Buckingham Small Area Report
FGCU
4/9/14

Photo: http://wixwirx.wordpress.com/2013/04/25/return-to-buckingham/

SPRING 2014
LAND USE PLANNING:
URP 5316

FGCU BUCKINGHAM CAMPUS
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Introduction
**The Small Area Report**
Typically small area reports are used for a variety of purposes, including neighborhoods or around transit stations. They provide a focused perspective for unique properties. The purpose of this study is to outline a vision for the future of the FGCU Buckingham property and provide land use policy guidance on its future development.

This report was drafted using a variety of sources from on and off campus. A variety of existing reports and maps were consulted in its development. Where possible, the sources of information are documented in the end notes. The report was a collaborative effort among all students enrolled in the FGCU URP 5312 Land Use Planning course, taught by Dr. Margaret Banyan.

**The Buckingham Property and Context**
The Buckingham property is located in the Buckingham Planning Community in eastern Lee County. The property is bordered by Lehigh Acres to the East, the City of Fort Myers to the West, Orange River Road to the North and Buckingham Road to the South. The FGCU property is located 18 miles north of the main campus on 500± acre parcel.

The Buckingham Community is also known as the Buckingham Rural Community Preserve. The property in this community is predominately designated Rural Community Preserve with some pockets of Public Facilities, Rural, and Outlying Suburban. The Buckingham Community plan is formalized in the county's Lee Plan. Generally, it constrains residential development to no more than one dwelling unit per acre and limits road widening. Its vision is, "(t)o manage the future growth in the Buckingham Community; to preserve the existing rural and agricultural land use pattern; to diversify the choice of housing for Lee County by maintaining and enhancing the historic and rural character; and to protect the unique historical and environmental values of the Buckingham Community." The goal of the Community Plan is to ensure that all future development does not conflict with a rural lifestyle.¹

The FGCU Buckingham property was acquired by Florida Gulf Coast University from the State of Florida as surplus land in 2010. The facility was previously the site of Gulf Coast Center, a residential facility for people with development disabilities. The FGCU Board of Trustees accepted the land donation after the state phased out such large-scale institutions in favor of smaller, community-based group homes.
Approximately 300 acres of the land is developed with paved roads. The property has a variety of structures in various states of repair, including residences, a gymnasium, chapel, swimming pool, softball field, dining hall, water plant, laundry facilities and infirmary. The remainder of the property remains in its natural state.ii

In September 2011, FGCU’s Campus Recreation staff opened the Eagle Challenge Course on 10 acres of grassland amid pockets of pine uplands and oak hammocks. The property also includes a student rope course consisting of rope-climbing exercises, and a zip line. Campus Rec’s Outdoor Pursuits books and supervises programs and maintains the site.iii

The task for the Land Use Planning group was to develop a comprehensive report to support decision making regarding the property development. This property is unique in that its use is not pre-determined and it can respond to the needs identified on campus. However, there are significant funding and location limitations that will be developed further in the conclusion of this report.
Issues and Vision

Major questions and issues
Typically, a small area report begins with some guiding questions and issues that help to focus planners in their analysis. For the purpose of this project, the major questions included the following:

1) What are the Goals and Objectives or Guiding Principles?
2) What uses should be prioritized?
3) What are the strengths, weaknesses, challenges, and opportunities associated with further development of the property?

Vision and Guiding Principles

Internal campus stakeholders
To answer some of these questions, the class synthesized the January 2014 Environmental Sustainability Committee (ESC) and the Safety and Facilities Committee (SFC) survey. Survey respondents noted a wide variety of uses that ranged from environmental to recreational and academic to community-oriented.

What makes Buckingham such an appealing planning site is that it a blank canvas waiting to be developed. This is in part reflected in the survey results, which are more forward focused. The ability to mold the property according to campus’ desires is in fact its biggest strength, considering the goal of preservation of natural lands. However, it is also its biggest weakness in that it is difficult to gain consensus over what uses should be considered.

Prioritizing Uses
It is unlikely that all of the uses mentioned in the survey would be compatible and some would likely mean a direct conflict of interest. For example, developing the site for a casino would conflict with other desires for the property to be maintained in an unvarnished ecologically sound area. Thus, while some ideas may hold popular support and interest, they might not be suitable for this particular area. Compatibility of uses should be considered as choices are made for the campus development.

