GC)

N/A

D = Specified and procured through I.T. Consultant (not by GC)

N/A

E = Supplied by Owner (in project budget)

N/A

F = Supplied by Owner (not in project budget)

N/A

E-400 | Research Lab - Insect Museum

1. SPACE REQUIRED

Name:	Research Lab - Insect Museum
Occupancy:	4 Occupants
Net Square Footage	788 SF
Unit Square Footage:	N/A
Space No.:	E-400

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	N/A
b. Adjacent:	N/A
c. Convenient:	Locate convenient to the Research Labs and Offices of the Entomology & Plant Pathology Department. Locate remote from Public Spaces and Classroom Spaces.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 10 CFM per person Area Outdoor Air Rate Ra = 0.18 CFM per square foot Pressurization: Negative 100% exhausted
b. Illumination:	Maintained Average Illumination: 75 footcandles Lighting Power Density: 1.4 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V floor receptacle outlets, minimum two locations 120 V general receptacle outlets, minimum 10' O.C. at wall 120 V general receptacle outlets, 1'-6" O.C. at casework (above counter in surface mounted raceway) 120 V emergency power receptacle outlet, minimum one location
d. Communications:	Communication floor outlets, minimum two locations Communication wall outlets, 6'-0" O.C. at casework (above counter in surface mounted raceway) Wireless Internet connectivity
e. Plumbing:	1 casework mounted sink with Hot and Cold Water and Eyewash fixture
f. Music/Video:	N/A

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Resilient Tile Flooring with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile throughout
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames, minimum 42" clear entry
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

A flexible research laboratory space to house the Insect Museum. Room will provide storage for all of the specimens and space for to view them.

4. LIST OF FURNISHINGS AND EQUIPMENT

- A = Built-in equipment to be furnished and installed by the General Contractor.
- 18 Linear Feet of Fixed Casework (Base Cabinets, Wall Cabinets, Wall Shelves, Countertops)
 - 105' Linear Feet of Insect Cabinets (30"W x 18"D x 72"T)
 - 2 Casework Tables, Loose (72" x 30")
 - 1 Fire Extinguisher and Cabinet
- B = Specified and procured through Interior Designer (not furnished by GC)
- 4 Lab Stools
- C = Specified and procured through A/V Consultant (not furnished by GC)
- N/A
- D = Specified and procured through I.T. Consultant (not by GC)
- N/A
- E = Supplied by Owner (in project budget)
- N/A
- F = Supplied by Owner (not in project budget)
- N/A

E-500 | Research Lab - Central Environmental Analysis Laboratory Hub

1. SPACE REQUIRED	
Name:	Research Lab - Central Environmental Analysis Laboratory Hub
Occupancy:	2 Occupants
Net Square Footage	630 SF
Unit Square Footage:	N/A
Space No.:	E-500
2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES	
Relationships:	
a. Contiguous:	N/A
b. Adjacent:	N/A
c. Convenient:	Locate convenient to the Research Labs and Offices of the Biosystems Engineering & Soil Sciences Department. Locate remote from Public Spaces and Classroom Spaces.
Services and Features:	
a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 10 CFM per person Area Outdoor Air Rate Ra = 0.18 CFM per square foot Pressurization: Negative 100% exhausted
b. Illumination:	Maintained Average Illumination: 75 footcandles Lighting Power Density: 1.4 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, minimum 10' O.C. at wall 120 V general receptacle outlets, 2'-0" O.C. at casework (above counter in surface mounted raceway) 208 V general receptacle outlet, minimum two locations 120 V emergency power receptacle outlets, minimum eight locations 208 V emergency power receptacle outlet, minimum one location
d. Communications:	Communication wall outlets, 6'-0" O.C. at casework (above counter in surface mounted raceway) Wireless Internet connectivity
e. Plumbing:	2 casework mounted sinks with Hot and Cold Water and Eyewash fixtures Emergency Shower and Eyewash Combination Unit Air connections, minimum 4 locations Vacuum connections, minimum 4 locations Gas connections, minimum 4 locations
f. Music/Video:	N/A

Finishes:	
This section is to record specific requirements for all surface areas.	
a. Floor & Base:	Resilient Tile Flooring with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile throughout
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames, minimum 42" clear entry
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS
A flexible research laboratory space to serve as a hub for shared research equipment and instruments.

4. LIST OF FURNISHINGS AND EQUIPMENT
A = Built-in equipment to be furnished and installed by the General Contractor.
72 Linear Feet of Fixed Casework (Base Cabinets, Wall Cabinets, Wall Shelves, Countertops)
4 Casework Tables, Loose (84" x 30")
1 Fire Extinguisher and Cabinet
4 Fume Extraction Devices, Ceiling mounted
B = Specified and procured through Interior Designer (not furnished by GC)
4 Lab Stools
C = Specified and procured through A/V Consultant (not furnished by GC)
N/A
D = Specified and procured through I.T. Consultant (not by GC)
N/A
E = Supplied by Owner (in project budget)
N/A
F = Supplied by Owner (not in project budget)
N/A

E-600 | Research Lab - Biofuel Hub

1. SPACE REQUIRED	
Name:	Research Lab - Biofuel Lab
Occupancy:	2 Occupants
Net Square Footage	630 SF
Unit Square Footage:	N/A
Space No.:	E-600
2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES	
Relationships:	
a. Contiguous:	N/A
b. Adjacent:	N/A
c. Convenient:	Locate convenient to the Research Labs and Offices of the Biosystems Engineering & Soil Sciences Department. Locate remote from Public Spaces and Classroom Spaces.
Services and Features:	
a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 10 CFM per person Area Outdoor Air Rate Ra = 0.18 CFM per square foot Pressurization: Negative 100% exhausted
b. Illumination:	Maintained Average Illumination: 75 footcandles Lighting Power Density: 1.4 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, minimum 10' O.C. at wall 120 V general receptacle outlets, 2'-0" O.C. at casework (above counter in surface mounted raceway) 208 V general receptacle outlet, minimum four locations 120 V emergency power receptacle outlets, minimum eight locations 208 V emergency power receptacle outlet, minimum one location
d. Communications:	Communication wall outlets, 6'-0" O.C. at casework (above counter in surface mounted raceway) Wireless Internet connectivity
e. Plumbing:	2 casework mounted sinks with Hot and Cold Water and Eyewash fixtures Emergency Shower and Eyewash Combination Unit Fume Hood Connections <ul style="list-style-type: none">1 Cold Water connection for cup sink1 Air connection1 Vacuum connection1 Gas connection Air connections, minimum 4 locations Vacuum connections, minimum 4 locations Gas connections, minimum 4 locations
f. Music/Video:	N/A

Finishes:	
This section is to record specific requirements for all surface areas.	
a. Floor & Base:	Resilient Tile Flooring with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile throughout
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames, minimum 42" clear entry
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds
3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS	
Space to be divided into 2 adjacent rooms; one for dusty fabrication/construction of chemical reactors (high temperature and pressure) and handling of biomass and the second, a wet chemistry lab to host analytical instruments and to store chemicals.	
4. LIST OF FURNISHINGS AND EQUIPMENT	
A = Built-in equipment to be furnished and installed by the General Contractor.	
61 Linear Feet of Fixed Casework (Base Cabinets, Wall Cabinets, Wall Shelves, Countertops)	
2 Casework Tables, Loose (60" x 30")	
2 Casework Tables, Loose (72" x 30")	
2 Fire Extinguishers and Cabinets	
Three 4'-0" Fume Hoods	
2 Fume Extraction Devices, Ceiling mounted	
B = Specified and procured through Interior Designer (not furnished by GC)	
4 Lab Stools	
C = Specified and procured through A/V Consultant (not furnished by GC)	
N/A	
D = Specified and procured through I.T. Consultant (not by GC)	
N/A	
E = Supplied by Owner (in project budget)	
N/A	
F = Supplied by Owner (not in project budget)	
N/A	

E-700 | Research Support

1. SPACE REQUIRED	
Name:	Research Support
Occupancy:	0 Occupants
Net Square Footage	315 SF
Unit Square Footage:	N/A
Space No.:	E-700
2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES	
Relationships:	
a. Contiguous:	N/A
b. Adjacent:	Locate adjacent to Research Labs.
c. Convenient:	Locate remote from Public Spaces and Classroom Spaces.
Services and Features:	
a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 10 CFM per person Area Outdoor Air Rate Ra = 0.18 CFM per square foot Pressurization: Negative 100% exhausted
b. Illumination:	Maintained Average Illumination: 75 footcandles Lighting Power Density: 1.4 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, minimum 10' O.C. at wall 120 V general receptacle outlets, 2'-0" O.C. at casework (above counter in surface mounted raceway) 208 V general receptacle outlet at Future Equipment Location 120 V emergency power receptacle outlets, minimum two locations 120 V ceiling mount for Fume Hood Electrical Connections for Potential Environmental Growth Chamber, Cold Room, Autoclave Units
d. Communications:	Communication wall outlets, 6'-0" O.C. at casework (above counter in surface mounted raceway) Wireless Internet connectivity
e. Plumbing:	1-2 casework mounted sinks with Hot and Cold Water and Eyewash fixtures Fume Hood Connections, minimum 1 location <ul style="list-style-type: none">1 Cold Water connection for cup sink1 Air connection1 Vacuum connection1 Gas connection Air connections, minimum 4 locations Vacuum connections, minimum 4 locations Gas connections, minimum 4 locations
f. Music/Video:	N/A

Finishes:	
This section is to record specific requirements for all surface areas.	
a. Floor & Base:	Resilient Tile Flooring with Rubber Base
b. Walls:	Painted Gypsum Board
c. Ceiling:	Acoustical Ceiling Tile throughout
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames, minimum 42" clear entry
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Resilient Tile Flooring with Rubber Base

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS	
The Research Support Space is a configurable space that will be individually tailored to each specific Research Lab that it supports. The space can be set up as one large room or can be divided into several smaller rooms. Entrances to the Support Space are possible from the associated research lab, the adjacent research lab (if shared), and/or the public corridors (if shared). Possible configurations include space dedicated to fume hoods, built-in equipment such as a cold rooms or environmental rooms, storage rooms, sterile spaces, or rearing rooms.	
4. LIST OF FURNISHINGS AND EQUIPMENT	
A = Built-in equipment to be furnished and installed by the General Contractor.	
Potential Items	
20-40 Linear Feet of Fixed Casework (Base Cabinets, Wall Cabinets, Wall Shelves, Countertops)	
2 Casework Tables, Loose (60" x 30")	
1 Fire Extinguisher and Cabinet	
1-3 4'-0" Fume Hoods	
1-2 Fume Extraction Devices, Ceiling mounted	
Potential Built In Equipment	
Environmental Growth Chamber	
Cold Room (4" Slab Recess Required)	
Autoclave	
B = Specified and procured through Interior Designer (not furnished by GC)	
N/A	
C = Specified and procured through A/V Consultant (not furnished by GC)	
N/A	
D = Specified and procured through I.T. Consultant (not by GC)	
N/A	
E = Supplied by Owner (in project budget)	
N/A	
F = Supplied by Owner (not in project budget)	
N/A	

E-800 | Research Lab - Field Lab

1. SPACE REQUIRED

Name:	Research Lab - Field Lab
Occupancy:	0 Occupants
Net Square Footage	315 SF
Unit Square Footage:	N/A
Space No.:	E-800

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	N/A
b. Adjacent:	Locate adjacent to the Loading Dock.
c. Convenient:	Locate convenient to a service elevator that provides access to all floors. Locate remotely from all public spaces and main building entries.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 10 CFM per person Area Outdoor Air Rate Ra = 0.18 CFM per square foot Pressurization: Negative 100% exhausted
b. Illumination:	Maintained Average Illumination: 75 footcandles Lighting Power Density: 1.4 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, minimum 10' O.C. wall 120 V general receptacle outlets, 2'-0" O.C. at casework (above counter in surface mounted raceway)
d. Communications:	Communication general outlet, minimum 2 locations. Wireless Internet connectivity
e. Plumbing:	Hose Bib with Cold Water and Trench Drain Double Bowl Scullery Sink with Hot and Cold Water, Drench Hose fixture
f. Music/Video:	N/A

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Sealed Concrete Floor with Rubber Base
b. Walls:	Painted CMU (concrete masonry units)
c. Ceiling:	Acoustical Ceiling Tile
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames, minimum 42" clear entry
e. Windows:	Aluminum framed glazed system
f. Window Treatments:	Blinds

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

The Field Lab is a space dedicated for the storage of equipment and materials used in the field. The space should allow for both the wash down of items and their storage.

4. LIST OF FURNISHINGS AND EQUIPMENT

- A = Built-in equipment to be furnished and installed by the General Contractor.
22 Linear Feet of Fixed Casework (Base Cabinets, Wall Cabinets, Wall Shelves, Countertops, Storage Cabs)
1 Casework Tables, Loose (60" x 30")
1 Fire Extinguisher and Cabinet
B = Specified and procured through Interior Designer (not furnished by GC)
N/A
C = Specified and procured through A/V Consultant (not furnished by GC)
N/A
D = Specified and procured through I.T. Consultant (not by GC)
N/A
E = Supplied by Owner (in project budget)
N/A
F = Supplied by Owner (not in project budget)
N/A

E-900 | Loading Dock

1. SPACE REQUIRED

Name:	Loading Dock
Occupancy:	0 Occupants
Net Square Footage	150 SF
Unit Square Footage:	N/A
Space No.:	E-900

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	Locate contiguous to the service drive at the exterior of the building. Locate contiguous to the Cooler Room, Freezer Room, and Locker/Shower Room.
b. Adjacent:	Locate adjacent to the Field Research Lab.
c. Convenient:	Locate convenient to a service elevator that provides access to all floors. Locate remotely from all public spaces and main building entries.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 5 CFM per person Area Outdoor Air Rate Ra = 0.06 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintained Average Illumination: 30 footcandles Lighting Power Density: 0.9 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, minimum 10' O.C. wall 480 V electrical connection for overhead coiling door
d. Communications:	Communication general outlet, minimum 2 locations. Wireless Internet connectivity
e. Plumbing:	Hose Bib with Cold Water and Trench Drain
f. Music/Video:	N/A

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Sealed Concrete Floor with Rubber Base
b. Walls:	Painted CMU (concrete masonry units)
c. Ceiling:	Acoustical Ceiling Tile
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames, minimum 72" clear entry Painted Steel Overhead Coiling Door with Lockable Hardware and Electric Operation
e. Windows:	N/A
f. Window Treatments:	N/A

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

The Loading Dock should be located with a service drive away from the main building entrances. It will serve as a space to load and unload both equipment and materials required for the building from faculty, staff and, upon appointment, the public. It will also serve as a private “dirty” entrance for field researchers. The loading dock should be located contiguous to both the Cooler Room and the Freezer Room so that specimens brought to the building can be immediately treated. The loading dock should also be located contiguous to both the Locker/ Shower Room and a Laundry Area so that field researchers and their wardrobes may get clean. The Loading Dock should also allow space for a washdown area or field gear that may be dirty.

4. LIST OF FURNISHINGS AND EQUIPMENT

- A = Built-in equipment to be furnished and installed by the General Contractor.
N/A
B = Specified and procured through Interior Designer (not furnished by GC)
3 Wire Shelving Racks (42"W x 24"D)
C = Specified and procured through A/V Consultant (not furnished by GC)
N/A
D = Specified and procured through I.T. Consultant (not by GC)
N/A
E = Supplied by Owner (in project budget)
N/A
F = Supplied by Owner (not in project budget)
Washer and Dryer

E-901 | Freezer Room

1. SPACE REQUIRED

Name:	Freezer Room
Occupancy:	0 Occupants
Net Square Footage	200 SF
Unit Square Footage:	N/A
Space No.:	E-901

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	Locate contiguous to the Loading Dock.
b. Adjacent:	Locate adjacent to the Cooler Room.
c. Convenient:	Locate convenient to a service elevator that provides access to all floors.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 0 CFM per person Area Outdoor Air Rate Ra = 0.12 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintained Average Illumination: 30 footcandles Lighting Power Density: 0.8 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, minimum 10' O.C. wall 120 V emergency power dedicated receptacle outlets for Freezers 208 V emergency power dedicated receptacle outlets for Freezers
d. Communications:	Communication general outlets, minimum six locations Wireless Internet connectivity
e. Plumbing:	No plumbing requirements
f. Music/Video:	N/A

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Sealed Concrete Floor with Rubber Base
b. Walls:	Painted CMU (concrete masonry units)
c. Ceiling:	Acoustical Ceiling Tile
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames, minimum 48" clear entry
e. Windows:	N/A
f. Window Treatments:	N/A

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

Space to house multiple freezer units of different temperature ranges. The Freezer Room is to be located contiguous to the Loading Dock so that specimens brought to the building that need immediate freezing can be easily transported and stored.

4. LIST OF FURNISHINGS AND EQUIPMENT

- A = Built-in equipment to be furnished and installed by the General Contractor.
Freezer Units
B = Specified and procured through Interior Designer (not furnished by GC)
N/A
C = Specified and procured through A/V Consultant (not furnished by GC)
N/A
D = Specified and procured through I.T. Consultant (not by GC)
N/A
E = Supplied by Owner (in project budget)
N/A
F = Supplied by Owner (not in project budget)
N/A

E-902 | Cooler Room

1. SPACE REQUIRED

Name:	Cooler Room
Occupancy:	0 Occupants
Net Square Footage	200 SF
Unit Square Footage:	N/A
Space No.:	E-902

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	Locate contiguous to the Loading Dock.
b. Adjacent:	Locate adjacent to the Freezer Room.
c. Convenient:	Locate convenient to a service elevator that provides access to all floors.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 0 CFM per person Area Outdoor Air Rate Ra = 0.12 CFM per square foot Pressurization: Neutral No exhaust requirements
b. Illumination:	Maintained Average Illumination: 30 footcandles Lighting Power Density: 0.8 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, minimum 10' O.C. wall 120 V emergency power dedicated receptacle outlets for Refrigerators 208 V emergency power dedicated receptacle outlets for Refrigerators
d. Communications:	Communication general outlets, minimum six locations Wireless Internet connectivity
e. Plumbing:	No plumbing requirements
f. Music/Video:	N/A

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Sealed Concrete Floor with Rubber Base
b. Walls:	Painted CMU (concrete masonry units)
c. Ceiling:	Acoustical Ceiling Tile
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames, minimum 48" clear entry
e. Windows:	N/A
f. Window Treatments:	N/A

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

Space to house multiple cooler units of different temperature ranges. The Cooler Room is to be located contiguous to the Loading Dock so that specimens brought to the building that need immediate cooling can be easily transported and stored.

4. LIST OF FURNISHINGS AND EQUIPMENT

- A = Built-in equipment to be furnished and installed by the General Contractor.
Cooler Units
B = Specified and procured through Interior Designer (not furnished by GC)
N/A
C = Specified and procured through A/V Consultant (not furnished by GC)
N/A
D = Specified and procured through I.T. Consultant (not by GC)
N/A
E = Supplied by Owner (in project budget)
N/A
F = Supplied by Owner (not in project budget)
N/A

E-903 | Locker and Shower Room

1. SPACE REQUIRED

Name:	Locker and Shower Room
Occupancy:	0 Occupants
Net Square Footage	150 SF
Unit Square Footage:	N/A
Space No.:	E-903

2. DESCRIPTION OF ARCHITECTURAL FEATURES AND SERVICES

Relationships:	
a. Contiguous:	Locate contiguous to the Loading Dock.
b. Adjacent:	Locate adjacent to a Laundry area.
c. Convenient:	Locate convenient to a service elevator that provides access to all floors.

Services and Features:

a. Atmospheric Criteria:	Summer 75°F db / 50% RH Winter 72°F db People Outdoor Air Rate Rp = 0 CFM per person Area Outdoor Air Rate Ra = 0 CFM per square foot Pressurization: Negative Exhaust at 0.5 CFM per square foot
b. Illumination:	Maintained Average Illumination: 20 footcandles Lighting Power Density: 0.9 watts per square foot Lighting control system with automatic shutoff
c. Electrical:	120 V general receptacle outlets, minimum 10' O.C. wall
d. Communications:	Wireless Internet connectivity
e. Plumbing:	Hand wash sink with Hot and Cold Water, ADA compliant Wall mounted Water Closet, ADA compliant Walk in Shower with Hot and Cold Water, ADA compliant
f. Music/Video:	N/A

Finishes:

This section is to record specific requirements for all surface areas.

a. Floor & Base:	Sealed Concrete Floor with Rubber Base
b. Walls:	Painted CMU (concrete masonry units) or High Impact Gypsum Board w/ Epoxy Paint
c. Ceiling:	Gypsum Board Ceiling
d. Doors and Frames:	Painted Steel Doors with Lockable Hardware and Hollow Metal Frames
e. Windows:	N/A
f. Window Treatments:	N/A

3. DESCRIPTION OF FUNCTIONAL REQUIREMENTS

The Locker and Shower Room is to be located contiguous to the Private entrance of the Loading Dock. It shall provide a space for researchers in the field to disrobe and wash up. Locker area is to be provide adequate space for storage of street clothes and an area for gowning.

4. LIST OF FURNISHINGS AND EQUIPMENT

- A = Built-in equipment to be furnished and installed by the General Contractor.
Wall Mounted Shelving (20 Linear Feet)
B = Specified and procured through Interior Designer (not furnished by GC)
Plastic Locker Units (15"W x 15"D x 72"H, double tier)
Bench Seat
C = Specified and procured through A/V Consultant (not furnished by GC)
N/A
D = Specified and procured through I.T. Consultant (not by GC)
N/A
E = Supplied by Owner (in project budget)
N/A
F = Supplied by Owner (not in project budget)
N/A

404 Furniture Concepts

Classroom



Fixed Table



Mobile Marker Board



Seminar Table



Student Chair



Swivel Chair



Tablet Arm [Node Chair]

Computer Lab | Conference Room



Computer Station



Computer Station



Conference Chair



Conference Chair



Conference Table

404 Furniture Concepts

Office



Office Admin Station



Office



Office Task Chair



Office Guest Chair



Office Guest Chair

Office



Office



Office



GTA Work Statio

405 UTK Policy Web Links

- .01

University of Tennessee - Knoxville

[HTTP://WWW.UTK.EDU/](http://www.utk.edu/)
- .02

UTK Policies, Standards + Specifications

[HTTP://FS.UTK.EDU/RESOURCES-NAV/GUIDES.HTML#](http://fs.utk.edu/resources-nav/guides.html#)
 - CATV Wiring Guidelines
 - Communications Guidelines
 - Electrical Specifications
 - Elevator Design Guidelines
 - Lock & Key Design Guidelines
 - Site Design
 - Room Numbering Guidelines
 - Facilities Services Preferences
 - Recycling Station Guidelines
- .03

Master Plan + Site Design Guidelines

[HTTP://MASTERPLAN.UTK.EDU/](http://masterplan.utk.edu/)
- .04

UTK Facilities Planning Design Manual

[HTTP://FACILITIESPLANNING.TENNESSEE.EDU/LINKS_DESIGNERSMANUAL.HTML](http://facilitiesplanning.tennessee.edu/links_designersmanual.html)
- .05

Tennessee High Performance Building requirements [HPBr]

[HTTPS://WWW.TN.GOV/OSA/CAPITAL---REAL-ESTATE/CAPITAL-PROJECTS/HIGH-PERFORMANCE-BUILDING-REQUIREMENTS--HPBR-.HTML](https://www.tn.gov/osa/capital---real-estate/capital-projects/high-performance-building-requirements--hpbr-.html)
- .06

Stormwater Design

[HTTP://STORMWATER.UTK.EDU/](http://stormwater.utk.edu/)

406 Program Acknowledgements

The design team held numerous meetings with University of Tennessee faculty and staff as well as conducted numerous site visits, which ultimately resulted in the project program herein contained. Meeting participants included:

<u>University of Tennessee - Knoxville</u>	<u>McCarty Holsaple McCarty</u>
Dave Irvin	Doug McCarty
Terry Ledford	Scott Webb
Dr. Larry Arrington	
Bill Pace	<u>LAS</u>
Steve Glafenhein	John Starr
Tim Fawver	Barry Abrams
Tom McKeehan	Becky McDuffie
Thom Haueptle	Brian Karlowicz
Mike Graham	Joseph Minatta
Joe Cagle	
	<u>K Si</u>
Dr. John Hodges, UTIA – Ag Research	Kurt Swensson
Dr. Karen Vail, UTIA – EPP	
Dr. Bob Trigiano, UTIA – EPP	<u>Newcomb & Boyd</u>
Dr. Eric Drumm, UTIA – BESS	Jeff Linde
Dr. Jaehoon Lee, UTIA – BESS	Ricky Dozier
Dr. Joanne Logan, UTIA – BESS	
Dr. John Wilkenson, UTIA – BESS	<u>CRJA</u>
Susan Fiscor, UTIA – Safety Office	Sean Vasington
Dr. John Stier, UTIA – CASNR	
Dr. Wayne Clatterbuck, UTIA – FWF	<u>CDM Smith</u>
Dr. Keith Belli, UTIA – FWF	Greg Presnell
Dr. Richard Strange, UTIA – FWF	
Dr. Bill Klingeman, UTIA – PS	
Dr. Fred Allen, UTIA – PS	
Patty Coan, UTIA – Vet School	
Bill Burkman, USFS	
Roy Warwick, Utilities	
Mike Berger, Classroom Technology	
Wes Willoughby, Plumbing	
John Sealy, Mechanical Engineer	
Dan Smith, Mechanical Engineer	
Tim Sellers, Supervisor	
Steve Henderson, Telephone	
Greg Massengill, Telephone	
Wally Beets	

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MEETING NOTES

PROJECT NAME		PROJECT NUMBER	
UTIA Energy & Environmental Science Education Research Center (EESERC)		10218-03	
DATE OF MEETING		TIME	
September 18, 2012		11:00 – 12:00	
MEETING LOCATION		PURPOSE	
UTIA		Initial Project Meeting	
PARTICIPANTS		PRESENT	
Dr. Larry Arrington, UTIA Steve Glafenhein, UTIA Bill Pace, UTK Mike Graham, UTK Thom Haupehle, UTK Dr. Keith Belli, UTIA Joe Cagle, UTIA Scott Webb, MHM John Starr, LAS Barry Abrams, LAS Becky McDuffie, LAS Brian Karlowicz, LAS		larrington@tennessee.edu sglafenh@utk.edu wpace1@utk.edu m3graham@utk.edu thaeuptl@tennessee.edu kbelli@utk.edu icagle@utk.edu swebb@mhminc.com istarr@lasarchitect.com babrams@lasarchitect.com bmcduffie@lasarchitect.com bkarlowicz@lasarchitect.com	
DISTRIBUTION		VIA	
PARTICIPANTS Dave Irvin, UTK Terry Ledford Tim Fawver, UTIA Doug McCarty, MHM Jeff Linde, N&B FILE: k:\projects\10218-03\prj\cor\mna\meeting notes\ba120918_mn_initialmtg.docx		EMAIL irvin@utk.edu tel@utk.edu tfawver@utk.edu dmccarty@mhminc.com jlinde@newcomb-boyd.com	
ITEMS BELOW THAT ARE NEW OR UPDATED ARE IDENTIFIED WITH AN UNSHADED BAR IN THE LEFT HAND MARGIN. ITEMS BELOW THAT HAVE APPEARED ON PREVIOUS REPORTS BUT ARE NOT YET APPROVED OR CLOSED ARE IDENTIFIED WITH A SHADED BAR IN THE LEFT HAND MARGIN.			
ISSUE No.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1	9/18/2012	Introductions, Roles, Lines of Communications: <ul style="list-style-type: none">Steve will be UTIA’s point of contact, and will distribute communications to others at UTIA as needed.Barry will be the Design Team’s point of contact.	
2		Presentation –Programming Process / Project Overview: <ul style="list-style-type: none">We did a brief overview of the programming process.	

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3	Dr. Arrington’s Goals (we’ll include with other goals from the Kick-Off Meeting) <ul style="list-style-type: none">Plan for the next 10 years (minimum) the new building should not fall short of needs from the start.Look at the Campus in totality – not just another building.
4	Design Standards: <ul style="list-style-type: none">Use typical standards for UT, nothing different for UTIA unless specified during the programming process.
5	Schedule: <ul style="list-style-type: none">We presented a Draft Schedule, plan to meet every 3 – 4 weeks. Barry will coordinate the schedule and meetings with Steve.Program Completion – mid to end of December.
6	Project Scope (as described in the State Funding): <ul style="list-style-type: none">120,000 gross square feet; 50% – 55% efficient for this type of facility = 60,000 – 66,000 net (program) square feet\$45,450,000 Total Project Budget, including \$36,750,000 Construction BudgetCost and funding for Surge (Swing) Space is to be determined during the programming process.Preliminary Start of Construction – July 2014.
7	Surge Space: <ul style="list-style-type: none">Surge Space includes functions currently in Ellington that will require relocation and operation in an interim facility during demolition and construction.We will investigate options including permanent moves to other facilities, such as the new Animal / Food Science Building.Temporary moves to other facilities on Campus will be identified, McCord Hall is one location to consider for lab space.Another large Auditorium space will be considered during demolition and construction.
8	Forestry Inventory & Analysis (FIA) Program: <ul style="list-style-type: none">UTIA has planned to get them on Campus, they offer opportunities for collaboration.We will meet with FIA and determine their space requirements, including any special issues for security and separation for a Federal Agency.FIA wasn’t part of the original Space Request for this project.Some added cost may be off-set by leasing the space to FIA.
9	Forestry Wildlife & Fisheries: <ul style="list-style-type: none">Currently scattered throughout the Campus, goal to co-locate as much as possible and appropriate in the EESERC.

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10	EESERC: <ul style="list-style-type: none">Diverse disciplines, missions and departments in one building.Determine which groups are colocated during the programming process.	Becky
11	Auditorium: <ul style="list-style-type: none">This is a large, highly used meeting space, accommodating approximately 375 occupants. Because it is a flat floor space, it's used for several different functions.This is the only space of this capacity and type on the Agriculture Campus.Program the new Auditorium to accommodate larger groups – 500.Many events / meetings scheduled for this space – Trustees, Professional Organizations.Identify options for Surge Space	
12	Research Space – plan to review needs with: <ul style="list-style-type: none">Steve OliverJohn Hodges	Becky
13	Extension – plan to review needs with: <ul style="list-style-type: none">Tim FawverRobert Burns	Becky
14	EHS – plan to review needs with: <ul style="list-style-type: none">Susan Fiscor	Becky
15	IT – plan to review needs with: <ul style="list-style-type: none">Mike Berger	Linde
16	Parking: <ul style="list-style-type: none">Parking will be a challenge, need to provide addition spaces to accommodate FIA if located in EESERC.A new parking deck is currently a high priority, the Design Team will check the location and status of the proposed deck, and impact on this project.	Barry A.
17	Site Considerations <ul style="list-style-type: none">Very tight site.Located at the main intersection of Joe Johnson and Chapman Drive.Many features, including plaza and green space, should be preserved.Consider construction impact on vehicular and pedestrian traffic.Walmart / Publix being constructed in an adjacent site, this will significantly add to traffic congestion.	
18	Data Gathering Needs – Design Team to coordinate with Steve to obtain:	Scott, Steve

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	<ul style="list-style-type: none">SurveyGeotechnical ReportHazardous Material AbatementOther?	
19	Plant BioTech Labs: <ul style="list-style-type: none">Many open labs in the new Plant BioTech Building. A concern is the lack of ownership when several people share one large open lab. The Design Team will note how this applies to the new EESERC Labs.	Becky
20	Next Steps / Other: <ul style="list-style-type: none">Program InterviewsDocument Space & Design Criteria from InterviewsNext Meeting to Review & Confirm Program Requirements	

REMARKS

ATTACHMENTS

PREPARED BY	Barry M. Abrams, AIA	DATE PREPARED	October 2, 2012
	Lord, Aeck & Sargent, Inc.		

THESE NOTES SUMMARIZE OUR UNDERSTANDING OF THIS MEETING. PROJECT ACTIONS WILL BE BASED ON THESE NOTES.
PLEASE CONTACT THE WRITER IMMEDIATELY IF YOU DO NOT CONCUR.

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ARCHITECTURE

MEETING NOTES

PROJECT NAME		PROJECT NUMBER	
UTIA Energy & Environmental Science Education Research Center (EESERC)		10218-03	
DATE OF MEETING		TIME	
September 18, 2012		1:30 – 3:00 PM	
MEETING LOCATION		PURPOSE	
UTIA		Project Kick-Off Meeting	
PARTICIPANTS		PRESENT	
Steve Glafenhein, UTIA		sglafenh@utk.edu	
Bill Pace, UTK		wpacel@utk.edu	
Thom Hauceptle, UTK		thaeuptl@tennessee.edu	
Dr. Keith Belli, UTIA		kbelli@utk.edu	
Dr. John Stier, UTIA		jstier1@utk.edu	
Dr. Eric Drumm, UTIA		edrumm@utk.edu	
Dr. John Hodges, UTIA		hodgesj@utk.edu	
Dr. Bob Trigiano		rtrigian@utk.edu	
Joe Cagle, UTIA		icagle@utk.edu	
Scott Webb, MHM		swebb@mhminc.com	
John Starr, LAS		jestarr@lasarchitect.com	
Barry Abrams, LAS		babrams@lasarchitect.com	
Becky McDuffie, LAS		bmcduffie@lasarchitect.com	
Brian Karlowicz, LAS		bkarlowicz@lasarchitect.com	
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PARTICIPANTS		EMAIL	
Dr. Larry Arrington, UTIA		larrington@tennessee.edu	
Tim Fawver, UTIA		tfawver@utk.edu	
Doug McCarty, MHM		dmcarty@mhminc.com	
Jeff Linde, N&B		jlinde@newcomb-boyd.com	
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ISSUE No.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1	9/28/2012	Introductions, Roles, Lines of Communications: <ul style="list-style-type: none">Steve will be UTIA’s point of contact, and will distribute to others at UTIA as needed.Barry will be the Design Team’s point of contact.	
2		Presentation –Programming Process / Project Overview:	

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UTIA Energy and Environmental Science Education Research Center
Project Kick-Off Meeting
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3	<ul style="list-style-type: none">We presented a brief overview of the programming process.	
	Project Goals: The following goals were noted, describing what will make this project a success. <ul style="list-style-type: none">Plan for the next 10 years (minimum) the new building should not fall short of needs from the start. (from Dr. Arrington)Look at the Campus in totality – not just another building. (from Dr. Arrington)Uniform classroom controls/simple.Consolidation of Forestry Department from 8 buildings.Lab functionality is Prime; adequate utilities, emergency, power, etc.Variety of classroom styles – to suit multiple pedagogies.Flexibility.HVAC: Plan for required air pressure – positive or negative.Design to separate public (classrooms) and private (lab) space.Target LEED Silver; model of best practices for environmental sustainability.Identify facilities to visit, may be done later during the Design phase of work.Provide conference space, at least one conference room per floor.Provide space for social interaction, food/break – focus on interaction.Keep courtyard and green space – used for school wide gatherings.Provide community space – outreach / extension.Consider open lab concept, requires a culture change – address responsibility and ownership issues; Ownership is Important.Provide Teaching Labs.Provide quiet study area(s).Provide adequate storage space.Replace Hollingsworth Auditorium, provide larger space to accommodate 500 occupants.Provide space for UTIA fleet parking area.Attract students, donors, faculty.	
4	Preliminary Project Schedule: <ul style="list-style-type: none">Schedule User Meetings Every 3 – 4 weeksProgram Completion Mid – End December 2012RFP for Design Team February 2013Select Design Team April 2013Complete Design / CD’s May 2014	

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	<ul style="list-style-type: none">Bidding / Permit July 2014Start Demo / Construction July 2014Complete Construction July 2016Move-In October 2016	
5	Surge Space: <ul style="list-style-type: none">Options to relocate functions in Ellington during demolition and construction will be reviewed. Permanent moves to other facilities, such as the new Animal / Food Science Building, will be considered.	Steve
6	Plant BioTech Lessons Learned: <ul style="list-style-type: none">Plan to review the Plant BioTech project with users to note lessons learned, both positive and negative.Functional problems noted were related to lack of sinks and coordination of emergency power locations.We will review this further with users during the programming process.	Becky
7	Specialty Labs: We will verify specialty lab needs with users.	Becky
8	Biological Labs: The needs are light on chemical use, heavy on biological needs.	
9	Next Steps / Other: <ul style="list-style-type: none">Program InterviewsDocument Space & Design Criteria from InterviewsNext Meeting to Review & Confirm Program Requirements	

REMARKS

ATTACHMENTS

PREPARED BY	Barry M. Abrams, AIA	DATE PREPARED	October 2, 2012
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THESE NOTES SUMMARIZE OUR UNDERSTANDING OF THIS MEETING. PROJECT ACTIONS WILL BE BASED ON THESE NOTES.
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MEETING AGENDA

PROJECT NAME	PROJECT NUMBER
UTIA Energy & Environmental Science Education Research Center (EESERC)	10218-03
DATE OF MEETING	TIME
September 18, 2012	3:15 – 4:15 PM
MEETING LOCATION	PURPOSE
	Forest Inventory Analysis Program Interview
PARTICIPANTS	PRESENT
Bill Burkman, USFS	bburkman@fs.fed.us
Steve Glafenhain, UTAI	sglafenh@utk.edu
Bill Pace, UTK	wpace1@utk.edu
Thom Haueptle, UTK	thaeupt1@tennessee.edu
Dr. Keith Belli, UTIA	kbelli@utk.edu
Joe Cagle, UTIA	jcagle@utk.edu
John Starr, LAS	jestarr@lasarchitect.com
Barry Abrams, LAS	babrams@lasarchitect.com
Becky McDuffie, LAS	bmcduffie@lasarchitect.com
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Scott Webb, MHM	swebb@2mhminc.com
Jeff Linde, N&B	jlinde@newcomb-boyd.com
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2		Overview / Confirm Program Questionnaire <ul style="list-style-type: none">Reviewed Program Questionnaire.LAS will use Questionnaire and information from this	

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UTIA Energy & Environmental Science Education Research Center
FIA Program Interview Meeting
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	meeting the develop the initial program space requirements.	
3	This group is responsible for inventory of 13 southern states.	
4	Mapping / Inventory is done on a 5 – 10 year cycle.	
5	Primary Functions: <ul style="list-style-type: none">Processing, editing and storing forest inventory data.Training for access to and use of information.Maintain records from 1930's.Primarily office and storage space required to meet FIA's needs.	
6	Need to accommodate visitors coming to access data.	
7	Two researchers on campus that FIA would like to locate in the new facility. Need to confirm if they are moving, their functions and space requirements.	Bill / Steve
8	Work / Plot Room: Need multi-purpose room for publication work.	
9	Verify need for GSA office / work space design standards.	Bill
10	HVAC: No special environmental conditions required for data storage.	
11	Collaboration: <ul style="list-style-type: none">Working with Dr. Belli and other faculty who use FIA's data for research.	
12	Additional Building Program Notes: <ul style="list-style-type: none">Hours of Operation – 8:00 AM to 4:30 PMNeed common entry and small reception area for visitors.Need separate Server Room.No research lab space needed.Need record storage – consider options for efficient storage on and/or off site.Consider area to display services provided by FIA.Need Conference Rooms, can be shared. Three required, varying in size – 8 10, 15 and 30 occupant rooms.Offices needed for – Safety Officer, Budgeting, Receptionist (office with window currently).	Becky
13	Site Program Notes: <ul style="list-style-type: none">Need space for 3 - 5 government vehicles.Need space for visitor parking, verify number.Need space for personal vehicles being exchanged for government vehicles. This could be located, and secured, remotely. UTIA to identify remote location.Access to loading dock is desirable, verify requirements.	Becky / Brian Steve
14	Next Steps: <ul style="list-style-type: none">Update Space List and Space Diagrams (LAS)Room Data Sheets (1st Pass LAS... UTIA review)	

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UTIA Energy & Environmental Science Education Research Center
FIA Program Interview Meeting
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Schedule Next Meetings
REMARKS
ATTACHMENTS
PREPARED BY Barry M. Abrams, AIA DATE PREPARED October 1, 2012
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MEETING NOTES

PROJECT NAME	PROJECT NUMBER
UTIA Energy & Environmental Science Education Research Center (EESERC)	10218-03
DATE OF MEETING	TIME
September 19, 2012	8:30 – 10:00 AM
MEETING LOCATION	PURPOSE
UTIA PBB Conference Room	Plant Science Program Interview
PARTICIPANTS	PRESENT
Dr. Bill Klingeman, UTIA	wklingem@utk.edu
Steve Glafenhain, UTIA	sglafenh@utk.edu
Bill Pace, UTK	wpace1@utk.edu
Dr. Fred Allen, UTIA	allenf@utk.edu
John Starr, LAS	jestarr@lasarchitect.com
Barry Abrams, LAS	babrams@lasarchitect.com
Becky McDuffie, LAS	bmcduffie@lasarchitect.com
Brian Karlowicz, LAS	bkarlowicz@lasarchitect.com
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Scott Webb, MHM	swebb@mhminc.com
Jeff Linde, N&B	jlinde@newcomb-boyd.com
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2		Overview / Confirm Program Questionnaire <ul style="list-style-type: none">Reviewed Program Questionnaire.LAS will use Questionnaire and information from this meeting to develop the initial program space requirements.	

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UTIA Energy & Environmental Science Education Research Center
Plant Science Program Interview Meeting
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3	Faculty: <ul style="list-style-type: none">Most faculty have 2-way appointments including a combination of either teaching, extension or research.Some faculty are 100% extension.	
4	Extension: <ul style="list-style-type: none">Extension provides outreach services to 95 counties in Tennessee, serving communities, agriculture, families and consumers.Extension is a major part of UT’s mission as a Land Grant University.Extension groups, such as High Schools, visit UTIA for tours and teaching programs.	
5	Security: <ul style="list-style-type: none">Some labs and functions require security.“Fail Open” in a power outage may be a problem for some functions.Design Team to address security during programming review.	Becky
6	Classrooms: <ul style="list-style-type: none">Better classrooms are needed.100 – 110 seat, large size for undergraduates8 – 10 seat, small size for graduate studentsProvide 1 – 150 seat classroom	
7	Teaching Wet Labs: <ul style="list-style-type: none">Soils Lab, 25 – 30 students; Dirty LabBiotech LabPhysiology Lab (type to be confirmed)	Becky
8	Provide cabinet storage for specimens.	
9	Increasing lab offerings by 50% (to be confirmed).	Becky
10	Vibration Control: <ul style="list-style-type: none">Some equipment, such as lasers and microscopes will require vibration control. Design Team will identify equipment & labs requiring special vibration considerations.	Becky
11	Infrastructure: <ul style="list-style-type: none">Provide adequate utilities, emergency power in particular was noted.Design Team will review and note infrastructure requirements in the program.	Becky / Jeff
12	Greenhouses: <ul style="list-style-type: none">Greenhouse replacement project currently underway.UTK has advised against putting greenhouses on the roof.A Greenhouse is not required for this project.	
13	Green Roof:	

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Plant Science Program Interview Meeting
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	<ul style="list-style-type: none">A green roof may be considered for this project.Design Team to note as a consideration for future Architectural design.	Brian
14	Display: <ul style="list-style-type: none">Consider need and options for display.Consider use of corridors for display.	
15	Current Space Use: <ul style="list-style-type: none">UTIA to provide the current inventory of space use by departments in all building locations.This will help the Design Team understand current functions and space needed for departments going into the EESERC.For example, mix of departments currently in the PBB.	Steve
16	Surge Space: <ul style="list-style-type: none">McCord Building can be used for surge space. Design Team to review space / functions available in McCord.UTIA to provide McCord plans for coordination with surge space.	Steve
17	Next Steps: <ul style="list-style-type: none">Update Space List and Space Diagrams (LAS)Room Data Sheets (1st Pass LAS... UTIA review) Schedule Next Meetings	

REMARKS

ATTACHMENTS

PREPARED BY	Barry M. Abrams, AIA	DATE PREPARED	October 2, 2012
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PROJECT NAME		PROJECT NUMBER	
UTIA Energy & Environmental Science Education Research Center		10218-03-00	
DATE OF MEETING		TIME	
September 19, 2012		10:15 – 11:45 AM	
MEETING LOCATION		PURPOSE	
		Entomology & Plant Pathology	
PARTICIPANTS		PRESENT	
Dr. Karen Vail, UTIA		kvail@utk.edu	
Dr. Bob Trigiano, UTIA		rtrigian@utk.edu	
Steve Glafenhain, UTIA		sglafenh@utk.edu	
Bill Pace, UTK		wpace1@utk.edu	
John Starr, LAS		jistarr@lasarchitect.com	
Barry Abrams, LAS		babrams@lasarchitect.com	
Becky McDuffie, LAS		bmcduffie@lasarchitect.com	
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2		Overview / Confirm Program Questionnaire <ul style="list-style-type: none">Reviewed Program Questionnaire.LAS will use Questionnaire and information from this	

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UTIA Energy & Environmental Science Education Research Center
Entomology & Plant Pathology Program Interview Meeting
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meeting to develop the initial program space requirements.		
3	Extension: <ul style="list-style-type: none">Labs used in Ellington are for Extension functions.More extension functions could be held on the Ag Campus if space were available. Currently holding meetings off-Campus.	
4	Equipment: <ul style="list-style-type: none">Currently storing equipment in the Ellington basement.Design Team to confirm equipment storage requirements during programming.	Becky
5	Storage: <ul style="list-style-type: none">Currently lacking adequate storage space.Design Team will confirm storage requirements during programming.	Becky
6	Diagnostics Lab: <ul style="list-style-type: none">Dirty lab, receiving and holding plant / limb samples.Need sink with soil trap.Design Team will note in systems narrative.	Jeff
7	Display: <ul style="list-style-type: none">Would like display / museum for insects.	
8	Reception: <ul style="list-style-type: none">Reception function to be gatekeeper for Extension.	
9	Natural Light: <ul style="list-style-type: none">Current spaces lack natural light, new facility to provide natural light to all types of spaces, labs, offices, etc.	
10	Research Labs: <ul style="list-style-type: none">Currently has research lab space in PBB.Need additional research lab space.Problem with odors – discussed need for fume hoods; may reflect need for design with negative pressure and correct air change rate. Design Team to review further.	Jeff / Becky
11	Vibration Control: <ul style="list-style-type: none">Need vibration control for microscopes.	
12	Wash Area: <ul style="list-style-type: none">Provide locker / wash area with washer – dryer.	
13	Other Program Considerations: <ul style="list-style-type: none">Current problems with leaks, sometimes on research equipment; problem with power surges.Security – consider separation of spaces that are open to the public (Extension) form secure labs; possibly by level.	
14	Site Needs: <ul style="list-style-type: none">Parking for visitors to Extension services.Drop-off for Extension services, specimens.	