Assessing compatibility of use requires an understanding of carrying capacity and whether a particular use can co-exist with others.

Another important principle is suitability. Suitability defines what is appropriate for a particular site. The criteria for determining suitability involves assessing the environmental, social, land use, circulation, infrastructure, facilities, and urban design features of the property.
Guiding Principles
As a result of this discussion and analysis of the survey, there are several guiding principles that should guide the property development. These principles should help to balance the sometimes competing desires of the community, campus, and other stakeholders. These were as follows:

- All future development should be constrained to existing areas
- Restore natural habitats where possible, especially around 20/20 lands
- Remove human health risks (e.g., asbestos)
- Preserve unique, usable, and historic features
- Preserve existing utility and roadway infrastructure
- Ensure residential units are retained on site
- Constrain intensity / density to core areas

How these principles will help guide future uses is an on-going discussion and should be addressed as funding and needs arise.

However, it is possible to conduct an analysis of the property existing and emerging conditions, threats and opportunities, and strengths and weaknesses. Further, the course students recommend focusing on future form rather than specific uses at this point. This will allow for greater flexibility but will provide a structure for land use decisions. This idea will be addressed in later sections following the analysis of conditions.
Conditions Analysis
**Environmental Conditions**
The environmental features component has been broken down into two sections, 1) the physical features of the site and 2) the sensitive wildlife, current environmental hazards, and future environmental hazards that are relevant to the Buckingham property and its development. Each section will highlight some considerations for those planning the development of the property on the basis of the environmental features discussed.

**Current Land Use**
The FGCU Buckingham Complex in its entirety is made up of a total of 500 acres ±. About 60 structures are scattered throughout the developed section of the property, they cover around 10.5 acres (2.1%) of the total land coverage of 500 acres. Paved surfaces including black top roadways and parking lots account for 30.5 acres (6.1%). Man-made storm water drainage that runs along the north and south boundaries of the property account for 19.5 acres (3.9%). The largest % coverage on the developed side can be attributed to mowed open area (which is approximately 231.5 acres or 46% of total land coverage. See Figure 2 below.

On the northwest and southwest section of the property is an area approximately 183.5 acres of undeveloped land (36%). These areas are categorized into two classifications, dense and sparse vegetation. Dense areas of mature tree stands account for around 99.9 acres (19.9%) while sparse vegetation totals to an area of 93 acres (18.6%).

![Figure 2: Current Land Use](image-url)
**Elevation**
Using contour and spot altitude data farmed from the Lee County GIS clearinghouse the students created a Digital Elevation Model (DEM) of the Buckingham plot.

As you can see in Figure 3, this illustration shows the difference in elevation found throughout the site, ranging between 8ft and 24ft above sea level. Human induced activity is responsible for the various relatively steep contrasts in elevation found in the developed area of the site. These anthropogenic changes to the environment are attributed to the digging of drainage channels and ditches and the raising of elevation for building foundations. The natural elevation of the property does not waiver greatly, thus distinguishing fluctuations are related specifically to anthropogenic impacts.

Most high elevation areas are closely associated with the design footprint of buildings and structures while the low elevations are almost strictly in areas for storm water management.

![Figure 3: Digital Elevation Model](image-url)
Soils, Vegetation and Flow Ways
Apart from the deconstruction aspect of the site, much more research into the possible sensitivity of areas on the site must be undertaken. However, Figure 4 depicts a historical flowway which can be seen in the south east quadrant of the map distinguished by soils classified by the USDA Soil Conservation Services (SCS). These depressional soils are indicators of pathways for the conveyance of surface waters and should be protected for future preservation.

As Figure 4 also indicates, the exact location and impacts of the previously functioning sewer plant and alligator farm deserve more attention. An environmental assessment should be completed to investigate if any environmental damage was done during the operation of this facility.

The undeveloped land to the west as a 'sensitive' area due to the fact it is undisturbed. Many additional factors would have to be determined before moving forward with any development or disturbance of the landscape.