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UTIA Energy & Environmental Science Education Research Center
Entomology & Plant Pathology Program Interview Meeting
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page 3

<ul style="list-style-type: none">Design Team to verify need for loading dock.Locate labs convenient to loading dock and drop-off area.		Becky
15	Next Steps: <ul style="list-style-type: none">Update Space List and Space Diagrams (LAS)Room Data Sheets (1st Pass LAS... UTIA review)	Schedule Next Meetings

REMARKS

ATTACHMENTS

PREPARED BY	Barry M. Abrams, AIA	DATE PREPARED	October 2, 2012
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UTIA Energy & Environmental Science Education Research Center (EESERC)	10218-03
DATE OF MEETING	TIME
September 19, 2012	1:00 – 2:30 PM
MEETING LOCATION	PURPOSE
	CASNR Program Interview
PARTICIPANTS	PRESENT
Dr. John Stier, UTIA	jestier@utk.edu
Steve Glafenheim, UTIA	sglafenh@utk.edu
Bill Pace, UTK	wpace1@utk.edu
John Starr, LAS	jestarr@lasarchitect.com
Barry Abrams, LAS	babrams@lasarchitect.com
Becky McDuffie, LAS	bmcduffie@lasarchitect.com
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2		Overview / Confirm Program Questionnaire <ul style="list-style-type: none">Reviewed Program Questionnaire.LAS will use Questionnaire and information from this meeting to develop the initial program space requirements.	
3		Departments are currently spread out in many locations.	

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UTIA Energy & Environmental Science Education Research Center
CASNR Program Interview Meeting
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4	Building Front / Main Entry: Need for a clear Main Entry and Front to the new EESERC.	
5	Enrollment: <ul style="list-style-type: none">40% increase in the last 6 years.Increase / decreases have varied over the years, no clear projected growth.Currently project either remaining steady or an increase, no decrease expected.	
6	Chancellor and Deans are currently located in Morgan Hall.	
7	CASNR is one of 8 Colleges at UTK.	
8	Classrooms: <ul style="list-style-type: none">Need for 5 – 6 classrooms with 40 – 45 seats.Consider technology for teaching in 5 – 6 years; distance and interactive learning.	Becky
9	Teaching Labs: <ul style="list-style-type: none">Much of the Teaching Labs occurs outdoors – on site.	
10	Computer Lab: <ul style="list-style-type: none">Consider need for Computer Lab for special software and other training that doesn’t work on students’ laptops.Design Team to confirm requirements for Computer Lab.	Becky
11	Student Clubs: <ul style="list-style-type: none">Consider meeting space for Student Clubs. UTIA to verify if this will be programmed for the EESERC, if so UTIA to verify space requirements.	Steve
12	Informal Learning Spaces: <ul style="list-style-type: none">Important to provide this type of space.LAS showed examples of this type of space at Wisconsin Institute of Learning and at Duke University School of Environment.	
13	Food Service: <ul style="list-style-type: none">Consider space for food service – café / Starbucks.UTIA to confirm if this will be included in the EESERC Program.	Steve
14	Architectural Style: <ul style="list-style-type: none">We discussed UTK’s possible requirement for a particular Architectural style and/or material vocabulary.This issue is currently being considered by UTK. UTK to advise if a requirement should be noted in the Program, however, the current effort is related to programming and not design.	Steve
15	Green Roof: <ul style="list-style-type: none">We discussed the option of a green roof, this will be	Brian

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UTIA Energy & Environmental Science Education Research Center
CASNR Program Interview Meeting
October 2, 2012
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considered, may be included in systems description.		
16	Next Steps: <ul style="list-style-type: none">Update Space List and Space Diagrams (LAS)Room Data Sheets (1st Pass LAS... UTIA review)Schedule Next Meetings	5

REMARKS

ATTACHMENTS

PREPARED BY Barry M. Abrams, AIA DATE PREPARED October 2, 2012
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MEETING NOTES

PROJECT NAME	PROJECT NUMBER
UTIA Energy & Environmental Science Education Research Center (EESERC)	10218-03
DATE OF MEETING	TIME
September 19, 2012	2:45 – 4:15 PM
MEETING LOCATION	PURPOSE
	Forestry Wildlife & Fisheries Program Interview
PARTICIPANTS	PRESENT
Dr. Wayne Clatterbuck, UTIA	wclatterbuck@utk.edu
Dr. Keith Belli, UTIA	kbelli@utk.edu
Dr. Richard Strange, UTIA	rstrange@utk.edu
Steve Glafenheim, UTIA	sglafenh@utk.edu
Bill Pace, UTK	wpace1@utk.edu
John Starr, LAS	jstarr@lasarchitect.com
Barry Abrams, LAS	babrams@lasarchitect.com
Becky McDuffie, LAS	bmcduffie@lasarchitect.com
Brian Karlowicz, LAS	bkarlowicz@lasarchitect.com
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PARTICIPANTS	EMAIL
Dr. Larry Arrington, UTIA	larrington@tennessee.edu
Doug McCarty, MHM	dmccarty@mhminc.com
Scott Webb, MHM	swebb@mhminc.com
Jeff Linde, N&B	jlinde@newcomb-boyd.com
DISTRIBUTION	VIA
PARTICIPANTS	
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ISSUE No.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1	9/19/2012	Introductions, Roles, Lines of Communications: <ul style="list-style-type: none">Steve will be UTIA’s point of contact, and will distribute to others at UTIA as needed.Barry will be the Design Team’s point of contact.	
2		Overview / Confirm Program Questionnaire <ul style="list-style-type: none">Reviewed Program Questionnaire.	

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UTIA Energy & Environmental Science Education Research Center
Forestry Wildlife & Fisheries Program Interview Meeting
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page 2

	<ul style="list-style-type: none">LAS will use Questionnaire and information from this meeting to develop the initial program space requirements.	
3	Faculty: <ul style="list-style-type: none">Anticipate steady state, no growth expected.Need to verify number of faculty and researchers to plan for in the EESERC.	Keith
4	Head Room: <ul style="list-style-type: none">One of the Classrooms in Ellington has several animal heads displayed on the wall. Need to verify requirements for display of heads and/or display in a Classroom.	Becky
5	Goal to consolidate offices and functions in the EESERC.	
6	JARTU (Johnson Animal Research & Teaching Unit) Labs should stay in current location.	
7	Lab Standards: <ul style="list-style-type: none">THEC and other similar design standards were noted to review for applicable lab standards. The Design Team will review standards noted with UTIA.	Becky
8	Teaching Labs: <ul style="list-style-type: none">Much of the Teaching Labs occurs outdoors – on site.Need space for specimens.	
9	Computer Lab: <ul style="list-style-type: none">Consider need for Computer Lab for special software and other training that doesn’t work on student laptops.Design Team to confirm requirements for Computer Lab.	Becky
10	Wood Lab: <ul style="list-style-type: none">Needs to be larger, Design Team to review with Users.Currently sawing wood in one of the labs, need dust collection system at this lab or determine a different location for this function.	Becky
11	Fish Lab: <ul style="list-style-type: none">Described Fish Lab in McCord. UTIA to confirm if this is moving to EESERC.Requires space for field gear.Requires Teaching & Research Lab Space (wet Lab space needed).Design Team to review and confirm space requirements.	Becky
12	Remote Storage: <ul style="list-style-type: none">FWF has a remote storage building. Verify any functions in the remote storage building that will be housed in the EESERC.	Keith
13	Additional Building Program Notes: <ul style="list-style-type: none">Provide space for gas cylinder storage.	Becky

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UTIA Energy & Environmental Science Education Research Center
Forestry Wildlife & Fisheries Program Interview Meeting
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	<ul style="list-style-type: none">Provide chest freezers; prefer smaller freezers vs. one larger walk-in; smaller units require less maintenance and provide back-up if one is out of commission for maintenance or repair. FWF has one walk-in in PBB.	
14	Site Program Notes: <ul style="list-style-type: none">Access to loading dock is desirable, verify requirements.	Becky
15	Next Steps: <ul style="list-style-type: none">Update Space List and Space Diagrams (LAS)Room Data Sheets (1st Pass LAS... UTIA review) Schedule Next Meetings	

REMARKS

ATTACHMENTS

PREPARED BY Barry M. Abrams, AIA DATE PREPARED October 2, 2012
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MEETING NOTES

PROJECT NAME		PROJECT NUMBER	
UTIA Energy & Environmental Science Education Research Center (EESERC)		10218-03	
DATE OF MEETING		TIME	
September 19, 2012		4:30 – 5:30 PM	
MEETING LOCATION		PURPOSE	
		Biosystems Engineering and Soils Science (BESS) Program Interview	
PARTICIPANTS		PRESENT	
Dr. John Wilkenson, UTIA		wilkenj@utk.edu	
Dr. Jaehoon Lee, UTIA		jhlee@utk.edu	
Dr. Joanne Logan, UTIA		loganj@utk.edu	
Dr. Eric Drumm, UTIA		edrumm@utk.edu	
Steve Glafenhain, UTIA		sglafenh@utk.edu	
Bill Pace, UTK		wpace1@utk.edu	
John Starr, LAS		jstarr@lasarchitect.com	
Barry Abrams, LAS		babrams@lasarchitect.com	
Becky McDuffie, LAS		bmcduffie@lasarchitect.com	
Brian Karlowicz, LAS		bkarlowicz@lasarchitect.com	
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Scott Webb, MHM		swebb@mhminc.com	
Jeff Linde, N&B		jlinde@newcomb-boyd.com	
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PARTICIPANTS			
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1	9/19/2012	Introductions, Roles, Lines of Communications: <ul style="list-style-type: none">Steve will be UTIA’s point of contact, and will distribute to others at UTIA as needed.Barry will be the Design Team’s point of contact.	
2		Overview / Confirm Program Questionnaire	

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UTIA Energy & Environmental Science Education Research Center
Biosystems Engineering & Soil Sciences Program Interview Meeting
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	<ul style="list-style-type: none">Reviewed Program Questionnaire.LAS will use Questionnaire and information from this meeting to develop the initial program space requirements.	
3	Current location: <ul style="list-style-type: none">EllingtonFWF to confirm Labs & Offices in other locations that will move to the EESERC and those that should remain in current location.	Eric
4	Sustainable Design: <ul style="list-style-type: none">Target LEED Silver vs. State Guidelines; the design requirement will be further considered and reviewed with UTIA.	Steve
5	Field Work: <ul style="list-style-type: none">Need locker / shower area for getting in / out of field gear.	Becky
6	Computer Lab: <ul style="list-style-type: none">Currently one in the BESS Building.Shared with CASNR30 studentsTeaching GIS, AutoCAD, StatisticsOpen after hours for student use.	
7	Construction Science: <ul style="list-style-type: none">Verify space requirements in EESERC; considered dirty space.	Becky
8	Teaching Lab: <ul style="list-style-type: none">Currently uses Ellington 115.Need twice the size to meet teaching requirements.Need environmental control chamber for demonstrations.Need Prep Lab.Need Storage for soil samples.	
9	Classroom Needed.	
10	Offices: <ul style="list-style-type: none">Prefer offices and teaching assistant space near labs.	
11	Student Spaces: <ul style="list-style-type: none">Provide study rooms for team projects.Provide space for student organizations.Design Team to confirm space requirements.	Becky
12	Surge Space: <ul style="list-style-type: none">McCord Building can be used for surge space. Design Team to review space / functions available in McCord.	
13	Next Steps: <ul style="list-style-type: none">Update Space List and Space Diagrams (LAS)Room Data Sheets (1st Pass LAS... UTIA review)	

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UTIA Energy & Environmental Science Education Research Center
Biosystems Engineering & Soil Sciences Program Interview Meeting
October 2, 2012
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Schedule Next Meetings			
REMARKS			
ATTACHMENTS			
PREPARED BY	Barry M. Abrams, AIA	DATE PREPARED	October 2, 2012
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MEETING NOTES

PROJECT NAME	PROJECT NUMBER
UTIA Energy & Environmental Science Education Research Center	10218-03
DATE OF MEETING	TIME
October 10, 2012	See Meeting Schedule
MEETING LOCATION	PURPOSE
	Program Interview EPP
PARTICIPANTS	PRESENT
Dr. Vail, UTIA	kvail@utk.edu
Dr. Trigino, UTIA	rtrigian@utk.edu
Steve Glafenhain, UTIA	sglafenh@utk.edu
Bill Pace, UTK	wpace1@utk.edu
Barry Abrams, LAS	babrams@lasarchitect.com
Becky McDuffie, LAS	bmcduffie@lasarchitect.com
DISTRIBUTION	VIA
PARTICIPANTS John Starr, LAS Brian Karlowicz, LAS Doug McCarty, MHM Scott Webb, MHM Jeff Linde, N&B	jestarr@lasarchitect.com bkarlowicz@lasarchitect.com dmccarty@mhminc.com swebb@mhminc.com jlinde@newcomb-boyd.com
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ISSUE No.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		Reviewed Program <ul style="list-style-type: none">Current functions/locationProposed functions/general space requirements (Review Preliminary Space List)Note: The total space requirements are significantly higher than included in the initial Project Budget. Programming Team to coordinate with UTIA to address Program revisions.	Becky/Steve
2		Reviewed existing in Ellington, including rooms to be relocated during construction. <ul style="list-style-type: none">Dirty lab in PBB may be an option to use during demo/construction.	

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UTIA Energy & Environmental Science Education Research Center
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	<ul style="list-style-type: none">Need space for equipment currently in Ellington Basement.
3	Teaching Lab for Training/Testing: <ul style="list-style-type: none">25 – 30 occupants; Eastern Region Extension Office may be used for this function.Used 1/month.Creates parking issue – good to be in a different location.Dr. Trigiano will review and advise.Pest Control Training, is one example of training provided.
4	Review Space Program & Room Diagrams. <ul style="list-style-type: none">Edited Program based on input from this group.Reviewed Room Diagrams of Classrooms, Teaching and Research Labs.
5	Project Goals: <ul style="list-style-type: none">We reviewed goals identified during the Kick-Off Meeting.Voted (prioritized) on goals to identify the top five.
6	Next Steps: <ul style="list-style-type: none">Update Space List and Space Diagrams (LAS) based on this meeting.Survey/GeotechHazMat Report of Existing BuildingNext Meetings Scheduled for 10/30 & 31.

REMARKS

ATTACHMENTS

PREPARED BY	Barry M. Abrams, AIA	DATE PREPARED	October 29, 2012
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MEETING NOTES

PROJECT NAME	PROJECT NUMBER
UTIA Energy & Environmental Science Education Research Center	10218-03
DATE OF MEETING	TIME
October 9, 2012	See Meeting Schedule
MEETING LOCATION	PURPOSE
	Program Interview AG Research
PARTICIPANTS	PRESENT
John Hodges, UTIA	jhodges@utk.edu
Steve Glafenhain, UTIA	sglafenh@utk.edu
Bill Pace, UTK	wpace1@utk.edu
John Starr, LAS	jestarr@lasarchitect.com
Barry Abrams, LAS	babrams@lasarchitect.com
Becky McDuffie, LAS	bmcduffie@lasarchitect.com
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PARTICIPANTS	
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Jeff Linde, N&B	jlinde@newcomb-boyd.com
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ISSUE No.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		Review/Confirm Program <ul style="list-style-type: none">Current functions/locationProposed functions/general space requirements (Review Preliminary Space List)Note: The total space requirements are significantly higher than included in the initial Project Budget. Programming Team to coordinate with UTIA to address Program revisions.	Becky/Steve
2		Reviewed existing spaces in Ellington, including rooms to be relocated during construction.	
3		Verify need for suite for each department.	Becky
4		Consider programming labs to be either wet or dry – convert in the future as needed.	Becky

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Program Progress Review - CASNR
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Page 2

5	Beneficial Insects Lab – Not described to date, verify program requirements.	Becky
6	Informal Learning: <ul style="list-style-type: none">Use of lobby space as part of informal learning – similar to Duke Environment Hub (showed pictures of Duke Project by LAS).	
7	Project Goals: <ul style="list-style-type: none">We reviewed goals identified during the Kick-Off Meeting.Voted (prioritized) on goals to identify the top five.	
8	Next Steps: <ul style="list-style-type: none">Update Space List and Space Diagrams (LAS) based on this meeting.Survey/GeotechHazMat Report of Existing BuildingNext Meetings Scheduled for 10/30 & 31.	Becky / Barry

REMARKS

ATTACHMENTS

PREPARED BY	Barry M. Abrams, AIA	DATE PREPARED	October 29, 2012
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PROJECT NAME		PROJECT NUMBER	
UTIA Energy & Environmental Science Education Research Center		10218-03	
DATE OF MEETING		TIME	
October 10, 2012		See Meeting Schedule	
MEETING LOCATION		PURPOSE	
		Program Interview BESS & Safety Office	
PARTICIPANTS		PRESENT	
Dr. Eric Drumm, UTIA		edrumm@utk.edu	
Dr. Jaehoon Lee, UTIA		jhlee@utk.edu	
Dr. Joanne Logan, UTIA		loganj@utk.edu	
Dr. John Wilkenson, UTIA		wilkenj@utk.edu	
Susan Fiscor, UTIA		susan@utk.edu	
Steve Glafenhain, UTIA		sglafenh@utk.edu	
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Scott Webb, MHM		swebb@mhminc.com	
Jeff Linde, Newcomb & Boyd		jlinde@newcomb-boyd.com	
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ISSUE No.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		Review/Confirm Program <ul style="list-style-type: none">Current functions/locationProposed functions/general space requirements (Review Preliminary Space List)Note: The total space requirements are significantly higher than included in the initial Project Budget. Programming Team to coordinate with UTIA to address Program revisions.	Becky/Steve

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UTIA Energy & Environmental Science Education Research Center
Program Progress Review – BESS & Safety Office
October 29, 2012
Page 2

2	Reviewed existing spaces in Ellington, including rooms to be relocated during construction.
3	UTIA Safety Office: <ul style="list-style-type: none">Currently two people in one office in Ellington.Some lab space used, including fume hood, in Ellington.Need better location for hazardous waste storage services for the AG Campus. Hazardous waste generation has increased on campus and will continue to increase in the future.This function could be located anywhere, but a central location is best.One main space in Ellington, includes 2 workstations, small storage closet, work table / conference area.
4	Review Space Program & Room Diagrams. <ul style="list-style-type: none">Edited Program based on input from this group.Reviewed Room Diagrams of Classrooms, Teaching and Research Labs.
5	Teaching Lab: <ul style="list-style-type: none">Some work, soils chemistry for example, takes time before measurements can be done. This could be done in a Prep Lab rather than the Teaching Lab, allowing Teaching Lab to be used by others and not dedicated.
6	Materials Testing Lab: <ul style="list-style-type: none">Best suited in a basement space.Dirty space.Need access to loading dock.
7	Project Goals: <ul style="list-style-type: none">We reviewed goals identified during the Kick-Off Meeting.Voted (prioritized) on goals to identify the top five.
8	Next Steps: <ul style="list-style-type: none">Update Space List and Space Diagrams (LAS) based on this meeting.Survey/GeotechHazMat Report of Existing BuildingNext Meetings Scheduled for 10/30 & 31.

Becky/Barry

REMARKS

ATTACHMENTS

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MEETING NOTES

PROJECT NAME		PROJECT NUMBER	
UTIA Energy & Environmental Science Education Research Center		10218-03	
DATE OF MEETING		TIME	
October 9, 2012		See Meeting Schedule	
MEETING LOCATION		PURPOSE	
CRC Conference Room		Program Interview - CASNR	
PARTICIPANTS		PRESENT	
Dr. John Stier, UTIA		jestier@utk.edu	
Steve Glafenhein, UTIA		sglafenh@utk.edu	
Bill Pace, UTK		wpace1@utk.edu	
John Starr, LAS		jestarr@lasarchitect.com	
Barry Abrams, LAS		babrams@lasarchitect.com	
Becky McDuffie, LAS		bmcduffie@lasarchitect.com	
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ISSUE No.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		Review/Confirm Program <ul style="list-style-type: none">Current functions/locationProposed functions/general space requirements (Review Preliminary Space List)Note: The total space requirements are significantly higher than included in the initial Project Budget. Programming Team to coordinate with UTIA to address Program revisions.	Becky/Steve
		General CR's are nationalized. To be verified. <ul style="list-style-type: none">Bill noted that the department with the majority use is responsible for maintenance of AV & Controls, whether Nationalized or not.	Steve

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	Reviewed Special CR's – verify possible use by others, possibly Nationalized.	Keith
	Angie Berry is point person for scheduling Classrooms.	
	Jennifer Hardy in charge of nationalized Classroom scheduling. Plan to review CR plans with Jennifer and Chris Bogue.	Becky
	Registrar would like to use AG Campus for scheduling classes/ functions more frequently. This would work better if the campus bus system is improved; currently it's difficult to get to classes on time if going between the Main and AG campuses.	
	Multi-Use Room: <ul style="list-style-type: none">New Student Center may include a large multi- use space similar to Hollingsworth.Consider room divider – two 250 occupant rooms.Consider portable stage (Hollingsworth has stage).	Becky
	Need UT AV Standards for CR's. Coordinate with Joanne Logan.	Becky/Brian
	More MOOC's "Massive On-line Courses". Corsara, company that puts courses on line. Verify if this impacts the Classrooms as programmed.	Becky
	More Distant Leaning is planned in the future.	
7	Project Goals: <ul style="list-style-type: none">We reviewed goals identified during the Kick-Off Meeting.Voted (prioritized) on goals to identify the top five.	
8	Next Steps: <ul style="list-style-type: none">Update Space List and Space Diagrams (LAS) based on this meeting.Survey/GeotechHazMat Report of Existing BuildingNext Meetings Scheduled for 10/30 & 31.	Becky/Barry

REMARKS

ATTACHMENTS

PREPARED BY	Barry M. Abrams, AIA	DATE PREPARED	October 29, 2012
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MEETING NOTES

PROJECT NAME	PROJECT NUMBER
UTIA Energy & Environmental Science Education Research Center	10218-03
DATE OF MEETING	TIME
October 10, 2012	See Meeting Schedule
MEETING LOCATION	PURPOSE
	Program Interview FWF
PARTICIPANTS	PRESENT
Dr. Keith Belli, UTIA	kbelli@utk.edu
Dr. Richard Strange, UTIA	rstrange@utk.edu
Steve Glafenhain, UTIA	sglafenh@utk.edu
Bill Pace, UTK	wpace1@utk.edu
Barry Abrams, LAS	babrams@lasarchitect.com
Becky McDuffie, LAS	bmcduffie@lasarchitect.com
DISTRIBUTION	VIA
PARTICIPANTS John Starr, LAS Brian Karlowicz, LAS Doug McCarty, MHM Scott Webb, MHM Jeff Linde, N&B	jstarr@lasarchitect.com bkarlowicz@lasarchitect.com dmccarty@mhminc.com swebb@mhminc.com jlinde@newcomb-boyd.com
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ISSUE No.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		Overview/Confirm Program Questionnaire <ul style="list-style-type: none">Current functions/locationProposed functions/general space requirements (Review Preliminary Space List)Note: The total space requirements are significantly higher than included in the initial Project Budget. Programming Team to coordinate with UTIA to address Program revisions.	Becky/Steve
2		Adjusted Special CR – 2 at 3 modules and 1 at 4 modules.	
3		Received description of lab space currently in PBB from Dr. Belli	

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UTIA Energy & Environmental Science Education Research Center
Program Progress Review - FWF
October 29, 2012
Page 2

	on 10/9; We'll review information for development of the program.	
4	Look at security and signage for animal areas.	Becky
5	Research Labs: <ul style="list-style-type: none">Look at wet vs. dry lab functions.	Becky
6	Field Storage: <ul style="list-style-type: none">Provide space for dirty storage.This function is currently at loading area in McCord.	
7	Bridge connections to PBB will be a great benefit – efficiency, allowing functions to work better and stay in PBB.	
8	Workspace for Human Dimensions Lab: <ul style="list-style-type: none">2 adjacent rooms, one work area – work stations and plotter; one call center for internet surveys.Window in between.Considering using one of the Research Labs for this function.	Becky
9	Project Goals: <ul style="list-style-type: none">We reviewed goals identified during the Kick-Off Meeting.Voted (prioritized) on goals to identify the top five.	
10	Next Steps: <ul style="list-style-type: none">Update Space List and Space Diagrams (LAS) based on this meeting.Survey/GeotechHazMat Report of Existing BuildingNext Meetings Scheduled for 10/30 & 31.	Becky/Barry

REMARKS

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MEETING NOTES

PROJECT NAME	PROJECT NUMBER
UTIA Energy & Environmental Science Education Research Center	10218-03
DATE OF MEETING	TIME
October 9, 2012	See Meeting Schedule
MEETING LOCATION	PURPOSE
	Program Interview Vet School
PARTICIPANTS	PRESENT
Patty Coan, UTIA Vet School	pcoan@utk.edu
Steve Glafenheim, UTIA	sglafenh@utk.edu
Bill Pace, UTK	wpace@utk.edu
John Starr, LAS	jistarr@lasarchitect.com
Barry Abrams, LAS	babrams@lasarchitect.com
Becky McDuffie, LAS	bmcduffie@lasarchitect.com
DISTRIBUTION	VIA
PARTICIPANTS	
Doug McCarty, MHM	dmccarty@mhminc.com
Scott Webb, MHM	swebb@mhminc.com
Jeff Linde, N&B	jlinde@newcomb-comb.com
FILE :	k:\projects\10218-03\prj\cor\mna\meeting notes - 121009&10\ba121009&10_programinterview_vetschool.docx

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ISSUE No.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		Review/Confirm Program Questionnaire <ul style="list-style-type: none">Current functions/locationProposed functions/general space requirements (Review Preliminary Space List)Note: The total space requirements are significantly higher than included in the initial Project Budget. Programming Team to coordinate with UTIA to address Program revisions.	Becky/Steve
2		Review Current Functions in Ellington: Lab: <ul style="list-style-type: none">Shared support, chemical storage.Biosafety cabinet (4’);Process live animals from Animal Housing– rodents – blood samples	

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UTIA Energy & Environmental Science Education Research Center
Program Review – Vet School
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Page 2

	<ul style="list-style-type: none">MicroscopesFreezers/refrigerators – store carcassesBSL2 LabPrefer separated lab form chemical storageDouble lock box for secured drugs.Chemical fume hood.Miscellaneous counter top equipment.	
4	Lab Function: <ul style="list-style-type: none">Lab not used on a daily basis. 10 students per year for training.Large sample processing 3 times per year. Could share a lab.IACUC (regulatory) separate from OLAC (service).	
5	Design Issues and Challenges: <ul style="list-style-type: none">Swing Space Requirements – accommodate offices/lab, teaching can be located elsewhere. Some procedure functions in JARTU – confirm.	Becky
6	Project Goals: <ul style="list-style-type: none">We reviewed goals identified during the Kick-Off Meeting.Voted (prioritized) on goals to identify the top five.	
7	Next Steps: <ul style="list-style-type: none">Update Space List and Space Diagrams (LAS) based on this meeting.Survey/GeotechHazMat Report of Existing BuildingNext Meetings Scheduled for 10/30 & 31.	Becky/Barry

REMARKS

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MEETING NOTES

PROJECT NAME		PROJECT NUMBER	
UTIA Energy & Environmental Science Education Research Center		10218-03	
DATE OF MEETING		TIME	
October 10, 2012		See Meeting Schedule	
MEETING LOCATION		PURPOSE	
		Program Interview Plant Science	
PARTICIPANTS		PRESENT	
Dr. Bill Klingeman, UTIA		wklingem@utk.edu	
Steve Glafenhein, UTIA		sglafenh@utk.edu	
Bill Pace, UTK		wpacel@utk.edu	
Barry Abrams, LAS		babrams@lasarchitect.com	
Becky McDuffie, LAS		bmcduffie@lasarchitect.com	
DISTRIBUTION		VIA	
PARTICIPANTS			
John Starr, LAS		jestarr@lasarchitect.com	
Brian Karlowicz, LAS		bkarlowicz@lasarchitect.com	
Doug McCarty, MHM		dmccarty@mhminc.com	
Scott Webb, MHM		swebb@mhminc.com	
Jeff Linde, N&B		jlinde@necomb-boyd.com	
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ISSUE No.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		Review/Confirm Program <ul style="list-style-type: none">Reviewed current functions/locationProposed functions/general space requirements (Review Preliminary Space List)Note: The total space requirements are significantly higher than included in the initial Project Budget. Programming Team to coordinate with UTIA to address Program revisions.	Becky/Steve
2		Large Multi-Use Meeting Room: <ul style="list-style-type: none">Considering dividing into two or three rooms, vs. one large room. This will provide more use and have the opportunity of serving multiple functions concurrently.	Becky

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407 Meeting Minutes [cont]

UTIA Energy & Environmental Science Education Research Center
Program Progress Review – Plant Science
October 29, 2012
Page 2

3	Need Growth Chambers: <ul style="list-style-type: none">• 12 – 16• Several in PBB, good example of growth chamber needed.• Provide drain with soil trap.	
4	Other Large Equipment: <ul style="list-style-type: none">• Drying oven• Autoclave	
5	Office Space: <ul style="list-style-type: none">• Adjusted office numbers in the Space Program.	
6	Specialty Classroom: <ul style="list-style-type: none">• Drafting Lab – currently in Ellington Room 130.	
7	Teaching Lab: <ul style="list-style-type: none">• Can be shared.• More lab classes could be provided if more Teaching Labs were available.	
8	Research: <ul style="list-style-type: none">• Could reduce number of labs (currently shown at 8) if needed.	Becky
9	Walk-In Cooler may be required, LAS to confirm.	Becky
10	IT Hub is required.	
11	Mail Room: <ul style="list-style-type: none">• Lockable storage with freezer/refrigerator required for pick-up; frozen enzymes, other special storage items.	
12	Caged (fenced) Storage Area: <ul style="list-style-type: none">• Equipment used on infrequent basis, good to have secured in caged area.	
13	Pod Cast/AV Suite <ul style="list-style-type: none">• This function is needed. Not recommended for shared resource, problem with equipment/computer equipment.	
14	Poster Printer – large equipment – is needed.	
15	Provide wider door opening to labs – 3’ + 1’-6” leaf = 4’-6” w x 8’ h.	
16	Office Doors: <ul style="list-style-type: none">• Provide glass into office to view occupants. Partial view with frosted glass pattern works well.	
17	Offices: <ul style="list-style-type: none">• Consider clustering groups for teams.	
18	2 suites for support staff – admin (6) vs. business (4). <ul style="list-style-type: none">• Storage closets are needed for supplies.	

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UTIA Energy & Environmental Science Education Research Center
Program Progress Review – Plant Science
October 29, 2012
Page 3

19	Project Goals: <ul style="list-style-type: none">• We reviewed goals identified during the Kick-Off Meeting.• Add “One UT” vs. UTK and UTIA; could translate into how the building is designed.• Voted (prioritized) on goals to identify the top five.	
20	Next Steps: <ul style="list-style-type: none">• Update Space List and Space Diagrams (LAS) based on this meeting.• Survey/Geotech• HazMat Report of Existing Building• Next Meetings Scheduled for 10/30 & 31.	Becky/Barry

REMARKS

ATTACHMENTS

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MEETING NOTES

PROJECT NAME	PROJECT NUMBER
UTIA Energy & Environmental Science Education Research Center	10218-03
DATE OF MEETING	TIME
October 10, 2012	See Meeting Schedule
MEETING LOCATION	PURPOSE
	Program Progress Wrap-Up
PARTICIPANTS	EMAIL
Tim Fawver, UTIA	tfawver@utk.edu
Tom McKeehan, UT	tim@tennessee.edu
Steve Glafenhain, UTIA	sglafenh@utk.edu
Bill Pace, UTK	wpace1@utk.edu
Joe Cagle, UTIA	jcagle@utk.edu
Barry Abrams, LAS	babrams@lasarchitect.com
Becky McDuffie, LAS	Bmcduffie@lasarchitect.com
Doug McCarty, MHM	dmccarty@mhminc.com
DISTRIBUTION	VIA
PARTICIPANTS Dr. Larry Arrington, UTIA John Starr, LAS Brian Karlowicz, LAS Scott Webb, MHM Jeff Linde, N&B	larrington@tennessee.edu lstarr@lasarchitect.com bkarlowicz@lasarchitect.com swebb@mhminc.com jlinde@newcomb-boyd.com
FILE : k:\projects\10218-03\prj\cor\mna\meeting notes - 121009&10\ba121010_wrap-up.docx	

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ISSUE No.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		Reviewed Progress: <ul style="list-style-type: none">• Ellington Existing Space Use• Reviewed Program of Spaces for the EESERC	
2		General Classrooms: <ul style="list-style-type: none">• Current funding source is by UTIA, no funding by UTK.• Based on current funding, the Program should be based on matching Ellington vs. increasing.	
3		Renovations in the next 10 years are planned for: <ul style="list-style-type: none">• Morgan Hall	

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UTIA Energy & Environmental Science Education Research Center
Program Progress – Wrap-Up Meeting
October 29, 2012
Page 2

	• McCord	
4	PBB is a recently constructed building, the priority is to keep current spaces functions in PBB rather than move them to the EESERC. The priority is to relocate existing functions in Ellington in the new EESERC.	
5	Multi-Use Large Meeting Space (Hollingsworth replacement): <ul style="list-style-type: none">• May get additional funding/donations for this space, Board of Trustees meet in this space.• The space should accommodate 500 occupants in a banquet stile. The current Program accommodates 500 in lecture seating, but not is banquet stile – this will add square footage.	
6	Potential lease costs from FIA and NRC to be factored in the budget.	Steve
7	If the budget is increased, it'll take additional time, approximately one year, to get approved.	
8	Food Service: Currently including an area for a coffee shop – not required to use ARA Mark on the AG Campus.	
9	Shell Space Option: <ul style="list-style-type: none">• As an option to keep initial cost down while planning for future needs, look at shelling out space to fit-out in the future.	Steve
10	Needs/Wants: <ul style="list-style-type: none">• Review and gather from Users what is critically needed vs. wants to look at the minimum program.	Barry/Steve
11	Next Steps: <ul style="list-style-type: none">• Update Space List and Space Diagrams (LAS)• Look at reduced Program• Program and Cost Estimate to Steve to present to Executive Committee.	Becky/Barry John/Barry/Doug

REMARKS

ATTACHMENTS

PREPARED BY	Barry M. Abrams, AIA	DATE PREPARED	October 29, 2012
Lord, Aeck & Sargent, Inc.			

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ENERGY & ENVIRONMENTAL SCIENCE EDUCATION RESEACH CENTER PROGRAMMING
SITE UTILITY MEETNIG
November 9, 2012

Attendees:	Joe Cagle	UTIA Services
	Steve Glafenhein	UTIA Services
	Roy Warwick	UT Facility Services
	Bill Pace	UT Facility Services
	Terry Ledford	UT Facility Services
	Thom Haeuptle	UT Facility Planning
	Greg Presnell	CDM Smith
	Doug McCarty	McCarty Holsaple McCarty

The purpose of this meeting was to review the site utilities scope in order to determine budgets for any site utility relocation costs that may be required. Attached are (2) site drawings that defines UT Facilities Services understanding of the location of all existing related site utilities. The following is a summary of items discussed:

ELECTRICAL:

- There is a major high voltage distribution switch that will probably need to be relocated as part of the project.
- Roy Warwick advised that these switches supply electrical for the entire agriculture campus, not just the portion of the campus west of Joe Johnson Boulevard.
- Roy also stated that there will be outages if this switch must be relocated. These outages would need to be 3-4 day outages, but he felt this was doable because buildings have either emergency generators or temporary generators can be utilized for buildings not having emergency generators.
- A couple of locations were discussed to relocate this equipment, but it was decided that the preferred location would be in the green space east of the CE Brehm Animal Services building parking lot. In determining the exact location, the following needs are to be considered:
 - Mature existing trees should be protected;
 - The parking lot east of the CE Brehm Building will be expanded approximately 5’-0” to the east;
 - The existing bus stop should be retained;
 - The size of the equipment will be approximately 6’-16’-0” and the completed pad should be approximately 20’-30’;
 - The equipment should be screened from view by either landscaping or screen walls or a combination of both.

STEAM:

- It was determined that the major steam line on the service road south of the existing building will not need to be relocated as part of the project. As design proceeds the south wall of the new building should be set so that this steam line will not require relocation.

GAS:

- It was determined that the 2” gas line south of the existing building will need to be relocated. This should not be a major site utility cost.

WATER:

- The water line connecting to the existing Ellington Building on the southeast portion of the site will need to be relocated. This should not be a major site utility cost.
- The water line at Chapman Drive may need to be replaced due to its poor condition (Roy Warwick or Terry Ledford to confirm). If required, an allowance may be included in the budget.

Reply to: 550 W. Main Street, Suite 300, Knoxville, TN 37902

ENERGY & ENVIRONMENTAL SCIENCE EDUCATION RESEACH CENTER PROGRAMMING
SITE UTILITY MEETNIG
November 9, 2012

Page 2

SEWER LINE:

- No major relocation required.

STORM:

- No major relocation required.

TELEPHONE & FIBER:

- Greg Presnell will discuss with Steve Henderson if any major relocations will be required. If so, Greg will supply a budget for any required relocations.

COMPRESSED AIR | VACUUM | TREATED WATER:

- These utilities will be extended from the adjacent Plant Bio Tech building.

SITE LIGHTING:

- New site lighting will be included for the entire site. It will be assumed that these costs are included in either the building costs or the site budget as developed by CRJA.

OTHER:

- Steve Glafenhein passed out the University Commons of Site Improvement drawings and the proposed construction details raised crosswalk drawing (both developed by CDM Smith attached). It was determined that the proposed raised crosswalk should be located just north of the intersection of Joe Johnson Drive and the service drive (as noted on the “University Commons Off Site Improvements” drawing).
- Steve also shared the Native American Interpretive Garden Drawing for reference. Because of the relocation of the proposed crosswalk at Ellington, Sean Vasington of CRJA is requested to include in his site budget an allowance to rework the noted portion to better coordinate with pedestrian circulation to the crosswalk.

SUMMARY:

It is suggested that the following budget be developed by November 30 so that the University can review and if approved, Lord Aeck Sargent can include in the project budget:

Site Utility Budget	MHM CDM Smith
Waterline replacement at Chapman Drive	CDM Smith
Site Development Budget	CRJA
(including allowance for renovating portion of The Native American Interpretive Drawing)	

Respectfully Submitted,

Doug McCarty, AIA | McCarty Holsaple McCarty, Inc.

/attachments

Cc: Attendees
John Starr | Lord Aeck Sargent
Barry Abrams | Lord Aeck Sargent
Sean Vasington | CRJA
Randy Corlew | CDM Smith

Reply to: 550 W. Main Street, Suite 300, Knoxville, TN 37902

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MEETING NOTES

PROJECT NAME

UTIA - Energy and Environmental Science Education Research Center (Ellington Plant Sciences Building)

Program Update

DATE OF MEETING

March 22, 2018

MEETING LOCATION

FS Room 101 (2040 Sutherland Avenue)

PARTICIPANTS

Steve Glafenhain, Bob Denovo, Tom Gill - UTIA

Dave Irvin, Andy Powers, Thomas Haeuptle, Dan Smith – UT Facilities Planning

John Starr, Becky McDuffie, Joseph Minatta, John Fueredi - LAS

PROJECT NO.

10909-00

TIME

1:30 pm

PURPOSE

Kickoff Meeting

DISTRIBUTION

Participants

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VIA: e-mail

ITEMS

ISSUE NO.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		Introduction	Info
2		Confirm total gross square footage of the building are unchanged from the 2013 document. <i>See item 2 in the attached agenda response dated 22 March, 2018.</i>	Info
3		The portions of the program relating to architectural style, site layout, and massing will require updates. Confirm criteria for these items that have changed since the original program. <i>See item 3 in the attached agenda response dated 22 March, 2018.</i>	Info
4		The Institute for Agriculture has revised the list of programs and offices that will occupy the new building. It is our understanding that the Southern Research Station/Inventory & Analysis (9,760 NSF) will not be included in this program, and that the Smith International Center (1,800 NSF) and classrooms for the College of Veterinary Medicine (4,500 NSF) will be added. Detailed information for these added departments is required. Part of the program revision effort will be to revise the document, budget, etc. as required to accommodate these new occupants. <i>See item 4 in the attached agenda response, dated 22 March, 2018.</i>	Info

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5	The Institute for Agriculture and the Registrar will need to confirm the numbers and sizes of the campus-hosted classrooms are appropriate. <i>See item 5 in the attached agenda response, dated 22 March, 2018.</i>	UTK
6	The original program, based on the 2011 Campus Master Plan, will need updating for agreement with the 2016 Campus Master Plan. <i>See items 6 and 7 in the attached agenda response, dated 22 March, 2018.</i>	Info
7	Executive Committee <ul style="list-style-type: none">Will include Chris Cimino and Chancellor Cross.<ul style="list-style-type: none">Recommended that Chancellor Cross and Chancellor Davenport discuss applicable Campus Design Standards for this project.Executive Committee meetings are held once per month<ul style="list-style-type: none">Should include a brief presentation of the program update.Presentation by UT Facilities.	Info
8	Steve submitting updated DB70 (Cost Analysis) on Monday, April 2. Comments and questions must be received immediately if they affect the total project budget.	SG/LAS
9	Funding: <ul style="list-style-type: none">\$4m approved by the State\$2m approved by the State in 2012\$4m additional just approved by the State\$8.5m matching funds are in hand	Info
10	LAS Preliminary Budget review comments: <ul style="list-style-type: none">Stormwater - review budget allowance number.Audio/Visual<ul style="list-style-type: none">AV budget needs to be included in the total project budget.UT has a nationally recognized AV integrator under contract.Use 3% of the total project budget to include design, procurement and installation.FFE<ul style="list-style-type: none">Use \$20-25/nsf.Confirm number used for Mossman.Project Financing<ul style="list-style-type: none">May not be applicable. VT confirm with Chris Cimino.Include budget for moving into/out of surge space.	UT/LAS UT/LAS UT/LAS
11	Dr. Bob DeNovo – College of Veterinary Medicine <ul style="list-style-type: none">Need<ul style="list-style-type: none">Two (2) lecture rooms for 135 occupants each.<ul style="list-style-type: none">Auditorium seating preferred, but could be flat to work with other programs.Tiered seating (like Strong Hall) would allow collaboration.Lecture format 60% of the day	Info



	<ul style="list-style-type: none">○ One (1) flexible flat floor classroom for 100 occupants.<ul style="list-style-type: none">▪ May not be able to dedicate one and fit it in the total program square footage.▪ Want flat classroom to accommodate flexibility.▪ Could build on to north side. – Teaching & Learning Center.○ Create space for breakouts/communities.○ Reclaim research lab space that was converted into classroom space.• 350+ total student population currently.• If only two (2) learning environments are possible, then one flat (135 occupant) and one tiered (135 occupant) are preferred. Could use a portion of the 500-occupant classroom.• Want<ul style="list-style-type: none">○ Simulation labs desired in the long term.	
12	McCord <ul style="list-style-type: none">• There is no space available in McCord for long term relocations.• Temporary swing space opportunities:<ul style="list-style-type: none">○ First and second floor labs could be utilized for research labs. No contiguous office space is available.○ Existing available space is available in the Toshiba space (5,000 sf) – only offices available. This is not owned by UTK and is a speculative office building near campus.○ Request is to align research labs with associated researcher offices.○ Next step – LAS to review and analyze what works in McCord and determine quantity of space required elsewhere.	Info
13	Dr. Tom Gill – Smith International Center <ul style="list-style-type: none">• Employs four full-time, one part-time (1/2 time), one grad student and one student intern (part time) at this location. Others are located throughout the state.• Dr. Gill reports directly to the Chancellor.• Purpose – internationalize and bring faculty, staff and students to work across units.• International Agriculture minor - core classes and electives can be taken by any student.• Study abroad program (undergrad) handles program requirements and works with the main campus to help students.• Long term plans include housing for visitors.• Need<ul style="list-style-type: none">○ Welcome/reception area<ul style="list-style-type: none">▪ Accommodate 4-6 people.▪ Easily visible.○ Conference room for larger groups – could be a shared resource in a central location. (200 sf)	Info

	<ul style="list-style-type: none">○ Meeting room (200 sf)<ul style="list-style-type: none">▪ 8 people▪ Used daily for teaming, group discussion.▪ Breakroom space included▪ Office supply/storage included.○ Offices<ul style="list-style-type: none">▪ Director (180 sf)▪ Faculty/FT staff – 6 @ 120 sf▪ Admin/Reception/Waiting 200 sf.○ Touchdown stations for graduate students.	
14	Surge Building <ul style="list-style-type: none">• Separate building, or Phase 1 of Ellington?• 20,000 sf to be constructed at Plant Sciences Annex B location as indicated in the 2016 master plan update [existing building will need to be demolished]. Will the Tennessee Division of Forestry building need to be included?• Could be a two-story building, but would require elevators, stairs, etc.• LAS to investigate is Surge Building shades existing Greenhouses• Locating across the river unlikely due to proximity to hospital and its likely expansion.• Metal building with brick base – like the Business incubator building.• \$275/sf – 20,000 gsf• Desire not to make larger than currently programmed.	Info
15	Corner of Joe Johnson Drive and Chapman Drive <ul style="list-style-type: none">• Highly visible and an opportunity to make a bold statement.• Liven up and engage corner.• Large quantity of people walking to/from parking garage, therefore look at greater distance between the streets and building.	Info
16	New building <ul style="list-style-type: none">• Should be more important on the site.• The existing trees don't have to constrain the shape of the building.• Should review landscape strategies with CRJA• Option 1 – shared common/breakout space limits sunlight.• Option 2 – better courtyard.• Revisit 500-student classroom size.• Connect to Plant Biotech building at every level.• Transparent materials at First Floor would enable visitors and students to flow through the building.• Full basement/Partial Basement to be determined.• Plant Biotech building has room to add a chiller to support the new building.• Open labs with offices – update diagram.• No pitched roof requirement.	Info Info Info Info Info LAS Info Info LAS Info LAS Info LAS

	<ul style="list-style-type: none">• Increase 75-student classroom to 100-student.• Change standard office size from 150sf to 120sf• Atrium – look at numbers for soft/pre-conference space.• Aramark<ul style="list-style-type: none">◦ Food service can spill out into common space.◦ Jeff Maples is contact.◦ Need to determine what type of food service will be provided.◦ Shell and bring utilities to space, then let Aramark fit out space later?	Info UTIA/LAS Aramark
17	Speak with Registrar regarding control/scheduling of classrooms in this building.	UTK – DS
18	Should be designed and constructed in accordance with High Performance Building (HPBr) requirements. Efficiency and life cycle costs are important considerations.	Info
19	Collegiate Gothic <ul style="list-style-type: none">• Chancellor to Chancellor level discussion• Materials should adhere to standards, and be incorporated to provide continuity with context, and long-term maintainability.• Include a statement in the program that the design needs to be reviewed and approved by Campus Planning.	Info
20	Investigate costs and impact of relocating transformer on Chapman Drive.	LAS
21	Existing building does have hazardous materials. Transite ductwork, floor, mastic and some tops were identified. Specific quantities, types and locations were not discussed further.	Info
22	Need to find temporary space for current Plant Sciences occupants while Surge Building is under construction.	UTIA/UTK
23	EESERC Assessment <ul style="list-style-type: none">• Same language may be helpful – Drive to 55 Campaign.• What was submitted last year.• Summarize and incorporate.	UTIA
24	THEC <ul style="list-style-type: none">• Breakdowns to provide net assignable sf/type.• Used to format information so that UT can easily find information.• LAS not required to help complete forms for this program update.• Identify instances where we deviate from the Campus Standards.	Info Info Info LAS
25	Construction Schedule <ul style="list-style-type: none">• Ellington construction start – Fall 2020 (26-month construction schedule• Ellington construction complete – Fall 2022	Info
26	Proposed program update schedule approved: Meeting 2: <ul style="list-style-type: none">• Progress update• Potentially include departments Meeting 3:	Info

	<ul style="list-style-type: none">• Final presentation to Executive Committee.• Include Chris Cimino, Chancellor Cross, Steve, Dave, Dr. Denovo and Dr. Gill.• Executive Level summary		
REMARKS			
ATTACHMENTS			
EESERC Project Assessment Materials, dated July 3, 2017			
Program Update comments document, dated November 29, 2017			
Program Update – Kickoff meeting agenda notes, dated March 22, 2018			
Plan Sciences Annex B Building Program document, undated			
DB70 Draft, undated			
PREPARED BY	JOHN FUEREDI	DATE PREPARED	MARCH 30, 2018
THESE NOTES SUMMARIZE OUR UNDERSTANDING OF THIS MEETING. PROJECT ACTIONS WILL BE BASED ON THESE NOTES. PLEASE CONTACT THE WRITER IMMEDIATELY IF YOU DO NOT CONCUR.			