Figure 4: Sensitive Areas
Sewer Plant

The sewer plan is of special concern for this property. In 2005 Lee County Government conducted a survey to distinguish historically important flowways throughout the county. A section in the south east quadrant of the Buckingham Complex contains soils (Pineda fine sand, Copeland sandy loam and Myakka fine sand) attributed to these previously mapped flowways. What is of concern is the placement of the old sewer station which happens to have been constructed directly on top of this pathway. The ability of this old sewer station to pollute ground water and the surrounding sheet flow should be analyzed for health risks prior to any redevelopment. See Figure 5.

Figure 5: Old Sewer Plant
Sensitive Wildlife
Evaluating the existing wildlife on a property can be quite difficult and time consuming. This preliminary analysis used existing studies to assess the likely sensitive wildlife in the area.\textsuperscript{v vi vii viii ix x} To conduct this analysis the following process was used:

- endangered and threatened species that are known to reside in Lee County (conducted by the Florida DEP)
- a scientific literature review to determine what habitat types each species requires and the home range size for each
- a cross reference to the habitat classification map from the other environmental features section, to determine what endangered and or threatened species may currently or may in the future reside on the Buckingham property.

A summary of the findings can be found in Table 1 below.

<table>
<thead>
<tr>
<th>Species</th>
<th>Habitat Description</th>
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<tbody>
<tr>
<td>Florida Sandhill Crane</td>
<td>Home Range- 2,132 ha subadult 447 ha territorial adult. Habitat - open upland habitat, pastures and pasture transition (Nesbitt and Williams 1990) Present in urban areas (golf courses and subdivisions) attracted to open pasture setting (FWC - Living with sandhill cranes)</td>
</tr>
<tr>
<td>American Alligator</td>
<td>Habitat- prefer fresh water lakes and slow-moving rivers and their associated wetlands (FWC)</td>
</tr>
<tr>
<td>Roseate Spoonbill</td>
<td>Habitat- Coastal marshes, wetlands, and mangrove keys are the preferred habitat. Inland, the birds are found in; ponds, marshes, and forested swamps. When feeding, they make use of either fresh or saltwater habitats. Nesting often occurs on islands or in small trees or shrubs surrounded by water. (National Audubon Society)</td>
</tr>
<tr>
<td>Florida Black Bear</td>
<td>Home Range- females 1-15 square miles, males 8-60 square miles Habitat-Preferred habitats contain trees and shrubs that produce nuts and fruits, particularly oak species. Palmettos are also of importants to bears. Flatwoods, swamps, scrub oak ridges, and bayheads are some of the habitats they commonly use (FWC)</td>
</tr>
<tr>
<td>West Indian Manatee</td>
<td>Habitat- Coastal waters and rivers (FWC)</td>
</tr>
<tr>
<td>Species</td>
<td>Home Range</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Florida Panther</td>
<td>Males ~ 200 square miles, females ~ 75 square miles</td>
</tr>
<tr>
<td>Wood Stork</td>
<td></td>
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<tr>
<td>Southern Bald Eagle</td>
<td></td>
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<tr>
<td>Eastern Indigo Snake</td>
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<tr>
<td>Scrub Jay</td>
<td></td>
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<tr>
<td>Gopher Tortoises</td>
<td>Males ~ 1.9 ha, females ~ .65 ha</td>
</tr>
<tr>
<td>Everglade Snail Kite</td>
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</table>

**Notable Species**
Three species of note on the property are the Gopher Tortoise, the Sandhill Crane, and the Florida Panther.

The Gopher Tortoise is an extremely important keystone species. Tortoises dig burrows that also provide shelter for other species, including Fence Lizards, Indigo Snakes, Eastern Diamond Back Rattles, and other ground mammals and burrowing owls.xi

Sandhill Cranes are a federally protected species of wading bird. These birds call the Buckingham property home. While they most like started off in the canals and cypress heads, they have adapted to the environment. Now the birds can be seen around the main buildings and softball field. This is a case where they have adapted to...
the environment even where it’s not the best case scenario.\textsuperscript{xii}

Data obtained from FWC radio collared Florida panthers indicate that panthers have roamed through areas of Buckingham. While this data does not explicitly show panthers moving through the FGCU property; it is possible that they may have done so or may do so in the future, as preferred panther habitat does exist on property.