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MEETING NOTES

PROJECT NAME

UTIA - Energy and Environmental Science Education Research Center (Ellington Plant Sciences Building)

Program Update

DATE OF MEETING

April 18, 2018

MEETING LOCATION

FS Room 101 (2040 Sutherland Avenue)

PARTICIPANTS

Chancellor Cross, Steve Glafenhein - UTIA

Thomas Haeuptle, Dan Smith – UT

John Starr, Becky McDuffie, Joseph Minatta, John Fueredi - LAS

PROJECT NO.

10909-00

TIME

8:30 AM – 9:30 AM

PURPOSE

Meeting 2 – Executive Committee

DISTRIBUTION

Participants

FILE: K:\PROJECTS\10909-00\MEETINGS\180418_Mtg2\mn180418_EC.docx

VIA: e-mail

ITEMS

ISSUE NO.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		The program is to state that the architecture is to be contextual.	Info
2		Chris Cimino will not be on the Executive Committee.	Info
3		Will this document need to be reviewed by Campus Planning and Design prior to final approval? This is to be determined.	UT/UTIA
4		Priorities and Goals identified in the 2013 Program remain the same.	Info
5		Fleet parking for Forestry identified in the 2013 Program is no longer required.	Info
6		LEED certification is not required. The updated program should highlight that the design must meet sustainable strategies required by the state High Performance Building Requirements. Environmental and energy impacts are important.	Info
7		The project budget is based on the DB70 that was submitted. Look at opportunities for savings in the Surge building. <ul style="list-style-type: none">Pre-circ./pre-filtered fume hoods – not a preferred product on UTK campus.Casework“Lab-Light”	All
8		Schedule (See attached Preliminary Project Schedule) <ul style="list-style-type: none">Contract Review Period: 6-8 weeksSurge Space:<ul style="list-style-type: none">Critical path - Needs to be constructed before Ellington is demolished.Construction completed to accommodate move-in by Summer 2020.New EESERC:	Info

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		<ul style="list-style-type: none">Completion date not as sensitive to academic calendar.Is it better to move the labs when plants are in the dormant season?Design is not on the critical path.Move some labs to McCord if space is available earlier?Completion by January or Spring 2023.	
9	Café:	<ul style="list-style-type: none">300 sf in original program.Aramark has approached the University to provide a larger venue.<ul style="list-style-type: none">Seating space – part of lobby/public space?Preliminary program of 4,000 sf would affect the overall square footage, program and budget.Associate with warming kitchen for classroom?Other program items that need to be considered:<ul style="list-style-type: none">Service deliveries.Storage (food, supplies, etc.)Separate services.Food waste.Food service should remain where it is.	Info
10		3,450 people on campus regularly.	Info
11	IT department:	<ul style="list-style-type: none">Need permanent space in the Surge building.Should be placed upon completion of the Surge building.There are 13-14 offices currently spread out in numerous locations.Steve to provide information on program requirements.	Info Info Info Steve
12	500-person classroom	<ul style="list-style-type: none">Primarily used for learning by College of Veterinary Medicine.Want flexibility for multiple layouts.Banquet layout for 500 meets largest needs.<ul style="list-style-type: none">Show layout based on UT standard table.Have 15-20 events per year.This is the largest meeting/event space on the UTIA campus.	Info
13	75-person classrooms	<ul style="list-style-type: none">Increase to 100.Tiered of flat?<ul style="list-style-type: none">Flat offers more flexibility.One tier - standard for collaborative learning.Look at Strong Hall.	Info
14		135-person classrooms (2) are still required.	Info
15	Catering Kitchen:	<ul style="list-style-type: none">Buffet vs. plated service?Use lobby as pre-function.	Info

- Make note of need and importance in the narrative, and have some area dedicated to food distribution.
- Do not have to diagram.

16	Storage for furniture – 315 current (?)– verify quantity of chairs and tables.	Info
17	McCord – use top floor for lab space after IT is relocated to the Surge building.	Info
18	Surge options: <ul style="list-style-type: none"> • 2-story should be okay. • Could be moved slightly. • The current Master Plan shows parking being removed. • Program should only include labs, lab support, offices and building support. Classroom spaces should not be included. • Have had good success with Strong/Mosman open lab layout. 	Info

REMARKS

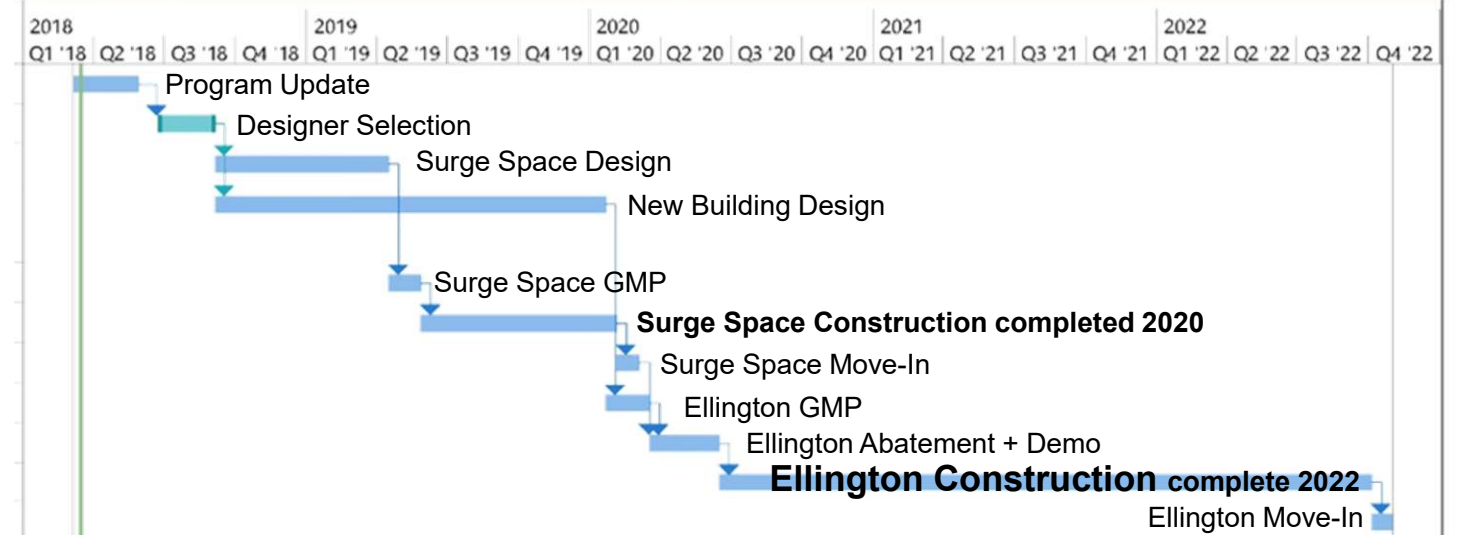
ATTACHMENTS

Preliminary Project Schedule

PREPARED BY	JOHN FUEREDI	DATE PREPARED	APRIL 24, 2018
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THESE NOTES SUMMARIZE OUR UNDERSTANDING OF THIS MEETING. PROJECT ACTIONS WILL BE BASED ON THESE NOTES.
PLEASE CONTACT THE WRITER IMMEDIATELY IF YOU DO NOT CONCUR.

Preliminary Project Schedule



ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1		Program Update	12 wks	Wed 3/7/18	Tue 5/29/18	
2		Designer Selection	10 wks	Wed 6/27/18	Tue 9/4/18	1FS+4 wks
3		Surge Space Design	8 mons	Wed 9/5/18	Tue 4/16/19	2
4		New Building Design	18 mons	Wed 9/5/18	Tue 1/21/20	2
5						
6		Surge Space GMP	6 wks	Wed 4/17/19	Tue 5/28/19	3
7		Surge Space Construction	36 wks	Wed 5/29/19	Tue 2/4/20	6
8		Surge Space Move In	4 wks	Wed 2/5/20	Tue 3/3/20	7
9		Ellington GMP	8 wks	Wed 1/22/20	Tue 3/17/20	4
10		Ellington Abatement & Demo	13 wks	Wed 3/18/20	Tue 6/16/20	9,8
11		Ellington Construction	30 mons	Wed 6/17/20	Tue 10/4/22	10
12		Ellington Move In	4 wks	Wed 10/5/22	Tue 11/1/22	11

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MEETING NOTES

PROJECT NAME		PROJECT NO.	
UTIA - Energy and Environmental Science Education Research Center (Ellington Plant Sciences Building) Program Update		10909-00	
DATE OF MEETING		TIME	
April 18, 2018		9:30 AM – 10:00 AM	
MEETING LOCATION		PURPOSE	
FS Room 101 (2040 Sutherland Avenue)		Meeting 2 – Forestry, Wildlife & Fisheries	
PARTICIPANTS		DISTRIBUTION	
Dr. Keith Belli, Steve Glafenhein - UTIA Thomas Haeuptle, Dan Smith – UT John Starr, Becky McDuffie, Joseph Minatta, John Fueredi - LAS		Participants	
FILE: K:\PROJECTS\10909-00\MEETINGS\180418_Mtg2\mn180418_FWF.docx VIA: e-mail			
ITEMS			
ISSUE NO.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		35-person conference/seminar room: <ul style="list-style-type: none">Need one.Not nationalized.Faculty meetings also held here.	Info
2		Program Changes: <ul style="list-style-type: none">Departmental Suite:<ul style="list-style-type: none">Added two (2) staff members since 2013 for a total of eight (8).Need space for a table to meet.Added Student Success Advisor<ul style="list-style-type: none">Staff position embedded in FWF department with faculty.Faculty-sized office (120sf) to meet with students and parents.Use Technical Office.Large class is up to 60 students now, therefore they can't use the 40-seat classroom. Can use 75-seat.	Info
3		Eight lab spaces are associated with FWF. Ten labs would provide space for growth.	Info
REMARKS			

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ATTACHMENTS			
Forestry, Wildlife & Fisheries Program Slide			
PREPARED BY	JOHN FUEREDI	DATE PREPARED	APRIL 24, 2018
THESE NOTES SUMMARIZE OUR UNDERSTANDING OF THIS MEETING. PROJECT ACTIONS WILL BE BASED ON THESE NOTES. PLEASE CONTACT THE WRITER IMMEDIATELY IF YOU DO NOT CONCUR.			



Current Program by Department - FWF

University of Tennessee - Institute of Agriculture - Knoxville Energy & Environmental Science Education Research Center									
PROJECTED SPACE UTILIZATION		Classroom Laboratory Module size:		Width	Length	Module Size			
May 3, 2013		Lecture Hall Module size:		10.50	30.0	315			
		Faculty Office Module size:		10.50	60.0	630			
		Lecturer Part Time Adjunct Office Module size:		10.50	15.00	150			
		GTA Office Module size (per student):		10.50	9.5	100			
Lord Aeck Sargent				10.00	5.0	50			
Program of Spaces							16,303		
		Occupants per Room	Room Quantity	Module Size	Modules / Room	NSF per room	Total	Remarks	
2.0 Offices & Dedicated Department Space									
2.1 Forestry, Wildlife & Fisheries									
U100	Departmental Suite	6	1	100	9.0	900	900	reception, faculty and staff mailboxes, workfile room; 6	
U200	Department Head Conference Room	6	1	100	1.5	150	150		
	Departmental Storage		1	100	2.0	200	200		
U300	Faculty Office (includes Emeriti)	1	24	120	1.0	120	2,880	13 Exit Pairs, Dept Head, Business Mgr, Storage	
U400	Technical Office	1	10	100	1.0	100	1,000	all except 4	
U400	Part-Time Adjunct	1	0	100	1.0	100	-		
U500	Grad Student Post-Doc GTA	1	25	50	1.0	50	1,250		
C100	32 Seat Specialty Classroom	32	2	315	3.0	945	1,890		
C200	40 Seat Specialty Classroom	40	1	315	3.5	1103	1,103		
C300	Teaching Lab - Necropsy	15	1	315	2.0	630	630	Necropsy/Microscopes	
D400	Prep Lab-Necropsy (Laboratory Support)		1	315	1.0	315	315	Storage of Samples	
	Research Lab	4	2	315	2.0	630	1,260	Harper, Larry Wilson Replacement	
	Research Lab	4	1	315	1.0	315	315	Sharon Jean Philippe	
	Research Lab		2	315	1.0	315	630	Cliffenback, Keyser	
	Research Lab		2	315	1.0	315	630	Bushman and Wilson	
	Research Support		2	315	1.0	315	630		
	Research Lab - Wildlife Disease Lab		3	315	2.0	630	1,890		
	Research Support		1	315	1.0	315	315		
	Field Lab		1	315	1.0	315	315	chainaws, nets, readers at the loading area	
Sub-Total							16,303		



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MEETING NOTES

PROJECT NAME

PROJECT NO.

UTIA - Energy and Environmental Science Education Research Center (Ellington Plant Sciences Building)

10909-00

Program Update

DATE OF MEETING

TIME

April 18, 2018

10:00 AM – 10:30 AM

MEETING LOCATION

PURPOSE

FS Room 101 (2040 Sutherland Avenue)

Meeting 2 – College of Veterinary Medicine

PARTICIPANTS

DISTRIBUTION

Dr. Bob DeNovo, Steve Glafenhain - UTIA

Participants

Thomas Haeuptle, Dan Smith – UT

John Starr, Becky McDuffie, Joseph Minatta, John Fueredi - LAS

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VIA: e-mail

ITEMS

ISSUE NO.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		135-person classrooms (2) <ul style="list-style-type: none">• Prefer tiered• Exclusive to CVM, or preference for availability?• Could be shared resource.	UTIA
2		100-person classroom to remain. It will remain a nationalized resource.	Info
3		Dr. DeNovo confirmed that the updated program would serve the CVM needs well. No other input on program required.	Info
4		Biosafety <ul style="list-style-type: none">• Offices:<ul style="list-style-type: none">○ (7) Office of Laboratory Animal Care (OLAC) previously represented by Patty Cohen○ Occupational Health (OHP)○ IACUC• No discussion that these three groups would move back to CVM, therefore they will stay in the new Ellington.• Is a Graduate Student room required?• Research Lab<ul style="list-style-type: none">○ Testing occurs here.○ Confirm any other activities. <div>Dr. DeNovo to review with new representatives.</div>	Info <div>Dr.DeNovo</div> <div>Dr.DeNovo</div>
5		Verify Record Room Area required.	Dr.DeNovo

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REMARKS

ATTACHMENTS

CASNR Classrooms + Classroom Support + Informal Learning Program

PREPARED BY JOHN FUEREDI DATE PREPARED APRIL 24, 2018

THESE NOTES SUMMARIZE OUR UNDERSTANDING OF THIS MEETING. PROJECT ACTIONS WILL BE BASED ON THESE NOTES.
PLEASE CONTACT THE WRITER IMMEDIATELY IF YOU DO NOT CONCUR.

Current Program by Department - Classrooms

University of Tennessee - Institute of Agriculture - Knoxville Energy & Environmental Science Education Reseach Center									
PROJECTED SPACE UTILIZATION May 3, 2013		Classroom Laboratory Module size:		Width	Length	Module Size	People per Module		
		Lecture Hall Module size:		10.50	30.0	315	12.6		
		Faculty Office Module size:		10.50	60.0	630	42		
		Lecturer Part Time Adjunct Office Module size:		10.50	15.00	150			
		GTA Office Module size (per student):		10.50	9.5	100			
Lord Aeck Sargent				10.00	5.0	50			
		Program of Spaces						24,796	
		Occupants per Room	NSF / person	Room Quantity	Module Size	Modules / Room	NSF per room	Total	Remarks
1.0 CASNR Classrooms + Classroom Support + Informal Learning									
1.1 Classrooms									
A100	Seminar / Conference Room	20	20	2		400	800		distribute 1 on alternate floors
A200	45 seat Classroom	45	24	3		1,080	3,240		
A300	100 Seat Classroom*	100	24	1		2,400	2,400		increased from 75 per request from vet med
	135 Seat Classroom**	135	24	2		3,240	6,480		for veterinary medicine, per request
A400	500 seat Conference Center	500	15	1		7,500	7,500		To replace Hollingsworth Auditorium
Subtotal				9			20,420		
1.2 Informal Learning									
	Lobby	50		1		1,600	1,600		on First Floor
	Collaboration Areas - large	30		2		600	1,200		on First Floor, Pre-function for Conference Center
	Collaboration Areas - small	6		0		100	-		distribute 1 on each floor starting on Second
A500	Faculty-Student Commons	8		4		300	1,200		distribute 1 on each floor starting on Second
	Vending-Students			3		25	75		every other floor; 3 machines in each space
	Coffee Shop / Kitchen	15		1		300	300		counter service + seating in lobby
	Outdoor Informal Learning	40		0		800	-		Not in building nsf or gsf
	Outdoor Classroom	40		0		1,200	-		Not in building nsf or gsf
Subtotal				3			4,375		
*Note 1 - increased from 75 person classroom									
**Note 2 - will be dedicated classrooms space for Veterinary Medicine									



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MEETING NOTES

PROJECT NAME		PROJECT NO.	
UTIA - Energy and Environmental Science Education Research Center (Ellington Plant Sciences Building) Program Update		10909-00	
DATE OF MEETING		TIME	
April 18, 2018		10:30 AM – 11:00 AM	
MEETING LOCATION		PURPOSE	
FS Room 101 (2040 Sutherland Avenue)		Meeting 2 – Plant Sciences	
PARTICIPANTS		DISTRIBUTION	
Dr. Scott Senseman, Steve Glafenhein - UTIA Thomas Haeuptle, Dan Smith – UT John Starr, Becky McDuffie, Joseph Minatta, John Fueredi - LAS		Participants	
FILE: K:\PROJECTS\10909-00\MEETINGS\180418_Mtg2\mn180418_PS.docx VIA: e-mail			
ITEMS			
ISSUE NO.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		Reviewed attached program.	Info
2		Still have four (4) people for the Environmental Design Lab.	Info
3		Want touchdown space – outside of lab space.	Info
4		Poster/Printer Room may not be needed in the future.	Info
5		Faculty meetings: <ul style="list-style-type: none">Up to forty (40) could attend.32-person room is sufficient. Six people (of forty) will participate via conference call/Skype.	Info
6		Reviewed overall project schedule.	Info
7		Open/shared lab model is acceptable.	Info
8		Plant pathology lab – may need to be isolated to prevent contamination.	Info
9		Hub lab is already configured as a shared lab.	Info
10		Specialized hood system needs to be cleaned easily.	Info
11		Leave 32-person specialty classroom as shown.	Info
REMARKS			

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ATTACHMENTS			
Plant Sciences Current Program			
PREPARED BY	JOHN FUEREDI	DATE PREPARED	APRIL 24, 2018
THESE NOTES SUMMARIZE OUR UNDERSTANDING OF THIS MEETING. PROJECT ACTIONS WILL BE BASED ON THESE NOTES. PLEASE CONTACT THE WRITER IMMEDIATELY IF YOU DO NOT CONCUR.			



Current Program by Department - PS

University of Tennessee - Institute of Agriculture - Knoxville Energy & Environmental Science Education Research Center									
PROJECTED SPACE UTILIZATION May 3, 2013			Classroom Laboratory Module size:		Width	Length	Module Size		
			Lecture Hall Module size:		10.50	30.0	315		
			Faculty Office Module size:		10.50	60.0	630		
			Lecturer Part Time Adjunct Office Module size:		10.50	15.00	150		
			GTA Office Module size (per student):		10.50	9.5	100		
Lord Aeck Sargent					10.00	5.0	50		
			Program of Spaces					15,670	
Occupants per Room			Room Quantity	Module Size	Modules / Room	NSF per room	Total		Remarks
2.0 Offices & Dedicated Department Space									
2.4 Plant Sciences									
B100	Departmental Suite	2	1	100	7.0	700	700	reception, faculty and staff mailboxes, work/file room	
B200	Department Head Conference Room	6	0	100	1.5	150	-	Separate areas for Business and Administrative	
	Departmental Storage		3	100		400	1,200		
B300	Faculty Office [includes Emeriti]	1	23	120	1.0	120	2,760		
B400	Technical Office/Admin	1	23	100	1.0	100	2,300	4 People to Environmental Design Lab	
B400	Part-Time Adjunct	1	0	100	1.0	100	-		
B500	Grad Student Post-Doc GTA	1	30	50	1.0	50	1,500	Touchdown Space	
	Pod Cast Room/Advising	2	1	100	1.0	100	100		
	Poster/Printer Room	2	1	180	1.0	180	180		
C100	32 Seat Specialty Classroom	32	1	315	3.0	945	945	Drafting Design Room	
D100	General Teaching Lab	24	1	315	3.0	945	945		
D200	General Prep Lab (Laboratory Support)		1	315	1.0	315	315		
	Research Lab	4	5	315	2.0	630	3,150		
	Research Support		5	315	1.0	315	1,575		
Sub-Total								15,670	



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MEETING NOTES

PROJECT NAME

PROJECT NO.

UTIA - Energy and Environmental Science Education Research Center (Ellington Plant Sciences Building)

10909-00

Program Update

DATE OF MEETING

TIME

April 18, 2018

11:00 AM – 11:30 AM

MEETING LOCATION

PURPOSE

FS Room 101 (2040 Sutherland Avenue)

Meeting 2 – Biosystems Engineering & Soil Sciences (BESS)

PARTICIPANTS

DISTRIBUTION

Dr. Julie Carrier, Steve Glafenhein - UTIA

Participants

Thomas Haeuptle, Dan Smith – UT

John Starr, Becky McDuffie, Joseph Minatta, John Fueredi - LAS

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VIA: e-mail

ITEMS

ISSUE NO.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		Reviewed attached program and history. (Dr. Carrier arrived after 2013 program was completed.)	Info
2		Current footprint in Ellington is 6,627 sf.	Info
3		Five (5) researchers who currently have labs. Dr. Carrier to provide the following information for each researcher: <ul style="list-style-type: none">What is current square footage of lab space?What is the planned need? (Provide anticipated linear feet of bench.)What are the missions for each lab?	Dr. Carrier
4		Construction Science <ul style="list-style-type: none">New – not included in 2013 program.Will have its own degree, and requires space.Program requirements need to be confirmed.<ul style="list-style-type: none">Laboratory to make/test concreteOfficesLab Support to prep and clean equipment, wet lab or other uses	UTIA
5		BESS may need more space <ul style="list-style-type: none">Unassigned space in Ellington?Available space in McCord? Other research areas and researchers may be coming within the next 5-6 years. Could potentially use one more bay of lab spaces.	UTIA

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Page 2

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Dr. Carrier to request program modification requirements and justification to Steve. Will need to be reviewed and approved by Chancellor Cross.

Dr. Carrier

REMARKS

ATTACHMENTS

Biosystems Engineering & Soil Sciences Current Program

PREPARED BY

JOHN FUEREDI

DATE PREPARED

APRIL 24, 2018

THESE NOTES SUMMARIZE OUR UNDERSTANDING OF THIS MEETING. PROJECT ACTIONS WILL BE BASED ON THESE NOTES.
PLEASE CONTACT THE WRITER IMMEDIATELY IF YOU DO NOT CONCUR.

Current Program by Department - BESS

University of Tennessee - Institute of Agriculture - Knoxville Energy & Environmental Science Education Research Center								
PROJECTED SPACE UTILIZATION May 3, 2013		Classroom Laboratory Module size:		Width	Length	Module Size		
		Lecture Hall Module size:		10.50	30.0	315		
		Faculty Office Module size:		10.50	60.0	630		
		Lecturer Part Time Adjunct Office Module size:		10.50	15.00	150		
		GTA Office Module size (per student):		10.50	9.5	100		
Lord Aeck Sargent				10.00	5.0	50		
				Program of Spaces		8,030		
Occupants per Room		Room Quantity	Module Size	Modules / Room	NSF per room	Total	Remarks	
2.0 Offices & Dedicated Department Space								
2.1 Biosystems Engineering & Soil Sciences (BESS)								
B100	Departmental Suite	2	0	100	6.5	650	-	Not located in this Building
B200	Department Head Conference Room	6	0	100	1.5	150	-	
	Departmental Storage		0	100	1.0	100	-	
B300	Faculty Office [includes Emeriti]	1	5	120	1.0	120	600	
B400	Lecturer Office	1	0	100	1.0	100	-	
B400	Part-Time Adjunct	1	0	100	1.0	100	-	
B500	Grad Student Post-Doc GTA	1	10	50	1.0	50	500	Touchdown space for 20 Non-Regular Faculty
C100	32 Seat Specialty Classroom	32	0	315	3.0	945	-	
D100	General Teaching Lab	24	1	315	4.0	1260	1,260	
D200	General Prep Lab (Laboratory Support)		1	315	2.0	630	630	
	Research Lab	4	4	315	2.0	630	2,520	Analytical Instrument Room ICP (clean); 10 PI'S
	Research Support		4	315	1.0	315	1,260	
	Central Environmental Analysis Laboratory Hub	2	1	315	2.0	630	630	Dr. Ye's Lab, 2 rooms adjacent to each other
	BioFuel Lab	2	1	315	2.0	630	630	Dr. Ye's Lab, 2 rooms adjacent to each other
Sub-Total						8,030		



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MEETING NOTES

PROJECT NAME		PROJECT NO.	
UTIA - Energy and Environmental Science Education Research Center (Ellington Plant Sciences Building) Program Update		10909-00	
DATE OF MEETING		TIME	
April 18, 2018		1:30 PM – 2:00 PM	
MEETING LOCATION		PURPOSE	
FS Room 101 (2040 Sutherland Avenue)		Meeting 2 – CASNR Classrooms	
PARTICIPANTS		DISTRIBUTION	
Dr. John Stier, Steve Glafenhein - UTIA Jennifer Hardy, Thomas Haeuptle, Dan Smith – UT John Starr, Becky McDuffie, Joseph Minatta, John Fueredi - LAS		Participants	
K:\PROJECTS\10909- FILE: 00\MEETINGS\180418_Mtg2\mn180418_CASNR.docx		VIA: e-mail	
ITEMS			
ISSUE NO.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		Reviewed attached program. Quantities and types are acceptable to Jennifer Hardy.	Info
2		500-seat classroom should be subdividable.	Info
3		AV budget numbers that UT are: <ul style="list-style-type: none">\$25k for a small room\$125-250k for a large room	Info
4		If a classroom is nationalized, the AV equipment will be selected from standard equipment, and maintained by UTK.	Info
5		LAS to send a list of classrooms to Jennifer.	LAS
6		CoVM is losing a 129-person classroom in the Brehm Animal Science Building.	Info
7		Detailed discussions about AV requirements will be required during the design phase.	Info
8		100-person classroom seating layout to be determined during design. <ul style="list-style-type: none">TEAL layout is not successful on campus yet.Training tables and loose chairs are common.Prefer not tiered.	Info
9		125-person classroom will not exist nearby after Ellington is demolished.	Info
10		Dr. Stier stated that the Honors student classroom (CASNR) is tracking as two separate Honors classrooms.	Info

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11	College has continued to grow enrollment with anticipated growth of 15% over the next five years. Want facilities to meet current and projected needs.	Info
12	College of Veterinary Medicine classroom in the Print Shop building will remain.	Info
13	Important to have gathering and collaboration spaces in the building.	Info
14	Equipment rooms and control panel locations need to be quantified, included and coordinated during the design phase.	Info
15	A warming kitchen is currently included in the program.	Info
16	No permanent stage is anticipated in any of the classrooms.	Info
17	100-person classroom remains in the program. (Replaces original 75-person classroom.	Info
18	ADA and security control/access are important.	Info
19	CoVM control access, technology and scheduling for their classrooms	Info
20	Building access for Ellington is to be determined. Not as restrictive as CoVM, but should be accessible and usable by non-CoVM students.	Info
21	Enrollment growth is important and should be considered in design.	Info
22	LAS to share spreadsheet and diagrams of classrooms.	LAS
23	Flat slab classrooms need to accommodate Node chairs (campus standard).	Info

REMARKS

ATTACHMENTS

CASNR Classrooms Current Program sheet.

PREPARED BY	JOHN FUEREDI	DATE PREPARED	APRIL 26, 2018
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THESE NOTES SUMMARIZE OUR UNDERSTANDING OF THIS MEETING. PROJECT ACTIONS WILL BE BASED ON THESE NOTES.
PLEASE CONTACT THE WRITER IMMEDIATELY IF YOU DO NOT CONCUR.

Current Program by Department - Classrooms

University of Tennessee - Institute of Agriculture - Knoxville Energy & Environmental Science Education Reseach Center									
PROJECTED SPACE UTILIZATION May 3, 2013		Classroom Laboratory Module size:			Width	Length	Module Size		People per Module
		Lecture Hall Module size:			10.50	30.0	315		12.6
		Faculty Office Module size:			10.50	60.0	630		42
		Lecturer Part Time Adjunct Office Module size:			10.50	15.00	150		
		GTA Office Module size (per student):			10.50	9.5	100		
Lord Aeck Sargent					10.00	5.0	50		
		Program of Spaces						24,796	
		Occupants per Room	NSF / person	Room Quantity	Module Size	Modules / Room	NSF per room	Total	Remarks
1.0 CASNR Classrooms + Classroom Support + Informal Learning									
1.1 Classrooms									
A100	Seminar / Conference Room	20	20	2	400		800		distribute 1 on alternate floors
A200	45 seat Classroom	45	24	3	1,080		3,240		
A300	100 Seat Classroom*	100	24	1	2,400		2,400		increased from 75 per request from vet med
	135 Seat Classroom**	135	24	2	3,240		6,480		for veterinary medicine, per request
A400	500 seat Conference Center	500	15	1	7,500		7,500		To replace Hollingsworth Auditorium
Subtotal				9				20,420	
1.2 Informal Learning									
A500	Lobby	50		1	1,600		1,600		on First Floor
	Collaboration Areas - large	30		2	600		1,200		on First Floor, Pre-function for Conference Center
	Collaboration Areas - small	6		0	100		-		distribute 1 on each floor starting on Second
	Faculty-Student Commons	8		4	300		1,200		distribute 1 on each floor starting on Second
	Vending-Students			3	25		75		every other floor; 3 machines in each space
	Coffee Shop / Kitchen	15		1	300		300		counter service + seating in lobby
	Outdoor Informal Learning	40		0	800		-		Not in building nsf or gsf
	Outdoor Classroom	40		0	1,200		-		Not in building nsf or gsf
Subtotal				3				4,375	
*Note 1 - increased from 75 person classroom									
**Note 2 - will be dedicated classrooms space for Veterinary Medicine									



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MEETING NOTES

PROJECT NAME

UTIA - Energy and Environmental Science Education Research Center (Ellington Plant Sciences Building)

Program Update

DATE OF MEETING

April 18, 2018

MEETING LOCATION

FS Room 101 (2040 Sutherland Avenue)

PARTICIPANTS

Mark Smith, Steve Glafenhein - UTIA
Thomas Haeuptle, Dan Smith – UT
John Starr, Becky McDuffie, Joseph Minatta, John Fueredi - LAS

FILE:

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ITEMS

ISSUE NO.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		Reviewed attached program.	Info
2		Two offices for required.	Info
3		Lori Cole replaced Patty Cohen.	Info
4		Waste Room (included in 3.1 Building Support Spaces) quantity and size is good. Specific needs and lessons-learned should be considered during design, including: <ul style="list-style-type: none">Eyewash and emergency shower testingSeparationWaste accumulationDisposal of wasteStorage	Info
5		Chemical Storage for lab furnishings needs to be addressed as a standard. Hardware (shelf brackets, hinges, etc.) should be rated for exposure to acids.	Info
6		Emergency showers should not have floor drains.	Info

REMARKS

ATTACHMENTS

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PROJECT NO.

10909-00

TIME

11:30 AM – 12:00 PM

PURPOSE

Meeting 2 – Biosafety

DISTRIBUTION

Participants

VIA:

e-mail

RESPONSIVE DESIGN

Biosafety and Building Support Current Program

PREPARED BY	JOHN FUEREDI	DATE PREPARED	APRIL 24, 2018
THESE NOTES SUMMARIZE OUR UNDERSTANDING OF THIS MEETING. PROJECT ACTIONS WILL BE BASED ON THESE NOTES. PLEASE CONTACT THE WRITER IMMEDIATELY IF YOU DO NOT CONCUR.			

Current Program by Department - BIOSAFETY

University of Tennessee - Institute of Agriculture - Knoxville Energy & Environmental Science Education Research Center							
PROJECTED SPACE UTILIZATION May 3, 2013				Width	Length	Module Size	
	Classroom Laboratory Module size:			10.50	30.0	315	
	Lecture Hall Module size:			10.50	60.0	630	
	Faculty Office Module size:			10.50	15.00	150	
	Lecturer Part Time Adjunct Office Module size:			10.50	9.5	100	
Lord Aeck Sargent	GTA Office Module size (per student):			10.00	5.0	50	
				Program of Spaces			3,153
Occupants per Room		Room Quantity	Module Size	Modules / Room	NSF per room	Total	Remarks
2.0 Offices & Dedicated Department Space							
2.5 Biosafety IACUC OHP OLAC							
B100	Departmental Suite	2	1	100	6.0	600	2 Admin Separate; Workroom / Waiting
B200	Department Head Conference Room	8	0	100	1.5	150	-
	Departmental Storage		1	100	2.0	200	Record Storage Room for OHP
B300	Faculty Office [includes Emeriti]	1	14	120	1.0	120	Biosafety (3), IACUC (3), OHP (1), OLAC (7)
B600	UTIA Safety Office	2	1	100	2.0	200	Two work stations, Storage Closet and place to meet
B400	Lecturer Office	1	0	100	1.0	100	-
B400	Part-Time Adjunct	1	0	100	1.0	100	-
B500	Grad Student Post-Doc GTA	1	0	50	1.0	50	OLAC (1)
	Research Lab	2	1	315	1.5	473	Shared
Sub-Total						3,153	



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MEETING NOTES

PROJECT NAME		PROJECT NO.	
UTIA - Energy and Environmental Science Education Research Center (Ellington Plant Sciences Building) Program Update		10909-00	
DATE OF MEETING		TIME	
April 25, 2018		1:30 PM – 2:00 PM	
MEETING LOCATION		PURPOSE	
Conference Call		Meeting 2 – Entomology & Plant Pathology	
PARTICIPANTS		DISTRIBUTION	
Dr. Dewayne Shoemaker, Steve Glafenhein - UTIA Dan Smith – UT Becky McDuffie, Joseph Minatta, John Fueredi - LAS		Participants Thomas Haeuptle – UT John Starr - LAS	
FILE: K:\PROJECTS\10909-00\MEETINGS\180418_Mtg2\mn180418_EPP.docx VIA: e-mail			
ITEMS			
ISSUE NO.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		Reviewed program summary sheet.	Info
2		LAS to compare 2013 program with updated department spreadsheet provided by Dan Smith.	LAS
3		PSEP Classroom <ul style="list-style-type: none">2013 program based on specific computers used for actual testing.Are these still used? Dr. Shoemaker to verify.If not, can the classroom be shared? Dr. Shoemaker to confirm.	Info Dr. S. Dr. S.
4		Five new faculty members have been hired, and one more will be hired. This will increase the quantity of faculty offices shown in the 2013 program from 8 to 9.	Info
5		Increase research lab from 3 to 4.	Info
6		Increase research support from 2 to 3.	Info
7		Dr. Shoemaker to verify existing and future requirements.	Dr. S.
8		Plant Biotech – UTIA to identify any spaces in the existing building that will be vacated upon completion of new Ellington, and can be reused.	UTIA
9		Existing classrooms – 3 @ 30-persons each.	Info
10		Largest class is 89.	Info
11		Open lab layout and modules identified in program document.	Info

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12	Recommend that Dr. Shoemaker visit Strong and Mossman to see similar approach for open lab layout. Designed to create synergies between similar departments.	Info
REMARKS		
ATTACHMENTS		
Entomology & Plant Pathology Current Program		
PREPARED BY	JOHN FUEREDI	DATE PREPARED APRIL 26, 2018

THESE NOTES SUMMARIZE OUR UNDERSTANDING OF THIS MEETING. PROJECT ACTIONS WILL BE BASED ON THESE NOTES.
PLEASE CONTACT THE WRITER IMMEDIATELY IF YOU DO NOT CONCUR.



Current Program by Department - EPS

University of Tennessee - Institute of Agriculture - Knoxville Energy & Environmental Science Education Reseach Center							
PROJECTED SPACE UTILIZATION May 3, 2013	Classroom Laboratory Module size:		Width	Length	Module Size		
			10.50	30.0	315		
	Lecture Hall Module size:		10.50	60.0	630		
	Faculty Office Module size:		10.50	15.00	150		
	Lecturer Part Time Adjunct Office Module size:		10.50	9.5	100		
Lord Aeck Sargent	GTA Office Module size (per student):		10.00	5.0	50		
		Program of Spaces				8,523	
Occupants per Room		Room Quantity	Module Size	Modules / Room	NSF per room	Total	Remarks
2.0 Offices & Dedicated Department Space							
2.2 Entomology & Plant Pathology							
B100	Departmental Suite	2	1	100	4.0	400	reception, faculty and staff mailboxes, work/file room
B200	Department Head Conference Room	6	0	100	1.5	150	
	Departmental Storage		2	100	2.0	200	
B300	Faculty Office [includes Emeriti]	1	8	120	1.0	120	960
B400	Technical/Part Time Office	1	4	100	1.0	100	400
B400	Casnr Honors Program	1	1	100	1.0	100	100
B500	Grad Student Post-Doc GTA	1	15	50	1.0	50	750
							Lab Technician Space - Locate outside of Lab
C100	32 Seat Specialty Classroom - PSEP	32	1	315	2.0	630	PSEP Testing Ctr-Storage
D100	General Teaching Lab	24	1	315	4.0	1,260	
D200	General Prep Lab (Laboratory Support)		1	315	1.0	315	
	Insect Museum		1	315	2.5	788	
	Research Lab	4	3	315	2.0	630	Potential for bug rearing space Off-Site.
	Research Support		2	315	1.0	315	Autoclave,Mill,Freezer,Cold,Rearing,Growth,Incubator
Sub-Total						8,523	



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MEETING NOTES

PROJECT NAME		PROJECT NO.	
UTIA - Energy and Environmental Science Education Research Center (Ellington Plant Sciences Building) Program Update		10909-00	
DATE OF MEETING		TIME	
April 18, 2018		2:00 PM – 3:00 PM	
MEETING LOCATION		PURPOSE	
FS Room 101 (2040 Sutherland Avenue)		Meeting 2 – Building & Site Support	
PARTICIPANTS		DISTRIBUTION	
Steve Glafenhein - UTIA		Participants	
Terry Ledford, Roy Warwick, Dan Smith – UT		Thomas Haeuptle - UT	
John Starr, Becky McDuffie, Joseph Minatta, John Fueredi - LAS			
K:\PROJECTS\10909- FILE: 00\MEETINGS\180418_Mtg2\mn180418_Building_SiteSupport.docx VIA: e-mail			
ITEMS			
ISSUE NO.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		Building standard requirements and site utilities are unchanged from 2013.	Info
2		Electrical switches located along Joe Johnson Drive are for all high voltage serving the Ag campus. (Previously misidentified as transformers.)	Info
3		Relocation of replacement of switches would require: <ul style="list-style-type: none">• Minimum 24-hour downtime during changeover.• Logistics for all affected buildings.	Info
4		Current proximity to the existing building is a concern during demolition and construction of Ellington.	Info
5		Propose purchase new switches and locate in adjacent Brehm Animal Sciences parking lot, and transfer to this location prior to demolition of Ellington. <ul style="list-style-type: none">• Higher initial cost – requires purchase of new switches.• Logistics and coordinated scheduling required.	Info
6		A steam vault is located in the adjacent parking lot.	Info
7		Water supply – a fragile line is located nearby. <i>Further investigation and clarification required for design.</i>	Info
8		Arc flash resistant gear is required for all research and food service buildings per campus standards.	Info
9		Arc quenching technology is not required.	Info
10		Two water services are required.	Info
11		Dan Smith will review and update the MEPFP narratives.	DS

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12	Dan to confirm if all equipment and outlets in laboratories are required to be on emergency power.	DS
13	UTIA to evaluate the critical nature of the research if impacted by power shutdown.	UTIA
14	DAS system needs to be on a separate meter (not emergency).	Info
15	No additional metering is required.	Info

REMARKS

ATTACHMENTS

PREPARED BY JOHN FUEREDI DATE PREPARED APRIL 26, 2018

THESE NOTES SUMMARIZE OUR UNDERSTANDING OF THIS MEETING. PROJECT ACTIONS WILL BE BASED ON THESE NOTES.
PLEASE CONTACT THE WRITER IMMEDIATELY IF YOU DO NOT CONCUR.



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MEETING NOTES

PROJECT NAME		PROJECT NO.	
UTIA - Energy and Environmental Science Education Research Center (Ellington Plant Sciences Building) Program Update		10909-00	
DATE OF MEETING		TIME	
April 18, 2018		12:00 PM – 12:30 PM	
MEETING LOCATION		PURPOSE	
FS Room 101 (2040 Sutherland Avenue)		Meeting 2 – Stormwater	
PARTICIPANTS		DISTRIBUTION	
Steve Glafenhein - UTIA Garrett Ferry, Thomas Haeuptle, Dan Smith – UT John Starr, Becky McDuffie, Joseph Minatta, John Fueredi - LAS		Participants	
K:\PROJECTS\10909- FILE: 00\MEETINGS\180418_Mtg2\mn180418_Stormwater.docx		VIA: e-mail	
ITEMS			
ISSUE NO.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		Per UT requirements, the site must manage the first 1” of rainfall during a 72-hour period on the building site. <ul style="list-style-type: none">Irrigation<ul style="list-style-type: none">Both Ellington and Surge building sites have limited areas for planting on grade.Could be used for a green roof.Toilet flushingCooling tower – not a viable option because the current plan is to tie into the chiller plant loop.	Info
2		Program document should reference the UT stormwater standards (stormwater.utk.edu) , and that the stormwater management must be addressed on site. Options include: <ul style="list-style-type: none">Vault under the building.Green Roof	LAS
3		Calculations must include impervious area.	Info
4		UT is updating the standards this year, therefore the design date may affect which standards are in effect.	Info
5		Both Ellington and the Surge buildings are considered one project, and are therefore cumulative in quantity.	Info
6		Garrett mentioned that the requirements prohibit new buildings within 60’ of the closest bank of the river (at it’s highest point). It was later confirmed that the closest (east) wall of the existing building is approximately 120’ from the water.	Info

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REMARKS			
ATTACHMENTS			
PREPARED BY	JOHN FUEREDI	DATE PREPARED	APRIL 26, 2018
THESE NOTES SUMMARIZE OUR UNDERSTANDING OF THIS MEETING. PROJECT ACTIONS WILL BE BASED ON THESE NOTES. PLEASE CONTACT THE WRITER IMMEDIATELY IF YOU DO NOT CONCUR.			



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MEETING NOTES

PROJECT NAME		PROJECT NO.	
UTIA - Energy and Environmental Science Education Research Center (Ellington Plant Sciences Building) Program Update		10909-00	
DATE OF MEETING		TIME	
April 18, 2018		3:00 PM – 3:30 PM	
MEETING LOCATION		PURPOSE	
FS Room 101 (2040 Sutherland Avenue)		Meeting 2 – Campus Master Plan	
PARTICIPANTS		DISTRIBUTION	
Steve Glafenhein - UTIA Bethany Morris, Dan Smith – UT John Starr, Becky McDuffie, Joseph Minatta, John Fueredi - LAS		Participants Thomas Haeuptle - UT	
K:\PROJECTS\10909- FILE: 00\MEETINGS\180418_Mtg2\mn180418_CampusMasterPlan.docx VIA: e-mail			
ITEMS			
ISSUE NO.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		During the design phase, the departments need to meet and discuss who will go where.	Info
2		Dan and/or Tiffany to provide updated existing space summary.	UT
3		IT department will be relocated to the Surge building. UT to provide quantity of people and offices.	UT
4		Surge building <ul style="list-style-type: none">Is in the same location as 2013 document, however size and proportions have changed.2-story option is preferred.No classrooms included in this building.Laboratories, lab support, offices and building support spaced only.Simple box with contextual materials (metal panels, glass, limited brick.	Info
5		New Ellington building <ul style="list-style-type: none">Tree zone to remain.Conference center location shifted.Additional options provided.Courtyard element remains.Respect Joe Johnson Drive – circulation and entry.Contextual building - brick, mortar, other building materials to match campus standard.Collegiate Gothic is not a requirement.Not required to maintain mid-block crossing of Joe Johnson.Not likely to add a light.	Info

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6	Bethany to walk site with Campus Arborist in the next couple of weeks to review existing trees.		
REMARKS			
ATTACHMENTS			
PREPARED BY	JOHN FUEREDI	DATE PREPARED	APRIL 26, 2018
THESE NOTES SUMMARIZE OUR UNDERSTANDING OF THIS MEETING. PROJECT ACTIONS WILL BE BASED ON THESE NOTES. PLEASE CONTACT THE WRITER IMMEDIATELY IF YOU DO NOT CONCUR.			



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MEETING NOTES

PROJECT NAME

UTIA - Energy and Environmental Science Education Research Center (Ellington Plant Sciences Building)

Program Update

DATE OF MEETING

April 18, 2018

MEETING LOCATION

FS Room 101 (2040 Sutherland Avenue)

PARTICIPANTS

Steve Glafenhein - UTIA

Andy Powers, Dan Smith – UT

John Starr, Becky McDuffie, Joseph Minatta, John Fueredi - LAS

FILE: K:\PROJECTS\10909-00\MEETINGS\180418_Mtg2\mn180418_ExecCommitteeSummary.docx

VIA: e-mail

PROJECT NO.

10909-00

TIME

5:00 PM – 5:30 PM

PURPOSE

Meeting 2 – Executive Summary

DISTRIBUTION

Participants

Thomas Haeuptle – UT

ITEMS

ISSUE NO.	DATE	ISSUE	ACTION BY DATE DUE STATUS
1		Provided general overview of meetings.	Info
2		Construction procurement method to be discussed.	UT
3		Program Update Schedule: <ul style="list-style-type: none">05/17: LAS send pdf of draft version of the Final Report05/24: UTIA and UTK provide commentsAll to review and determine if a final on-site meeting is required.Dan Smith to present final report.	LAS UTIA/UTK All DS
4		John Starr to reconcile Total Project Schedule with Steve.	JS/SG
5		Surge Building <ul style="list-style-type: none">8 months: Design and approval.3 months: Bidding and negotiation.Construction:<ul style="list-style-type: none">Surge buildingElectrical switchMcCordFFE (including AV) procurement and installationOccupant move-in	Info
6		Confirm if specialty equipment vendors will pack, relocate and start-up existing equipment.	UT

ATTACHMENTS

PREPARED BY JOHN FUEREDI DATE PREPARED APRIL 26, 2018

*THESE NOTES SUMMARIZE OUR UNDERSTANDING OF THIS MEETING. PROJECT ACTIONS WILL BE BASED ON THESE NOTES.
PLEASE CONTACT THE WRITER IMMEDIATELY IF YOU DO NOT CONCUR.*

UTIA Energy and Environmental Science Education and Research Center
Department of Biosystems Engineering and Soil Science

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Departmental Mission

Our programs encompass the full range of the Land Grant University mission - teaching, research, outreach, and service - and are administered by the College of Agricultural Sciences and Natural Resources, UT AgResearch, and University of Tennessee Extension. The department works closely with the College of Engineering in its engineering-related teaching pursuits. Our people are a unique mix - a faculty of biosystems engineers, soil scientists, and a bioclimatologist, together with a gifted technical support staff and efficient office staff.