**Opportunities for Environmental Restoration**

Currently about 200 Acres of the 500 acre Buckingham property is nature preserve that is being kept at a natural or semi natural state. This land can be used as a connector between 2 sections of Lee County 20/20 land.

On the property there are 3 basic types of land features in the protected areas, Upland Pine Savana, lower Oak Hammocks and the wet Cypress Lowlands. In the upland Pine Savana, is where the majority of the current work is being done. There are groups from FGCU using this land to study Gopher Tortoises, Fence Lizards and other native reptiles.

One challenge for the Pine Savana areas are that they may require controlled burns in order to protect the trees, provide food for many of the species living there, and allow for new growth of palmettos and pines. This area is also where many species of birds of prey as well as endangered woodpeckers live.

The Oak Hammock areas are seasonally wet; however, this is where the majority of the large mammals live, such as deer, wild hogs, black bear and the panther. Presently much of these areas are overrun with nonnative Brazilian Pepper trees and Australian pine. These areas would take quite a bit of restoration in order to remove these species.

The Cypress lowlands have been mostly removed due to the canal system that has been implemented and used to control flooding. However, there appear to be a couple of remote cypress domes on sections of the property or just off the property in the 20/20 land. Restoration of this area should ensure that adequate amounts of water are available. These areas are home to a number of reptilian species ranging from alligator to Cottonmouth.
Snakes. As well as birds like egrets, herons and anhinga’s.

**Future Environmental Recommendations**

The purpose of this section was not to provide a comprehensive environmental analysis, but to help identify future needs as the plans for the property develop. Further, they can help guide a proposed development plan for the property.

- study the effects of manmade impacts on soils and flow ways
- conduct an analysis of wildlife habitats on the property and avoid or reduce development in these areas
- connect the two Lee county 20/20 land segments by the Buckingham property. This can be done by letting nature take its course or forced planting of natural species
- consider controlled burns as a way to maintain a health pine forest ecosystem
- remove Brazilian Pepper and other nonnative species

Other considerations are also important as the property develops, such as the demographic and social conditions that will indicate the need for future space.
Demography and Social Conditions

Population
In 2013, the student population at FGCU reached a student headcount of 14,079. This reflects a 5% growth over the previous year enrollment. There are a total of 677 employees, 490 of which are faculty members. Enrollment at FGCU has increased consistently every year since its foundation in 1997. If growth continues, there will be additional needs for academic, recreational, or service-oriented space.

Social and Mission-Oriented Conditions
The FGCU population is diverse but geographically isolated from the communities and neighborhoods that could benefit most from a message of sustainable living, higher pursuits and self-realization. FGCU could benefit greatly from having a stronger physical presence in the communities it endeavors to serve. The FGCU service learning mission means that there are unique opportunities for students to be active in their communities and serve in a variety of ways.

One of FGCU’s greatest strengths is its commitment to and experience in promoting eco-friendly designs and sustainability on campus. For example, FGCU’s solar field is a source of renewable fuel used to power its operations. FGCU is also well positioned to research and develop new methodologies and practices. Because FGCU is passionate about its green initiatives and teaching, this is an opportunity to influence the external community.

Population and Social Conditions Recommendations
- Consider using the Buckingham property as a way to exemplify sustainable practices
- Consider opening the property to the public as a neighborhood center or working farm where the residents can experience a sustainable lifestyle
Land Use and Structures

Current Structures
The structures currently standing at the FGCU Buckingham Property are in many different stages of repair and disrepair. Some of the structures have asbestos and others suffer from natural wear and tear. As a result, several buildings will require new roofs, compliance with ADA standards, electrical and fire suppression upgrades. The FGCU Facilities Planning department has created an extensive presentation regarding the state of these structures. This presentation was used to understand a property development plan that appears in the conclusion.

The Facilities Planning presentation indicates that many of the unsafe structures are scheduled to be demolished. These include the Administrative, Kennedy, Author, Terman Circle #34 and #39 Taylor, Monroe, Tyler, Madison and the Old Sewer Plant- Buildings.

Other buildings are generally considered safe, but are underutilized for campus purposes. These include Washington, Adams, Polk, Van Buren, Jefferson, Pierce, Hayes, Buchanan, Garfield, Jackson, Grant, Johnson, Lincoln, Fillmore, and Harrison.