We offer two bachelor's degrees in four distinct areas that will prepare you to work with environmental, ecological, biological, or agricultural systems (Departmental website <http://bioengr.ag.utk.edu/>):

Biosystems Engineering

Biosystems Engineers work with natural systems and integrate knowledge of biology, chemistry, physics, and engineering to efficiently produce and process safe, plentiful, high quality food and fiber while conserving natural resources and protecting the environment. We also have a pre-professional concentration for students interested in pursuing law or medicine.

Soil Science

Soil Scientists learn to evaluate soil characteristics in the field and lab, using industry-standard tests and techniques. They learn to survey, identify, classify, and map soils, and to predict the suitability of a soil for specific uses.

Environmental Science

Environmental Scientists use modern technologies such as geographical information systems, global positioning systems, and computer applications in managing natural resources. Their knowledge of basic natural sciences, ecology and soil sciences combined with an understanding of the societal issues related to the environment are useful tools.

Biosystems Technology

This science and technology - based curriculum offers four concentrations for students interested in Agricultural Systems Technology, Conservation Agriculture & Environmental Sustainability, Construction Technology, Land Surveying Technology, and off-Road Vehicle Technology.

Strategic Plan

We do not have an active strategic plan.

Anticipated reorganization

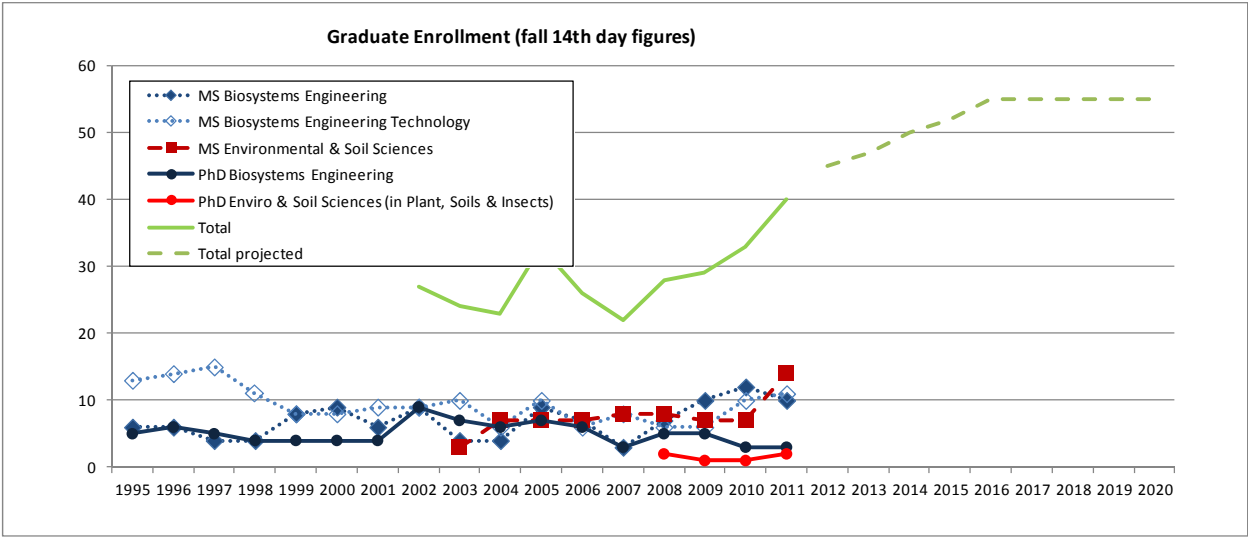
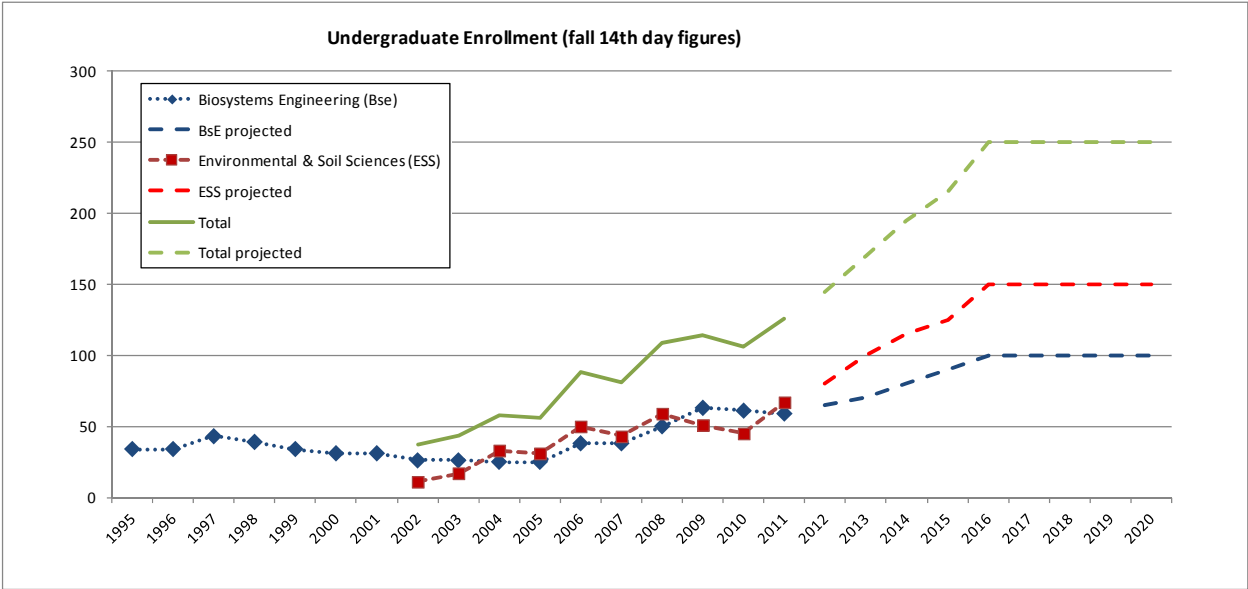
With a high number of senior level faculty members, we anticipate the need for more high level laboratory research space, with a growing emphasis on biological sciences and engineering. Much of the Biosystems Engineering research and teaching functions will remain in the BESS lab building, with the new facility primarily accommodating the Environmental and Soil Science activities.

Department’s priorities for this project

The priority if to obtain high quality research and teaching laboratories than are flexible enough to allow future growth and repurposing of our research act ivies as the department evolves to serve the needs of the next 30 years. As the department with the Environmental Science program at UTK, we also desire to create a sense of departmental community or culture by consolidating similar research and teaching activities into the same space

Historical Data and Growth Projections

In the two figures below are the undergraduate and graduate student enrollment numbers, along with anticipated growth over the next 5-10 years. Both programs are expected to reach the estimated limit on the number of students that can be accommodated with current faculty teaching lines.



	2009-2010	2010 - 2011	2011- 2012						
Full time faculty	26	26	27						
Full time Principal Investigators									

Comparison of departmental contact hours with vision for future learning environment.

Compare your department’s estimate of percentage of contact hours in the following major classroom types with your department’s vision of desired future learning environments.

	contact hours	current	target
Seminar Room	0	0	5%
Small lecture room	635	30%	0%
flexible classroom	0	0%	20%
TEAL	645	30%	35%
Case Study Room	0	0%	2%
Large lecture hall	510	24%	20%
Teaching (soil teaching lab)	270	13%	15%
Video conferencing, interactive group, flexible furniture	60	3%	3%
Grand Total	2120	100%	100%

408 Department Questionnaires - BESS [cont]

BESS classes that are regularly taught in Ellington Plant Sciences:

	Semester	Expected enrollment/contact hrs	Type of room
BsET 325 Soils in Construction	Fall	20*3 = 60	Small lecture room, flexible seating
BsET Green Construction/Safety	Spring	20*3 = 60	Small lecture room, flexible seating
BsET 412 Surveying	Fall	20*3 = 60	Video conferencing, interactive group, flexible furniture
ESS 120 Soils and Civilizations	Summer	25 * 3 = 75	Interactive group, flexible furniture, TEAL
ESS 220 Waters and Civilizations	Summer, Fall, Spring	150 * 3 = 450	Interactive group, flexible furniture, TEAL
ESS 210	Fall, Spring	Lecture 170 *3 = 510 Lab 170*1 = 170	Large lecture hall, soils teaching lab
ESS 301 Prof Dev	Spring	30 *1 = 30	Interactive group, flexible furniture, TEAL
ESS 324 Soil/Water Conserv.	Spring	Lecture 25 *2 = 50 Lab 25*1 = 25	Small lecture room, flexible seating; teaching lab
ESS 334 Soil Nutr Mgmt	Fall	Lecture 25 *2 = 50 Lab 25*1 = 25	Small lecture room, flexible seating; teaching lab
ESS 434 Soil Chem	Fall	25 * 3 = 75	Small lecture room, flexible seating
ESS 442 Soil Gen/Class	Fall	20*3 = 60	Small lecture room, flexible seating
ESS 444/544 Env Physics	Spring	Lecture 25 *2 = 50 Lab 25*1 = 25	Small lecture room, flexible seating; teaching lab
ESS 454/554 Env Soil Biol	Spring	Lecture 25 *2 = 50 Lab 25*1 = 25	Small lecture room, flexible seating; teaching lab
ESS 462 Env Climatology	Fall	30*3 =90	Interactive group, flexible furniture, TEAL
ESS 511 Plant/Soil Rel.	Spring	20*3 = 60	Small lecture room, flexible seating
ESS 513 Adv. Soil Chem	Even Spring	10 *3 = 30	Small lecture room, flexible seating
ESS 514 Adv Soil Phys	Odd Fall	10 *3 = 30	Small lecture room, flexible seating
ESS 516 Adv Soil Bio	Odd Fall	10 *3 = 30	Small lecture room, flexible seating
ESS XXX (geochemistry)	Odd Spring	10 *3 = 30	Small lecture room, flexible seating

List of Research Labs and Support

List of Laboratories currently occupied by BESS in Ellington

Room #	Ft ²	# of Pls	Functions	Special Needs
105		1	Biogeochemistry	
116		5	Teaching Lab	General wet chemistry, instructional tech
301	447	2	Pedology & Mineralogy	
303	440	1	Soil Carbon & Ag Sustainability	
304, 305	230	10	Soil sample preparation	Dust control
311	154	10	Soil analyses, wet chemistry	
314	594	1	Soil chemistry	
315	468	1	Soil survey & characterization	
317	455	2	Environmental soil & remediation	
329	567	3	Climatology, nutrient management	
333	455	1	Soil physics & hydrology	

*All the labs need fume hood and basic lab equipment such as vacuum, air, gas, etc.

List of teaching rooms currently used by BESS in Ellington

Room #	Ft ²	# of Pls	Functions	Special Needs
123		5	Teaching both under-, and graduate classes	
124		5	Teaching both under-, and graduate classes	
125		3	Teaching mostly for large (< 70) classes	

List of offices currently occupied by BESS in Ellington

Room #	Ft ²	# of Pls	Functions	Special Needs
326, 327		10	Soil map drafting & storage	
340		1	Research associates	
352		1	Emeriti faculty	
377		2	Teaching faculty	

Important attributes and considerations for new building

- Loading, prep and storage room for soil and other environmental samples: near loading dock, prep room generates considerable amount of dust, multiple walk-in coolers (e.g., one around 4 C° and another for below freezing.), sturdy shelves for soil sample storage
- Shower room with lockers
- Environmental room: capable of wide range of temperature, light, and humidity
- Central environmental analysis laboratory hub: house a suite of analytical instruments for various routine analyses (many instruments in room 301 & 311 needs to go here).
- Office space for the NRCS (Natural Resources Conservation Service of the US Dept of Agriculture). We currently allow them to use our laboratory, and they provide undergraduate internship and research opportunities for our students. They currently lease office space in Clinton, TN, and have expressed interest in identifying approximated 1500 ft² of office space to facilitate collaboration. The NRCS Liaison is a member of the BESS faculty.
- Student organization space: meeting and office space for the following student organizations: ASABE, Soil Plant and Environment Club, Soil Judging Team, and Construction Science Student Club. This space might be configured at a common meeting area, with some dedicated space for each of the organizations adjoining this common space.

Space needs based on growth projection

- BESS currently has 20 Adjunct, Research, Joint faculty who are actively working on various topics of research and education activities. These non-regular faculty members currently do not have any lab and office space and are in great need of space for continuing their excellence.
- One of our faculty members, Dr. Phillip Ye, is also requesting a “biofuel lab” in the new Energy and Environmental Science, Education, Research Center. His research fits very well with the mission of the new Center. Brief justification and needs are:

Philip Ye focuses on biomass conversion for biofuels and bio-chemicals. On one side, his research requires fabrication and construction of chemical reactors and handling of biomass, often causing dusty environment. On the other side, chemical products produced by the reactors need to be immediately analyzed (or online analyzed) and the waste gases (often toxic) need to be vented. Some of the analytical instruments are very sensitive to the dusty environment. Currently, all the works are done in one big room equipped with only one small fume hood. Co-workers in his lab often take turns to use the fume hood, significantly hindering the research progress. Storage of chemicals and shortage of fume hood space are the major issues.

Ideal lab space for him would be 2 adjacent rooms: one is for dusty fabrication/construction of chemical reactors (high temperature and pressure) and handling of biomass; another would be like a wet chemistry lab to host analytical instruments and to store chemicals. Both rooms should have shop air and vacuum, fume hoods, and/or gas venting. Three-phase 210V power supply is needed for some of his instruments.

UTK Energy and Environmental Science Education Research Center
Programming Questionnaire
August 20, 2012

DEPARTMENTAL DATA
DEPARTMENT/GROUP: Biosafety
DIRECTOR/HEAD: Brian Ranger

CONTACT: Jessica Woofter
PHONE: 865-974-5547
E-MAIL: jwoofter@utk.edu
INFORMATION DATE: 9/12/12

Provide a short narrative of the purpose or mission of your department (insert hyperlink if this information is web based). To provide biological safety + research compliance support to UTK/UTIA + GSU researchers. See <http://biosafety.utk.edu>

Does your department have a strategic plan for the near term future? If yes, please attach or insert hyperlink.
Ongoing compliance/safety support as above.

Do you anticipate any significant reorganization or change (administrative, research or academic) within the next few years . . . Yes / No . . . If yes, describe below.
No

List your department's/group's priorities or goals for this project:
Adequate office + resource space.

Historical Data & Growth Projections: Considering the history of the past 3 years, how much growth do you anticipate in the next 5-10 years, numbers of faculty/staff, researchers, students, contact hours, etc?

	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2021-22
Full-Time Faculty									
Full-Time Principal Investigator									
Full-Time Researcher									
Part-Time Lecturer									
Full time Lecturer									
Emeriti Faculty									
Graduate TAs									
Staff TOTAL???	3	3	3	3	3-4	3-4	3-4	3-4	3-4
Contact Hours 100 level	N/A								
Contact Hours 200	N/A								

* We work w/ faculty staff, + students on an ongoing basis, but we are not an academic program/dept.

UTK Energy and Environmental Science Education Research Center
Programming Questionnaire
August 20, 2012

level									
Contact Hours 300 level									
Contact Hours 400 level									
Contact Hours 500 and above level									
Majors Graduated									
Masters Awarded									
PhDs Awarded									

Provide other metrics you feel are important to describe your department's growth plans or future needs.

Compare your department's estimate of percentage of contact hours in the following major classroom types with your department's vision of the desired future learning environments:

[Their info included "Teaching Learning Center & Classrooms" related to Learning Environments. Their existing building has an Auditorium.]

Formal Learning Environment Type	Current % of contact hours	Ideal or Future Target % of Contact Hours
Seminar Room: single conference type table, movable chairs	15%	15%
Small Lecture Classroom: flat floor, moveable tablet-arm chairs or individual student desks	25%	25%
Flexible Classroom: flat floor, 1-2 person moveable tables, task chairs; allows multiple arrangements for lecture, group discussion, group work		
Technology Enabled Active Learning (TEAL) Classroom: flat floor, 9 person round tables for 3 groups of 3 student teams with computer for each 3 person group, task chairs; primarily designed for group work; technology allows faculty to show any groups work to the entire room		
Case Study Room: tiered floor, fixed tables in semicircle or U shape, task chairs; facilitates lecture and student-faculty or student-student discussion		
Lecture Hall: tiered floor, fixed tables facing forward and task chairs or individual tablet-arm chairs		
Specialty Classroom or Teaching Lab: [insert description]	15%	15%
Other: [insert description]		

[SHOULD WE INCLUDE A TABLE WITH LAB TYPES - RELATED TO ABOVE.]

Need small lab space for small biosafety cabinet, biological waste storage, + other support/storage function. May be shared w/ + other

UTK Energy and Environmental Science Education Research Center
Programming Questionnaire
August 20, 2012

Attach a list of current **research labs**, **lab support**, classrooms and specialty learning environments used by your department. Include size, maximum number of **researchers**, student seats, and utilization data for past academic year.

Ellington Plant Sciences 332 (lab); Various instructional rooms @ UTK/UTIA (typical seating ~ 30-50); Small conf. rooms for mtgs (seating ~ 20)

Identify existing laboratories, classrooms or learning spaces (building name and room number) that are thought to be the best **research** / learning spaces for your department:

From faculty's perspective; describe why: } Learning spaces w/ technology support (projector system, etc.) for training demonstrations/presentations

From students' perspective; describe why: }

What are the top complaints about **laboratories** / classrooms:

By faculty / **researchers**: too small- EPS 332 supports Biosafety, OLAC, + UTIA safety ~ not large enough for 3 groups.

By students:

Identify current and desired instructional technologies:

	Currently Used	Future Need
White Board	✓	✓
Digital Projector/Screen or Digital Screen	✓	✓
Two or more digital projectors/screens or digital screens		
Fixed computers with special software		
Audio recording & archiving of classroom sessions	✓	✓
Video recording & archiving of classroom sessions	✓	✓
Document Camera		
Pen-based "telestrating"		✓ (?)
Other (describe)		

How is classroom scheduling done? Should the process change?

Per CVM or UTIA space assignment system. Effective as is.

List/describe the spaces, other than research labs, classrooms and offices, that are needed by your department or that you believe are needed in this new facility (include number and sizes, quantity of students or staff accommodated, major furniture and equipment; typical time and duration of use each day, potential to share with other departments).

(examples include writing/tutoring labs, student association space, informal student study areas, print/copy center, café/food service, bookstore, computer lab, faculty resource center, technology support center, teaching innovation lab/instructional media center, departmental library/research center)

Break room w/ kitchen - could be shared resource

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List or describe the preferred group or individual adjacencies to other groups, support spaces or other building functions within the following categories.

Mandatory Adjacencies IACUC → share admin. support personnel/resources

Important Adjacencies OLAC/Occupational Health

Undesirable Adjacencies Student teaching areas/classrooms (limited foot traffic in office area)

Other than typical office and classroom furniture, identify special equipment or furniture needed or existing that supports your department's mission.

Lab infrastructure to include chemical exhaust cabinet/biosafety cabinet.

Add any other information that you believe is important to this strategic planning effort.

Biosafety shares personnel + support resources w/ IACUC, so adjacency is important. Work closely w/ OLAC + Occupational Health - ideal if these safety/compliance groups could be co-located. Could share lab, break room, conference/teaching room resources w/ these groups.

UTK Energy and Environmental Science Education Research Center

Programming Questionnaire

August 20, 2012

DEPARTMENTAL DATA

DEPARTMENT/GROUP: Entomology & PlantPathology

DIRECTOR/HEAD: Robert Trigiano (Interim Head)

CONTACT: Karen Vail

PHONE: (865)974-8800

E-MAIL: kvail@utk.edu

INFORMATION DATE: 9/10/12

Provide a short narrative of the purpose or mission of your department (insert hyperlink if this information is web based).

Our mission is to advance science and provide information to improve the sustainability of food and fiber production, protection of natural resources, and the lives of people in Tennessee and beyond. We will fulfill our mission through innovative research, knowledge-based outreach, and excellence in teaching, while adhering to our core values of integrity, equality, and respect in our interactions with others.

Does your department have a strategic plan for the near term future? If yes, please attach or insert hyperlink.

The department does have an strategic plan and although we are in the process of modifying it, we have delayed release of the final version until a new department head is chosen. It is anticipated that the department will request 8 new faculty positions in the next few years and will need space for them and additional post-docs in the new facility. Our web site is located at <http://eppsver.ag.utk.edu/default.html>.

Do you anticipate any significant reorganization or change (administrative, research or academic) within the next few years . . . Yes / No . . . If yes, describe below.

Yes, we will hire a new department head within the year.

List your department's/group's priorities or goals for this project:

To at least maintain square footage occupied by, and provide improved lab and office space for, all E&PP personnel currently in Ellington; to provide state-of-the art teaching classrooms and labs with adequate storage space; to reorganize Extension storage space and provide a new workroom/storage space; to add a shower/locker room and laundry room to the new facility; to provide lab space for productive researchers lacking space in PBB..

Historical Data & Growth Projections: Considering the history of the past 3 years, how much growth do you anticipate in the next 5-10 years, numbers of faculty/staff, researchers, students, contact hours, etc?

	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2021-22
Full-Time Faculty *	25	24	23	30	32	34	36	38	38
Full-Time Principal Investigator	4	4	4	4	4	4	4	4	4
Full-Time Researcher +	22	22	22	18	19	20	20	20	20
Part-Time Lecturer									
Full time Lecturer									
Emeriti Faculty	3	3	3	3	3	5	5	5	5
Graduate TAs				26	30	30	30	30	30
Staff TOTAL???	5	5	5	5	5	5	6	6	6
Contact Hours 100 level									
Contact Hours 200									

*= Extension specialists and research faculty ; PIs same as Faculty

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+ = regular employees that work on projects

plus 3 additional administrative staff located off-campus

UTK Energy and Environmental Science Education Research Center									
Programming Questionnaire									
August 20, 2012									
	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18
level									
Contact Hours 300 level									
Contact Hours 400 level	342	270	470	470	470	520	530	530	530
Contact Hours 500 and above level	232	389	232	400	250	420	260	430	270
Majors Graduated									
Masters Awarded	1	3	8	6	5+	5+	5+	5+	5+
PhDs Awarded *			2	3	3	4	4	4	5

* - PhDs with EPP major advisors not listed as EPP graduates but as PSI graduates

Provide other metrics you feel are important to describe your department's growth plans or future needs.

Compare your department's estimate of percentage of contact hours in the following major classroom types with your department's vision of the desired future learning environments:

[Their info included "Teaching Learning Center & Classrooms" related to Learning Environments. Their existing building has an Auditorium.]

Formal Learning Environment Type	Current % of contact hours	Ideal or Future Target % of Contact Hours
Seminar Room: single conference type table, movable chairs		
Small Lecture Classroom: flat floor, moveable tablet-arm chairs or individual student desks	40	30
Flexible Classroom: flat floor, 1-2 person moveable tables, task chairs; allows multiple arrangements for lecture, group discussion, group work	10	10
Technology Enabled Active Learning (TEAL) Classroom: flat floor, 9 person round tables for 3 groups of 3 student teams with computer for each 3 person group, task chairs; primarily designed for group work; technology allows faculty to show any groups work to the entire room	10	20
Case Study Room: tiered floor, fixed tables in semicircle or U shape, task chairs; facilitates lecture and student-faculty or student-student discussion		
Lecture Hall: tiered floor, fixed tables facing forward and task chairs or individual tablet-arm chairs	10	10
Specialty Classroom or Teaching Lab: [insert description]	30	30
Other: [insert description]	see attached	

[SHOULD WE INCLUDE A TABLE WITH LAB TYPES – RELATED TO ABOVE.]

UTK Energy and Environmental Science Education Research Center
Programming Questionnaire
August 20, 2012

Attach a list of current **research labs**, **lab support**, classrooms and specialty learning environments used by your department. Include size, maximum number of **researchers**, student seats, and utilization data for past academic year.
See attached files: Entomology and Plant Pathology Space in Ellington 2012 and Suggestions EESERC.

Identify existing laboratories, classrooms or learning spaces (building name and room number) that are thought to be the best **research** / learning spaces for your department:

From faculty's perspective; describe why:

From students' perspective; describe why:

What are the top complaints about **laboratories** / classrooms:

By faculty / **researchers**: Research labs: poor lighting, little control over temperature, electrical fluctuations damaging equipment (computers),
By students: Classroom labs: too small (limits class size), no storage, little control over temperature, no place to prepare

Identify current and desired instructional technologies:

	Currently Used	Future Need
White Board Glass Board	X	X
Digital Projector/Screen or Digital Screen	X	X
Two or more digital projectors/screens or digital screens		X
Fixed computers with special software	X	X
Audio recording & archiving of classroom sessions	X	X
Video recording & archiving of classroom sessions	X	X
Document Camera	X	X
Pen-based "telestrating"		X
Other (describe) Smart Board		X
Wireless Projector		X

How is classroom scheduling done? Should the process change?
Needs to be changed!!!
Currently one faculty member does it for our department.

List/describe the spaces, other than research labs, classrooms and offices, that are needed by your department or that you believe are needed in this new facility (include number and sizes, quantity of students or staff accommodated, major furniture and equipment; typical time and duration of use each day, potential to share with other departments).
(examples include writing/tutoring labs, student association space, informal student study areas, print/copy center, café/food service, bookstore, computer lab, faculty resource center, technology support center, teaching innovation lab/instructional media center, departmental library/research center)

UTK Energy and Environmental Science Education Research Center
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List or describe the preferred group or individual adjacencies to other groups, support spaces or other building functions within the following categories.

Mandatory Adjacencies PI office and labs on same floor

Important Adjacencies

Undesirable Adjacencies Don't place autoclaves next to ice machines.

Other than typical office and classroom furniture, identify special equipment or furniture needed or existing that supports your department's mission.

Add any other information that you believe is important to this strategic planning effort.

See Attached files:
Suggestions EESERC
Entomology & Plant Pathology Space in Ellington Plant Science Building 2012

Room/Space	Utilization	Faculty/Extension Specialist Responsible	Staff/Student Utilizing Space	Approximate Sq. Ft.	Additional future needs
13	Mechanical equipment room (closing of plot barn required much of our large, bulky equipment (power sprayer, back sprayers, etc.) to be stored here)	Karen Vail, Darrell Hensley (11 cabinets for PSEP), Paris Lambdin, etc.			Need area to store large and bulky equipment.
16	Ag. Biol. Storage (EPP Storage) – Extension Publications, Dept. Displays, etc.	All			(Aside: Basement ridden with brown recluse spiders. Do not relocate stored materials in cardboard boxes, a preferred habitat of these spiders. Destroy cardboard and store in plastic totes)
Outside 16	PSEP storage			3 large cabinets each 36" X 24" X 6.5 ft	
101	Lab Classroom – capacity 18	530 IPM (Jerome Grant); 321 Economic Entomology (Paris Lambdin); Veterinary Entomology (Reid Gerhardt); 523 Field Crops and Vegetable Insects (Jerome Grant)			

106	Extension Diagnostics and Communications Exotic (EAB, CAPS) Pest Survey and Detection project work area (Long); includes insect trap set up area, dirty bench with microscope area for evaluation and identification of insect and disease field specimens, clean bench space for preparation of educational and outreach materials, such as disease and insect displays. Storage educational materials, reference materials for exotic insects, storage of Cornell drawers and insect trays and vials with exotic pest catches from survey and detection work (Long). Distance Diagnostics area with computers, compound and stereomicroscope set up with digital camera. (Hensley)	Hensley, Long, and other Extension personnel	Summer workers	24.5ft X 24 ft	Need a dirty lab work area (several faculty require this dirty space) to work with field soil and plant material, sink area with hot, cold and distilled water, Large walk-in cooler and freezer or refrigerator with freezer for holding plant material and insect pheromone. Need storage area for exotic pest survey reference materials and insects (perhaps extra cabinet storage in the insect museum), laboratory supplies, educational and outreach materials, and pest educational literature and handouts. Chemical fume hood needed. Also need a clean lab microscope work area , plus a separate distance diagnostic laboratory work table set up for several microscopes and digital camera units and computer for access to UT E&PP Distance Diagnostics Database. Soil sink/trap needed (see north greenhouse).
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112	Insect Museum	Paris Lambdin	Dave Paulsen		Need to expand this space to store specimens from biodiversity studies in the Smokies, invasive species collections, and all type specimens from published research studies. Humidity control important for this space.
123	Classroom	505 Mycology (Bonnie Ownley); 515 Physiology of Plant Disease (Kimberly Gwinn); 520 Plant Parasitic Nematodes (Ernest Bernard); 521 Plant Virology (Reza Hajimorad)			
124	Classroom	541 & 640 Seminar (Kimberly Gwinn)			
127	Pesticide Safety Education Program Testing Center	Darrell Hensley	Josh Anderson		Needs to accommodate a testing area for 10- 12 people monthly and others training/testing upon request.
128	Classroom/Seminar room	541 & 640 Seminar (Kimberly Gwinn)			
Auditorium					
205	Large meetings Reception and package/specimen delivery area		Debby Eslinger		EPP needs a secure reception area where EPP packages can be stored and refrigerated. Space for 2 staff members needed.
206	Undergraduate Honors Program	Kimberly Gwinn	Grant Davis (Intern)		The programs housed in this room are responsible for more undergraduates than many departments. The original request was to house this office in Plant Biotech Building

					because of the proximity to the conference rooms and Dr. Gwinn's office. Housing student records in a separate section of office is highly desired.
207	Office	John Skinner			
208	Office	J. Patrick Parkman			
209	Office	Reid Gerhardt			
210	Office	Ashley Lamb (Post-doc)	David Paulsen		
211	Office	John Skinner	Phillip Moore, Michael Wilson, Ext. Spec		
212	Office	Elizabeth (Beth) Long			
213	Office	Karen Vail	Jennifer Chandler, Research Specialist III and Pat Barnwell		Room is too crowded, cannot both work at desks without bumping chairs. Have currently requested an additional room.
214	Office	Karen Vail			
215	Office	Currently vacant	Karen Vail requested for Jennifer Chandler		
218	Computer room and EPP mailroom, refrigerators				Need a mailroom, breakroom and a conference room.
219	Office	Gene Burgess		156.27	
220	Office	Darrell Hensley		184	
221	Office	Darrell Hensley	Josh Anderson	184	

227	Medical/Veterinary Entomology Dirty Lab	Rebecca Trout Fryxell	David Paulsen, Brian Hendricks, and several student hourly workers	4-6 microscope work stations (with working drawers); 4-6 (other side perhaps) long table for making a mess; excellent shelving/holding/storage areas; 10x10 area that is 'sectioned' off for cleaner things (DNA extractions) small hood space; office separation area where food (aka coffee) is permitted; insect rearing area (or area to hold multiple growth chambers to maintain and contain potential vectors such as mosquitoes); minimum of 2 sinks
233	Media prep (Vail lab uses autoclave to sterilize soil occasionally and to potentially kill bed bugs on lab jackets)	Kimberly Gwinn		Wiley mill & autoclaves in separate rooms. Needs exhaust for steam & smells. Drains needed.
234	Urban Pest Bioassays /Chemical Evaluations; Chemical Storage; and Hood for burning plastic ant cells and mixing/applying pesticides and other chemicals. This second lab is important to keep chemicals out of rearing areas/rooms to avoid pesticide exposure prior to testing. Cabinets to store Cornell drawers of insect specimens.	Karen Vail	Joseph Maples, Brad Hinds, Jennifer Chandler and Pat Barnwell	This room contains a chemical storage cabinet and a large hood with hazardous waste storage below. 17W X 24.5 L =416.5 Need similar amenities (chemical safety hood, chemical storage cabinets, benches and storage space) as in the current space. Counter space is essential to run bioassays. Benches surround room plus additional center bench.

Additional use of 234	microscopes, storage space for outreach materials, laboratory supplies and publications	Elizabeth Long, Pat Parkman and Darrell Hensley		Need occasional access to chemical safety fume hood with outreach specimen preparation (Long).
235	Urban Pest Rearing Room (Bed bugs, brown recluse spiders, ants, wood-boring and other pests); small rearing alcove with shelving; bread racks for rearing; Urban IPM specimen identification; training publications and other materials; large metal cabinets for equipment (cameras, microscopes, monitors, computers) and rearing supplies; freezer, refrigerators, large metal cabinets for storing baits which must remain separate from strong smelling chemicals in room 234.	Karen Vail	Joseph Maples, Brad Hinds, Jennifer Chandler and Pat Barnwell	Need similar amenities: as freezer, rearing alcove (ideally a growth chamber), floor space to hold the 6 bread (ant colony sweater boxes) storage racks, benches, large double sink to wash large sweater boxes, a distilled water supply, 2 microscope benches, and counters/benches and storage.
Storage by elevator 2 nd floor	PSEP	Darrell Hensley		8 ft X 6.66 ft X 9ft
Cabinets outside 220, 221, and 219	PSEP	Darrell Hensley		20 ft L X 2 ft D X 7 ft H

Departmental Data

Department: Forestry, Wildlife and Fisheries

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Mission of Department:

The mission of the Department of Forestry, Wildlife and Fisheries (FWF) is to advance the science and sustainable management of natural resources to promote their health, utilization, and appreciation in Tennessee, the region and beyond through programs in teaching, research and extension.

Departmental Strategic Plan:

[attached]

Significant reorganization or change within the next few years?

None anticipated.

Departmental priorities for this project:

The priority for FWF is to accommodate as many of the department’s personnel in the new building as possible. Our personnel are currently scattered among 8 different buildings which reduces departmental efficiency, unity, and collaborative efforts.

Historical Data and Growth Projections:

	200 9-10	201 0-11	201 1-12	201 2-13	201 3-14	201 4-15	201 5-16	201 6-17	202 1- 22
Full-time faculty	28	30	29	30	30	30	30	30	30
Professional Staff*	30	32	38	28	32	35	35	35	35
Clerical Staff	7	7	7	7	7	7	7	7	7
Graduate Students	61	60	52	52	55	58	60	60	60
BS degrees awarded	41	35	25	31**	35	40	40	40	40

MS degrees awarded	11	22	8	5**	10	12	15	15	15
PhD degrees awarded	2	4	7	4**	5	5	5	5	5

*research associates, post-docs, technicians, etc.

** partial year totals

Contact hour estimates - contact hours are not currently available, although they might be generated from CASNR records.

Current research laboratory and other space is documented centrally via an annual space inventory conducted by UTIA. Keep in mind that FWF personnel are not all currently in Ellington Plant Sciences Building (hence a priority is to move personnel to the new building).

FWF Strategic Plan (2009-2014)

Vision

We will be recognized nationally and internationally as a premier university research, teaching and outreach department focusing on the natural resource disciplines. As the flagship natural resource program in Tennessee, we will be known for our leadership, and our ability to address the needs of the state, the region and beyond.

Mission

The mission of the Department of Forestry, Wildlife and Fisheries (FWF) is to advance the science and sustainable management of natural resources to promote their health, utilization, and appreciation in Tennessee, the region and beyond through programs in teaching, research and extension.

Driving Forces

“Change” is the one word that best characterizes the natural resources of Tennessee and the surrounding region, now and into the foreseeable future. Many underlying factors are driving this change. The faculty in the Department of Forestry, Wildlife and Fisheries must address these factors as they develop a strategy for the future. The major factors to consider include changes in population, climate, invasive species, production emphasis, and ownership.

Several trends in population demographics for the state and region are evident. In general, the population is aging as the “baby boom generation” approaches retirement. There is also a national movement of population away from rural areas into more urban environments. Overall, the state of Tennessee is experiencing an increase in population due to an influx of retirees, of recreationists who desire second homes, and immigrants from other states (and other countries) seeking a higher quality of life and the amenities afforded by our natural resources. Associated with population increases is increased development and a concomitant loss of wild and agricultural lands due to development. Approximately 80,000 acres per year are lost to development, greatly impacting wildlife and forest resources. This trend is expected to continue as the state population is predicted to increase by 20% over the next 20 years.

These human demographic changes are also interacting with climate- and habitat-induced changes in the distribution of wildlife that can spread disease to people and domestic animals (e.g., the recent spread of rabid raccoons into eastern Tennessee, and accelerating rates of wildlife-hosted tick-borne disease across the state). Continuation of these trends will likely lead to resource demands that will stress the state's forests and wildlife, and emphasize the interaction (both positive and negative) of humans with our state’s natural resources.

Another factor that brings change and potentially more stress is climate change. Expected warming of the region may result in the decline of some species (both plant and animal) and to the influx of others more suited to warmer climes. The recent regional drought highlights the potential negative consequences and added stress that can be linked to changes in the region's

climate. In addition, regional human influences may have an additive effect on the stress brought about from climate change. Projected population growth may lead to increased nitrogen/sulfate deposition, air quality issues, and impacts on the water table as well as soil and water chemistry. As a result, there is a need to adapt our science and education activities to encompass natural and human-induced fluctuations in temperature, water quality and quantity, and related threats to the health of our ecosystems.

A third major factor, the significant impact of invasive species, is also linked to population and climate change. As our growing population leads to an increased use of our resources by both tourists and native Tennesseans, invasive plant and animal species are inadvertently spread. Changing transportation infrastructure and increased world commerce also lead to greater potential movement of plants, insects and diseases throughout the region. A plethora of exotic forest pests including hemlock and balsam wooly adelgids, butternut canker, beech bark disease, and dogwood anthracnose, continue to devastate native host species. Two new invaders, the Emerald Ash Borer and Thousand Canker Disease have recently been found in East Tennessee. Zebra mussels, first found in the Tennessee River in 1991, now can be found throughout its length. Fire ants continue their slow but steady spread northward, and pests such as the gypsy moth, and sudden oak death loom as future threats to our hardwood forests. The Tennessee Exotic Plant Council lists 29 plant species as serious threats, including Japanese knotweed, kudzu, mimosa, Japanese stilt grass, tree of heaven, Johnson grass and Japanese honeysuckle, all of which displace native plant species and potentially inhibit natural and artificial forest regeneration. Gradual warming of Tennessee's climate will allow even more pests (exotic and native) to move into the region from more southern ecosystems. Scientists and educators will be faced with the new challenges posed by these invaders.

Yet another factor that potentially threatens the health of the state and regional ecosystems is change in land ownership due to two major trends: (1) aging of the population, and (2) divestiture of land by traditional forest industries. As our population continues to age, landowners will pass on their estates on to heirs who may have weaker ties to the land (especially if they live in more urban communities), and less interest in conserving and managing the lands they inherit. Another traditional forest landowner, forest industry, has all but completed total divestiture of their lands because of changes in tax code that made it more economically sensible to create and sell land to financial institutions such as timberland investment management organizations (TIMOs), real estate investment trusts (REITs), and limited liability and master limited partnerships. The objectives of these new land owning organizations may not coincide with previous management activities and methodologies. Both major factors, population aging, and land divestiture, will continue to increase the fragmentation of the land base that supports our forests and wildlife, leading to new and varied stresses on processes and species that normally depend on contiguous vegetation over large geographic areas.

One final factor affecting the structure and function of our forested ecosystems is a change in emphasis on the commodities produced from these lands. For example, a “commodity” receiving increased emphasis is recreation. Tennessee's natural resources are the basis of much of the tourism industry in the state. Increasing fragmentation and development, coupled with increasing demands for recreation, will place additional stress on the natural resources of the

state, remove land from the overall base, and affect the use of adjacent land due to changes in visual values. We need to better understand the importance of the recreation and tourism sector and its interaction with competing interests for the state's natural resources.

Another prominent example of a commodity that has moved to the forefront of our resource management strategy, due to increases in energy costs and a desire to reduce dependency on foreign oil, is the production of biofuels and biobased products from cellulosic feed stocks such as switchgrass and woody biomass from our forests. Increased acreage in switchgrass will have significant implications for wildlife populations. Increased use of timber resources for biomass will also affect plant and animal species, as well as the markets for traditional wood products. Rather than wait until such changes have occurred to determine appropriate forest and wildlife management strategies, proactive work is needed if we are to help promote sustainable use of our valuable natural resources.

Recent global events have also substantially increased emphasis on domestic fossil fuel exploration and production. Recent increases in the price of coal have resulted in new surface mines and re-mining of many former mine sites in Tennessee and the region. Reforestation research and improved techniques are needed to expedite the recovery of native hardwood ecosystems and amenities on these sites after mining and mine soil reclamation. Re-mined sites provide significant opportunities to improve tree growth, native diversity, and suitability for wildlife over levels of success achieved for these forest attributes with earlier revegetation techniques.

All of the significant factors mentioned above (population change, climate, invasive species, shifts in ownership, and changes in product emphasis) will likely lead to increased stress on our environment. Cutting across several factors is the influence of globalization. While current economic conditions are dampening the effects somewhat, the impacts of globalization are becoming increasingly evident. Sawmills are converting to facilities to ship containerized logs to Asia, international tourism is increasing, and international competition is affecting the forest industry in the state. These factors and the influence of globalization will necessitate new approaches to wise management and conservation. Ultimately, the health of our forests, streams, and wildlife, and the communities that depend on them will depend on the research and education efforts of scientists and educators like those in the Department of Forestry, Wildlife and Fisheries. It is our responsibility to plan to meet these needs in the future. This strategic plan for the Department has been developed with such factors firmly in mind.

Inherent Strengths:

We are located at a geographic juncture of five major physiographic provinces, which positions us particularly well to conduct research relevant to species and systems native to the Coastal Plain, Highland Rim, Cumberland Mountains, Cumberland Plateau, Ridge and Valley, and Appalachians. The diversity of physiographic regions, landforms, and species within our state also enhances our ability to expose our students to the species and management of systems ranging from bottomland hardwoods to Appalachian spruce-fir forests.

Several faculty members have developed strong international affiliations (e.g., Austria, Canada, China, Czech Republic, France, Mexico, Slovenia, Thailand, etc.) that lead to opportunities for collaborative research, teaching and outreach on a wide variety of disciplinary areas.

The breadth of disciplines represented within the department is very wide. Most other units at peer institutions are aggregated into separate departments of forestry, wildlife & fisheries, and forest products within a college or school.

Research, teaching and Extension activities are focused on hardwood ecosystems. Our strongest competitors (peers we aspire to equal or surpass) are more focused on pine and mixed ecosystems, giving us a niche that we can exploit.

Research Programs

Strengths of Our General Research Program

Organization into “centers” provides a potential mechanism to both focus research efforts, and to draw together cooperating scientists across disciplines and departmental/unit lines, including scientists outside of UT. Centers can also help promote recognition of research efforts by topic area.

The department contains a very wide range of disciplinary experts. Most other peer departments have been homogenized within a larger unit, e.g., a *department* of forest products, or forestry, or wildlife and fisheries within a college of natural resources.

FWF extramural grant and contract funding (research and Extension) consistently surpasses that garnered by the other six departments within UTIA on a per FTE basis.

Currently, there is a mixture of applied and basic research efforts department-wide.

The demographics of the faculty are a source of stability in research programs. Although the number of full professors is large relative to associate and assistant professors, only a minority are nearing retirement.

The research environment within UTIA encourages cooperation across departments and other units such as the Veterinary College.

The 10 Research and Education Centers distributed across the state are a valuable resource for field research activities.

The proximity of large tracts of public land (e.g., Great Smoky Mountains National Park, Cherokee National Forest, Tennessee’s state forests, state parks, and Wildlife Management Areas), and public waters (many of the State's major reservoirs, over 700 miles of trout streams, and an abundance of cool and warm water rivers and streams) allows for long- and short-term research activities through cooperation with federal and state agencies.

Proximity to Oak Ridge National Laboratory, and the National Institute for Mathematical and Biological Synthesis (NIMBioS) provides unique opportunities for collaboration on energy, materials science, nanotechnology, high performance computing, simulation modeling, and environmental research.

We are the host institution for the Southeast Regional Sun Grant Center, and have direct ties with the Center for Renewable Carbon.

Personnel from government agencies (e.g., US Forest Service, TDF, USGS, National Park Service) stationed on, or near, campus facilitates cooperative studies. For example, we are the host institution for the Southern Appalachian Cooperative Ecosystem Study Unit (Scientists from

USDA Forest Service, USDI National Park Service, and U.S. Geological Survey are stationed within department), and the host institute for the Southern Appalachian Field Laboratory of USGS.

Faculty members have developed strong research relationships with industrial and NGO partners.

Research Areas

The characterization of current research activities can be seen as a continuum that has *long-term signature areas* at one end, followed by *established* and *developing* research areas, and ending with potential *research opportunities* at the other. Although a research area may appear in one of these discrete categories below, there is no attempt to indicate whether the area falls at the upper or lower end of that category – i.e., the order of appearance in each list is simply alphabetical and has no intentional significance.

Long Term “Signature” Areas

Over the years the department has become well known for several research areas that have shaped the way we are perceived by peers and constituents. These “signature” areas have contributed directly to our national, and sometimes international, reputation for excellence in research. Other established and emerging research areas exist within the department, and could be elevated to “signature” areas in the future, but the following are what we believe we are known for at present:

- Avian Ecology and Conservation
- Carnivore Ecology
- Conservation Fisheries
- Hardwood Management
- Tree Improvement
- Wood Composite Manufacturing and Characterizations

As departmental priorities evolve, some of the signature areas may be maintained, while others may fade through changes in staffing and resource allocation.

Established Research Programs

In addition to the “signature areas” identified above, the department also has developed well-established research programs in:

- Aquatic Organism Stress Physiology
- Forest Economics
- Habitat Modeling
- Human Dimensions
- Native Grasslands Ecology and Management
- Natural Resources Policy

NIR use for non-destructive, fast characterization of wood products
Statistical Process Control
Ungulate Ecology and Management
Upland Ecology and Habitat Management
Wetland Ecology and Habitat Management
Wildlife and Livestock Disease Diagnosis
Wildlife Habitat Modeling

Again, research activity in these areas may be strengthened, potentially leading to accomplishments that will elevate them to signature areas, or be reduced as departmental and individual scientist priorities and funding opportunities evolve.

Developing Research Programs

Several research areas have been identified within the department as being in the establishment phase. Typically, these are areas that have been recognized as scientifically significant, and in which faculty members have been successful in garnering extramural support. Continued success with grants and contracts in these areas and/or allocation of additional state funds, could lead to an established or, eventually, a signature program.