Several other facilities are functional but most would require upgrades. These include the pool, gymnasium, chapel, buildings on Terman Circle (#31,#32, #33, #35, #36, #37, #38, #40), softball field, scout house, gas station, housekeeping and laundry, maintenance and carpenter show, Palm and Palmetto buildings, and guard shack.

Figure 6 shows the current usability of each of these buildings on the Buckingham Complex. This map helps provide some context for the future development of the campus as shown in the Development Plan later in this document.
Land Use and Structure Recommendations

The current environmental hazards include asbestos, mold, lead, and other possible contaminants from the old buildings that remain on the property. Both options of leaving these buildings intact and removing them present potential environmental hazards. Future environmental hazards include chemical contaminants (as mentioned above) from existing building renovation or demolition. Construction of new buildings could result in degradation or reduction of existing wildlife habitat on the property and could introduce new contaminants into the environment.

This indicates the following recommendations:

- buildings that currently exist on property should be assessed for contaminants and handled in a manner to minimize human and ecological risks
- future construction should be strategically placed in locations on property that would have the lowest risk. This may be clustered development in the center of the property
- Green building and landscaping should be used to minimize negative impacts
Circulation
A further consideration is how users of the property get to and travel around. This analysis includes both automobile and multi-modal options for travel.

Streets Serving the Buckingham Property
There is one entrance to the property, which is located at Buckingham Road. This has the potential to create congestion on Buckingham Road. Buckingham Road is a two lane road without infrastructure for pedestrians or bicyclists. The roads are constrained by the Buckingham section of the Lee Plan and are not scheduled for widening in the near future and the plan restricts other aspects of road design, including right of way, developments, and traffic design. xv

Internal Road System
Within the parameter of the entrance, the street system connects to many of the features of the site. For example, the street connects to the Tice Fire station. In addition, the fire station connects to the Buckingham Property and it has an additional space behind the building for a helicopter. From the entrance onwards the roads are fairly small and unstriped. The speed limit at the internal road system at the property is set at 20 miles per hour with a variation only at the check-in gate (5mph). The internal street system is cul-de-sac in design and lacks sidewalks alongside the road. Most sidewalks connect buildings or providing a walking space from the parking lot to the building.

Parking
The property appears to work well for automobiles with small lots or spaces at every building, some included access to wheelchair and other special needs.
Public Transportation and Shuttles
In relation to transit or public transportation, there is no bus stop within reasonable walking distance from the property, and the nearest one is located approximately 3 miles away. Lee Tran requires a minimum number of passengers and funding to establish a bus line to serve the property. Some campus shuttles serve the property for classes or other activities.

Circulation Recommendations
In general there are far more opportunities when it comes to transportation, since the property is seen as a blank canvas and being part of the University gives more freedom to implement different ideas. As a result of this analysis and the results from the stakeholder survey, several transportation-related recommendations may be considered.

- Retain road network and parking areas for ease of access and future development
- Consider whether future use of the property will justify the use of public transportation
- Improve the internal bike and pedestrian circulation which would avoid the need for future parking structures
- Consider the opportunity to innovate or create a pilot environment for sustainable transportation systems and modes
Infrastructure
An additional consideration should be given to the existing infrastructure on the site. This analysis includes the electric, cable/telephone, potable water, sewer, and flood ways.

Electric
The site is serviced by Florida Power and Light (FPL). FPL has infrastructure already serving the site including a feeder, meter and transformer. There is an existing 3 phase feeder, meter, and a transformer on site. The service comes from Buckingham Road and runs west along the north property boundary and then continues south towards the intersection of Berger Ave and Strauss St inside of the property where there is an existing transformer and electric meter. The electric services continue south toward Seguin Ave where there is a 3 phase feeder (See Figure 8, provided by Florida Power and Light). However, depending on the type of development proposed, the existing infrastructure may need to be improved.

Figure 8: Electrical Infrastructure
Cable/Telephone
The is an existing 144 fiber cable on Buckingham Road owned by Centurylink as well as 2-50 pair copper cables inside of the property. There is also a tower on Buckingham Road just outside of the east property boundary. Century Link has infrastructure already serving the site including 2-50 pair copper cables within the property. However, the existing infrastructure may need to be improved.