Advanced materials
Amphibian Disease Ecology
Bioenergy
Ecosystem Services
Forest Restoration
Landscape Ecology
Nano-technology
Wildlife/Livestock Disease Modeling
Wildlife Health

Opportunities

The following areas have been identified as having significant opportunity for increased research activity in the future:

Aquaculture
Bio-products
Biofuels Sustainability
Climate Change
Disturbance Ecology
Fire Ecology and Management
Forest Soils/Hydrology
Invasive Species Ecology and Management
Resources Sampling
Spatial Technology/Analysis

Urban/Community Forestry
Watershed Management
Wildlife Damage Ecology and Management
Wood Protection/Preservation

Strategic Research Directions for the Department

Upon consideration of external driving forces, current research activities, and foreseeable opportunities, the following five strategic research directions have been identified for the department: bio-based products, disturbance-related ecology and land management, native grassland ecology and management, wildlife health, and human dimensions and institutions of natural resource management.

Bio-based products – includes energy, chemicals, composites, solid wood products, and manufacturing systems as related to woody cellulosic sources. Although a significant effort focused on the bioenergy component recently, the initiative cuts across land management (forest and grassland), policy and socio-economics, wildlife management and ecology, and watershed management projects.

Justification

Investigations into the efficient production of bioenergy have moved to the forefront of our resource management strategy due to increases in energy costs and a desire to reduce dependency on foreign oil. Included in this strategic focus area is the production of both biofuels and bio-based products from cellulosic feed stocks such as switchgrass and woody biomass from our forests. Increased acreage in switchgrass will have significant implications for wildlife populations. Increased use of timber resources for biomass will also affect plant and animal species, as well as the markets for traditional wood products. Communities dependent on natural resources for jobs and tax revenues will also be affected, depending on the success of statewide and region-wide efforts to convert cellulosic feedstocks into marketable products. Rather than wait until such changes have occurred to determine appropriate forest and wildlife management strategies, as well as appropriate socio-economic policies, proactive work is needed if we are to help promote sustainable use of our valuable natural resources. Recently, Dan Fulton (President and CEO of Weyerhaeuser, 5/27/2008) eloquently described a vision for a bio-based future:

“Imagine this: driving a car manufactured from lightweight carbon fiber made from lignin and powered by low-carbon bio-fuel made from cellulose. Living in a home built with carbon-sequestering wood products that are engineered to withstand high winds and earthquakes. Using biodegradable wipes and plastics made from cellulose. Wearing clothing made from cellulose-based fabric. And that’s just a start. Anything made from petroleum today could conceivably be made from renewable, wood-based fiber.”

This is the future on which our efforts in bio-based product research will focus.

Strengths, Weaknesses, Opportunities and Threats

The strengths of the department that support this effort are the critical mass of personnel in a working group with wood and bio-based science training and experience (currently 8 FTEs) and the affiliation of this working group with the Center for Renewable Carbon, as well as the Southeastern Regional Sun Grant Center. We also have a wide range of personnel outside of the of this working group with the expertise necessary to cover several of the related issues pertaining to grassland management, forest ecology, wildlife management, economics, and policy. Finally, our scientists have developed strong national and international collaborations that will help us leverage our expertise in specialized sub-disciplines. Our weaknesses relate to both personnel and facilities. There are disciplinary gaps in the expertise of our current faculty, mostly outside of the working group. We lack scientists in landscape ecology, watershed management, and spatial modeling. The department also lacks depth in key areas for this, or any other, initiative. We compete for funding resources against other units across the country that are several scientists deep in any given disciplinary area. Even at our current staffing level, we are at (or above) capacity in terms of office and laboratory space. What space we do have is spread among many locations, hindering cross-disciplinary collaborations. Given the current funding support of bioenergy-related research at both the state and national levels, and the expected demand for education in this area (undergraduate, graduate, and Extension), we have a tremendous opportunity to establish ourselves as one of the leading programs for comprehensive research, teaching and Extension programs in bio-based products. The threats to realizing this success are the current economic downturn (limiting the availability of resources to sustain and expand our efforts), and our heavy reliance on extramural funding to support our current personnel with technicians, graduate students and operating funds. In addition, the development of a teaching program, without additional teaching FTEs, will threaten the research productivity in this strategic research area.

Disturbance-related ecology and land management – includes “traditional” disturbances of our natural ecosystems such as timber harvesting, storms, wildfires, and endemic insects and diseases, plus sources of disturbance related to the changes we see in our state and region. These disturbances include the introduction of exotic invasive species, and land conversion.

Justification

Much of the “change” described in the Driving Forces section of this plan manifests through one or more types of disturbances to existing landscapes. In addition to longstanding sources of disturbance, we recognize that other sources of “disturbance” are also leading to changes in our forests and grasslands, changes that must be addressed if we are to continue to serve the needs of our constituents. Exotic invasive species, both plant and animal, are crowding out native varieties. Exotic insects and disease pests such as the hemlock wooly adelgid have caused devastation in native populations of eastern hemlocks. Threats from other emerging pests such as the emerald ash borer and thousand canker disease (both recently found in East Tennessee), and the looming threat of sudden

oak death, and the gypsy moth could be just as severe in the future. Land conversion is another type of disturbance, one that includes changes in crops (e.g., to feed stocks for biofuels), fragmentation due to ownership changes, and general population growth that is also leading to increased urbanization (and suburbanization). Energy concerns have led to increased interest and activity in the extraction of non-renewable resources, such as coal and natural gas, which can also disturb the environment. Finally, climate change is an issue that will conceivably affect, directly or indirectly, all of the other disturbances just mentioned. These disturbances ultimately lead to questions regarding the best practices for land management and conservation. We are committed to seeking answers to these questions through our local, regional, national, and international research activities, to transmitting these answers to the public via our Extension activities, and to infusing our courses with the new knowledge we gain to better prepare our graduates for their careers in natural resource management and conservation.

Strengths, Weaknesses, Opportunities and Threats

One of our major strengths in pursuing this strategic initiative is also one of our weaknesses. Within the department we have the advantage of an extremely broad range of disciplinary expertise with which we can address the variety of disturbances that affect our natural resources. However, we have no depth of faculty expertise in any given area. We also have gaps in expertise in several key areas (e.g., fire ecology and management, hydrology/watershed management, landscape ecology, quantitative ecology, spatial modeling, and wildlife damage management). We currently have excellent relationships with personnel in other UT departments, other state agencies, and NGOs, promoting collaborative opportunities that can offset some of the lack of scientific depth within the department. Our departmental Extension professionals also provide us with direct connections to the network of county agents and county forestry associations, giving us the ability to implement research-based solutions and provide advice to alleviate the effects of disturbances, or to help prevent their occurrence.

Several specific areas that represent opportunities related to this initiative include: disturbance ecology, invasive species ecology and management, climate science, fire ecology and management, and urban/community forestry. These areas have implications for all three components of our land grant mission and can be tailored to the specific needs of our state and region. Threats to the success of this initiative center on the relatively small size of our department. Typically, we find ourselves competing for resources and students with other university programs in our region that are Colleges or Schools (at least three times our size), rather than departments. Although we have been very successful in the past, our overall capacity is limited by our faculty numbers and our facilities. We also suffer from our faculty, staff and graduate students being dispersed among numerous locations on campus, making management and collaboration difficult and inefficient.

Native grasslands ecology and management – Native grasslands, once a significant component of Eastern landscapes, have been reduced more than any other ecosystem in North America.

These grasslands included extensive prairies, pine and oak savannahs, oak woodlands, and cedar glades, each with especially adapted flora and fauna. Today, approximately 51 million acres of pasture and hay lands (with mostly non-native grass species) occur in the Mid-South alone, a very significant component of non-forested cover within the region. Grasslands also occur on reclaimed surface mines, military training areas, and as small but important features within row crop dominated landscapes (e.g., grassed waterways, field buffers, and filter strips).

Justification

In recent years, a number of opportunities to incorporate native grasses into various management systems have been proposed. These include silvopastures, wildlife habitat, traditional forage production for hay and pasture, soil conservation, and surface mine reclamation. More recently, use of native grasses as biofuels feedstock has received a great deal of attention. In order to improve deployment of native grasses and to ensure optimum ecological benefits are realized, better information on ecology and management is needed.

Strengths, Weaknesses, Opportunities and Threats

Three organizational components within the department represent the strengths that support this initiative. The Center for Native Grasslands Management (CNGM), the first of its kind east of the Great Plains, operates within FWF. Also, during 2008 the Department became the permanent home for the National Bobwhite Conservation Initiative (NBCI), a national effort supported by nearly 30 state wildlife agencies to work toward the restoration of steadily declining northern bobwhite quail populations throughout their native range. We are also the headquarters for the nascent Eastern Native Grasslands Alliance (ENGA), an “organization of organizations” that share an interest in issues related to the management of native grasslands for wildlife, ecosystem restoration, biofuels, etc. We also have a range of faculty expertise that will allow us to address many of the scientific and management concerns related to this strategic direction, including (but not limited to) such issues as: the suitability of native grasses for biofuels (both economically and chemically); the potential to manage native grassland communities for wildlife species; and the establishment or restoration of sustainable oak savannahs. Our current weaknesses include a lack of personnel, facilities and operating support to carry out much of the research and Extension activities required to accomplish the goals of the CNGM and NBCI.

The opportunity presented by the current co-location of the CNGM, NBCI and ENGA entities is that we could very quickly establish a national reputation as the foremost program east of the Great Plains on the ecology and management of native grasslands. Furthermore, we were recently designated as a “Keystone Initiative” by the National Fish and Wildlife Foundation, and as such, are likely to receive a series of grants (potentially totaling \$7.5 million over 10 years) to provide support for personnel and operating. Assuming this grant is awarded as anticipated, a remaining “threat” to this overall initiative will be the ability to find space to house the additional personnel (4-5 people)

that the grant will support. The development of an endowment to enhance and support these activities, as initially planned for both the CNGM and NBCI, will ensure long-term stability for these programs. However, to date these development efforts have not been successful.

Wildlife health – Wildlife Health research, and the related field of Conservation Medicine, are academic areas that are growing rapidly in importance. This growth is being driven in part by concern about zoonotic diseases — cross-species diseases that travel to humans from other animals — as well as diseases that travel from wildlife to livestock and thereby threaten our agricultural production systems. The recent outbreak of the H1N1 virus also serves to illustrate that such disease-related concerns are global in scale, and research will benefit greatly from string national and international collaborations.

Justification

Given the increasing stress being placed on our ecosystems, there are growing health threats to valued wildlife populations themselves. Such issues require not only fundamental research into wildlife disease ecology and diagnosis, but also application of research findings in ways that provide practical assistance for resource managers, policy-makers, and landowners. These problems must be addressed using a team approach that involves wildlife biologists, entomologists, veterinarians, animal production managers, public health specialists, epidemiologists and scientists in numerous other disciplines.

Strengths, Weaknesses, Opportunities and Threats

One of the strengths of the FWF wildlife health program is the close collaboration between faculty across sub-disciplines within the department, and across disciplines outside of the department (e.g., with colleagues in UT CVM, the University of Georgia, Michigan State University, ORNL, etc.). We have close ties to the new NIMBioS initiative (One FWF faculty member is an Assistant Director) which promises to bring further opportunities for collaborative efforts. Finally, we have had significant success related to extramural funding in general, and specifically relating to work on tick-borne and infectious disease diagnostics. Given the growing interest in infectious disease research, there is a tremendous opportunity to secure competitive funding from a very wide range of federal granting programs and agencies, including NSF, AFRI, NIH, CDC, DoD, and DHS. Further, based on research in the wildlife health program, three patents were issued recently and a patented technology was licensed to a private company.

The weaknesses we face in our wildlife health program are similar to those in other areas, namely a lack of depth in any given discipline, and gaps in coverage of sub-disciplines such as wildlife toxicology. Collaboration with scientists outside of FWF can alleviate some of these weaknesses, and we also have an opportunity for an additional faculty position related to animal infectious disease modeling through the NIMBioS program. The main threat to the ongoing success of the wildlife health program is potential loss of two positions, one faculty and one research associate. Both positions were converted to

soft funding in 2007 and have been self-supporting through several grants since then (although the faculty position is currently 50% hard-funded). Both positions are critical to the functioning of the program. Even with the retention of these two positions, however, we remain extremely thin with regard to teaching support given the growth of the Wildlife Health Concentration within our Wildlife and Fisheries Sciences academic program. Continued pressure from our academic programs could erode our research capacity in wildlife health.

Human dimensions and institutions of natural resource management – includes the traditional disciplines of natural resource policy, economics, and sociology, and the emerging fields of ecosystem services markets, climate change policy, and natural resource sustainability.

Justification

Natural resource issues are complex, dynamic, and multi-dimensional. Citizens, institutions, and lawmakers need timely and comprehensive information, and innovative mechanisms for working together. Further, land managers and planners need policy improvements that recognize our interconnections, nurture ecological and human adaptation, and foster natural resource sustainability. Our economic, social, and political systems -- as well as our natural environment -- have grown so interconnected that change and interactions are continuous. Changes are being driven by population growth, technological advances, and market globalization. This has produced a shared-power world whereby individuals, groups, and institutions struggle to influence their future. This struggle is increasingly being felt at rural landscape levels, as we mitigate and adapt natural resource management to constant perturbations like climate change, increasingly fragmented landscapes, and growing landowner diversity.

Tennessee’s forests and fields are primarily privately owned and the future of the natural resources on these lands is in the hands of the owners and the institutions influencing them. These institutions include markets, government agencies, and the civic sector (examples being forest certification programs, advocacy and user groups, and others promoting policy and institutional changes). Yet, we have insufficient knowledge about how our human and ecological systems interact and adapt to each other regarding such things as landowner decisions, policy development at the state or local level, and public attitudes. The human and political dimensions of these issues will be critical in determining the future of the state’s natural ecosystems. Natural resource management, whether it be forestry or wildlife & fisheries related, is in many cases “people management.” Whether issues center on harvests of deer, timber or striped bass, solutions are as much driven by social factors as they are by science. Issues must be examined from a multi-disciplinary perspective to identify the interactions between the various institutions, landowners, and ecosystems.

Strengths, Weaknesses, Opportunities and Threats

The Department possesses a number of strengths to explore the human dimensions of natural resources. Two units, the Natural Resource Policy Center and the Human Dimensions Research Laboratory, are housed principally in the Department and involve a number of departmental faculty, staff, and graduate students. These centers also have been very successful in acquiring external funds and have strong ties with partners inside and beyond the University including The Pennsylvania State University, EPA, The Nature Conservancy, TWRA and two centers at the University of Tennessee: Baker Center for Public Policy and Water Resources Research Center.

With the exception of the Natural Resource Policy Center, no entity exists at UT that specifically addresses the human dimension aspects of natural resource policy issues. Coupled with the growing interest in issues related to human-natural resource interactions such as biodiversity, climate change, and development pressures, we have a tremendous opportunity to develop a regional or national program in human dimensions of natural resources. Unfortunately, like other programs in the department, our primary weakness is that we lack the necessary depth to adequately cover all aspects of current and emerging issues. Even more importantly, we lack the necessary breadth to adequately deliver needed teaching, outreach, and research products. To address the issues noted in the justification above, this critical programmatic area must be strengthened, both in support and professional staffing, and in operational funding.

Staffing Priorities

The direction of research activities within the department will be determined in large part by the disciplinary background and interests of the faculty that are hired. Departmental operating resources can be used to promote research in a designated high priority area, but without qualified and willing faculty in that area, such resources will not be effective. When existing faculty positions become vacant, or opportunities for new positions arise, departmental priorities will be reflected by the decision to recruit from a particular discipline. This decision will be influenced by the research opportunities expected for existing programs, or the desire to expand our departmental research activities into new areas.

The following disciplinary areas, presented within the strategic research directions, have been identified as having high priority for new faculty lines that may become available within the department:

- Biobased Products
 - Landscape Ecology
 - Watershed Management
 - Spatial Modeling

Disturbance-Related Ecology and Land Management

- Fire Ecology and Management
- Hydrology/Watershed Management
- Landscape Ecology
- Quantitative Ecology
- Spatial Analysis/Modeling
- Wildlife Damage Management

Native Grasslands Ecology and Management

- Fire Ecology and Management
- Landscape Ecology

Wildlife Health

- Spatial Analysis/Modeling
- Wildlife Disease Diagnostics (Eda)

Human Dimensions and Institutions of Natural Resource Management

- Water Policy
- Biodiversity/Ecosystem Services

Based simply on the appearance within two or more initiatives, the highest priority new positions are Landscape Ecology and Spatial Modeling (each appearing in 3 initiatives), followed by Hydrology/Watershed Management and Fire Ecology and Management (each appearing in 2 initiatives).

The following support personnel are also needed to provide assistance to existing research activities (in order of priority):

- Wildlife Health Lab Manager
- Instrument Technician/Research Associate (Wood Science/Biobased Products)
- Spatial Analysis/GIS Research Associate
- Research/Teaching assistant at MS level to assist with applied statistics

Resource Needs

- Salary and benefits, office space, and operating support for faculty/staff identified above
- Office space for current graduate students, post docs, etc.
- Lab space for faculty and staff
- GRA stipends (at minimum, restore \$110,000 cut; raise base rate for hard-funded stipends)

Vehicles to support field research programs

Implementation

1.

Objective – secure existing faculty positions when or if they become vacant

Action – review positions of faculty that are retirement-eligible, plan future of each position, develop position request support material for each

Timeline – continuous evaluation and revisions as faculty become retirement-eligible, or as priorities change (revisit each summer at minimum).

Status – Two impending retirements (Wildlife Instructor, and Forest Policy Professor) have been retained. Combination of resources from the two positions has allowed the upgrade of the instructor position to a tenure-track assistant professor. Hiring for the two positions is planned for FY12.
2.

Objective – compete successfully for new faculty positions when opportunity arises

Action – develop position request support material for high priority faculty positions

Timeline – continuous evaluation and revisions as priorities change (revisit annually)

Status – Three new positions were added in FY1: Lignin Chemistry (joint with ORNL), Urban Forestry, and Wildlife Pathology (joint with CVM)
3.

Objective – compete successfully for new research staff positions when opportunity arises

Action – develop position request support material for high priority staff positions

Timeline – continuous evaluation and revisions as priorities change (revisit annually)

Status – no new opportunities have arisen
4.

Objective – secure development funds for endowed faculty positions

Action – work with UTIA Development Office personnel to engage existing donors and seek new donors through initiatives such as the *Volunteer Forest*

Timeline – obtain commitment for position by 2012

Status – no endowed positions have been secured to date
5.

Objective – replace lost GRA funds

- Action – develop GRA request support material linked to strategic research initiatives
- Timeline – each fall for the following fiscal year in preparation for budget requests during the spring.
- Status – no opportunities for additional support has arisen
6. Objective – secure development funds for endowed graduate fellowship positions
- Action– work with UTIA Development Office personnel to engage existing donors and seek new donors through initiatives such as the *Volunteer Forest*, link to research areas of interest to donor.
- Timeline – obtain commitment for at least one fellowship by 2012
- Status – no endowed fellowships have been secured to date
7. Objective – provide adequate space to store small vehicles (ATVs, boats, etc.) and equipment
- Action – work with AgResearch to construct new storage structure
- Timeline – complete during fall of 2009
- Status – completed fall, 2010

Academic Programs

Strengths

We have a diverse, comprehensive (forestry, wildlife, fisheries, and forest products) department that provides many opportunities for multi-disciplinary instruction. Particularly valuable, and unusual, is the the degree to which forestry, wildlife and fisheries have integrated their curricula. This gives our graduates a breadth of experience and knowledge in natural resource management which few other schools confer.

We emphasize applied, field-based, hands-on experiences, not only in field camp courses, but in many other forestry, wildlife, and fisheries courses.

We emphasize the use of technology by providing the students with state of the industry software. Students also are introduced to field use of high-end GPS technology and other technologically advanced measurement tools. Technology also enhances student-faculty interactions in a number of courses.

We are one of a dwindling number of programs that maintains a strong emphasis on traditional applied management skills and techniques of forestry, wildlife, and fisheries, while also considering multiple values and including emerging principles in the management of entire ecosystems. Applied management courses taught in blocks and called “field camps” are part of our teaching program.

Students receive one-on-one interaction with faculty in all courses, rather than interacting solely with teaching assistants or post-docs.

Students interact individually with faculty during academic advising, and faculty are involved in student clubs and extra-academic activities.

We offer a Wildlife Health Concentration within our Wildlife & Fisheries Science Major, one of only four in the Southern US that provides a track for undergraduates interested in pursuing wildlife-related veterinary medicine careers.

We have added an Urban Forestry Concentration to our Forestry Major that, if successful, will expand the constituency served by our degree programs.

We currently offer two minors (one in Forestry, and one in Wildlife and Fisheries Science) to students in other majors. This allows us to educate students outside of our department in critical concepts related to natural resource science and management. This can be a pathway for non-majors into our graduate program.

Having National Park Service, USGS, and U.S. Forest Service personnel on campus or nearby provides multiple opportunities for undergraduate instruction, new graduate courses, student internships, and other forms of temporary student employment.

Formal internship programs, as well as practicums, provide students with the opportunity for professional work experience in summers for credit.

Unlike most programs in the southeastern region, we focus on hardwood ecosystems rather than pine or mixed forest types.

The diversity of ecosystem types within proximity to campus provides an advantage to our program as we endeavor to expose students to a range of resource issues. The nearness of a variety of public lands (WMAs, GSMNP, National Forests, State Forests) presents numerous opportunities for outdoor instruction.

Graduates in the Wildlife & Fisheries major are certifiable by TWS. Graduates in the Forestry major are eligible, because of the accreditation of the forestry program, for SAF certification.

Undergraduate Curriculum Concerns and Issues

1. With one retirement in fisheries unfilled (Extension position) and retirements in the research and teaching side approaching, the loss of the fisheries component within FWF is a serious possibility.
2. Teaching workloads, especially among faculty members without formal teaching appointments, takes away from time designated for Extension and research effort.
3. With a recent reorganization of bio-energy research in UTIA (i.e., creation of the CRC), there is a danger of losing the forest products identity within the department.
4. There is currently no formal mechanism to monitor employer needs (i.e., knowledge and skills) and expectations for our graduates. It is important for us to continually address such needs and expectations within our academic program.
5. Spatial technology skills are becoming necessary to many of the jobs our graduates will enter, but mastery of such skills is not necessarily a part of our current programs. A more effective way of developing those skills is needed.
6. Student involvement in their chosen major should begin upon entering our program, and continue throughout their academic career.
7. Training related to habitat management is needed throughout the curriculum for both majors.
8. The focus in both majors has traditionally been commodity-oriented. Increased emphasis on ecosystem services produced from the land base may require a shift in topics throughout the curriculum.

9. There are too few opportunities in the curricula for students to practice synthesizing biological factors and management practices. Students would benefit from developing the ability to predict hypothetically how systems will react to various treatments and system changes, and what types of systems will develop and how they will grow given biotic and abiotic site factors.
10. Student involvement in existing opportunities outside of the classroom is low (e.g., honors, study abroad and exchange programs).
11. A large proportion of our undergraduate majors are transfer students from Tennessee community colleges. Such students can have a difficult time making sure that the courses they take will transfer successfully into our undergraduate programs.

New Degree Program and Course Recommendations

A review of our current degree programs revealed several opportunities for expanding our offerings; however, all would require additional teaching faculty resources.

Undergraduate

Minor in Bio-Products (Forest Products) – One of the difficulties faced by faculty in the forest products area is attracting a steady pool of candidates for Master’s degrees without having an undergraduate major in forest products. Instead of creating an entirely new major, an alternative may be to develop several courses that, together, could serve as a minor. Students completing the minor would then be potential candidates for graduate programs.

Recreation (Outdoor or Wildland) major – Given the expected increase in demand for outdoor recreation opportunities, especially in east Tennessee, there may be a need for a separate major in Recreation.

New courses – Our current curricula would benefit from several new courses, covering important topics in more depth than is feasible within our existing suite of courses. These courses would likely begin as electives, but could eventually become required in one or both of our majors. Highest priority new courses are: spatial techniques and GIS, forest soils, hydrology/water quality, stream restoration, fish ecology, forest engineering, fire ecology and management, and grassland ecology and management.

Graduate

MS in Bio-Products – Several of the current Master’s students being supervised and supported by faculty in the forest products area are actually enrolled in the graduate degree programs of other departments on campus (e.g., chemical

engineering, statistics, etc.). One of the greatest hurdles in attracting Master’s students is that we do not have a specialized MS degree for them. A new MS degree in Bio-products is seen as the solution to this issue. The name “Bio-Products” is seen as a better marketing label than the more traditional “forest products” or “wood science” alternatives.

Bio-Products concentration within Natural Resource PhD – A recognizable concentration name matching the new MS degree program in the forest products area would aid marketing and recruitment of doctoral students.

New Course – Many of our graduate students have indicated in their exit interviews that they would have found a natural resource-specific quantitative methods course very valuable to their program. Such a course is common in other university natural resource graduate programs.

Two additional general concerns for departmental graduate programs are the need for standardization of expectations, and the broader availability of graduate course offerings.

Enrollment Planning

There is a concern within the department that our undergraduate enrollment is not matched by our departmental support (FTEs and operating funds). At the same time, there has been pressure to increase enrollment to help justify requests for additional resources. Effective enrollment planning is only possible when faculty and teaching support resources are linked with the number of students (undergraduate and graduate) enrolled in departmental programs. An analysis has been completed to determine target enrollments for both graduate and undergraduate degree programs (Appendix A). This analysis will be updated periodically as we move toward a better balance of enrollment and resources. At the same time, we are committed to increase the quality and diversity of the students who are enrolled in departmental programs.

Staffing priorities

The direction of teaching activities within the department will be determined in large part by the disciplinary background and interests of the faculty that are hired. Departmental operating resources can be used to promote teaching in a designated high priority area, but without qualified and willing faculty in that area, such resources will not be effective. When existing faculty positions become vacant, or opportunities for new positions arise, departmental priorities will be reflected by the decision to recruit from a particular discipline. This decision will be influenced by accreditation and certification requirements, as well as the desire to expand our departmental teaching activities into new areas.

Current Faculty Positions – Current teaching positions should be maintained and better supported. Teaching workloads do not match formal teaching appointments; several Extension and Research faculty are teaching courses on a regular basis (e.g., Silviculture, Planning and Management, Wood Identification, Wildlife Health, etc.) without a teaching

appointment. In general, these teaching assignments have been made to fill subject matter needs and to help offset the loads of faculty that do have formal teaching appointments.

New Faculty Positions - The following disciplinary areas, reflecting the recommendations for new courses and curricula within the department, have been identified as having high priority for new faculty lines that may become available within the department:

- Fire Ecology
- Forest Engineering
- Forest Soils/hydrology
- Green Engineering (partial teaching appointment)
- Watershed Management
- Wildlife Health (general position to offset teaching loads due to increasing enrollment in the Wildlife Health Concentration)
- Wildlife Management/Science (general position to help reduce teaching loads if enrollment in Wildlife & Fisheries major does not decrease)
- Wildland Recreation

Several of these new position areas coincide with those determined to be of high priority within departmental strategic research directions. Based on this correspondence, the highest priority areas for new teaching faculty would be Fire Ecology and Watershed Management (both appear in two of the five strategic research directions).

Resource needs

- Salary and benefits for faculty identified above
- Scholarship endowments to support the recruitment of high quality undergraduates
- Travel and operating to enhance student fee support of fall camps
- Travel support for undergraduates and graduates attending/presenting papers or posters at conferences or participating in competitions (e.g., conclave, quiz bowl, etc.)
- Endowment for graduate student fellowships.
- Resources to support student computer needs related to classroom expectations.

Implementation

Curriculum

1.

Objective – make retention of fisheries a high priority.

Action – discuss and have faculty on record as supporting retention of fisheries as a high priority.

Timeline – Accomplish this by the end of 2010-11.

Status – complete.

Action – pursue support from Deans for replacing fisheries faculty as they retire.

Timeline – ongoing

Status – tentative plan for first fisheries retirement supported by AgResearch and CASNR Deans (summer 2011).
2.

Objective – reduce the disparity between teaching appointments and actual teaching effort.

Action – work to recognize teaching effort and adjust percentage appointments as necessary.

Timeline – ongoing

Status – CASNR Dean has initiated a “teaching workload” committee to address a standardized method for determining teaching workloads. FWF will be represented on this committee and use the results to provide the basis for percentage adjustments where feasible.
3.

Objective – make retention of forest products identification within the department a priority.

Action - discuss and have faculty on record as supporting retention of forest products as a high priority.

Timeline – Accomplish this by the end of 2011.

Status – ongoing.

4.

Objective – provide students in both majors with appropriate exposure to habitat management.

Action – infuse additional training in habitat management throughout the curriculum for both majors.

Timeline – complete by fall semester, 2010.

Status – *FWF 415 – Upland Habitat Management* course has been added to both fall camps and is required for both majors. Additional infusion will be considered once effectiveness of FWF 415 is examined.
5.

Objective – monitor employer needs (i.e., knowledge and skills) and expectations for graduates of our programs.

Action – develop and implement employer survey

Timeline – complete survey by end of 2011-12 academic year.

Status – ongoing.
6.

Objective – Increase the use of spatial technology across the curricula of both majors.

Action – Create opportunities for learning and use of spatial technology in existing courses and identify a more satisfactory GIS course as a requirement.

Timeline – continuous.

Status – ongoing.
7.

Objective – Provide students with resource management training consistent with expected changes in ownership objectives

Action -- Explore a change in focus from commodity-oriented management to a broader perspective emphasizing ecosystem services.

Timeline – complete assessment by end of fall semester, 2009

Status – incomplete, revisit objective and proposed action
8.

Objective – Provide opportunities, and raise expectations, for students to synthesize important concepts throughout the curriculum, rather than focusing exclusively on the capstone course as the mechanism for such synthesis.

- Action – Identify (and document) synthesis opportunities in existing courses, and add these to the courses’ expectations.
- Timeline – complete by end of academic year 2009-2010
- Status – incomplete, revisit objective and proposed action
9. Objective – Increase student involvement in opportunities outside of the classroom such as honors, undergraduate research, study abroad and exchange programs, and internships.
- Action – involve students that have participated in these programs in classroom discussions and presentations.
- Timeline – continuous
- Status - ongoing
- Action – explore the possibility of requiring professional experience as part of the undergraduate degree program(s)
- Timeline – complete review and make decision by end of spring semester, 2010.
- Status – incomplete, assign task to Student Affairs Committee
10. Objective – Make it easier for transfer students to make the transition to our undergraduate programs.
- Action – Develop specific transfer guides for students transferring to FWF undergraduate majors from Tennessee community colleges.
- Timeline – complete by end of fall semester 2009
- Status – incomplete, retarget completion
11. Objective – Insure that students are involved in their major from the beginning of their academic career.
- Action – The forestry major has a mechanism, *FOR 100 Forests and Forestry in American Society*, to introduce students to their chosen career area during their first semester. A similar course is needed for the wildlife and fisheries science major. Both majors should maintain at least one required FWF, FOR, or WFS course per semester.
- Timeline – make adjustments by end of 2009-2010 academic year.

- Status – *WFS 101 Current Topics in Wildlife Health* serves this function for all Wildlife & fisheries Science majors.
12. Objective – Improve the logical flow of course topics to make sure that necessary plant and animal identification and biological preparation courses are scheduled before the management-oriented courses that require such information to be effective.
- Action – shift both camps to fall semester, senior year and adjust prerequisite courses accordingly
- Timeline – implement shift starting fall semester, 2010
- Status – Completed.
13. Objective – Create interest and understanding among existing UT undergraduates of the potential for graduate research programs (especially at the MS level) in forest products disciplines.
- Action – develop courses and seek approval for a minor in Bio-Products (Forest Products)
- Timeline – end of spring semester, 2010
- Status – incomplete, revisit objective and proposed action
14. Objective – Meet the perceived demand for forestry graduates that are capable of managing urban/community forests.
- Action – seek approval for an Urban/Community Forestry concentration within the existing forestry major using relevant courses that already exist, and develop new courses if needed.
- Timeline – complete proposal by end of fall semester, 2009
- Status – proposal submitted for approval spring 2011 (development delayed until hiring of Urban Forestry faculty member, July 2010).
15. Objective – Explore the feasibility of creating a new Recreation major.
- Action – Develop a plan for the major including expected costs (faculty FTEs and operating), expected demand, and proposed curriculum.
- Timeline – draft by January, 2010

- Status – incomplete, revisit objective and proposed action
16. Objective – attract and retain Master’s students to forest products/wood science-related disciplines.
- Action – develop and submit a proposal for a new master’s program in “bio-products”
- Timeline – complete proposal by end of spring semester, 2010; submit as soon as feasible thereafter.
- Status – First step has been to develop a Concentration within the existing Forestry MS major, Bio-based Products and Wood Science & Technology. Submitted for approval summer 2011.
17. Objective – Fill gaps in current undergraduate and graduate course offerings
- Action – Analyze specific course needs, create new courses as faculty resources become available
- Timeline – complete analysis of needed courses by end of summer, 2009
- Status – incomplete – revisit objective and proposed action
18. Objective – Achieve departmental consensus on the expectations for graduate education
- Action – Discuss and draft departmental guidelines for research and course work expectations tied to degree program (i.e., MS vs. PhD) and major.
- Timeline – hold discussions during summer/fall, 2009; complete draft by end of fall semester, 2009.
- Status – incomplete – revisit objective and proposed action

Enrollment Planning

1. Objective – Ensure that faculty and teaching support resources are linked with enrollment in departmental programs.
- Action – Update peer program analysis (Appendix A) to provide reasonable target enrollments given current resources.
- Timeline – update by end of fall semester, 2009 and annually thereafter
- Status – latest update 2010, will continue annually

2. Objective – Effectively recruit the numbers of high quality students to meet the targets established for departmental programs.
- Action – Determine the most effective system of content and delivery mechanisms to attract undergraduate students to FWF majors through the southern regional recruiting consortium activities (e.g., focus groups, recruiting surveys, etc.)
- Timeline – complete initial survey by end of fall semester, 2009
- Status – survey completed and analyzed
- Action – Concentrate recruiting efforts and resources on activities most likely to provide success in recruiting for numbers, student quality, and diversity.
- Timeline – begin efforts, tied to results of survey, spring 2010
- Status – ongoing

Staffing

1. Objective – secure existing faculty positions when or if they become vacant
- Action – review positions of faculty that are retirement-eligible, plan future of each position, develop position request support material for each
- Timeline – fall 2009, continuous evaluation and revisions as faculty become retirement-eligible, or as priorities change (revisit annually).
- Status – Retirement of Billy Minser (6/30/2011) has resulted in retention of position and conversion to tenure-track assistant professor. Discussions are underway with Deans to retain other positions potentially opening due to retirements.
2. Objective – compete successfully for new faculty positions when opportunity arises
- Action – develop position request support material for high priority faculty positions
- Timeline – fall 2009, continuous evaluation and revisions as priorities change (revisit annually)
- Status – ongoing
3. Objective – compete successfully for new teaching staff positions when opportunity arises
- Action – develop position request support material for high priority staff positions

Timeline – fall 2009, continuous evaluation and revisions as priorities change (revisit annually)

Status – ongoing

4. Objective – secure development funds for endowed faculty positions

Action – work with UTIA Development Office personnel to engage existing donors and seek new donors through initiatives such as the *Volunteer Forest*.

Timeline – obtain commitment for position by 2012

Status – ongoing

Resources

1. Objective – Increase university support for FWF teaching programs.

Action – develop support material for restoration of GTA funds and operating funds lost to current budget cuts. Link to strategic teaching initiatives.

Timeline – fall 2009 for FY11, and each subsequent fall for the following fiscal year in preparation for budget requests during the spring.

Status - ongoing

2. Objective – Increase private support for FWF teaching programs.

Action – Seek endowments for scholarships, student learning enhancement (travel and operating), and fellowships.

Timeline – continuous (set \$ targets by fall 2009)

Status – targets set, but revised each year

Extension Programs

Strengths

The county Extension network is very well managed in Tennessee. Unlike some states, the system has been maintained at the single county level, rather than having local agents cover multi-county regions.

Relationships with other natural resource organizations are excellent, promoting collaboration with such partners as the Tennessee Wildlife Resources Agency, the Tennessee Forestry Association, the Tennessee Division of Forestry, and the Natural Resource Conservation Service.

Extension professionals within FWF receive planning input directly from their clientele, as well as feedback from county agents and area specialists. As a result, they are able to provide service and education that is relevant to the needs of the public being served.

A wide range of expertise exists within the department to address the needs of state clientele. All Extension professionals are also involved to varying degrees in research and teaching activities.

The existence of a network of County Forestry Associations provides opportunities to engage landowners interested in natural resource issues.

Program Priorities

The priorities of the Extension program all relate to meeting the needs of clients in Tennessee and surrounding states. In general, this often means addressing sustainability, profitability, and the environment. Our clientele are primarily county extension professionals, landowners, and natural resource professionals.

Specific areas of priority include:

- Biofuels and other emerging forest products
- Early successional wildlife habitat
- Fisheries
- Forest management with emphasis on hardwoods
- Invasive species
- Recreational landowners
- White-tailed deer management
- Wildlife damage

Opportunities

There are two general areas of opportunity for the FWF Extension program: providing continuing education to professionals (beyond the in-service training of agents), and engaging a new audience beyond the traditional agriculture clientele.

For the past several years, we have provided national training for certification of silviculturists on National Forests. Most of these professionals have been employees of one agency (USDA Forest Service), but at least one other federal agency (Bureau of Land Managment) has had professionals participate. Other opportunities may exist for continuing education of both federal and state government employees, as well as industry professionals (e.g., Master Logger) that seek to increase or refresh their understanding of important concepts.

Given the changes in land ownership in Tennessee, as well as the increasing urbanization of the state, there is a need to reach out to people who have not previously benefited from traditional UT Extension activities. Determining what these needs are will be the first step in providing for the needs of this new sector.

Staffing Priorities

Faculty and Professional Staff

Fisheries Specialist
Wildlife Specialist (West Tennessee)

Staff

Statistics/Spatial technology

Resource Needs

Office and lab space for faculty identified above
Salary and benefits for staff identified above
Storage space for equipment

Implementation

1.

Objective – meet the continuing education needs of natural resource professionals (public, private, industry, and NGO) on a state, region, and national basis.

Action – seek new opportunities to provide continuing education to resource professionals analogous to the current training programs in Silviculture (USDA Forest Service and Tennessee Division of Forestry) and Statistical Process Control (industry).

Timeline – continuous

Status – ongoing, no new opportunities identified to date
2.

Objective – determine the needs for outreach among non-traditional clientele

Action – develop and conduct a survey of the (mostly) urban population of Tennessee to

provide information on outreach needs related to natural resources.

Timeline – continuous; individual project duration depends on funding (e.g., NIFA Beginning Farmer and Rancher Program)

Status – ongoing. In 2010, W. Clatterbuck planned, coordinated and conducted five absentee landowner workshops in metro audience with assistance from the USDA Beginning Farmer and Rancher Grant. Program will continue in 2011.

3.

Objective – compete successfully for new faculty positions when opportunity arises

Action – develop position request support material for high priority faculty positions

Timeline – continuous evaluation and revisions as priorities change (revisit annually)

Status – ongoing. Materials were submitted as part of UT Extension Staffing Plan in 2010 to justify a fisheries specialist. Result was judgment by the planning team that the priority for such a position was “moderate” relative to other state needs. Requested position denied.

4.

Objective – compete successfully for new staff positions when opportunity arises

Action – develop position request support material for high priority staff positions

Timeline – continuous evaluation and revisions as priorities change (revisit annually)

Status – ongoing. No opportunities for additional staff have arisen.

5.

Objective – meet the continuing education needs of forestry professionals if/when registration becomes a state requirement to practice forestry in Tennessee.

Action – develop series of continuing forestry education programs for professional foresters.

Timeline – (dependent on passage of registration requirements)

Status – **on hold** until such time that some form of registration becomes a state requirement for professional foresters

General Departmental Considerations

Beyond the specific staffing and resource needs addressed above for research, teaching and Extension, there are three general issues that should be addressed for the future development of the department. These issues relate to the overall functioning of the department, but one issue is “structural,” one is “programmatic,” and the last is “virtual.” Yet, the resolution of each issue will have a profound effect on how the department functions and is perceived by others.

The “structural” issue involves the scattered physical locations of FWF faculty and staff. At last count, FWF personnel occupied space in eight locations on the UTIA campus. The consolidation of FWF personnel into a single new building has been, and remains, a high priority. Joint planning with the U.S. Forest Service to build two new buildings (one for USFS personnel, and one for FWF) has progressed, but has slowed due to fiscal uncertainty at both the state and federal level. There is also the shorter term possibility of consolidating personnel through relocation as renovation plans for Ellington Plant Sciences Building progress. While this is a less than ideal solution to the problem, it may be the most feasible action in the short-to-medium term.

The “programmatic” issue centers on the departmental fisheries component. With the retirement of our longtime fisheries Extension Specialist, we were left with two faculty members in this departmental program area, with a total effort of one FTE in research and one in teaching. This presents two problems. Until we are able to replace our extension position, we are faced with an inability to support County Agents. Currently, the stop-gap solution has been to designate three county agents (one per region) with fisheries responsibilities to help meet the public’s need for the routine problems involving Tennessee’s 100,000+ farm ponds. The second concern is that with only two tenure-track faculty, we struggle to support a research and teaching program in fisheries. Therefore, in addition to filling the vacant Extension Specialist position, we also need to acquire a new faculty position, most likely in the area of conservation fisheries to enhance our strength in this discipline.

The “virtual” issue revolves around the name of the department. The current name does not reflect the personnel and activities of a large portion of faculty and staff, namely those involved in the area of wood and other bio-based products. The Department’s group of faculty in this area has grown to include eight faculty members – approximately the same as those in forestry (9), and wildlife & fisheries (10) – yet the name of the department excludes their general disciplinary area. A name change to “The Department of Forestry, Wildlife, Fisheries and Forest Products,” while accurate, may be overly cumbersome. The other alternative would be to change to a name that is more general such as “The Department of Natural Resources.” A long term goal, if we are successful in growing our department significantly through the hiring of more faculty FTEs, is to seek consideration for the designation of “School” within the College. At that time, a new name – e.g., the “School of Natural Resources” would serve to enhance and promote public (and institutional) perception of our role within the Institute of Agriculture.

Implementation

1.

Objective – construct a new FWF building

Action – secure state and or federal funds to support planning and construction

Timeline – begin construction by 2014

Status – ongoing, but stalled due to federal and state budget environment
2.

Objective – revitalize the fisheries program

Action – draft a short- and long-term strategy for the fisheries program

Timeline – complete draft by May, 2011

Status – ongoing
3.

Objective – resolve the discrepancy between the name of the department and the makeup of its personnel and programs.

Action – continue to seek input from stakeholders

Timeline – resolve by January, 2010

Status – unresolved
4.

Objective – become the School of Natural Resources

Action – grow the department’s programs (faculty, staff and resources) to justify new designation (similar Schools of Natural Resources, or Forest Resources, range in size from 10 to 57 faculty, with an average of 37)

Timeline – become School by 2015 (to coincide with dedication of new building)

Status – ongoing (three faculty positions have been added in FY11, one in urban forestry, one in wildlife health, and one in bio-products).

UTK Energy and Environmental Science Education Research Center
Programming Questionnaire
August 20, 2012

DEPARTMENTAL
DATA

DEPARTMENT/GROUP: IACUC
DIRECTOR/HEAD: Dr. Dana Glass-mattie

CONTACT: Jessica Woodruff
PHONE: 865-974-5547
E-MAIL: jwoodruff@utk.edu
INFORMATION DATE: 9/12/12

Provide a short narrative of the purpose or mission of your department (insert hyperlink if this information is web based).

IACUC office monitors all animal use protocols occurring in teaching/research on entire UT campus.
http: iacuc.tennessee.edu

Does your department have a strategic plan for the near term future? If yes, please attach or insert hyperlink.

No

Do you anticipate any significant reorganization or change (administrative, research or academic) within the next few years . . . Yes / No . . . If yes, describe below.

No

List your department's/group's priorities or goals for this project:

adequate space for productive work environment

Historical Data & Growth Projections: Considering the history of the past 3 years, how much growth do you anticipate in the next 5-10 years, numbers of faculty/staff, researchers, students, contact hours, etc?

	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2021-22
Full-Time Faculty									
Full-Time Principal Investigator									
Full-Time Researcher									
Part-Time Lecturer									
Full time Lecturer									
Emeriti Faculty									
Graduate TAs									
Staff TOTAL???	<u>2</u>	<u>2</u>	<u>2-3</u>	<u>3</u>	<u>3/4</u>	<u>3/4</u>	<u>3/4</u>	<u>3/4</u>	<u>3/4</u>
Contact Hours 100 level									
Contact Hours 200									

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level									
Contact Hours 300 level									
Contact Hours 400 level									
Contact Hours 500 and above level									
Majors Graduated									
Masters Awarded									
PhDs Awarded									

Provide other metrics you feel are important to describe your department's growth plans or future needs.

Compare your department's estimate of percentage of contact hours in the following major classroom types with your department's vision of the desired future learning environments:

[Their info included "Teaching Learning Center & Classrooms" related to Learning Environments. Their existing building has an Auditorium.]

Formal Learning Environment Type	Current % of contact hours	Ideal or Future Target % of Contact Hours
Seminar Room: single conference type table, movable chairs	<u>10%</u>	<u>15%</u>
Small Lecture Classroom: flat floor, moveable tablet-arm chairs or individual student desks	<u>10%</u>	<u>15%</u>
Flexible Classroom: flat floor, 1-2 person moveable tables, task chairs; allows multiple arrangements for lecture, group discussion, group work		
Technology Enabled Active Learning (TEAL) Classroom: flat floor, 9 person round tables for 3 groups of 3 student teams with computer for each 3 person group, task chairs; primarily designed for group work; technology allows faculty to show any groups work to the entire room		
Case Study Room: tiered floor, fixed tables in semicircle or U shape, task chairs; facilitates lecture and student-faculty or student-student discussion		
Lecture Hall: tiered floor, fixed tables facing forward and task chairs or individual tablet-arm chairs		
Specialty Classroom or Teaching Lab: [insert description]		
Other: [insert description]		

[SHOULD WE INCLUDE A TABLE WITH LAB TYPES -- RELATED TO ABOVE.]

*Currently share space with Biosafety/OAC- could continue

to do so but would like small conference type space to

share just b/n Biosafety + IACUC.

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Attach a list of current research labs, lab support, classrooms and specialty learning environments used by your department. Include size, maximum number of researchers, student seats, and utilization data for past academic year.

Occ. use small conference type rooms for training/meetings.
Identify existing laboratories, classrooms or learning spaces (building name and room number) that are thought to be the best research / learning spaces for your department:

From faculty's perspective; describe why:

From students' perspective; describe why:

Currently use vet school rooms for monthly IACUC meetings.

What are the top complaints about laboratories / classrooms:

By faculty / researchers: too small an area. No audiovisual equipment in room available to use
By students:

Identify current and desired instructional technologies:

	Currently Used	Future Need
White Board	✓	✓
Digital Projector/Screen or Digital Screen	✓	✓
Two or more digital projectors/screens or digital screens		
Fixed computers with special software		
Audio recording & archiving of classroom sessions	✓	✓
Video recording & archiving of classroom sessions	✓	✓
Document Camera		
Pen-based "telestrating"		
Other (describe)		

How is classroom scheduling done? Should the process change?

N/A

List/describe the spaces, other than research labs, classrooms and offices, that are needed by your department or that you believe are needed in this new facility (include number and sizes, quantity of students or staff accommodated, major furniture and equipment; typical time and duration of use each day, potential to share with other departments).

(examples include writing/tutoring labs, student association space, informal student study areas, print/copy center, café/food service, bookstore, computer lab, faculty resource center, technology support center, teaching innovation lab/instructional media center, departmental library/research center)

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would like place for food preparation -
ie. microwave, sink, common coffee area, refrigerator. Possibly small table/chairs

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List or describe the preferred group or individual adjacencies to other groups, support spaces or other building functions within the following categories.

Mandatory Adjacencies OLAC, BioSafety (share admin staff)
Important Adjacencies BioSafety / Occupational Health, OLAC
Undesirable Adjacencies

Other than typical office and classroom furniture, identify special equipment or furniture needed or existing that supports your department's mission.

copier, fax line, network ports, some storage (files) availability
Add any other information that you believe is important to this strategic planning effort.

In current set-up, share one Admin. person between IACUC/BioSafety so need to be near BioSafety offices. ~~Share~~ Would like to share bigger conf room b/n IACUC/Bio-Safety/OLAC but would like smaller conf area for just BioSafety/IACUC, for smaller more personal meetings/training. Could easily share food prep area with others.

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DEPARTMENTAL
DATA

DEPARTMENT/GROUP: EEEC / OHP
DIRECTOR/HEAD: Amy Knowles

CONTACT: Amy Knowles
PHONE: 974-5728
E-MAIL: aknowles@utk.edu
INFORMATION
DATE: 9/12/12

Provide a short narrative of the purpose or mission of your department (insert hyperlink if this information is web based). Provide occupational health services for personnel across campus who work with animals.

Does your department have a strategic plan for the near term future? If yes, please attach or insert hyperlink. NO

Do you anticipate any significant reorganization or change (administrative, research or academic) within the next few years . . . Yes / No . . . If yes, describe below. NO

List your department's/group's priorities or goals for this project:

Historical Data & Growth Projections: Considering the history of the past 3 years, how much growth do you anticipate in the next 5-10 years, numbers of faculty/staff, researchers, students, contact hours, etc? Department of one personnel - no expected growth in faculty or staff

	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2021-22
Full-Time Faculty									
Full-Time Principal Investigator									
Full-Time Researcher									
Part-Time Lecturer									
Full time Lecturer									
Emeriti Faculty									
Graduate TAs									
Staff TOTAL???									
Contact Hours 100 level									
Contact Hours 200									

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level									
Contact Hours 300 level									
Contact Hours 400 level									
Contact Hours 500 and above level									
Majors Graduated									
Masters Awarded									
PhDs Awarded									

Provide other metrics you feel are important to describe your department's growth plans or future needs.

Compare your department's estimate of percentage of contact hours in the following major classroom types with your department's vision of the desired future learning environments:

[Their info included "Teaching Learning Center & Classrooms" related to Learning Environments. Their existing building has an Auditorium.]

Formal Learning Environment Type	Current % of contact hours	Ideal or Future Target % of Contact Hours
Seminar Room: single conference type table, movable chairs		
Small Lecture Classroom: flat floor, moveable tablet-arm chairs or individual student desks		
Flexible Classroom: flat floor, 1-2 person moveable tables, task chairs; allows multiple arrangements for lecture, group discussion, group work		NA
Technology Enabled Active Learning (TEAL) Classroom: flat floor, 9 person round tables for 3 groups of 3-student teams with computer for each 3 person group, task chairs; primarily designed for group work; technology allows faculty to show any groups work to the entire room		
Case Study Room: tiered floor, fixed tables in semicircle or U shape, task chairs; facilitates lecture and student-faculty or student-student discussion		
Lecture Hall: tiered floor, fixed tables facing forward and task chairs or individual tablet-arm chairs		
Specialty Classroom or Teaching Lab: [insert description]		
Other: [insert description]		

[SHOULD WE INCLUDE A TABLE WITH LAB TYPES - RELATED TO ABOVE.]

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Attach a list of current **research labs, lab support**, classrooms and specialty learning environments used by your department. Include size, maximum number of **researchers**, student seats, and utilization data for past academic year. *laboratory area shared 202ac and Ellington. No researchers- One person has access to the*

Identify existing laboratories, classrooms or learning spaces (building name and room number) that are thought to be the best **research / learning** spaces for your department:

From faculty's perspective; describe why:

From students' perspective; describe why:

What are the top complaints about **laboratories / classrooms**:

By faculty / **researchers**:

By students:

Identify current and desired instructional technologies: *NA*

	Currently Used	Future Need
White Board		
Digital Projector/Screen or Digital Screen		
Two or more digital projectors/screens or digital screens		
Fixed computers with special software		
Audio recording & archiving of classroom sessions		
Video recording & archiving of classroom sessions		
Document Camera		
Pen-based "telestrating"		
Other (describe)		

How is classroom scheduling done? Should the process change?

List/describe the spaces, other than research labs, classrooms and offices, that are needed by your department or that you believe are needed in this new facility (include number and sizes, quantity of students or staff accommodated, major furniture and equipment; typical time and duration of use each day, potential to share with other departments).
(examples include writing/tutoring labs, student association space, informal student study areas, print/copy center, café/food service, bookstore, computer lab, faculty resource center, technology support center, teaching innovation lab/instructional media center, departmental library/research center)

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List or describe the preferred group or individual adjacencies to other groups, support spaces or other building functions within the following categories.

Mandatory Adjacencies

Important Adjacencies

Undesirable Adjacencies

Other than typical office and classroom furniture, identify special equipment or furniture needed or existing that supports your department's mission. *One Africa needed for occupational health nurse, and access to laboratory is required. One additional room for medical record storage is needed to ensure confidentiality of medical information.*

Add any other information that you believe is important to this strategic planning effort. *No additional space is needed at this time beyond office, record storage, and lab access.*

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DEPARTMENTAL
DATA

DEPARTMENT/GROUP: OLAC
DIRECTOR/HEAD: PATRICIA COAN

CONTACT: LARILESHA COFFEE
PHONE: 4-5634
E-MAIL: PCOAN@UTK.EDU
INFORMATION
DATE: 9/12/12

Provide a short narrative of the purpose or mission of your department (insert hyperlink if this information is web based).

www.ret.utk.edu/object/index.php

Does your department have a strategic plan for the near term future? If yes, please attach or insert hyperlink.

same

Do you anticipate any significant reorganization or change (administrative, research or academic) within the next few years . . . Yes (No) . . . If yes, describe below.

List your department's/group's priorities or goals for this project:

to have adequate space

Historical Data & Growth Projections: Considering the history of the past 3 years, how much growth do you anticipate in the next 5-10 years, numbers of faculty/staff, researchers, students, contact hours, etc?

	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2021-22
Full-Time Faculty	3	3	3	3	3	3	3	3	3
Full-Time Principal Investigator	0	0	0	0	0	0	0	0	0
Full-Time Researcher	0	0	0	0	0	0	0	0	0
Part-Time Lecturer	-	-	-	-	-	-	-	-	-
Full time Lecturer	-	-	-	-	-	-	-	-	-
Emeriti Faculty	-	-	-	-	-	-	-	-	-
Graduate TAs	-	-	-	-	-	-	1	1	1
Staff TOTAL???	3	3	3	3	3	3	3	3	3
Contact Hours 100 level	45	45	45	45	45	45	45	45	45
Contact Hours 200	45	45	45	45	45	45	45	45	45

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level									
Contact Hours 300 level	10	10	10	10	10	10	10	10	10
Contact Hours 400 level	30	30	30	30	30	30	30	30	30
Contact Hours 500 and above level	100	100	100	100	100	100	100	100	100
Majors Graduated	-	-	-	-	-	-	-	-	-
Masters Awarded	-	-	-	-	-	-	-	-	-
PhDs Awarded	-	-	-	-	-	-	-	-	-

Provide other metrics you feel are important to describe your department's growth plans or future needs.

Compare your department's estimate of percentage of contact hours in the following major classroom types with your department's vision of the desired future learning environments:

[Their info included "Teaching Learning Center & Classrooms" related to Learning Environments. Their existing building has an Auditorium.]

Formal Learning Environment Type	Current % of contact hours	Ideal or Future Target % of Contact Hours
Seminar Room: single conference type table, movable chairs	50%	50%
Small Lecture Classroom: flat floor, moveable tablet-arm chairs or individual student desks		
Flexible Classroom: flat floor, 1-2 person moveable tables, task chairs; allows multiple arrangements for lecture, group discussion, group work		
Technology Enabled Active Learning (TEAL) Classroom: flat floor, 9 person round tables for 3 groups of 3 student teams with computer for each 3 person group, task chairs; primarily designed for group work; technology allows faculty to show any groups work to the entire room		
Case Study Room: tiered floor, fixed tables in semicircle or U shape, task chairs; facilitates lecture and student-faculty or student-student discussion		
Lecture Hall: tiered floor, fixed tables facing forward and task chairs or individual tablet-arm chairs	25%	25%
Specialty Classroom or Teaching Lab: [insert description]	25%	25%
Other: [insert description]		

[SHOULD WE INCLUDE A TABLE WITH LAB TYPES – RELATED TO ABOVE.]

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Attach a list of current **research labs**, **lab support**, classrooms and specialty learning environments used by your department. Include size, maximum number of **researchers**, student seats, and utilization data for past academic year.

EPS 332

Identify existing laboratories, classrooms or learning spaces (building name and room number) that are thought to be the best **research** / learning spaces for your department:

From faculty's perspective; describe why:

From students' perspective; describe why:

What are the top complaints about **laboratories** / classrooms:

By faculty / **researchers**: - too small - shared space @ IBC + chemistry safety

By students: too small

Identify current and desired instructional technologies:

	Currently Used	Future Need
White Board		
Digital Projector/Screen or Digital Screen	X	
Two or more digital projectors/screens or digital screens		
Fixed computers with special software		
Audio recording & archiving of classroom sessions	X	
Video recording & archiving of classroom sessions	X	
Document Camera		
Pen-based "telestrating"		
Other (describe)		

How is classroom scheduling done? Should the process change? no by csm -

List/describe the spaces, other than research labs, classrooms and offices, that are needed by your department or that you believe are needed in this new facility (include number and sizes, quantity of students or staff accommodated, major furniture and equipment; typical time and duration of use each day, potential to share with other departments).
(examples include writing/tutoring labs, student association space, informal student study areas, print/copy center, café/food service, bookstore, computer lab, faculty resource center, technology support center, teaching innovation lab/instructional media center, departmental library/research center)

8 offices, 112b, 1 conference room (shared) @ IBC + IACUC + TR 1

1 break room @ kitchen area (shared w IACUC + TR 1)

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List or describe the preferred group or individual adjacencies to other groups, support spaces or other building functions within the following categories.

Mandatory Adjacencies keep OLAC together

Important Adjacencies IACUC + IBC

Undesirable Adjacencies not too close to students

Other than typical office and classroom furniture, identify special equipment or furniture needed or existing that supports your department's mission.

Lab -

Add any other information that you believe is important to this strategic planning effort.

2AC
112b
122a : 336
337
338
339
341 - shared
342
343
332 = 12b
shared

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DEPARTMENTAL DATA

DEPARTMENT/GROUP:
DIRECTOR/HEAD:

CONTACT:
PHONE:
E-MAIL:
INFORMATION DATE:

Provide a short narrative of the purpose or mission of your department (insert hyperlink if this information is web based).

Our mission

To discover, develop and disseminate science and technologies to serve the teaching, research and outreach needs of students, stakeholders and peers in the agronomic and horticultural plant sciences.

Our vision

To be an innovative and leading source for information and technologies in agronomic and horticultural plant sciences.

Our core values

We value innovation, professional integrity and diligence in fulfilling our mission of teaching, research, extension and service. We value objectivity, teamwork, clear communication, diversity, inclusiveness of opinion and respect for each other and those we serve. We strive to responsibly use resources entrusted to us and to honestly present our creative achievements to stakeholders

http://plantsciences.utk.edu/mission-vision-values.htm

Does your department have a strategic plan for the near term future? If yes, please attach or insert hyperlink.

http://plantsciences.utk.edu/pdf/Strategic_Themes_Thrusts-Plant_Sciences.pdf

Do you anticipate any significant reorganization or change (administrative, research or academic) within the next few years . . . Yes / No . . . If yes, describe below.

New department head in 2013

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List your department's/group's priorities or goals for this project:

Enhance our office & classroom facilities, also research, teaching, and extension lab facilities

Historical Data & Growth Projections: Considering the history of the past 3 years, how much growth do you anticipate in the next 5-10 years, numbers of faculty/staff, researchers, students, contact hours, etc? ONLY FACULTY/STAFF SCHEDULED FOR DISPLACEMENT VIA PROJECT ARE INCLUDED IN TALLIES BELOW

	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2021-22
Full-Time Faculty	27	28	29	29	31				
Full-Time Principal Investigator									
Full-Time Researcher									
Part-Time Lecturer						?			
Full time Lecturer	1	1	1	1	1				
Emeriti Faculty	29	29	29	29	30				
Graduate TAs	4	4	4	4	4				
Staff TOTAL???				62					
Graduate Res Assistants				31					
Contact Hours 100 level									
Contact Hours 200									
Contact Hours 300									
Contact Hours 400									
Contact Hours 500									
Majors	34	34	35	27	Goal: 35-40/yr avg				
Masters	5	6	5	7	Goal: 8-10/yr avg				
PhD	-	1	4	-	Goal: 2/yr avg				
MLA	-	-	8	7	Goal: 10/yr avg				
Total enrolled	136	139	127	106	Goal: 150-165/yr avg				

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Provide other metrics you feel are important to describe your department's growth plans or future needs.

Compare your department's estimate of percentage of contact hours in the following major classroom types with your department's vision of the desired future learning environments:

[Their info included "Teaching Learning Center & Classrooms" related to Learning Envir mmments. Their existing building has an Auditorium.]

Formal Learning Environment Type	Current% of contact hours	Ideal or Future Target% of Contact Hours
Seminar Room: single conference type table, movable chairs	10	10
Small Lecture Classroom: flat floor, moveable tablet-arm chairs or individual student desks	20	
Flexible Classroom: flat floor, 1-2 person moveable tables, task chairs; allows multiple arrangements for lecture, group discussion, group work		30
Technology Enabled Active Learning (TEAL) Classroom: flat floor, 9 person round tables for 3 groups of 3 student teams with computer for each 3 person group, task chairs; primarily designed for group work; technology allows faculty to show any Qroups work to the entire room	10	20
Case Study Room: tiered floor, fixed tables in semicircle or U shape, task chairs; facilitates lecture and student-faculty or student-student discussion	10	10
Lecture Hall: tiered floor, fixed tables facing forward and task chairs or individual tablet-arm chairs	50	20
Specialty Classroom or Teaching Lab: [insert description]		10
Other: insert description]		

[SHOULD WE INCLUDE A TABLE WITH LAB TYPES-RELATED TO ABOVE.]

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Attach a list of current research labs, lab support, classrooms and specialty learning environments used by your department. Include size, maximum number of researchers, student seats, and utilization data for past academic year.

Classrooms/Rooms 101, 113, 122, 123, 124, 125, 128, 130 (sometimes 116 [Deyton?])
This info is all in Annual Space Use Reports – see Joe Cagle for PS departmental reports

Identify existing laboratories, classrooms or learning spaces (building name and room number) that are thought to be the best research / learning spaces for your department:

From faculty's perspective; describe why:

From students' perspective; describe why:

What are the top complaints about laboratories / classrooms: By faculty / researchers: poor

ventilation; fungi/bacteria in air handling; insufficient lab space;

be certain eye wash/emerg showers include floor drains

By students: no common meeting areas

Identify current and desired instructional technologies:

	Currently Used	Future Need
White Board	Y	Y
Digital Projector/Screen or Digital Screen	Y	Y
Two or more digital projectors/screens or digital screens		
Fixed computers with special software		
Audio recording & archiving of classroom sessions		Probably
Video recordinQ & archivinQ of classroom sessions		Probably
Document Camera	Y	
Pen-based "telestrating"	??	??
Other (describe)		

How is classroom scheduling done? SHAREPOINT Should the process change?

List/describe the spaces, other than research labs, classrooms and offices, that are needed by your department or that you believe are needed in this new facility (include number and sizes, quantity of students or staff accommodated, major furniture and equipment; typical time and duration of use each day, potential to share with other departments).

(examples include writing/tutoring labs, student association space, informal student study areas, print/copy center, cafe/food seNice, bookstore, computer lab, faculty

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resource center, technology support center, teaching innovation lab/instructional media center, departmental library/research center)

- An undergraduate student lounge.
- Also lounge/informal conference room per floor like PBB with kitchen facilities.
- Conference room per floor like PBB
- Also storage;
- Pod-casting/IT communal rooms;
- Poster printer room;
- Server/Data hub room
- Departmental Mailroom for noise abatement
- Elevated loading dock/external chemical storage area

- Solar panel collection resources
- Recharge, docking stations?

- Optimized Rooftop:
 - outdoor classroom,
 - social gathering areas,
 - green wall dividers and large planter features (watered by rainfall collection)
 - rain water sequestration features

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List or describe the preferred group or individual adjacencies to other groups, support spaces or other building functions within the following categories.

Mandatory Adjacencies

Admin staff need access to central PS office complex

Important Adjacencies

Undesirable Adjacencies

storage of frozen animal parts

Other than typical office and classroom furniture, identify special equipment or furniture needed or existing that supports your department's mission.

Add any other information that you believe is important to this strategic planning effort.

Need significantly more storage than we currently have access to

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DEPARTMENTAL DATA

DEPARTMENT/GROUP: US Dept. of Agriculture, Forest Service, Southern Research Station, Forest Inventory and Analysis (FIA) Research Work Unit
DIRECTOR/HEAD: William Burkman
CONTACT: Same
PHONE: 865-862-2073
E-MAIL: bburkman@fs.fed.us
INFORMATION DATE: Sept. 7, 2012

Provide a short narrative of the purpose or mission of your department (insert hyperlink if this information is web based).

To conduct a program of research to improve the understanding of Southern forest ecosystems through inventories and analyses of the status and trends in resource conditions, use, productivity, and sustainability; and to conduct research to provide improved technology for timely and accurate resource inventories. For more information regarding the FIA Program visit our webpage at <http://srsfia2.fs.fed.us/>

Does your department have a strategic plan for the near term future? If yes, please attach or insert hyperlink.

No not for specifically for our unit. The National FIA Program has a Strategic Plan for the US. This is updated every five or so years. The link to the plan is: http://www.fia.fs.fed.us/library/fact-sheets/overview/FIA_Strategic_Plan2.pdf

Do you anticipate any significant reorganization or change (administrative, research or academic) within the next few years ... Yes / No . . . If yes, describe below.

No, but the budget for the USDA Forest Service could change in the next few years which could change the amount of funds available to the FIA Program.

List your department's/group's priorities or goals for this project:

The Southern Research Station FIA Program needs office space to accommodate the SRS FIA Program. Most of the current 17,000 ft² is for office space, conference rooms, and plot documentation files. The current space is in a leased facility in Knoxville. As the SRS conducts collaborative research with University cooperators, the new arrangement would help enhance this activity. The Station would commit to enter a lease agreement with the University as soon as the new facility is opened. In accordance with Federal law, the Station’s commitment must be made contingent on availability of appropriated funds at the time of the lease. It is important to note that funding for Forest Service FIA Program has been sufficient and stable for years. I propose that a fair and reasonable annual lease rate could be negotiated after the new facility is designed and actual costs can be determined. The most efficient arrangement would be for the Station to lease one entire floor of the new facility. In addition, the SRS FIA Program, two other FS researchers are located on the UT campus and it would be advantageous to co-locate these individuals within the FIA space in the new building.

Historical Data & Growth Projections: Considering the history of the past 3 years, how much growth do you anticipate in the next 5-10 years, numbers of faculty/staff, researchers, students, contact hours, etc?

As we are not a teaching but research organization, the table below represents the SRS staff (primarily FIA) located in Knoxville. As such, the total individuals are listed in the staff line. In addition to the individuals listed below in this table, another 40 or so individuals are located throughout the southern US.

	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2021-22
Full-Time Faculty									
Full-Time Principal Investigator									
Full-Time Researcher									
Part-Time Lecturer									
Full time Lecturer									
Emeriti Faculty									
Graduate TAs									
Staff TOTAL ???	45	45	45	45	45	50	50	50	55
Contact Hours 100 level									
Contact Hours 200									
Contact Hours 300 level									
Contact Hours 400 level									
Contact Hours 500 and above level									
Majors Graduated									
Masters Awarded									
PhDs Awarded									

Provide other metrics you feel are important to describe your department's growth plans or future needs.

As one of the functions of the FIA program is to provide inventory data on the forests of the southern US to the public, we have been conducting more training on the use of on-line data query tools to partners, cooperators, and users of the FIA data.

Compare your department's estimate of percentage of contact hours in the following major classroom types with your department's vision of the desired future learning environments:
[Their info included "Teaching Learning Center & Classrooms" related to Learning Environments. Their existing building has an Auditorium.]

Not sure how to complete this table. I based the % on a 40-hour work week.

	Current % of contact hours	Ideal or Future Target % of Contact Hours
Seminar Room: single conference type table, movable chairs	20	25
Small Lecture Classroom: flat floor, moveable tablet-arm chairs or individual	2	5

408 Department Questionnaires - FIA [cont]

student desks		
Flexible Classroom: flat floor, 1-2 person moveable tables, task chairs; allows multiple arrangements for lecture, group discussion, group work	2	5
Technology Enabled Active Learning (TEAL) Classroom: flat floor, 9 person round tables for 3 groups of 3 student teams with computer for each 3 person group, task chairs; primarily designed for group work; technology allows faculty to show any Groups work to the entire room	0	0
Case Study Room: tiered floor, fixed tables in semicircle or U shape, task chairs; facilitates lecture and student-faculty or student-student discussion	0	0
Lecture Hall: tiered floor, fixed tables facing forward and task chairs or individual tablet-arm chairs	<1	1
Specialty Classroom or Teaching Lab: [insert description]	<1	2
Other: [insert description]		

[SHOULD WE INCLUDE A TABLE WITH LAB TYPES -RELATED TO ABOVE.]

Attach a list of current **research labs**, **lab support**, classrooms and specialty learning environments used by your department. Include size, maximum number of **researchers**, student seats, and utilization data for past academic year.

Research labs – 1
Conference rooms – 3
Offices – 31
Cubicles – 35

Identify existing laboratories, classrooms or learning spaces (building name and room number) that are thought to be the best **research** / learning spaces for your department:

From faculty's perspective; describe why: Not sure I can answer this question.

From students' perspective; describe why: Not sure I can answer this question.

What are the top complaints about **laboratories** / classrooms:

By faculty / **researchers**: Not sure I can answer this question.

By students: Not sure I can answer this question.

Identify current and desired instructional technologies:

	Currently Used	Future Need
White Board	X	X
Digital Projector/Screen or Digital Screen	X	X
Two or more digital projectors/screens or digital screens		X
Fixed computers with special software		X?
Audio recording and archiving classroom sessions		X?
Video recording and archiving of classroom sessions		X?
Document Camera		
Pen-based “telestrating”		X
Other (describe)		

How is classroom scheduling done? Should the process change?

NA

List/describe the spaces, other than research labs, classrooms and offices, that are needed by your department or that you believe are needed in this new facility (include number and sizes, quantity of students or staff accommodated, major furniture and equipment; typical time and duration of use each day, potential to share with other departments).
(examples include writing/tutoring labs, student association space, informal student study areas, print/copy center, cafe/food service, bookstore, computer lab, faculty resource center, technology support center, teaching innovation lab/instructional media center, departmental library/research center)

Kitchen/Breakroom facilities – 2
Excess publication and record storage – 2 (about 500 ft² @)
Other storage room – 1
Computer Server room – 1
Mailroom – 1
Printer (including 1 plotter)/copier areas – 5

List or describe the preferred group or individual adjacencies to other groups, support spaces or other building functions within the following categories.

- Mandatory Adjacencies – Need space for government vehicle parking near building plus would need some parking space for visitors.
- Important Adjacencies
- Undesirable Adjacencies

Other than typical office and classroom furniture, identify special equipment or furniture needed or existing that supports your department's mission.

We have 5 large plot file record storage units (approximately 8.5 ft. by 8.5 ft. by 4 ft.). We could use up 6 more of these units.

Add any other information that you believe is important to this strategic planning effort.

Due to security issues with Federal facilities, we would need to be able to restrict access to the FS portion of the building. In addition, we would need a system that would allow visitors and non-government individuals to notify FIA individuals that they need access to the FS portion of the building.

Detailed Equipment Requirements

ROOM DATA:

ROOM NAME:301 Ellington

DEPARTMENT:BESS

CONTACT:

USER:

PHONE:

E-MAIL:

Qty.	Equipment	Manufacturer/ Model	Characteristics	Services
1	X-ray Diffraction (XRD)	Bruker D8	Size 50 "w x 42 "d x 78 "h, 1000 lbs. Mtg. <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input checked="" type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type _____ <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
1	Recirculating Water Chiller	Haskes	Size 28 "w x 20 "d x 23 "h, 400 lbs. Mtg. <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type _____ <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
1	Computer to run XRD	Dell	Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V _____ A _____ Ø Power type _____ <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
1	Surface Area Analyzer	Beckman Coulter SA3100	Size 20 "w x 22 "d x 25 "h, 150 lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V _____ A _____ Ø Power type _____ <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
1	Particle Size Analyzer	Beckman Coulter LS131320	Size 42 "w x 12 "d x 18 "h, 100 lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V _____ A _____ Ø Power type _____ <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
1	Compter to Run Particle Size analyzzer	Dell	Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V _____ A _____ Ø Power type _____ <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type _____ <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type _____ <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type _____ <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	

Mtg: F (floor), B (bench), W (wall), C (ceiling) Status: E (existing), P (proposed) Electric Power Type: N (normal), S (standby)
Services: CW (cold water), HW (hot water), LW (lab grade water), VAC (vacuum), A (compressed air: <100 psi), N2 (nirtrogen), NG (natural gas), Other

UT Institute of Agriculture

Energy & Environmental Science Education Research Center

Lord, Aeck & Sargent

Program Data

Detailed Equipment Requirements

ROOM DATA:

ROOM NAME:311 Ellington

DEPARTMENT:BESS

CONTACT:

USER:

PHONE:

E-MAIL:

Qty.	Equipment	Manufacturer/ Model	Characteristics	Services
1	ICP Inductively Coupled Plasma Spectroscopy	Spectro Arcos	Size 60 "w x 33 "d x 69 "h, 600 lbs. Mtg. <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh 300 cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 230 V _____ A _____ Ø Power type _____ <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
1	Autosampler	Spectro	Size 24 "w x 24 "d x 11 "h, 30 lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V _____ A _____ Ø Power type _____ <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks: supports the ICP	
1	Computer	Dell	Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V _____ A _____ Ø Power type _____ <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks: Supports the ICP	
1	Water Bath	Thermo Neslab M33	Size 13 "w x 20 "d x 24 "h, 40 lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V _____ A _____ Ø Power type _____ <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks: Supports the ICP	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type _____ <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type _____ <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type _____ <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type _____ <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	

Mtg: F (floor), B (bench), W (wall), C (ceiling) Status: E (existing), P (proposed) Electric Power Type: N (normal), S (standby)
Services: CW (cold water), HW (hot water), LW (lab grade water), VAC (vacuum), A (compressed air: <100 psi), N2 (nirtrogen), NG (natural gas), Other

UT Institute of Agriculture

Energy & Environmental Science Education Research Center

Lord, Aeck & Sargent

Program Data

Detailed Equipment Requirements

ROOM DATA:

ROOM NAME:Soil Chemistry
Ellington 314

DEPARTMENT:BESS

CONTACT:

USER:Dr. M. Essington

PHONE:974-7266

E-MAIL:messington@utk.edu

Qty.	Equipment	Manufacturer/ Model	Characteristics	Services
1	Water Purification	Barnstead E-Pure	Size 32 "w x 8 "d x 21 "h, 40 lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat <input type="checkbox"/> Btuh <input type="checkbox"/> cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V <input type="checkbox"/> A <input type="checkbox"/> Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
2	Centrifuge	International Electric Co.	Size 30 "w x 24 "d x 40 "h, 400 lbs. Mtg. <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat <input type="checkbox"/> Btuh <input type="checkbox"/> cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V 30 <input type="checkbox"/> A <input type="checkbox"/> Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
1	Shaker Incubator	Innova 2100 New Brunswick	Size 19 "w x 19 "d x 10 "h, 50 lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat <input type="checkbox"/> Btuh <input type="checkbox"/> cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V 85 V <input type="checkbox"/> A <input type="checkbox"/> Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
1	Refrigerator	Frigidare	Size 31 "w x 31 "d x 99 "h, 100 lbs. Mtg. <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat <input type="checkbox"/> Btuh <input type="checkbox"/> cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V <input type="checkbox"/> A <input type="checkbox"/> Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
1	Freeze Dryer	Labconco	Size 18 "w x 23 "d x 49 "h, 70 lbs. Mtg. <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat <input type="checkbox"/> Btuh <input type="checkbox"/> cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V <input type="checkbox"/> A <input type="checkbox"/> Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
1	Recirculating Water Bath	Fisher Isotemp	Size 10 "w x 16 "d x 22 "h, 40 lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat <input type="checkbox"/> Btuh <input type="checkbox"/> cfm exh.	<input checked="" type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V <input type="checkbox"/> A <input type="checkbox"/> Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
1	Glove Box	Coy	Size 60 "w x 32 "d x 32 "h, 100 lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat <input type="checkbox"/> Btuh <input type="checkbox"/> cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V <input type="checkbox"/> A <input type="checkbox"/> Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size "w x "d x "h, lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat <input type="checkbox"/> Btuh <input type="checkbox"/> cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> V <input type="checkbox"/> A <input type="checkbox"/> Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size "w x "d x "h, lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat <input type="checkbox"/> Btuh <input type="checkbox"/> cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> V <input type="checkbox"/> A <input type="checkbox"/> Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	

Mtg: F (floor), B (bench), W (wall), C (ceiling) Status: E (existing), P (proposed) Electric Power Type: N (normal), S (standby)
Services: CW (cold water), HW (hot water), LW (lab grade water), VAC (vacuum), A (compressed air: <100 psi), N2 (nirtrogen), NG (natural gas), Other

UT Institute of AgricultureEnergy & Environmental Science Education Research Center

Lord, Aeck & SargentProgram Data

Detailed Equipment Requirements

ROOM DATA:

ROOM NAME:Ellington 315

DEPARTMENT:BESS

CONTACT:

USER:

PHONE:

E-MAIL:

Qty.	Equipment	Manufacturer/ Model	Characteristics	Services
1	Oven	American Scientific Products	Size 28 "w x 25 "d x 34 "h, 200 lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat <input type="checkbox"/> Btuh <input type="checkbox"/> cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> V <input type="checkbox"/> A <input type="checkbox"/> Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks: Needs Fume Hood to Exhaust	
1	Muffle Furnace	Thermodine	Size 36 "w x 32 "d x 24 "h, 40 lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat <input type="checkbox"/> Btuh <input type="checkbox"/> cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> V <input type="checkbox"/> A <input type="checkbox"/> Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks: Needs Fume Hood to Exhaust	
1	Centrifuge	International Electric Co.	Size 30 "w x 24 "d x 40 "h, 400 lbs. Mtg. <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat <input type="checkbox"/> Btuh <input type="checkbox"/> cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V <input type="checkbox"/> A <input type="checkbox"/> Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
1	Shaker	Eberbach	Size 18 "w x 13 "d x 13 "h, 50 lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat <input type="checkbox"/> Btuh <input type="checkbox"/> cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V <input type="checkbox"/> A <input type="checkbox"/> Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
1	Hydrometer Water Bath	Blue M	Size 46 "w x 11 "d x 30 "h, 100 lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat <input type="checkbox"/> Btuh <input type="checkbox"/> cfm exh.	<input checked="" type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V <input type="checkbox"/> A <input type="checkbox"/> Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size "w x "d x "h, lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat <input type="checkbox"/> Btuh <input type="checkbox"/> cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> V <input type="checkbox"/> A <input type="checkbox"/> Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size "w x "d x "h, lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat <input type="checkbox"/> Btuh <input type="checkbox"/> cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> V <input type="checkbox"/> A <input type="checkbox"/> Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size "w x "d x "h, lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat <input type="checkbox"/> Btuh <input type="checkbox"/> cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> V <input type="checkbox"/> A <input type="checkbox"/> Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	

Mtg: F (floor), B (bench), W (wall), C (ceiling) Status: E (existing), P (proposed) Electric Power Type: N (normal), S (standby)
Services: CW (cold water), HW (hot water), LW (lab grade water), VAC (vacuum), A (compressed air: <100 psi), N2 (nirtrogen), NG (natural gas), Other

UT Institute of AgricultureEnergy & Environmental Science Education Research Center

Lord, Aeck & SargentProgram Data

Detailed Equipment Requirements

ROOM DATA:

ROOM NAME: Ellington 317

DEPARTMENT: BESS

CONTACT:

USER: Drs. Essington/Jardne

PHONE: 974-7266

E-MAIL: messington@utk.edu

Qty.	Equipment	Manufacturer/ Model	Characteristics	Services
1	Zeta Meter	Zeta Meter	Size 12 "w x 12 "d x 12 "h, 26 lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
1	Glove Box	Coy	Size 120 "w x 36 "d x 44 "h, 100 lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	

Mtg: F (floor), B (bench), W (wall), C (ceiling) Status: E (existing), P (proposed) Electric Power Type: N (normal), S (standby)
Services: CW (cold water), HW (hot water), LW (lab grade water), VAC (vacuum), A (compressed air: <100 psi), N2 (nirtrogen), NG (natural gas), Other

Detailed Equipment Requirements

ROOM DATA:

ROOM NAME: 327 Ellington

DEPARTMENT: BESS

CONTACT:

USER: Dept/ M. Essington

PHONE: 974-7266

E-MAIL: messington@utk.edu

Qty.	Equipment	Manufacturer/ Model	Characteristics	Services
1	Laser Induced Breakdown Spectroscopy (LIBS)		Size 48 "w x 24 "d x 24 "h, 60 lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V _____ A _____ Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
1	Computer to run LIBS		Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> 120 V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
			Remarks:	

Mtg: F (floor), B (bench), W (wall), C (ceiling) Status: E (existing), P (proposed) Electric Power Type: N (normal), S (standby)
Services: CW (cold water), HW (hot water), LW (lab grade water), VAC (vacuum), A (compressed air: <100 psi), N2 (nirtrogen), NG (natural gas), Other

Detailed Equipment Requirements

ROOM DATA:

ROOM NAME:Ellington 235

DEPARTMENT:Entomology & Plant Pathology

CONTACT:

USER:Karen Vail

PHONE:865-974 7138

E-MAIL:kvail@utk.edu

Qty.	Equipment	Manufacturer/ Model	Characteristics	Services
1	Bookcase		Size 36 "w x 12 "d x 72 "h, lbs. Mtg. <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat Btuh cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG V A Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
		Remarks:		
1	Scale	O Haus	Size 9 "w x 12 "d x 12 "h, lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat Btuh cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG V A Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
		Remarks:		
1	Storage cabinet		Size 36 "w x 18 "d x "h,78 lbs. Mtg. <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat Btuh cfm exh.	<input checked="" type="checkbox"/> CW <input checked="" type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG V A Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
		Remarks:		
1	Pesticide storage cabinet		Size 36 "w x 18 "d x 78 "h, lbs. Mtg. <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat Btuh cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG V A Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
		Remarks:		
1	Chest Freezer		Size 36 "w x 13 "d x 34 "h, lbs. Mtg. <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat Btuh cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG V A Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
		Remarks:		
1	Microscope, light, camera, and computer		Size 48 "w x 18 "d x 24 "h, lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat Btuh cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG V A Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
		Remarks:		
1	Microscope and light		Size 24 "w x 18 "d x 24 "h, lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat Btuh cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG V A Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
		Remarks:		
1	Double sink		Size 51 "w x 25 "d x 14 "h, lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input checked="" type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat Btuh cfm exh.	<input type="checkbox"/> CW <input checked="" type="checkbox"/> HW <input checked="" type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG V A Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
		Remarks:		
2	File cabinets		Size 15 "w x 26 "d x 52 "h, lbs. Mtg. <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat Btuh cfm exh.	<input checked="" type="checkbox"/> CW <input checked="" type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG V A Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
		Remarks:		

Mtg: F (floor), B (bench), W (wall), C (ceiling) Status: E (existing), P (proposed) Electric Power Type: N (normal), S (standby)
Services: CW (cold water), HW (hot water), LW (lab grade water), VAC (vacuum), A (compressed air: <100 psi), N2 (nitrogen), NG (natural gas), Other

UT Institute of Agriculture

Energy & Environmental Science Education Research Center

Lord, Aeck & Sargent

Program Data

Detailed Equipment Requirements

ROOM DATA:

ROOM NAME:Ellington 235

DEPARTMENT:Entomology & Plant Pathology

CONTACT:

USER:Karen Vail

PHONE:865-974 7138

E-MAIL:kvail@utk.edu

Qty.	Equipment	Manufacturer/ Model	Characteristics	Services
1	Biological Incubator	Percival Scientific Model I-41VL	Size 41 "w x 33.6 "d x 77.2 "h, lbs. Mtg. <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat Btuh cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG V A Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
		Remarks:		
4	Bread racks		Size 37 "w x 25 "d x 74 "h, lbs. Mtg. <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat Btuh cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG V A Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
		Remarks:		
2	Rearing shelves		Size 36 "w x 14 "d x 56 "h, lbs. Mtg. <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat Btuh cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG V A Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
		Remarks:		
1	Rearing shelf		Size 36 "w x 14 "d x 72 "h, lbs. Mtg. <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat Btuh cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG V A Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
		Remarks:		
2	Refrigerators		Size 19 "w x 21 "d x 44 "h, lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat Btuh cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG V A Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
		Remarks:		
1	Convection Oven		Size 19 "w x 13 "d x 12 "h, lbs. Mtg. <input type="checkbox"/> F <input checked="" type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat Btuh cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG V A Ø Power type <input checked="" type="checkbox"/> N <input type="checkbox"/> S
		Remarks:		
1	cart		Size 26 "w x 45 "d x 34 "h, lbs. Mtg. <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input checked="" type="checkbox"/> E <input type="checkbox"/> P Heat Btuh cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG V A Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
		Remarks:		
2	Insect Walk-In growth chambers		Size "w x "d x "h, lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input checked="" type="checkbox"/> P Heat Btuh cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG V A Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
		Remarks:	Proposed for future building	
	Clothes Washer and dryer		Size "w x "d x "h, lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input checked="" type="checkbox"/> P Heat Btuh cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG V A Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
		Remarks:	Proposed for future building	

Mtg: F (floor), B (bench), W (wall), C (ceiling) Status: E (existing), P (proposed) Electric Power Type: N (normal), S (standby)
Services: CW (cold water), HW (hot water), LW (lab grade water), VAC (vacuum), A (compressed air: <100 psi), N2 (nitrogen), NG (natural gas), Other

UT Institute of Agriculture

Energy & Environmental Science Education Research Center

Lord, Aeck & Sargent

Program Data

Detailed Equipment Requirements

ROOM DATA:

ROOM NAME: Ellington PSB 227

DEPARTMENT: Entomology and Plant Pathology

CONTACT:

USER: Dr. Trout Fryxell

PHONE: 4-7138

E-MAIL: rfryxell@utk.edu

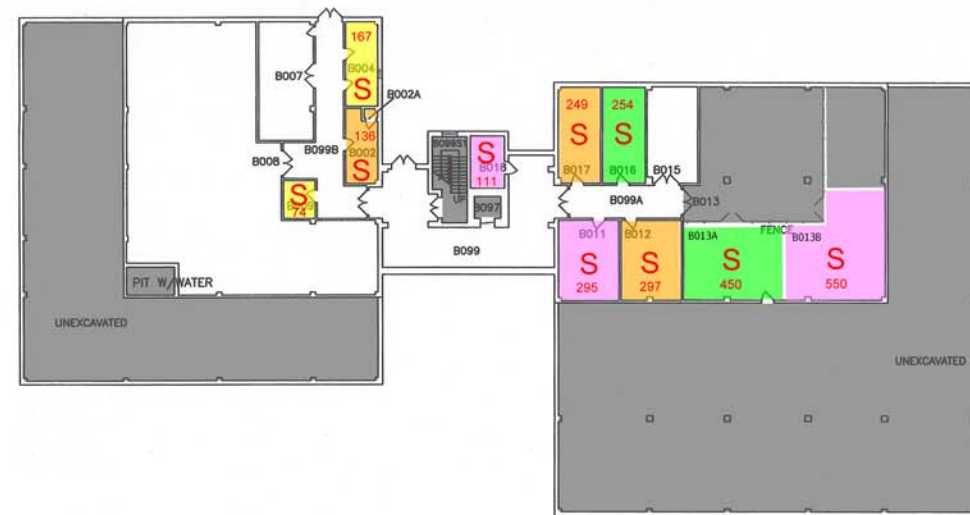
Qty.	Equipment	Manufacturer/ Model	Characteristics	Services
1	chest freezer	Amana DeepFreeze	Size 32 "w x 21 "d x 30 "h, 8 lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
Remarks: already have, just need the space				
1	Refridgerator/Freezer	Roper	Size 30 "w x 30 "d x 66 "h, 11 lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
Remarks: already have, just need the space				
4	desk/tables		Size 48 "w x 28 "d x 30 "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
Remarks: already have, just need the space				
1	table/counter		Size 240 "w x 28 "d x 30 "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
Remarks: already have, just need the space				
5	shelf units		Size 36 "w x 20 "d x 84 "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
Remarks: already have 3, could use 2 more and the space				
4	bookshelves/file cabinets		Size 30 "w x 60 "d x 50 "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
Remarks: already have, just need the space				
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
Remarks:				
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
Remarks:				
			Size _____ "w x _____ "d x _____ "h, _____ lbs. Mtg. <input type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> C Status <input type="checkbox"/> E <input type="checkbox"/> P Heat _____ Btuh _____ cfm exh.	<input type="checkbox"/> CW <input type="checkbox"/> HW <input type="checkbox"/> LW <input type="checkbox"/> VAC <input type="checkbox"/> A <input type="checkbox"/> N2 <input type="checkbox"/> NG <input type="checkbox"/> _____ V _____ A _____ Ø Power type <input type="checkbox"/> N <input type="checkbox"/> S
Remarks:				

Mtg: F (floor), B (bench), W (wall), C (ceiling)
Status: E (existing), P (proposed)
Services: CW (cold water), HW (hot water), LW (lab grade water), VAC (vacuum), A (compressed air: <100 psi), N2 (nirtrogen), NG (natural gas), Other

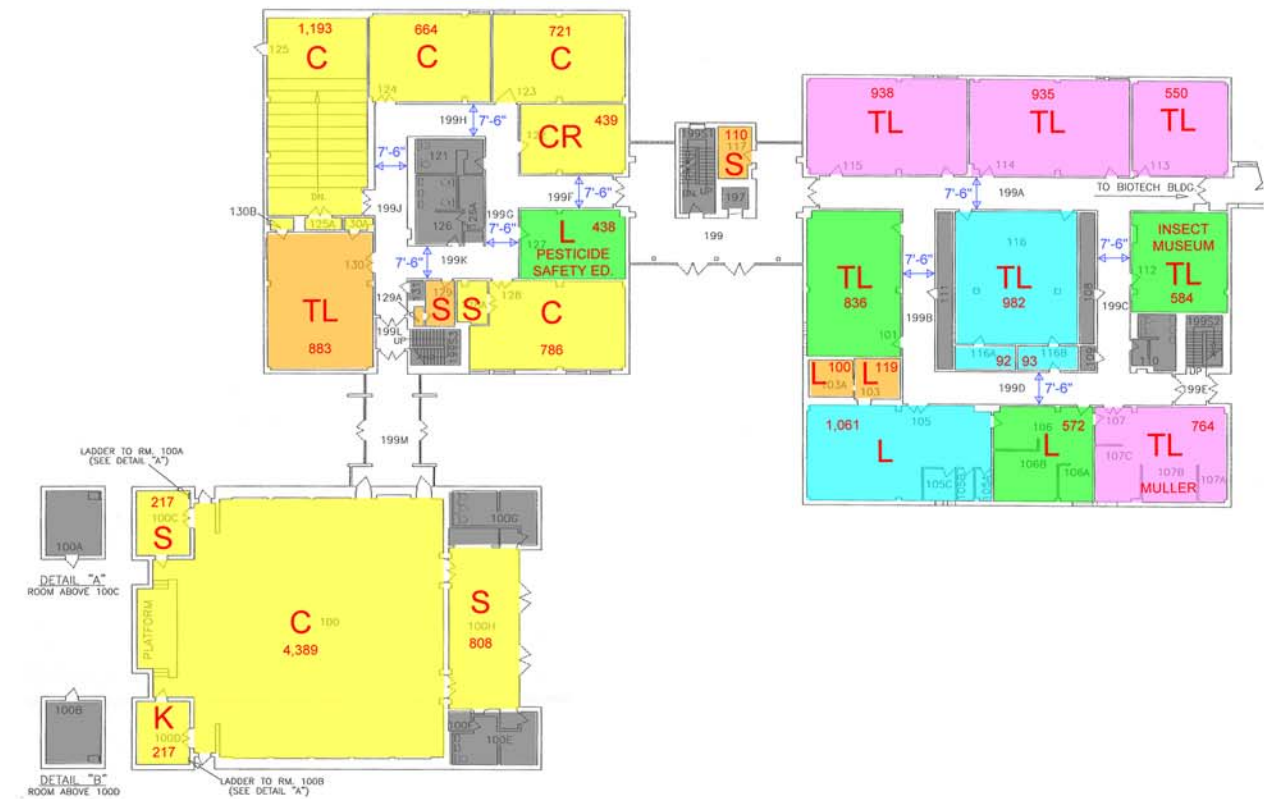
UT Institute of Agriculture
Lord, Aeck & Sargent

Energy & Environmental Science Education Research Center
Program Data

410 Existing Ellington Space Summary



Basement Level



First Floor Level

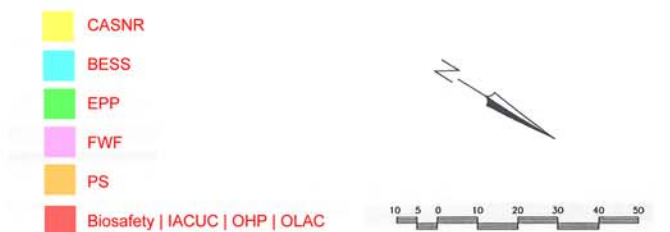
410 Existing Ellington Space Summary [cont]



Second Floor Level



Third Floor Level



410 Existing Ellington Space Summary - 2013

	Room #	Area	Notes
College of Agricultural Sciences & Natural Resources			
Classrooms	100	4,389 sf	Hollingsworth Auditorium (370 Seats)
	122	439 sf	Used as a conference room
	123	721 sf	
	124	664 sf	
	125	1,193 sf	Tiered Classroom (90 Seats)
	128	786 sf	Veterinary School Classroom (15-25 seats)
		8,192 sf	
Classroom Support	100C	217 sf	Table/Chair Storage
	100D	217 sf	Kitchen
	100H	808 sf	Pre-Function Space
	125A	31 sf	Storage
	128A	78 sf	Storage
	130A	23 sf	Storage
	130B	21 sf	Storage
Storage		1,395 sf	
	B004	167 sf	Storage
	B009	74 sf	Storage
		241 sf	
Total		9,828 sf	

	Room #	Area	Notes
Biosystems Engineering & Soil Science			
Teaching Laboratory	116	982 sf	Teaching Lab (General Wet Chemistry, Instructional Tech)
		982 sf	
Research Laboratory	105	930 sf	Biogeochemistry
	301	447 sf	Pedology & Mineralogy (X-Ray Room - XRD)
	303	440 sf	Soil Carbon & Ag Sustainability
	304	129 sf	Soil Sample Preparation
	305	95 sf	Soil Sample Preparation
	311	154 sf	Soil Analyses, Wet Chemistry
	314	594 sf	Soil Chemistry
	315	468 sf	Soil Survey & Characterization
	317	455 sf	Environmental Soil & Remediation (10% Hydrogen Gas Atmosphere)
	329	567 sf	Climatology, Nutrient Management -or- Plant Sciences-Plant Nutrition
	333	455 sf	Soil Physics & Hydrology
		4,734 sf	
Laboratory Support	105A	32 sf	
	105B	34 sf	
	105C	65 sf	
	116A	92 sf	
	116B	93 sf	
	326	183 sf	Soil Map Drafting & Storage
	327	72 sf	Soil Map Drafting & Storage
		571 sf	
Office	340	100 sf	Research Associates
	353	131 sf	Emeriti Faculty
	377	109 sf	Teaching Faculty
		340 sf	
Total		6,627 sf	

410 Existing Ellington Space Summary [cont] - 2013

	Room #	Area	Notes
Entomology & Plant Pathology			
Teaching Laboratory	101	836 sf	IPM, Economic Entomology, Veterinary Entomology, Field Crops and Vegetable Insects
	112	584 sf	Insect Museum
	127	438 sf	Pesticide Safety Education Program Testing and Training
		1,858 sf	
Research Laboratory	106	302 sf	Extension Diagnostics and Communications
	227	441 sf	Medical / Veterinary Entomology Dirty Lab
	234	304 sf	Urban Pest Bioassays / Chemical Evaluations
	235	392 sf	Urban Pest Rearing Room
		1,439 sf	
Laboratory Support	106A	80 sf	Extension Diagnostics and Communications
	106B	190 sf	Distance Storage
	233	283 sf	Media Prep (Wiley Mill, Autoclaves)
	234A	100 sf	
	235A	17 sf	
	235B	17 sf	
Office		687 sf	
	205	123 sf	Reception and Package/Specimen Delivery Area
	206	95 sf	Undergraduate Honors Program
	207	254 sf	Office
	208	102 sf	Office
	209	102 sf	Office
	210	101 sf	Office
	211	101 sf	Office
	212	102 sf	Office
	213	101 sf	Office
	214	172 sf	Office
	215	117 sf	Office
	219	105 sf	Office
	220	158 sf	Office
	221	165 sf	Office
		1,798 sf	
Office Support	205A	24 sf	Storage
	218	200 sf	Computer Room and EPP Mailroom, Refrigerators
		224 sf	
Storage	B013a	450 sf	Equipment Storage (power sprayer, back sprayer, etc.)
	B016	254 sf	Extension Publications, Department Displays
	236	110 sf	
		814 sf	
Total		6,820 sf	

	Room #	Area	Notes
Forestry, Wildlife & Fisheries			
Teaching Laboratory	107	764 sf	Wildlife Teaching Preparation (Microscopy/Necropsy)
	113	550 sf	
	114	935 sf	
	115	938 sf	
		3,187 sf	
Research Laboratory	201	373 sf	
	203	367 sf	Environmental Sciences
	204	374 sf	Forest Stand Dynamics Research Lab
	216	279 sf	
	217	291 sf	Wood Chemistry Lab
	230	295 sf	
	231	406 sf	
	232	286 sf	
		2,671 sf	
Office	239	101 sf	Office
	240	134 sf	Office
	241	131 sf	Office
	242	101 sf	Office
	243	101 sf	Office
	244	174 sf	Office
	246	101 sf	Office
	247	101 sf	Office
	248	102 sf	Office
	250	118 sf	Office
	275	101 sf	Office
	276	101 sf	Office
	277	100 sf	Office
	278	227 sf	Office
	279	101 sf	Office
	280	109 sf	Office
	281	98 sf	Office
	282	108 sf	Office
	306	110 sf	Office
	307	102 sf	Office
Office Support	308	253 sf	Office
	358	99 sf	Office
	375	101 sf	Office
		2,774 sf	
	244A	28 sf	
	245	17 sf	
	274	284 sf	Suite
	274A	12 sf	
	274B	13 sf	
	274C	46 sf	
Storage	274D	99 sf	Reception?
		499 sf	
	B011	295 sf	
	B013B	550 sf	
	B018	111 sf	
		956 sf	
Total		10,087 sf	

410 Existing Ellington Space Summary [cont] - 2013

	Room #	Area	Notes
Plant & Soil Sciences			
Teaching Laboratory	130	883 sf	Landscape Drafting Room
		883 sf	
Research Laboratory	103	119 sf	
	229	914 sf	Horticulture Physiology (Light Chemistry and Soil Prep)
	316	456 sf	
	322	463 sf	
	323	466 sf	
	325	466 sf	
	330	450 sf	Plant Breeding
		3,334 sf	
Laboratory Support	103A	100 sf	
	328	68 sf	Seed Storage Freezer
	331	81 sf	Seed Storage Freezer
		249 sf	
Office	249	88 sf	Office
	255	87 sf	Office
	256	102 sf	Office
	257	101 sf	Office
	258	225 sf	Office
	259	101 sf	Office
	260	101 sf	Office
	261	179 sf	Office
	262	148 sf	Office
	263	149 sf	Office
	264	101 sf	Office
	266	100 sf	Office
	267	192 sf	Office
	268	102 sf	Office
	309	148 sf	Office
	346	102 sf	Office
	347	102 sf	Office
	348	98 sf	Office
	349	102 sf	Office
	350	226 sf	Office
	351	101 sf	Office
	352	99 sf	Office
	354	102 sf	Office
	355	149 sf	Office
	357	149 sf	Office
	360	102 sf	Office
	361	100 sf	Office
	362	192 sf	Office
	363	102 sf	Office
	364	92 sf	Office, Reception?
	374	227 sf	Office
	378	96 sf	Office
		4,065 sf	
Office Support	252	108 sf	Suite, Main Office
	253	39 sf	File Room
	254	33 sf	Supply room
	265	99 sf	Storage
	269	150 sf	Suite

Office Support cont			
	270A	15 sf	Storage
	270B	14 sf	Storage
	306A	26 sf	Storage
	310	170 sf	Poster Printer
	356	65 sf	(supplies stored here, too)
	359	76 sf	File room
		795 sf	
Storage	B002	136 sf	
	B002A	9 sf	
	B012	297 sf	
	B017	249 sf	
	117	110 sf	
	129	82 sf	
	129A	13 sf	
	334	110 sf	
		1,006 sf	
Total		10,332 sf	

410 Existing Ellington Space Summary [cont] - 2013

	Room #	Area	Notes
Biosafety IACUC OHP OLAC			
Research Laboratory			
	228	402 sf	Not Operational - Animal Resources Laboratory?
	332	453 sf	OLAC Biosafety Lab
		855	
Office			
	336	114 sf	Larkesha Coffee Office - OLAC
	337	100 sf	Chris Carter Office - OLAC
	338	99 sf	Jane Czarra Office - OLAC
	339	101 sf	Will Hill's office - OLAC
	342	102 sf	Patricia Coan Office - OLAC
	343	102 sf	Joleen Adams Office - OLAC
	345	129 sf	? - OHP
	369	153 sf	Jessica Woofter - Biosafety and IACUC
	370	101 sf	Brian Ranger - Biosafety
	371	103 sf	Sarah Difurio
	372	102 sf	Amy Knowles Office - OHP
	373	101 sf	Elizabeth P Bailey - IACUC
	376	135 sf	Grad Student Office
		1,442	
Office Support			
	341	224 sf	Conference Room - Shared
	344	82 sf	Student Area - Table with Magazines
		306	
Total			
		2,603 sf	



410 Existing Ellington Space Summary [cont] - 2018

Animal Resource Laboratory				
Offices				
336	Office service	1	113	Ben Edenfield office
337	Office, staff	1	98	Chris Carter Office
338	Office, staff	1	96	Jeri O'Rourke
339	Office, faculty	1	99	vacant office
341	Conference room	8	220	OLAC Conference Room
342	Office, faculty	1	100	Vacant Office - was Coan
343	Office, faculty	1	100	Joleen Adams Office
344	Office service	0	41	OIACStorage Area
345	Office, staff	1	126	Amy Knowles Office
344A	Office service	0	37	OLACStorage Area
Subtotal			1,030	
Research Lab				
332	Laboratory, research/non-class	1	431	OLACBiosafety& Chemical Safety
Subtotal			431	
Total			1,461	

Biosystems Eng & Soil Science Univ				
Offices				
326	Office, graduate research asst	2	181	
340	Office, program staff	1	99	Stewart
353	Office, emeritus	1	122	Wadsworth
377	Office, emeritus	1	107	Lessman
			509	
Teaching Labs				
Research Lab				
116	Laboratory, research/non-class	20	979	CASNR
301	Laboratory, research/non-class	2	438	JTA lab
303	Laboratory, research/non-class	2	434	NSE lab
304	Laboratory, research/non-class	1	127	Entry to 305
305	Laboratory, research/non-class	1	93	LIBS
311	Laboratory, research/non-class	1	139	ICAP
314	Laboratory, research/non-class	3	591	MEE lab
315	Laboratory, research/non-class	2	454	JTA lab
317	Laboratory, research/non-class	2	444	
329	Laboratory, research/non-class	3	564	lab
333	Laboratory, research/non-class	2	442	JHL lab
116A	Laboratory svc,research/noncls	0	91	CASNR
116B	Laboratory svc,research/noncls	0	90	CASNR
			4,886	
Total			5,395	

410 Existing Ellington Space Summary [cont] - 2018

CASNR				
Classrooms				
123	Classroom, special purpose	28	714	
124	Classroom, general	24	656	
125	Classroom, general	89	1,185	
127	Study, reading	20	432	moved to CASNR
			2,987	
Classrooms Support				
128	Classroom, general	33	777	
130	Classroom, special purpose	18	876	
125A	Classroom service	0	27	
128A	Classroom service	0	76	
130A	Classroom service	0	20	
130B	Classroom service	0	18	
			1,794	
Total			4,781	

Entomology and Plant Pathology				
Offices				
205	Office, graduate research asst	1	118	
207	Office, faculty	1	251	State
208	Office, faculty	1	100	
209	Office, emeritus	1	100	
210	Office, graduate research asst	2	98	State
211	Office, program staff	2	100	State
213	Office, program staff	2	100	State
214	Office, faculty	1	167	State
218	Office, student employee	1	111	State
219	Office, emeritus	1	102	State
220	Office, faculty	1	156	State
221	Office, program staff	2	82	State
218A	Office, student employee	1	67	State
			1,552	
205A	Office service	0	19	Closet
221A	Office service	1	38	State
221B	Office service	1	38	State
206	Unit storage	1	93	State
212	Unit storage	1	99	State
B016	Unit storage	0	252	State
			539	
Teaching Labs				
101	Laboratory, class	20	828	EPP's Classroom
			828	
Research Lab				
106	Lab-WET, research/non-class	4	292	State; reserach team helped du summer
112	Laboratory, research/non-class	2	574	Insect Museum
227	Laboratory, research/non-class	4	423	Trout lab
228	Lab-WET, research/non-class	4	386	State; Not claimed on survey
233	Laboratory svc,res/nc-autoclav	0	268	Autoclave:all EPP use
234	Lab-WET, research/non-class	2	285	State
235	Lab-WET, research/non-class	2	381	State; Brad Hines stud will start
106A	Laboratory svc,research/noncls	0	75	State; Com Server
106B	Laboratory svc,research/noncls	2	189	State; Training Lab
234A	Laboratory svc,res/nc-storage	0	96	State
235A	Laboratory svc,research/noncls	0	16	State
235B	Laboratory svc,research/noncls	0	16	State
			3,001	
Total			5,920	

410 Existing Ellington Space Summary [cont] - 2018

Forestry Univ.				
Offices				
236	Office service	0	107	
239	Office, staff	1	98	
240	Office, graduate research asst	1	131	
244	Office, faculty	1	173	
246	Office, faculty	1	100	
247	Office, faculty	1	100	
248	Office, faculty	1	100	
274	Suite/Department corridor	0	328	
277	Office, clerical	1	99	
278	Office, faculty	1	223	
307	Office, staff	1	100	
308	Office, graduate research asst	1	250	
358	Office, graduate research asst	1	97	
375	Office, graduate research asst	1	99	Clark
244A	Office service	0	25	
274A	Office service	0	10	
274B	Office service	0	10	
274C	Office service	0	41	
274D	Office service	0	95	
			2,186	
B011	Unit storage	0	292	
B018	Unit storage	0	108	
			400	
Teaching Labs				
Research Lab				
107	Laboratory svc,res/nc-prep	0	415	
201	Laboratory, research/non-class	1	369	
203	Laboratory, research/non-class	1	346	
216	Laboratory, research/non-class	1	277	
217	Laboratory, research/non-class	1	287	
231	Laboratory, research/non-class	1	388	
232	Laboratory, research/non-class	1	283	
107A	Laboratory service, class	1	65	Training Lab
107B	Laboratory service, class	2	128	Training Lab
107C	Laboratory service, class	2	144	Training Lab
			2,702	
Total			5,288	

Forestry Wildlife & Fisheries				
Classrooms				
113	Classroom, special purpose	1	545	
115	Classroom, special purpose	1	929	
			1,474	
Offices				
241	Office, graduate teaching asst	1	129	
242	Office, faculty	1	99	
243	Office, faculty	1	100	
245	Office service	1	15	State
250	Office, clerical	1	116	State
275	Office, faculty	1	97	State
276	Office, clerical	1	99	
279	Office, faculty	1	100	State
280	Office, faculty	1	107	State
281	Office, faculty	1	96	State
282	Office, faculty	1	105	State
306	Suite/Department corridor	1	108	State
			1,171	
Research Lab				
114	Laboratory, open	1	923	
204	Laboratory, research/non-class	1	372	State
230	Laboratory, research/non-class	1	292	State
			1,587	
Total			4,232	

410 Existing Ellington Space Summary [cont] - 2018

FS Admin				
Offices				
B004	Office, other non-exempt	1	166	
B009	Shop	0	72	
			238	
Total			238	

Institutional Animal Care and Use Commit				
Offices				
372	Office, staff	1	99	Glass-Mattie Office
			99	
Total			99	

Institute of Agriculture - Admin				
Classrooms				
100	Assembly	370	4,346	Chair/Tables upto 370
100C	Assembly service	0	209	Table/Chair Storage
100D	Assembly service	0	209	Kitchen
100H	Assembly service	0	788	Foyer
			5,552	
Offices				
369	Office, clerical	1	151	Jessica Woofter
370	Office, staff	1	97	Brian Ranger
371	Office, staff	1	101	linda Hamilton
373	Office, staff	1	99	Elizabeth P Bailey
			448	
Total			6,000	

410 Existing Ellington Space Summary [cont] - 2018

Plant Sciences				
Classrooms				
122	Classroom, special purpose	8	436	MLA display space
			436	

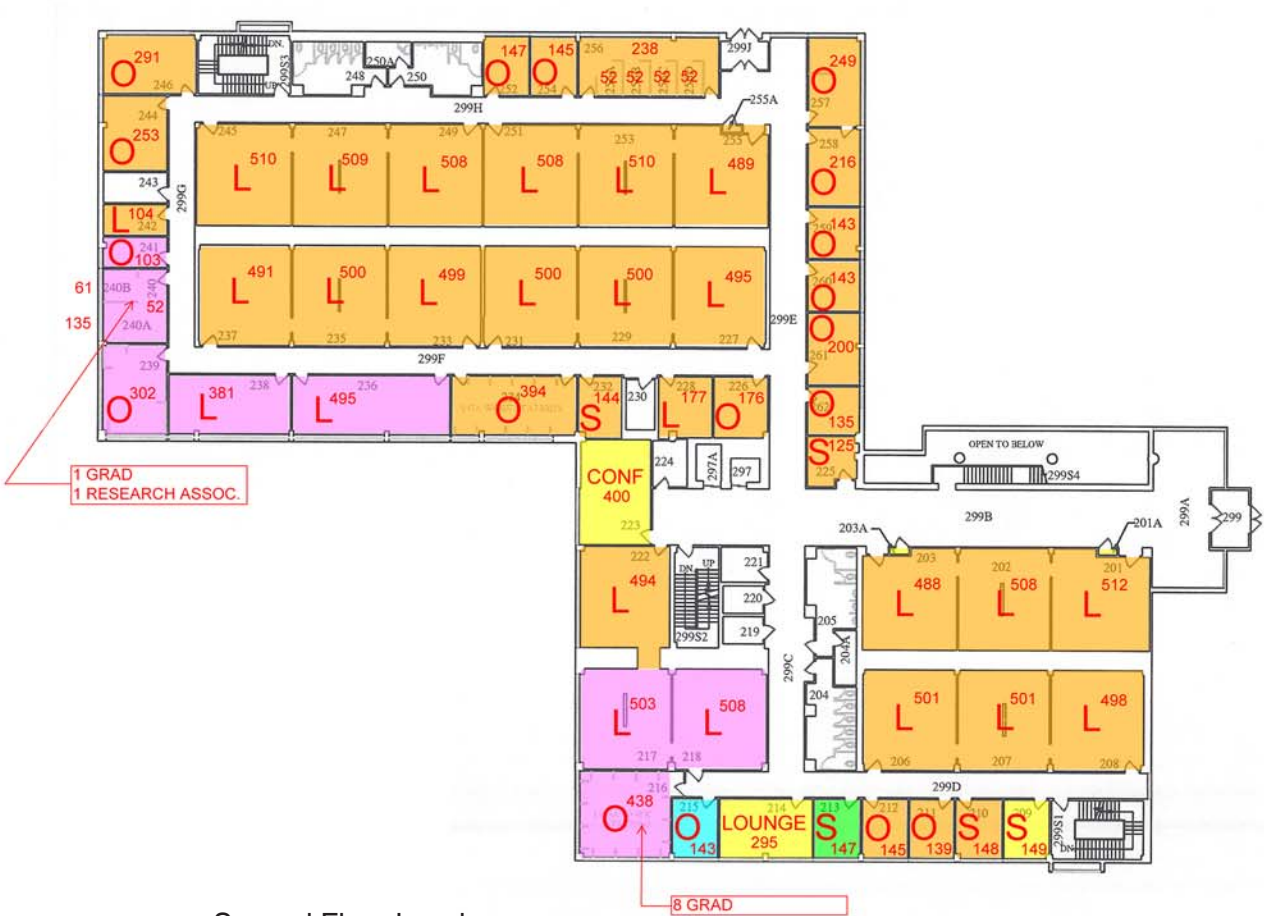
Offices				
249	Office, visitor	1	85	Master Gardner
252	Office service	0	98	Main Office
253	Office service	0	37	File Room
254	Office service	0	31	Supply room
255	Office service	2	86	Emeritus/off station faculty office
256	Office, program staff	1	100	Allen, Fred
257	Office, clerical	1	99	Seigel, Dawn
258	Office, staff	1	222	Business Manager
259	Office, clerical	1	99	Meadows, Patsy R
260	Office, clerical	1	99	McCall, Wanda
261	Office service	1	174	Advising
262	Office, staff	1	146	Kitts, Sandy
263	Office, faculty	1	146	Samples, Thomas J
264	Office, staff	2	99	McCarter, Bill
266	Office, clerical	1	99	Branch, Deneal
267	Office, faculty	1	189	Pulte, Andrew
268	Office, staff	1	99	Vacant hold
269	Office service	0	147	Mailbox area
309	Office, staff	1	146	Walker, Cynthia
310	Office service	0	167	Poster Printer
346	Office, program staff	1	99	Moore, Jenny
347	Office, faculty	1	100	Sykes, Virginia
348	Office, graduate teaching asst	1	96	GRA
349	Office, program staff	3	99	Butler, Shawn
350	Office, faculty	1	223	West, Dennis R
351	Office, staff	1	99	Witmer, Brian
352	Office, staff	2	94	Yeary/Da Silva
354	Office, faculty	1	99	Bumgarner, Natalie
355	Office, faculty	1	146	Fulcher, Amy
356	Office, graduate assistant	2	101	GRA
357	Office, faculty	1	146	Lockwood, David W
359	Office, graduate assistant	1	74	GRA office
360	Office, staff	1	100	McHugh, Jeff
361	Office, staff	1	99	Toler, Heather
362	Office, faculty	1	190	Wszelaki, Annette
363	Office, staff	1	99	Pietsch, Grace
364	Office, staff	1	85	Beeler, Joe
374	Office, faculty	1	224	Robert Auge
376	Office, program staff	1	132	Bowen, Catherine
378	Office, graduate research asst	2	94	GRA office
			4,767	

Offices				
117	Unit storage	0	103	storage
129	Central computer/telecommunctn	1	80	Tarek Hewezi
265	Unit storage	0	97	Package room
105C	Central computer/telecom svc	1	63	Stewart/Chen
129A	Office service	0	11	Tarek Hewezi
270A	Office service	0	12	
270B	Office service	0	12	
306A	Unit storage	0	21	thesis closet
B002	Unit storage	0	133	Storage
B002A	Unit storage	0	7	Storage
B012	Unit storage	0	293	Storage
B017	Unit storage	0	246	Storage
			1,078	
Teaching Labs				
103	Laboratory, class	1	117	Stewart/Chen
105	Laboratory, class	4	917	Stewart/Chen
105A	Laboratory service, class	1	30	Stewart/Chen
105B	Laboratory service, class	1	33	Stewart/Chen
			1,097	
Research Lab				
229	Laboratory, research/non-class	3	902	Horvath/Fulcher
316	Laboratory, research/non-class	1	442	
322	Laboratory, research/non-class	7	447	Butler/Bhandari/Tobacco
323	Laboratory, research/non-class	9	443	Wszelaki
325	Laboratory, research/non-class	6	463	Sykes
327	Unclassified--inactv, availabl	0	70	Darkroom
328	Laboratory svc,res/nc-coldrm	0	65	PS Freezer
330	Laboratory, research/non-class	3	421	Deyton/Kopsell
331	Laboratory svc,res/nc-coldrm	0	75	Freezer
103A	Laboratory svc,res/nc-coldrm	0	98	Stewart/Chen
			3,426	
Total			10,804	

411 Existing Plant Biotech Building Space Summary



First Floor Level



Second Floor Level



Basement Level

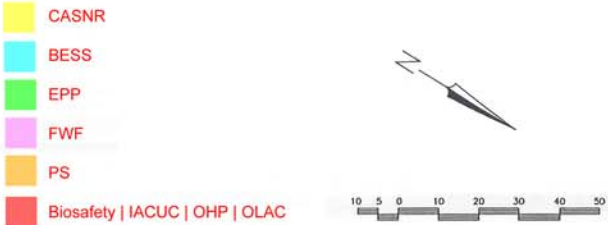
411 Existing Plant Biotech Building Space Summary [cont]



Third Floor Level



Fourth Floor Level



.01 NARRATIVE

UTK tasked the design team with assessing the requirements for surge space following the demolition of Ellington and prior to the construction of the new building. McCord Hall, the Publications Building, and a new surge building were studied as potential sites for relocation, build-out and retrofit. The following diagrams illustrate possible space utilization strategies.

We also recommend portable units for some programmatic functions, though the team will require input from the Ag Campus in order to find appropriate locations for these units. Traditional Classroom space is not accounted for in Option 2, under the assumption that the current class load will use either other classroom spaces on the AG campus or nationalized classrooms on the main campus. Storage is also not accounted for in the diagrams. Events held in the Hollingsworth Auditorium are included in this scenario.

The diagrams indicate specific spaces for laboratories based on requirements provided by each of the departments. Some spaces are shown as a shared resource. The offices are not classified by departments, under the assumption that they may be shared in the interim as needed. At the time of the project start, each of the spaces should be re-evaluated and specific spaces assigned.

The laboratory infrastructure for McCord Hall will also need to be assessed after each occupant is identified. Several Researchers requested Air, Gas, Vacuum, DI Water and Fume Hoods. These systems can be accommodated on an as-needed basis with point of source units. Also included in this section is information about ductless fume hoods. These hoods would serve the users well in a “Surge” space.

Each department’s Research laboratory needs break down as follows:

Department	Existing Ellington Laboratory SF	Proposed SF [McCord]	Additional SF
BESS	4,734	2567	2 Labs
EPP	1,449	*531	1 Lab, PSEPTC Space and 12 Offices
FWF	2,671	0	7 Labs, 3 Classrooms, 1 Necropsy Teaching Lab and 23 Offices
PSS	3,334	809	8 Labs, 1 Seed and Processing Area, 23 offices
Biosafety IACUC OHP OLAC	855		

Combined Existing Storage at Ellington is 2,776 SF. The bulk of this requires conditioned space.

* Necropsy space is included in McCord at 722 SF and a Classroom for FWF courses.

As indicated above, program space is greatly reduced in the utilization of McCord Hall. Diagrams of Laboratory Modular Buildings are included for more potential Surge Space. Each of the larger units would house two laboratory units.

.02 BIOSYSTEMS ENGINEERING AND SOIL SCIENCE (BESS)

January 14, 2013

UTIA Energy and Environmental Science Education and Research Center
Department of Biosystems Engineering and Soil Science (BESS)

A List of Departmental Needs while displaced from Ellington. (We will focus on the laboratory requests. Be specific: such as linear feet of bench, sinks, gases, bottled gases, specialty environmental space such as cold room, growth chambers, fume hoods, dry bench space.)

Nine ESS faculty members currently occupy approximately 3,810 SF in Ellington. During the displacement of Ellington, minimum laboratory needs are:

Clean, analytical chemistry lab space (Essington)

1. With floor space for three (3) centrifuge units, two refrigerator, one (1) freeze dryer, and a glove box.
2. 120 linear feet of wet-lab bench space consistent with Ellington 314, which includes bench space for analytical balances, pH meters and other minor equipment, a temperature-controlled water bath unit, two (2) drying ovens, a zeta-meter, and a shaker.
3. Two (2) sinks are required with drying racks and dishwashing space.
4. Wall space for water purification system, proximate to sink is required, as well as space for carboys that contain purified water (also proximate to sink).
5. Total of 60 SF of storage, including spaces for dry chemicals, and storage for acids/bases and volatile/flammable organic solvents.
6. Total of 30 SF storage for glassware and other laboratory supplies (consistent with 314) is also required.
7. House gas, vacuum, and compressed air, as well as space for ten (10) gas cylinders are needed.

Instrumentation Lab (Community lab, Essington in charge)

With instrument Electrical/Venting/Refrigeration Requirements (ICP requires isolation with exhaust system and refrigeration; XRD requires considerable floor space and clean lab; surface area analyzer and particle size analyzer are large but bench-top, require clean lab; ovens are bench top, require fume hoods):

Beckman Coulter SA 3100 Surface area analyzer
Normal plug – no exhaust requirement

Beckman Coulter LS 13 320 Laser diffraction particle size analyzer
Normal plug – no exhaust requirement

Bruker D8 Advance XRD
Weight – load requirements 717 kg/m2
Mains supply voltage
One phase supply:
208 VAC (+/- 10%)
230 VAC (+/- 10%)
240 VAC (+/- 10%)

412 2013 Surge Space Requirements [cont]
(see Volume I pages 32-35 for Surge Building Updates)

January 14, 2013	UTIA Energy and Environmental Science Education and Research Center Department of Biosystems Engineering and Soil Science (BESS)
Three phase supply: 3 x 120 VAC (+/- 10%) 3 x 230 VAC (+/- 10%) 3 x 240 VAC (+/- 10%)	
Frequency range – 47-63 Hz D8 maximum power consumption without water cooling system – max. 6 kVA	
Water chiller for XRD – 240 plug 50/60Hz	
Furnace – Thermolyne Volts 240 Amps 33 watts 7900 Hz 50/60 phase 1 **Needs fume hood to operate**	
Oven – American Scientific products DK 62 Oven Voltage 115 Hz 60 Amps 15 **Needs fume hood to operate**	
Spectro ICP (requires its own room, consistent with Ellington 311; requires proximate clean wet lab) 3 x 230 V +/-10% 50/60 Htz Alternating current + neutral wire + PE, 400/230V +/- 10% Fuse 32A per phase)(slow blow) or 230V between 2 line wires/45V fuse protection Exhaust minimum 500 m3.hr (adjustable) Weight 550lbs ** needs year round air conditioning in room** Water chiller normal plug	

<u>Soil Physics Lab (Lee)</u> <ol style="list-style-type: none">1. With floor space for one refrigerator, and 80 linear feet of wet-lab bench space consistent with Ellington 333, which includes bench space for analytical balances, fraction collectors, and other minor equipment, one (1) drying oven, and a shaker.2. One (1) sink is required, but two (2) are preferred with drying racks and dishwashing space.3. Wall space for hanging water column.4. Total of 30 SF of storage, including spaces for dry chemicals, and storage for acids/bases and volatile/flammable organic solvents.5. A fume hood.6. Total of 50 SF storage for glassware and other laboratory supplies is also required.7. House gas, vacuum, and compressed air.

January 14, 2013	UTIA Energy and Environmental Science Education and Research Center Department of Biosystems Engineering and Soil Science (BESS)
<u>Soil and Plant sample preparation Lab (Community Lab)</u> Minimum of 200 SF dirty lab space with 50 LF bench space for grinder, two (2) drying ovens, and one (1) sink.	
<u>Cold room</u> 50 SF of cold room storage space for various solid and liquid samples.	
<u>Sustainable Ag and Environment Lab (Eash, Walkers)</u> <ol style="list-style-type: none">1. With floor space for one refrigerator, and 80 linear feet of wet-lab bench space consistent with Ellington 302, which includes bench space for analytical balances and other minor equipment, one (1) drying oven, and a shaker.2. Bench space for CN Analyzer, computer, and hood.3. One (1) sink is required, but two (2) are preferred with drying racks and dishwashing space.4. Total of 30 SF of storage, including spaces for dry chemicals, and storage for acids/bases and volatile/flammable organic solvents.5. A fume hood.6. Total of 30 SF storage for glassware and other laboratory supplies is also required.7. House gas, vacuum, and compressed air.	
<u>Environmental Characterization Lab (Jardine, Zhuang, Logan, Savoy)</u> <ol style="list-style-type: none">1. With floor space for one refrigerator, and 80 linear feet of wet-lab bench space consistent with Ellington 317, which includes bench space for auto clave, analytical balances and other minor equipment, one (1) drying oven, and a shaker.2. Floor space for a glove bag (10 by 4 ft) and five (5) gas tanks.3. One (1) sink is required, but two (2) are preferred with drying racks and dishwashing space.4. Total of 50 SF of storage, including spaces for dry chemicals, and storage for acids/bases and volatile/flammable organic solvents.5. A fume hood.6. Total of 50 SF storage for glassware and other laboratory supplies is also required.7. House gas, vacuum, and compressed air.	

.03 ENTOMOLOGY AND PLANT PATHOLOGY (EPP)

Interim Space Needs for Entomology and Plant Pathology Space in Ellington Plant Science Building 2012

Room/Space	Utilization	Faculty/Extension Specialist Responsible	Staff/Student Utilizing Space	Approximate Sq. Ft.	Additional future needs	Interim Space Needs
13	Mechanical equipment room (closing of plot barn required much of our large, bulky equipment (power sprayer, back sprayers, etc.) to be stored here)	Karen Vail, Darrell Hensley (11 cabinets for PSEP), Paris Lambdin, etc.			Need area to store large and bulky equipment.	Need area to store large and bulky equipment. Can be located off site as long as we have access to it.
16	Ag. Biol. Storage (EPP Storage) – Extension Publications, Dept. Displays, etc.	All			(Aside: Basement ridden with brown recluse spiders. Do not relocate stored materials in cardboard boxes, a preferred habitat of these spiders. Destroy cardboard and store in plastic totes)	Will need storage space to accommodate these items.
Outside 16	PSEP storage			3 large cabinets each 36" X 24" X 6.5 ft		
101	Lab Classroom – capacity 18	530 IPM (Jerome Grant); 321 Economic Entomology (Paris Lambdin); 325 Veterinary Entomology (Reid Gerhardt); 523 Field Crops and Vegetable Insects (Jerome Grant)			will need space for storing collections and ‘better’ microscopes	Classroom will need space for storing collections and microscopes
106	Extension Diagnostics and Communications Exotic (EAB, CAPS) Pest Survey and Detection project work area (Long); includes insect trap set up area, dirty bench with microscope area for evaluation and identification of insect and disease field specimens,	Hensley, Long, and other Extension personnel	Summer workers	24.5ft X 24 ft	Need a dirty lab work area (several faculty require this dirty space) to work with field soil and plant material, sink area with hot, cold and distilled water, Large walk-in cooler and freezer or refrigerator with freezer for holding plant material and insect pheromone. Need	Very minimum - will need space for dissecting and compound microscopes and lights; storage area for exotic pest survey reference materials and insects. Will also need space for insect trap storage (this can be off site), but I will also need

	clean bench space for preparation of educational and outreach materials, such as disease and insect displays. Storage educational materials, reference materials for exotic insects, storage of Cornell drawers and insect trays and vials with exotic pest catches from survey and detection work (Long). Distance Diagnostics area with computers, compound and stereomicroscope set up with digital camera. (Hensley)				storage area for exotic pest survey reference materials and insects (perhaps extra cabinet storage in the insect museum), laboratory supplies, educational and outreach materials, and pest educational literature and handouts. Chemical fume hood needed. Also need a clean lab microscope work area, plus a separate distance diagnostic laboratory work table set up for several microscopes and digital camera units and computer for access to UT E&PP Distance Diagnostics Database. Soil sink/trap needed (see north greenhouse).	access to a freezer for insect lures and insect specimens. Currently we have a refrigerator freezer unit that barely meets our current needs for our lures/specimens.
112	Insect Museum	Paris Lambdin	Dave Paulsen		Need to expand this space to store specimens from biodiversity studies in the Smokies, invasive species collections, and all type specimens from published research studies. Humidity control important for this space.	Previous room that housed the Insect Museum in McCord (101?) should be sufficient?
123	Classroom	505 Mycology (Bonnie Ownley); 515 Physiology of Plant Disease (Kimberly Gwinn); 520 Plant Parasitic Nematodes (Ernest Bernard); 521 Plant Virology (Reza Hajimorad)				
124	Classroom	541 & 640 Seminar				

127	Pesticide Safety Education Program Testing Center	(Kimberly Gwinn) Darrell Hensley	Josh Anderson		Needs to accommodate a testing area for 10- 12 people monthly and others training/testing upon request.	1 @ 15 x15, if possible for pubs and equipment. The best fit for Beth Long and Darrell Hensley would be to find office and storage space at the UT Plant Science Farm near the TDA building because they work so closely with TDA. Is there any space in the buildings that the East Tennessee Regional Extension Office vacated about a year ago?
128	Classroom/Seminar room	541 & 640 Seminar (Kimberly Gwinn)				
Auditorium 205	Large meetings Reception and package/specimen delivery area		Debby Eslinger		EPP needs a secure reception area where EPP packages can be stored and refrigerated. Space for 2 staff members needed.	
206	Undergraduate Honors Program	Kimberly Gwinn	Grant Davis (Intern)		The programs housed in this room are responsible for more undergraduates than many departments. The original request was to house this office in Plant Biotech Building because of the proximity to the conference rooms and Dr. Gwinn's office. Housing student records in a separate section of office is highly desired.	Needs a room for storage of materials.
207	Office	John Skinner				Will need office with hardwired internet. Supposedly the research incubator building is off limits to us, but I wonder if the offices are unoccupied, if we could temporarily move in, but offer to move out if space needs change. This would be very convenient for Dr. Skinner because his lab would nearby, across a small parking lot.
208	Office	J. Patrick Parkman				Will need office with hardwired internet
209	Office	Reid Gerhardt				
210	Office	Ashley Lamb (Post-doc)	David Paulsen			Will need office with hardwired internet
211	Office	John Skinner	Phillip Moore, Michael Wilson, Ext. Spec			Will need office space with 2 desks and hardwired internet as Michael spends most of the day working with web pages, video editing, etc. for eXtension BeeHealth internet site. John's support staff has agreed to move into Bee Lab, if and only if, a hardwired internet line is installed. Can this line be run from Research Business Incubator Building?
212	Office	Elizabeth (Beth) Long				Will need office with hardwired internet. The best fit for Beth Long and Darrell Hensley would be to find office and storage space at the UT Plant Science Farm

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						near the TDA building because they work so closely with TDA. Is there any space in the buildings that the East Tennessee Regional Extension Office vacated about a year ago? ***Will need office with hardwired internet
213	Office	Karen Vail	Pat Barnwell			***Will need 18 X 12 office with hardwired internet
214	Office	Karen Vail				***Will need office with hardwired internet
215	Office	Karen Vail	Jennifer Chandler			***Will need office with hardwired internet
218	Computer room and EPP mailroom, refrigerators				Need a mailroom, breakroom and a conference room.	
219	Office	Gene Burgess		156.27		
220	Office	Darrell Hensley		184		Will need 12x15 ft office with hardwired internet. The best fit for Beth Long and Darrell Hensley would be to find office and storage space at the UT Plant Science Farm near the TDA building because they work so closely with TDA. Is there any space in the buildings that the East Tennessee Regional Extension Office vacated about a year ago?
221	Office	Darrell Hensley	Josh Anderson	184		Will need 12x15 ft office with hardwired internet. The best fit for Beth Long and Darrell Hensley would be to find office and storage space at the UT Plant Science Farm
						near the TDA building because they work so closely with TDA. Is there any space in the buildings that the East Tennessee Regional Extension Office vacated about a year ago?
227	Medical/Veterinary Entomology Dirty Lab	Rebecca Trout Fryxell	David Paulsen (needs office space), Brian Hendricks, and several student hourly workers **expecting to have 3 people working concurrently plus an hourly student or two (n = 5)		4-6 microscope work stations (with working drawers); 4-6 (other side perhaps) long table for making a mess; excellent shelving/holding/storage areas for large and small items; 10x10 area that is 'sectioned' off for cleaner things (DNA extractions) small hood space; office separation area where food (aka coffee) is permitted; insect rearing area (or area to hold multiple growth chambers to maintain and contain potential vectors such as mosquitoes); minimum of 2 sinks	***David Paulsen (needs office space), Brian Hendricks, and several student hourly workers. Expecting to have 3 people working concurrently plus an hourly student or two (n = 5); 4-6 microscope work stations (with working drawers); 4-6 (other side perhaps) long table for making a mess; excellent shelving/holding/storage areas for large and small items; 10x10 area that is 'sectioned' off for cleaner things (DNA extractions) small hood space; minimum of 2 sinks; Area to rear insects (Doesn't currently have growth chambers?). VERY MINIMUM - counter space for 2-3 microscopes and a dirty work bench (a folding table top like space may suffice) in McCord. storage space for colonies and rest of field equipment in Johnson facility? or mini-

412 2013 Surge Space Requirements [cont]
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							house?
233	Media prep (Vail lab uses autoclave to sterilize soil occasionally and to potentially kill bed bugs on lab jackets)	Kimberly Gwinn				Wiley mill & autoclaves in separate rooms. Needs exhaust for steam & smells. Drains needed.	Will need access to autoclaves and mills. Best if these aren't stored in the same room.
234	Urban Pest Bioassays /Chemical Evaluations; Chemical Storage; and Hood for burning plastic ant cells and mixing/applying pesticides and other chemicals. This second lab is important to keep chemicals out of rearing areas/rooms to avoid pesticide exposure prior to testing. Cabinets to store Cornell drawers of insect specimens.	Karen Vail	Joseph Maples, Brad Hinds, Jennifer Chandler and Pat Barnwell	This room contains a chemical storage cabinet and a large hood with hazardous waste storage below. 17W X 24.5 L =416.5	Need similar amenities (chemical safety hood, chemical storage cabinets, benches and storage space) as in the current space. Counter space is essential to run bioassays. Benches surround room plus additional center bench.	***Need access to chemical safety hood, my chemical storage cabinet, freezer, 2 cabinets of Cornell Drawers, file cabinets, storage cabinets, bread racks and cart. Greater than 34 sq. ft of bench space for bioassays. See attached Excel sheets for equipment space size needs.	
Additional use of 234	microscopes, storage space for outreach materials, laboratory supplies and publications	Elizabeth Long, Pat Parkman and Darrell Hensley			Need occasional access to chemical safety fume hood with outreach specimen preparation (Long).		
235	Urban Pest Rearing Room (Bed bugs, brown recluse spiders, ants, wood-boring and other pests); small rearing alcove with shelving; bread racks for rearing; Urban IPM specimen identification; training publications and other materials; large metal cabinets for equipment (cameras, microscopes, monitors, computers) and rearing supplies; freezer, refrigerators, large metal cabinets for storing baits which must remain separate from strong smelling chemicals in room 234.	Karen Vail	Joseph Maples, Brad Hinds, Jennifer Chandler and Pat Barnwell	Rearing alcove: 8.5L X 4.5W =38.25 Main room 17.8W X 20L = 356	Need similar amenities: as freezer, rearing alcove (ideally a growth chamber), floor space to hold the 6 bread (ant colony sweater boxes) storage racks, benches, large double sink to wash large sweater boxes, a distilled water supply, 2 microscope benches, and counters/benches and storage.	*** Chest freezer; book case, 2 large storage cabinets; scale; desks for two microscopes, 2 lights and one computer and large monitor; large double sink, 2 file cabinets, a growth chamber, floor space to hold the 6 bread (ant colony sweater boxes) storage racks, 3 rearing shelves, 2 bench refrigerators, 1 convection oven and a cart. Also need two desks for hourly workers, Joseph Maples and Brad Hinds. See attached Excel sheets for equipment space size needs.	
Storage by elevator 2 nd floor	PSEP	Darrell Hensley		8 ft X 6.66 ft X 9ft			
Cabinets outside 220, 221, and 219	PSEP	Darrell Hensley		20 ft L X 2 ft D X 7 ft H			

*** Because we rear potentially “annoying” insects (bed bugs, ticks, mosquitoes, ants, spiders, etc.), Vail’s Urban IPM Group (rooms 235, 234, 214, 213, 215) and Trout Fryxell’s Group (Room 227 and office for Dave Paulsen) needs may be best met by installing a portable building or better control of rearing space may be found in JARTU. We will research the size needed and forward this to Steve Glafenheim.

.04 FORESTRY, WILDLIFE, AND FISHERIES (FWF)

Existing Ellington Plant Science (EPS) Research Labs for FWF -

Room 201

- 25 linear feet of bench space, with cabinets above
- 3 sinks
- 7 desks for graduate students
- 2 work tables

Room 203

- 55 linear feet of bench space, with cabinets above
- chest freezer
- small refrigerator
- 2 sinks
- fume hood
- flammable liquid storage cabinet
- 2 desks

Room 204

- 35 linear feet of bench space, with cabinets above
- 2 sinks
- 3 desks
- drying oven (benchtop)

Room 216

- 21 linear feet of bench space, with cabinets above
- fume hood
- drying oven
- chemical storage cabinet (2'x4'x7' tall)
- hazardous waste storage cabinet
- work table (3'x6')
- 2 sinks
- 4 gas cylinders

Room 217

- 8 linear feet of bench space
- 5 desks
- 1 sink
- 1 gas cylinder

Room 230

- 40 linear feet of bench space, with cabinets above
- fume hood
- 3 sinks

Room 231

- 60 linear feet of bench space, with 30' of cabinets above (includes approx 30' of low bench space in center of lab used as desk space for 8 grad students)
- 2 sinks
- chest freezer

Room 232

- 56 linear feet of bench space, with 18' of cabinets above
- fume hood
- 2 sinks

Existing EPS Teaching Lab for FWF -

Room 107

- 52 linear feet of bench space w/storage cabinets above
- fume hood
- sink
- necropsy table with sink
- 11 storage cabinets for animal specimens (~3'x5' footprint), 4 of 11 are stacked on top of others

Existing EPS Classrooms for FWF -

Room 113

- 3 large specimen cabinets (2'x4'x7' tall)
- 1 large microscope cabinet (2'x4'x7' tall)
- wood block specimen storage drawers (1'x12'x5' tall)

Room 114

- approx. mounted 50 animal and bird specimens

Room 115

- 11 large storage cabinets for plant specimens ((2'x3'x7' tall)
- 2 map cases (3'x4'x4' tall)
- 1 microscope cabinet (2'x4'x7' tall)

412 2013 Surge Space Requirements [cont]
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Teaching Space:

- Classroom 113 -
- 3 large specimen cabinets (2'x4'x7'tall)
 - 1 microscope cabinet (2'x4'x7'tall)
 - Wood block specimen drawers (two stacked units; bottom unit 13" deep x 45" high x 12' wide, top unit 13" deep x 23" high x 12' wide)
 - Storage space for wall-mounted wood panel specimens (22.5' long, 3' high)

- Classroom 114-
- 1 microscope cabinet (2'x4'x7'tall)
 - Large TV stand (2'x3'x5'tall)
 - Storage space for approximately 70 mounted animal and bird specimens (heads and full body mounts)

- Classroom 115-
- 11 large plant specimen* cabinets (2'x3'x7'tall)
 - 2 map cases (4'x3'x4' tall)
 - 1 microscope cabinet (2'x4'x7'tall)
 - Smart podium
 - Large TV stand
 - 1 small cabinet (2'x2'x4' tall)
 - ~30 "file size" boxes with additional plant specimens'

- Teaching Lab 107-
- Necropsy table with sink and exhaust pipe hookup (30"x60"x3' tall)
 - Fume hood
 - 2 upright freezers
 - Multi-head microscope table (18"x72"x3' tall; room for 6 students to view microscope simultaneously)
 - 11 animal specimen storage cabinets (28"x47"x3.5' tall); can be stacked two-high
 - Additional sink
 - 52 linear feet of bench space with storage cabinets above

*specimens need to be accessible and reasonably close to where we teach during the interim.

Research Lab Space:

- Room 201 and 203 (Gray) -
- Counter tops for processing specimens (approx .. 50 linear feet) with storage cabinets above and below
 - Fume hood
 - 2 sinks minimum (currently have 5)
 - Low table space (i.e., need space for microscope work so it needs to be less than bench height)
 - Space for small refrigerator, upright freezer, and flammable liquid storage cabinet
 - Office space for approximately 4 graduate students

- Room 204 (Clatterbuck)-
- 20 feet of bench space with storage cabinets
 - Sink
 - Office space for 4 grad students

- Room 216 and 217 (D. Harper)-
- Approximately 750 ft² of space
 - Fume hood
 - Vented furnace
 - Water
 - Sink with water
 - Eye wash station
 - DI water
 - Dry air
 - Counter space and cabinets
 - Flammables cabinet
 - 4 Mounts for compressed gas storage
 - 220 power
 - Lots of 110 power outlets
 - A window would be very nice too.

- Room 230 (Miller)-
- Counter tops for processing specimens (approx .. 40 linear feet) with storage cabinets above and below
 - Fume hood
 - sink

- Room 231 (Buehler)-
- Counter tops for processing specimens (approx .. 30 linear feet) with storage cabinets above and below
 - Sink
 - Fume hood if possible
 - Office space for 4 graduate students

- Room 232 (Keyser/Clark)-
- Counter tops for processing specimens (approx .. 30 linear feet) with storage cabinets above
 - Low table space (i.e., need space for microscope work so it needs to be less than bench height)
 - Fume hood if possible
 - Storage space (for field equipment mainly but also for samples)
 - Secure storage space for chemicals (specifically ethanol)
 - Office space for 2 graduate students

Ellington Basement Storage:

Room 11 (15'x20') - miscellaneous materials (publications, displays, equipment, student organization items) needing both floor space and shelving units

Room 13 (15'x30' caged area) - miscellaneous materials needing both floor space and shelving units

- Research wood samples in bags (branches), upright (slabs), and tubs (cross-sections), occupy floor space approx. 6'x8'
- -115 wooden boxes (12"x12"x15") containing wood block specimens for teaching (currently in shelving units)
- 4 large cabinets (18"x36"x7' tall)
- 2 wooden bookshelves (2'x4'x7' tall)
- 40 misc. file-size boxes
- 25 storage tubs (18"x18"x28")

Room 18 (10'x12') - field equipment storage, approximately 1/2, floor space, 1/2, shelving unit space required

Detail of laboratory needs while displaced from Ellington:

- Dr. Chen and Dr. Stewart – below approximates what they currently have and are losing in PBB 201-202-203 when they move to PBB later this winter:*
- Two fume hoods (with gas/vac/air connections)
 - Laminar flow hood (with gas connections)
 - Space and receptacles for four growth chambers (two 110 V receptacles for each chamber)
 - Plenty of 110 V and a few 220 V receptacles
 - Hazardous chemicals storage cabinet
 - Room for two -80 freezers, two -20 freezers and four refrigerators
 - Eye wash
 - Safety shower
 - 1120 linear feet laboratory bench, standard width. Some desk height with cut-outs, some counter height
 - Standard lab cabinetry above benches, and cabinetry and drawers beneath benches
 - Eight Vac/Gas/Air distributed along benches
 - Four sinks, with deionized water tap

- Dr. Fulcher and Dr. Armel replacement (PSB 229):*
- 950 linear feet laboratory bench, standard width. Some desk height with cut-outs, some counter height
 - Eight Vac/Gas/Air distributed along benches
 - Standard lab cabinetry above benches, and cabinetry and drawers beneath benches
 - Hazardous chemicals storage cabinet
 - Plenty of 110 V and a few 220 V receptacles
 - Fume hood
 - Room for four refrigerators
 - Room and receptacle for one -80 freezer
 - Plenty of 110 V and a few 220 V receptacles
 - Eye wash
 - Safety shower
 - Three sinks, with deionized water tap

- Dr. Allen, Dr. Bates, Dr. Wszelaki, Dr. Denton (PSB 325):*
- 450 linear feet laboratory bench, standard width. Some desk height with cut-outs, some counter height
 - Three Vac/Gas/Air distributed along benches
 - Standard lab cabinetry above benches, and cabinetry and drawers beneath benches
 - Two sinks, with deionized water tap
 - Eye wash
 - Safety shower
 - Plenty of 110 V and a few 220 V receptacles
 - Hazardous chemicals storage cabinet
 - Room for one -80 freezer and three refrigerators
 - Fume hoods (with gas/vac/air connections)

- Dr. Augé (PSB 323):*
- 450 linear feet laboratory bench, standard width. Some desk height with cut-outs, some counter height
 - Three Vac/Gas/Air distributed along benches
 - Standard lab cabinetry above benches, and cabinetry and drawers beneath benches
 - Two sinks, with deionized water tap
 - Eye wash
 - Safety shower
 - Plenty of 110 V and a few 220 V receptacles
 - Hazardous chemicals storage cabinet
 - Room for one -80 freezer and three refrigerators
 - Fume hoods (with gas/vac/air connections)

- Seeds/plant sample/soil samples processing (PSB 322):*
- 450 linear feet laboratory bench, standard width. Some desk height with cut-outs, some counter height
 - Three Vac/Gas/Air distributed along benches
 - Standard lab cabinetry above benches, and cabinetry and drawers beneath benches
 - Two sinks, with deionized water tap
 - Eye wash
 - Safety shower
 - Plenty of 110 V and a few 220 V receptacles
 - Hazardous chemicals storage cabinet
 - Room for one -80 freezer and three refrigerators
 - Fume hoods (with gas/vac/air connections)

412 2013 Surge Space Requirements [cont]
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.06 SURGE FACILITY OPTIONS

1|option

- a. Existing Publications Building to remain “as-is”. (Long Range Master Plan-18,000GSF Research Building at PB Site)
- b. New surge building consisting of (10) labs, (58) offices, (5) classrooms and (29) workstations. (21-23,000GSF/metal building)
- c. Potential on/off campus locations to be analyzed
- d. (8) Labs to be dispersed and or shared among existing buildings-Animal/Food Science, PBB, BESS. (4) Labs on First Floor McCord
- e. New Plant Biology Program dedicated to Ground Floor McCord, (10) offices, (5) Labs. (Potential surge space if program not funded)
- f. 1a|option-new surge building SF would reduce total space required in New Ellington, campus standard building (brick) (Potential for single department usage) – See Note.

2|option

- a. Renovate (6,000GSF)/addition (10,000GSF) to existing publications building. LAS Concept plan would require approval from Campus Planning and Design Committee for deviation from Campus Master Plan designation for this site
- b. New Publications Building off-site 6-7,000GSF metal building type
- c. (8) Labs to be dispersed and or shared among existing buildings-Animal/Food Science, PBB, BESS. Shortage of (33) offices, (5) Specialty classrooms need to be accounted for (7-8,000GSF shortage). Potentially a new metal building on Ag Campus or use of nationalized classrooms elsewhere.
- d. Refer to note e. 1|option

3|option

- a. Existing Publications Building to remain “as-is”
- b. New Portable Buildings for lab surge (6 buildings with 2/labs each =12 labs). Off-campus location
- c. (6) Labs to be dispersed and or shared among existing buildings-Animal/Food Science, PBB, BESS
- d. New on/off campus surge facility-(58) offices, (5) specialty classrooms, (29) workstations (15-17,000 GSF)

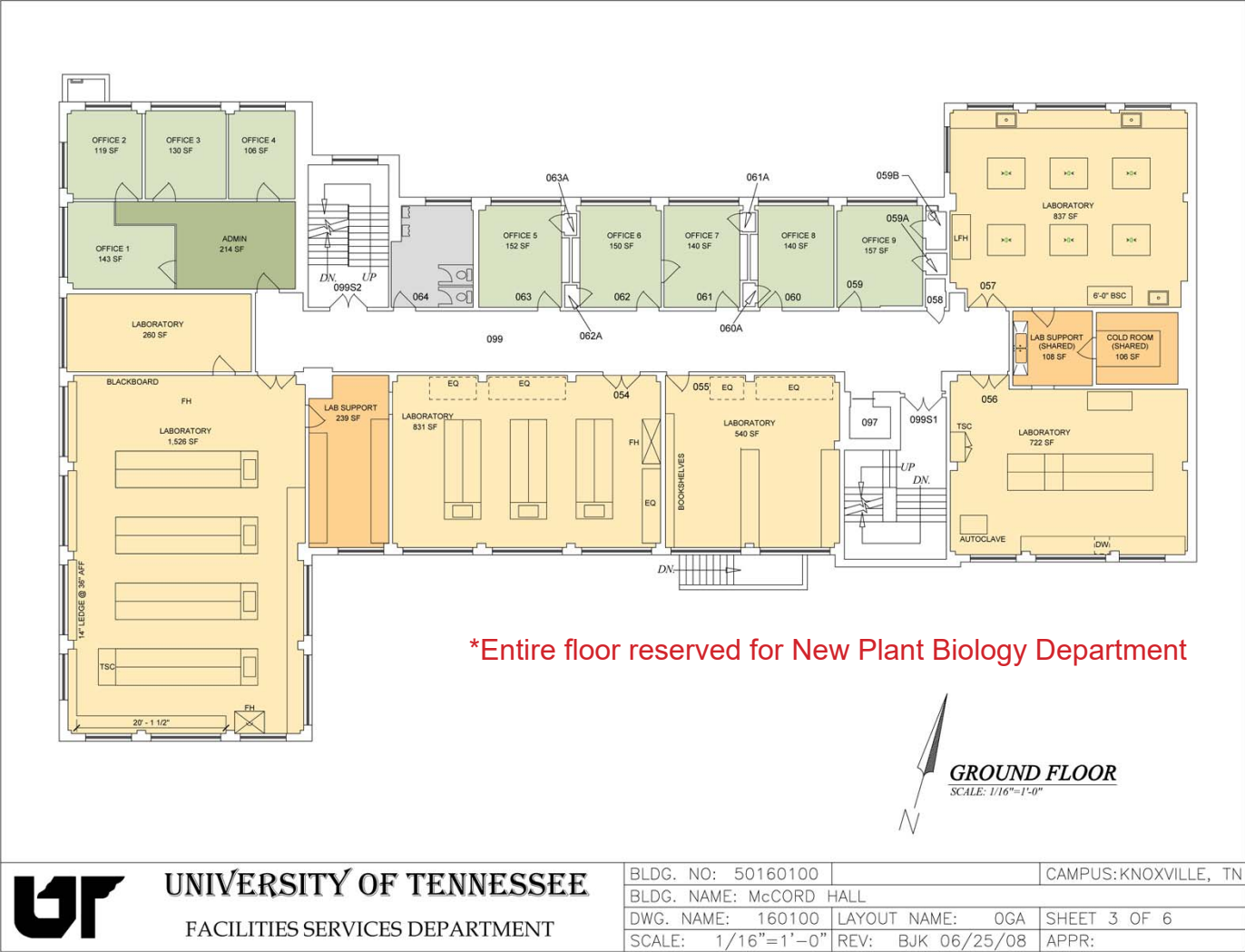
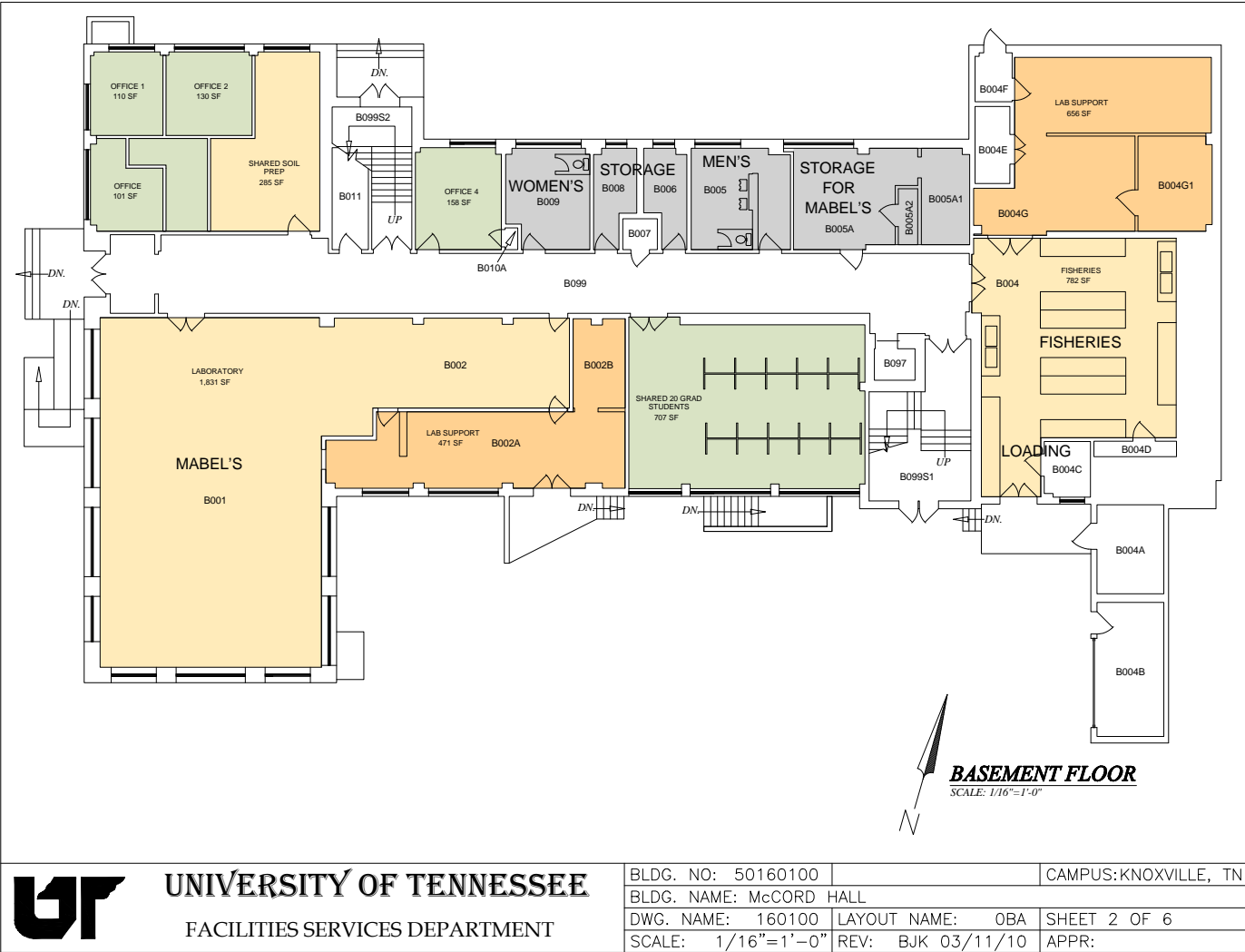
4|option

- a. Existing Publication Building to remain “as-is”
- b. New Surge Building consisting of (18) Labs, (58) Offices, (29) Work Stations, (5) Specialty Classrooms-(28-30,000GSF)
- c. 50% of all space could be department specific and this SF could reduce overall EESERC program by ±10,000GSF (The remaining ±10,000GSF would be designated for current and future surge requirements)
- d. Study potential site options-(1) Existing Plant Science Annex B, (2) UT Garden, Southwest of existing South Greenhouse (3) Off-campus-JARTU site

Note: Current surge diagrams represent minimum requirements for “short term” usage. Each lab is 21’-4” x 24’-0” (510 SF). The research labs in the new EESERC building are programmed to be 630 SF. If the surge building is to remain permanently, the lab spaces would need to increase in size.

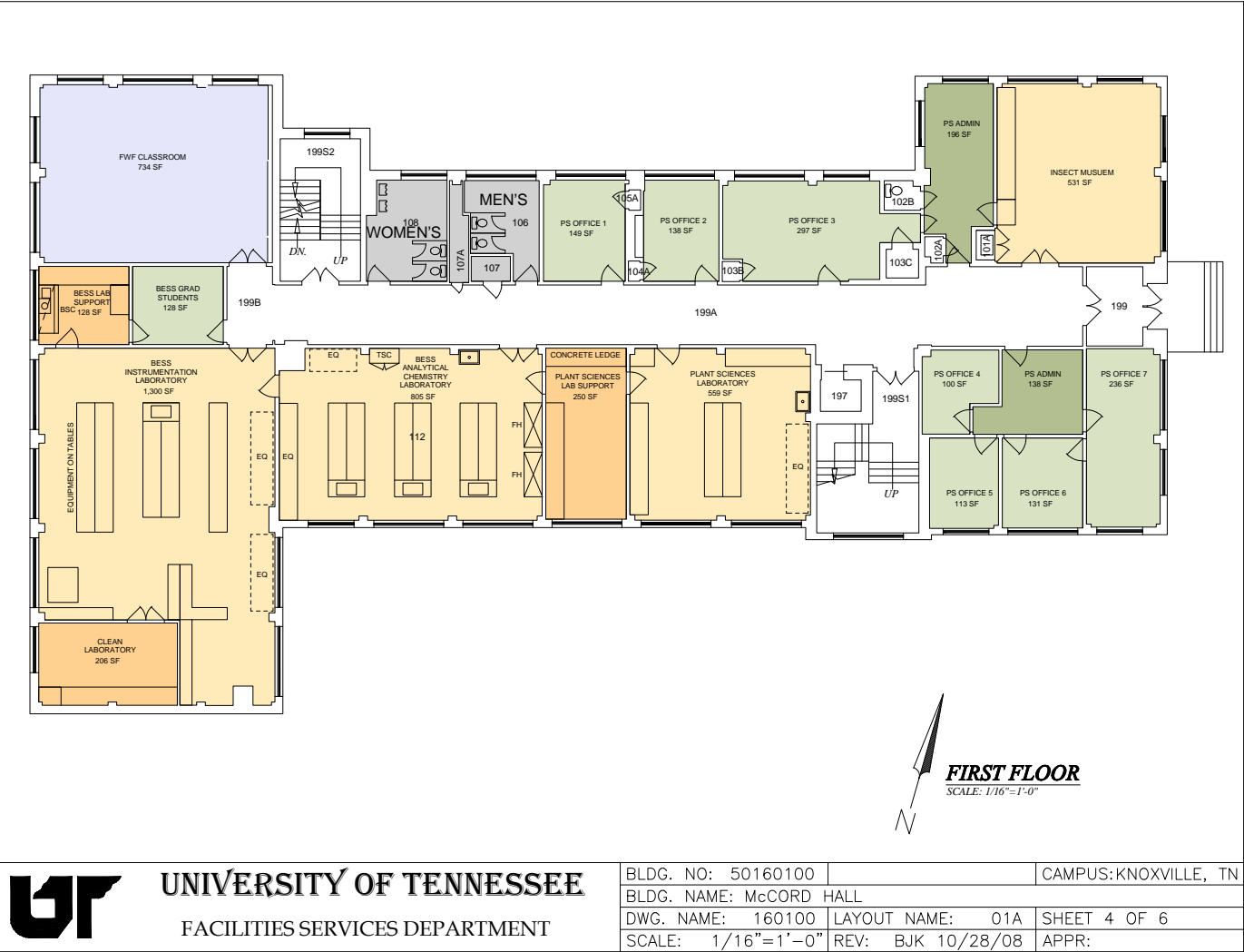
412 2013 Surge Space Requirements [cont]
(see Volume I pages 32-35 for Surge Building Updates)

.07 MCCORD HALL BUILDING PLAN - SURGE SPACE LAYOUT OPTION
Note that these layouts from 2013 are no longer valid, and are for information only

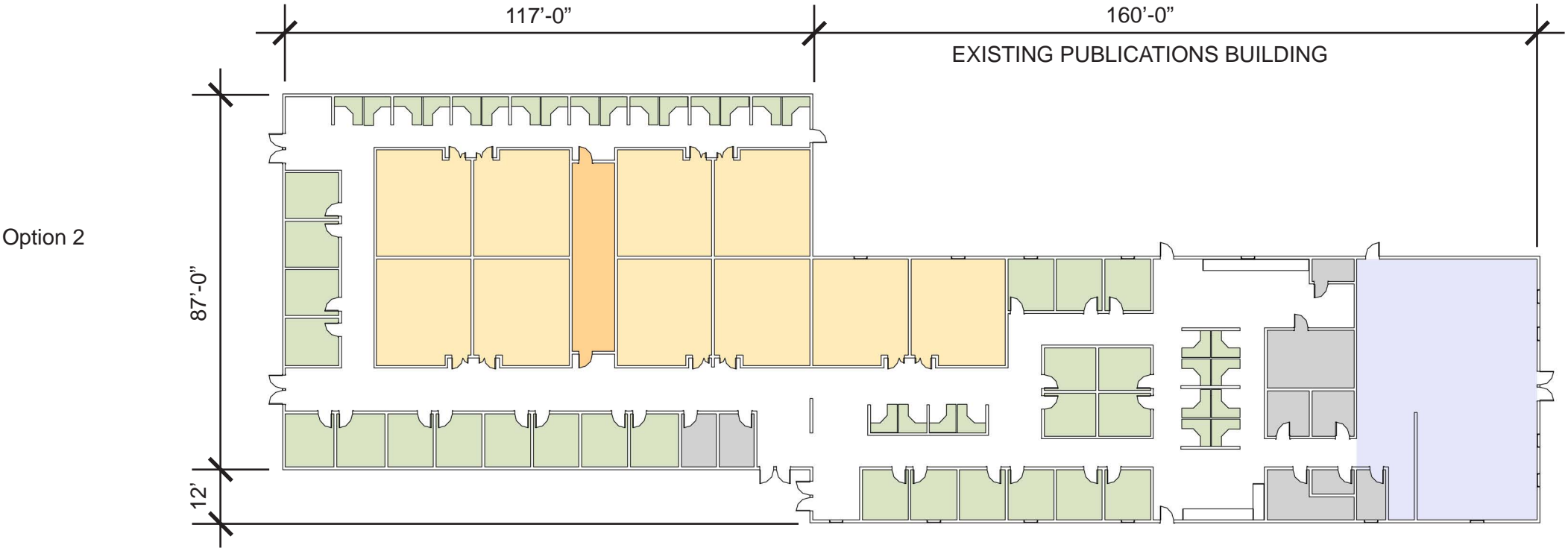
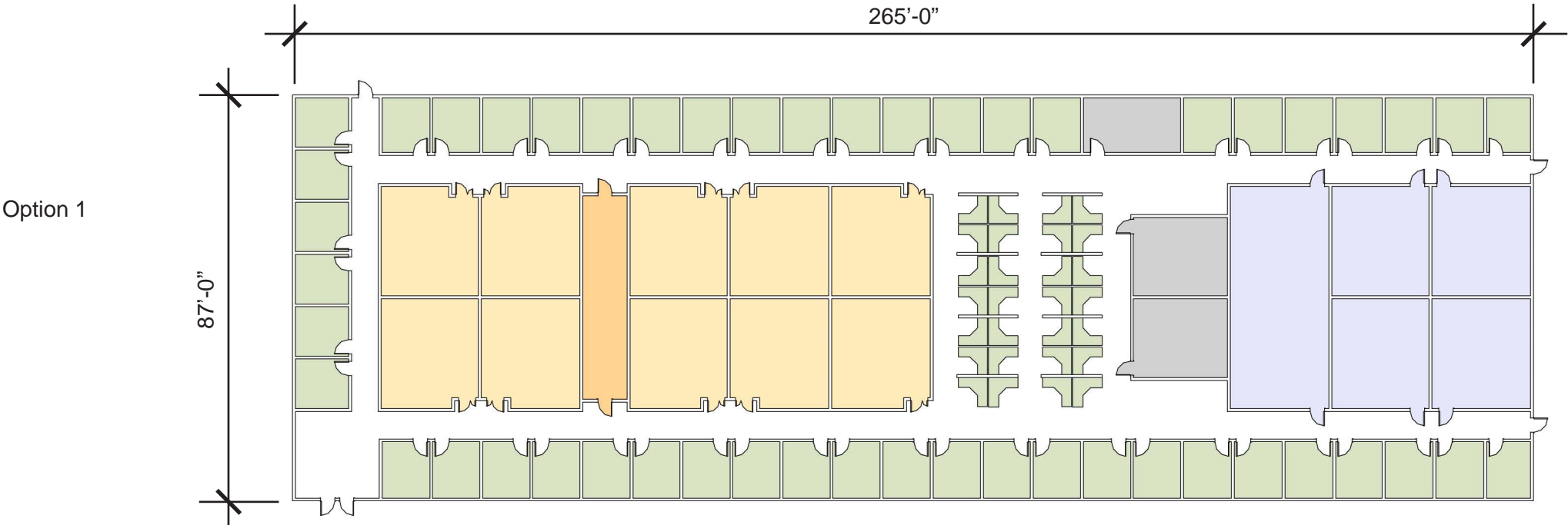


412 2013 Surge Space Requirements [cont]
(see Volume I pages 32-35 for Surge Building Updates)

.07 MCCORD HALL BUILDING PLAN - SURGE SPACE LAYOUT OPTION
Note that these layouts from 2013 are no longer valid, and are for information only

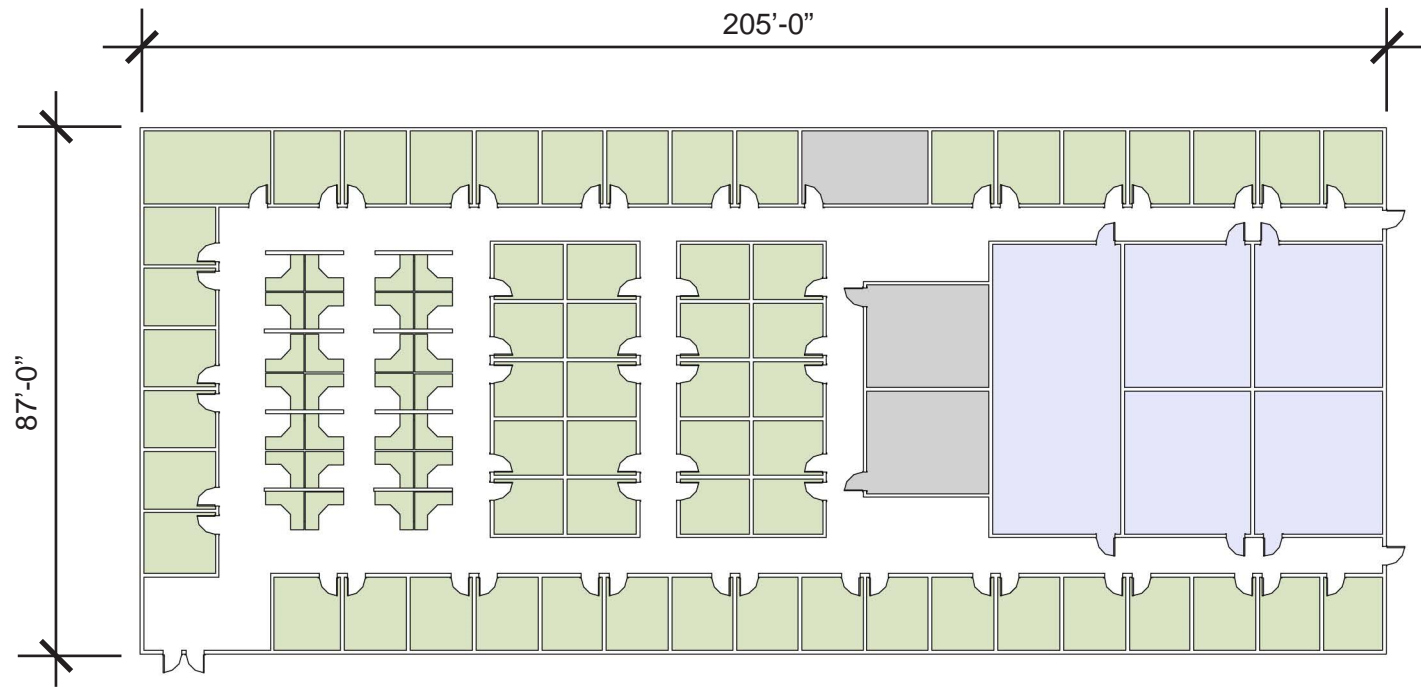


.08 SURGE FACILITY OPTION LAYOUTS
Note that these layouts from 2013 are no longer valid, and are for information only

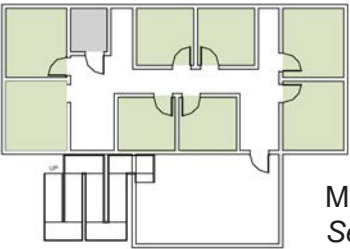
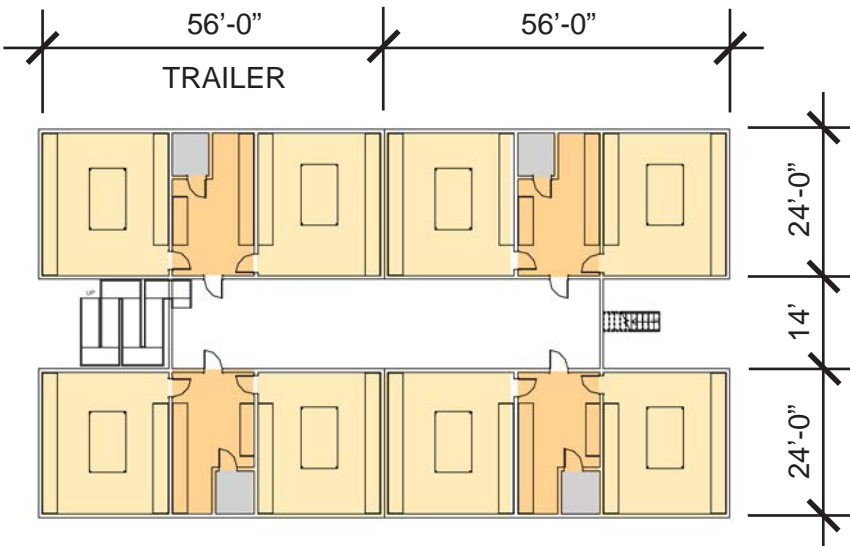


.08 SURGE FACILITY OPTION LAYOUTS
Note that these layouts from 2013 are no longer valid, and are for information only

Option 3

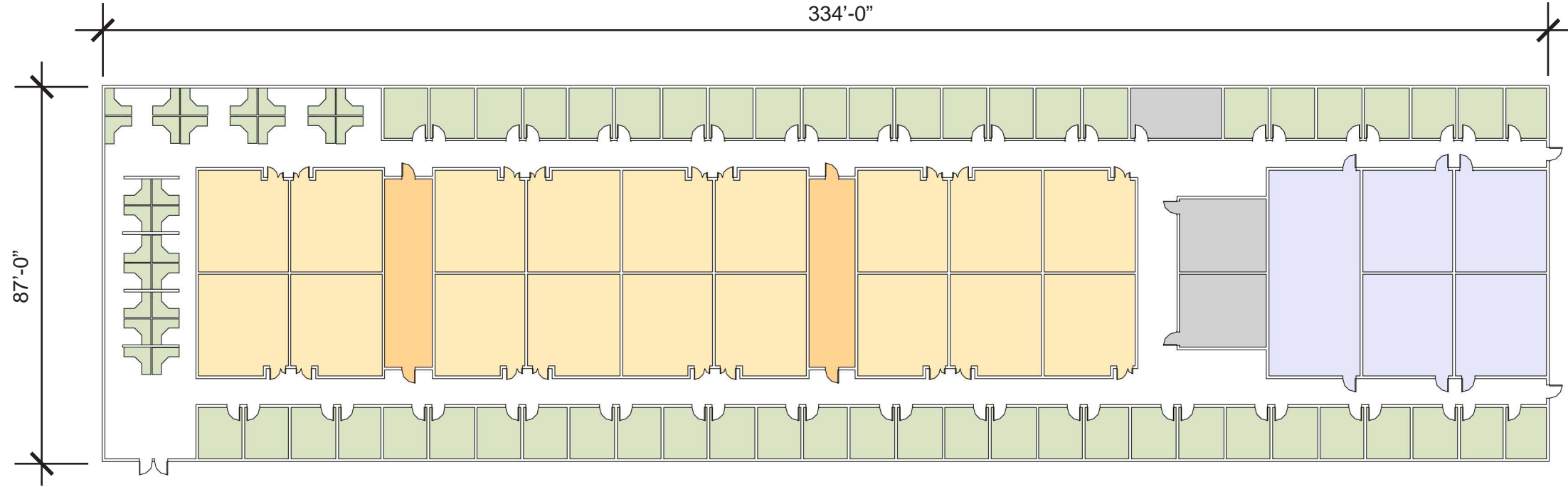


+



Modular Units for Lab and Office Space.
See pages 240-241 for additional information.

Option 4



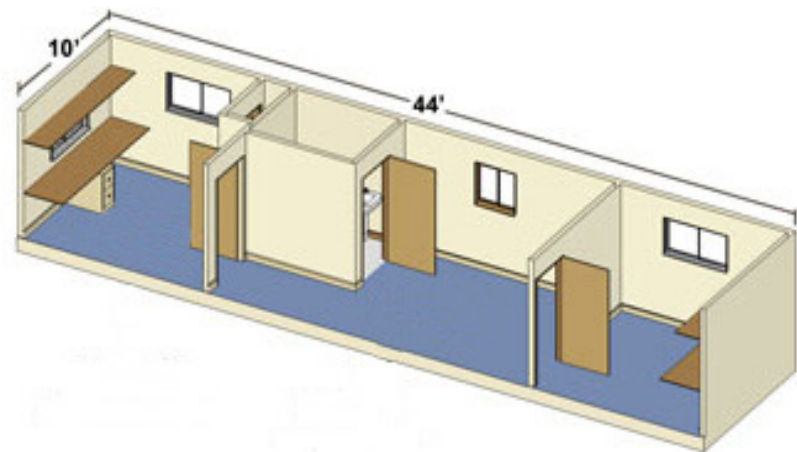
412 2013 Surge Space Requirements [cont]

.09 POSSIBLE OPTION FOR TEMPORARY, FLEXIBLE LAB SPACE

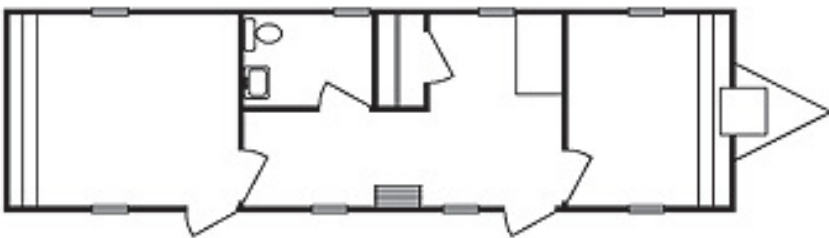


Option shown above is a 24'x56' Office Trailer from Modspace
<http://www.modspace.com/modular-solutions/mobile-offices>

- Specifications
- 24'x56' building size
 - 24'x60' overall size with towing hitch
 - (4) 12'x12' private offices
 - (1) 24'x32' common area
 - 1,344 square feet of office space
 - Electric, plumbing, heat and air conditioning
 - 50 lbs. per square foot allowable floor load



- Features
- Insulated walls, ceilings and floors
 - 1/8" vinyl floor tile
 - .019 deluxe aluminum siding or decorative siding
 - Paneled or vinyl covered gypsum walls
 - Sliding windows
 - 120V electrical outlets



- (2) 36"x80" lockable exterior doors
- (4) 36"x80" interior door (5 with half bath model)
- Fluorescent lighting
- 8' ceiling height
- Central heating and air conditioning

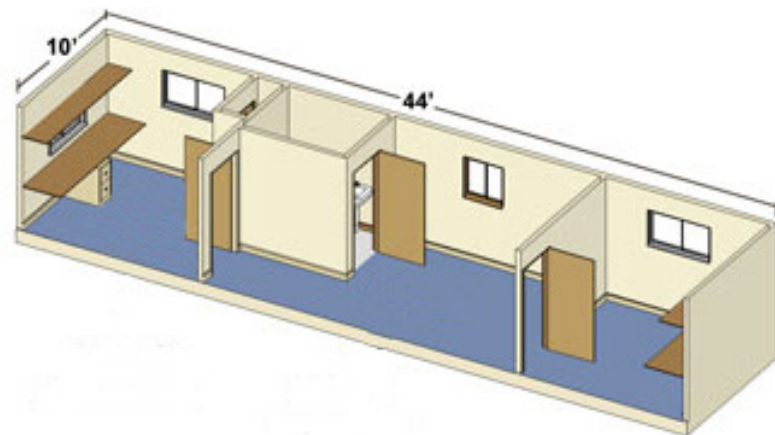
.10 POSSIBLE OPTION FOR TEMPORARY, BUG REARING LAB SPACE



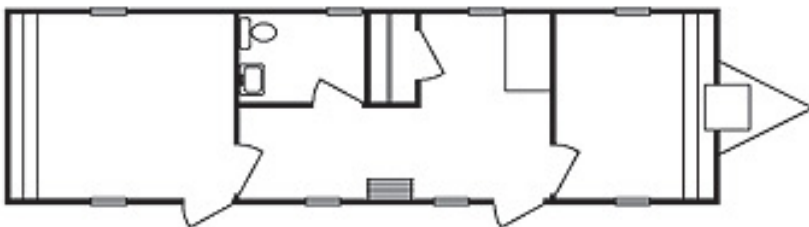
Option shown above is a 10'x44' Office Trailer from Modspace
<http://www.modspace.com/modular-solutions/mobile-offices>

- Specifications
- 10'x44' building size
 - 10'x48' overall size with towing hitch
 - (1) 10'x13' private office
 - (1) 10'x11' private office
 - (1) 10'x20' main office
 - 440 square feet of interior floor space
 - Electric heat and air conditioning

50 lbs. per square foot allowable floor load



- Features
- Insulated walls, ceilings and floors
 - 1/8" vinyl floor tile
 - .019 deluxe aluminum siding or decorative siding
 - Paneled walls
 - Sliding windows
 - 120V electrical outlets
 - (2) 36"x80" lockable exterior doors



- (2) 36"x80" interior doors (3 with half bath)
- Fluorescent lighting
- 8' ceiling height
- Central heating & air conditioning
- Restroom optional

.11 POSSIBLE OPTION FOR DUCTLESS FUME HOOD EQUIPMENT



Options shown are Polypropylene Ductless Fume Hoods from AirClean Systems
http://www.aircleansystems.com/OP_PHoods.htm

Polypropylene Folding Sash Option on Mobile Stand Option



Polypropylene Sliding Sash Option with Base Cabinet Option

Folding Sash Features

- Polypropylene construction for excellent chemical resistant properties. The result - “NO MORE RUST” which allows for longer service compared to standard metal enclosures
- Wide range of activated carbon, impregnated chemisorptive, and HEPA filters for containment of virtually any toxic vapor, fume, gas, and particulate
- AirZone™ baffling establishes a proper horizontal airflow pattern and directs toxins away from the operator in a predictable pattern, removing “dead spots” within the enclosure
- No ducting required
- Integral vapor-proof fluorescent lighting
- No installation costs. All AirClean® Systems bench-top hoods are shipped completely assembled (filters installed) and ready to use
- Available in 110V or 220V AC versions
- New 36” deep models available!

Options

- Vented and unvented polypropylene base cabinets
- Slip hatch electrical access ports
- Polypropylene sink and water fixture
- Optional sturdy mobile cart
- Metal or stainless steel liner

Sliding Sash Features

- AirSafe™ automatic safety controller
- Vertical sliding safety glass sash
- Dual wall construction allows for front mounting of services such as water, gas, or electrical outlets.
- Access to panels on either side of the hood enable field service of all fixtures.
- FlowSmooth™ airfoil on sash lip promotes laminar airflow
- Polypropylene construction for excellent chemical resistant properties. The result - “NO MORE RUST” which allows for longer service compared to standard metal enclosures
- Wide range of activated bonded carbon, impregnated chemisorptive, and HEPA filters for containment of virtually any toxic vapor, fume, gas, and particle
- Integral vapor-proof fluorescent lighting system
- Available in 110V or 220V AC versions
- No duct required for operation
- Shipped fully assembled

Options

- Sturdy mobile cart
- Vented and unvented polypropylene base cabinets
- Remote services - gas, water, vacuum, and air
- Duplex electrical outlets
- Polypropylene sink and water fixtures
- Slip hatch electrical access ports

DESIGN GUIDELINES
University of Tennessee, Knoxville
Recycling Station Standard (DRAFT)
June 2012

Document Outline:

- I. General Description
 - A. Paper
 - B. Bottles/Cans/Plastic
 - C. Corrugated Cardboard
 - D. Food Waste
- II. Corridor Niche/Cabinets Specifications
 - A. Standard Cabinets
 - B. Modified Cabinets
 - 1. Classrooms
 - 2. Kitchens/Break rooms
 - C. Composting Cabinets
- III. Consolidation/Storage Area Specifications
- IV. Outdoor Corrugated Cardboard Specifications
- V. Food Waste Composting Specifications

I. General Description:

UT Recycling collects 4 main recyclable materials from campus buildings:

- A. Paper
- B. Aluminum Cans, Steel Cans, Plastics #1-7, and Glass Bottles all mixed together under the title “Bottles/Cans/Plastic”
- C. Corrugated Cardboard
- D. Food Waste

A. Paper:

Collected at desk-side in 7-gallon blue recycling containers and in classrooms in 23-gallon blue “Slim Jim” recycling containers. The paper from these two sources is consolidated into 95-gallon rolling carts (“95s”) which are stored inside the building and set outside at ground level (i.e. NOT from a loading dock into the truck) on designated nights (Tues, Wed, Thurs) for collection by UT Recycling staff in their own rear-load truck with a semi-automated 2-bar lifter. The truck is up to 35 feet in length and 13.5 feet in height. Paper is also collected in hallway locations in cabinets with 35-gallon rolling carts (35s) inside that can be swapped out for empty 35-gallon rolling carts that are in a storage room, and can then be wheeled outside to be emptied by the same truck mentioned above. See sections below on Corridor Niche/Cabinets and Consolidation/Storage Areas for specifications.

. “Bottles/Cans/Plastic”:

Collected in all of the same ways as paper except it is NOT collected at the desk-side. Consolidation containers (95s) are still needed, but they can be fewer in number than for paper at a 2:1 ratio of paper to bottles/cans/plastic. However, more of the 35s for hallway cabinets are needed for “Bottles/Cans/Plastic” than are needed for paper both for volume reasons and for collection schedule reasons (2x per week for bottles/cans/plastic and 3x per week for paper). 35s should be at a 1:1.5 ratio of paper to bottles/cans/plastic. This material is picked up by UT Recycling staff in the same type of truck as for paper.

. Corrugated Cardboard:

Set in hallways at the end of the day and taken by building cleaners to an outdoor collection area. UT Recycling staff collect it from the outdoor collection area of every building every night. See section below on Outdoor Corrugated Cardboard Collection.

. Food Waste:

Collected in generation areas such as coffee shops and major kitchens on campus, typically in small containers that are then taken to larger containers at the loading dock of the building by kitchen staff. The material is collected from the larger containers outside and taken to the compost site by UT Recycling staff at least twice a week. The containers can be emptied directly into the large rear-loading compactor truck, or swapped out for empty containers.

. Corridor Niche/Cabinets Specifications:

A. Standard Cabinets:

- One (1) 3-section niche/cabinet per 100 people –OR–
- One (1) 3-section niche/cabinet per 100 linear feet of hallway –AND–
- One (1) 3-section niche/cabinet outside auditoriums or high traffic-generating areas

Standard niche and cabinet should have 3 sections, two for recycling and one for trash. The cabinets should be sufficient for two (2) 35-gallon bins spaced side-by-side for recycling, and one (1) 44-gallon round trash can on a dolly for the trash section. The countertop should be sloped toward the front to prevent people from placing items on the countertop. A headboard at the top of the slope or at the top of the doors to the cabinet should contain vertical signage with labels reading:

- “Bottles/Cans/Plastic” “Paper Only” and “Trash”
- Openings shall be made in sloped countertop for:
- “Bottles/Cans/Plastic”: 4.5” round
- “Paper Only”: 2.5” x 18” slot
- “Trash”: 12” square

35-gallon recycling carts (35s) are approximately 24” x 24” x 40” (w x d x h)
44-gallon trash cans on a dolly are approximately 24” in diameter x 40” tall

B. Modified cabinets:

1. Classrooms:

One (1) 3-section niche/cabinet in each classroom –OR- in large classrooms (over 100 seats) one (1) 3-section niche/cabinet per entrance.

Each section of the cabinet should accommodate a “Slim Jim with Venting Channels” container. Bin dimensions are 22” x 11” x 30” (w x d x h)

Must be able to easily slide full container in and out of cabinet (at least an inch clearance on each side and top. One approach is to put Slim Jims on dolly, which would add approximately 2” x 4” x 5” (w x d x h) for a total of 24” x 15” x 35” (w x d x h), but that is not required.

Openings shall be made in sloped countertop for:

- “Bottles/Cans/Plastic”: 4.5” round
- “Paper Only”: 18” x 2.5” (w x d) slot
- “Trash”: 12” x 8” (w x d) rectangle

2. Kitchens/Break Rooms

One (1) 2-section niche/cabinet inside each kitchen or break room- 1 section for “bottles/cans/plastic” and one for “Trash”.

The containers inside the cabinet could be either of the two sizes above in A or B, depending on the size of the kitchen or break room.

C. Composting Cabinets:

This is a new area, so please contact Jay Price at jayprice@utk.edu or 865-974-3480 to discuss kitchens and break rooms for millwork cabinets and composting in general. Below are some general guidelines:

If kitchen or break room has significant volume, AND all compostable materials were being utilized by the staff, there would be 3 sections in a sloped countertop in either of the two sizes above.

- “Bottles/Cans/Plastic”: 4.5” round
- “Food and Paper Only”: square or rectangle (NOT slot), depending on size
- “Other Trash”: square or rectangle, depending on size

III. Consolidation/Storage Area Specifications:

Storage area for 95s and 35s.

Per 100,000 gsf the room should have sufficient space for six (6) 95s and as many of the 35s as are required for the standard niches described above AND with room to maneuver them (i.e. tilt them back and roll them out past one another). Preferably the area is enclosed with double doors or a garage-style door. It could be outside at a dock or inside the main building. There must be ground-level access to the bins- i.e. include ramp if it is at a loading dock.

95-gallon recycling carts (95s) are approximately 30” x 32” x 48” (w x d x h)

35-gallon recycling carts (35s) are approximately 24” x 24” x 40” (w x d x h)

IV. Outdoor Corrugated Cardboard Specifications:

These areas should typically be outside near the dumpster or on a loading dock where a large rear-loading recycling truck (up to 35’ in length and up to 13.5’ in height) can access.

Cardboard recycling station per 100,000 gsf will need to hold at least one container that is 17 inches wide by 30 inches deep by 40 inches high with room around the containers to get cardboard in and out.

We will need to look at each building and area to determine where and how many might be needed to meet the needs of the building. A standard office facility can probably get by with just one smallest container per 100,000 gsf, but a facility with a lot of receiving (especially dining facilities) may need more, and may need some in individual spaces in the building with the containers located in a niche.

Sizes of cardboard containers:

- Size 1: 17” x 30” x 40” (w x d x h) = approx. 0.4 cubic yards
- Size 2: 42” x 50” x 52” (w x d x h) = approx. 1.8 cubic yards
- Size 3: 42” x 50” x 76” (w x d x h) = approx. 2.7 cubic yards
- Size 4: 84” x 93” x 52” (w x d x h) = 4 cubic yds- semi-automated collection
- Size 5: 84” x 130” x 52” (w x d x h) = 6 cubic yds- semi-automated collection
- Size 6: 84” x 130” x 66” (w x d x h) = 8 cubic yds- semi-automated collection
- Size 7: 84” x 163” x 66” (w x d x h) = 10 cu yds- semi-automated collection

Height clearance needed is 14’ for Size 6 containers and 17’ for size 7 containers.

Container sizes 4 – 7 need to be on the ground (i.e. they CANNOT be on a dock) with access for 35’ long truck. Container sizes 2 - 4 can have wheels, which add approximately 6” to the height. Containers larger than 4 cubic yards CANNOT have wheels and must be stationary with a 35’ long truck backing up directly to the front of the container and hoisting the container in the air.

V. Food Waste Composting Specifications

Contact Jay Price at jayprice@utk.edu or 865-974-3480 for more information in this regard. This is a newer area for UT, and each case needs to be examined for need.

Generally speaking, small containers are used inside major kitchens for staff to capture material at their stations, and they take their material to a larger container, such as a 35-gallon, 95-gallon, or even rear-load dumpster tucked in a corner of the kitchen or placed outside on a dock or on the ground near a trash dumpster.

Millwork cabinets can also be used in 3-section set-ups with “Food and Paper Only”, “Bottles/Cans/Plastic”, and “Other Trash.”

See section II. C. for more information about composting cabinets.