Natural Gas
There is an existing 8 inch gas line owned by Teco Gas along Buckingham Road and ends at the intersection with Binet Ave. in the northeast property corner. The gas load needed and the location on the property that will use gas service will determine the size of service line (See Figure 9 below). Teco Gas has an 8 inch gas line that runs close to the northeast property line. This means significant savings as a gas line will not need to be extended as part of off-site improvements. However, there is no existing service line to the property which means that there may be potential fees required at the time of connection.

Figure 9: Teco Gas Line
Water
The site is located within the Lee County Utilities (LCU) territory. There is an existing water main which extends to the south end of Terman Circle inside of the property (see Figure 10). There is also a fire hydrant at this location which could be used to provide fire protection for proposed buildings. Along Buckingham Road, near the intersection with Binet Ave, at the project’s entrance, there is a reduce pressure backflow preventor and a fire compact service connection. Based on information obtained from FGCU, there appears to be drinking water wells on site as well as a water tank. The county does not have any records of permits obtained for any construction except a fence, therefore the age and condition of the drinking water wells and water tank are unknown. The life expectancy of drinking water wells is quite variable and depends on a number of factors such as maintenance and materials therefore a determination on the conditions of the existing infrastructure needs to be made by a certified inspector. The advantage is that LCU has infrastructure already serving the site including water mains and hydrants. This means that off-site improvements will not be required to provide potable water and fire protection to the site. However, depending on the type of development proposed, the existing infrastructure may need to be improved. The water main may need to be upsized to accommodate the required potable demand and fire flows. The water main may also need to be extended depending on the building locations.
**Sewer**
The site is located within the Lee County Utilities territory (LCU) See Figure 11 below. There is an existing force main at the south end of Terman Circle inside of the property as well as sewer manholes along Binet Ave. Based on information obtained from FGCU, there appears to be a septic system and drainfields servicing the existing buildings. The county does not have any records of permits obtained for any construction except a fence, therefore the age and condition of the septic system and drainfields are unknown. The life expectancy of drainfields varies widely by installation type, soil conditions and maintenance, therefore a determination on the conditions of the existing infrastructure needs to be made by a certified inspector. LCU has infrastructure already serving the site including a pump station, manholes and sewer mains. This means that off-site improvements will not be required to provide sewer service to the site. However, depending on the type of development proposed, the existing infrastructure may need to be improved. Based on the location of the future buildings, the pump station elevation may not be adequate and based on the demand of the future buildings, a new pump station or different pumps may be required by Lee County to serve the development.

![Figure 11: Sewer Infrastructure](image-url)
**FEMA Flood Zone**
The site is in FEMA Flood Zone X which means that no flood insurance is required per FEMA. See Figure 12 below.

![Figure 12: FEMA Flood Zone Map](image)

**Infrastructure Recommendations**
- Consider which additional infrastructure may be required relative to cost as the property develops
- A certified inspector should be hired to provide a complete inspection of the existing drinking water wells, septic systems and drainfields.
**Community Facilities and Services**

An assessment of the facilities and services within close proximity to the property was also conducted. The proximity and services will be important as the property develops. A full description appears in Appendix A.

<table>
<thead>
<tr>
<th>Community Facilities/Services</th>
<th>Provider</th>
<th>Distance from site</th>
<th>Strengths / Weaknesses</th>
<th>Opportunities/Threats</th>
</tr>
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<tbody>
<tr>
<td>Fire</td>
<td>Tice Fire Protection &amp; Rescue District</td>
<td>Less than .10 mile</td>
<td>Close proximity to site</td>
<td>Future funding - station at risk</td>
</tr>
<tr>
<td>Police</td>
<td>Lee County Sheriff</td>
<td>3.87 miles</td>
<td>Within service area</td>
<td>Future funding</td>
</tr>
<tr>
<td>Ambulance</td>
<td>Lee County Emergency Medical Services</td>
<td>3.43 miles</td>
<td>Within service area</td>
<td>Additional need for services from potential students at this location</td>
</tr>
<tr>
<td>Library</td>
<td>Lee County Library System</td>
<td>3.43 miles</td>
<td></td>
<td>Additional need for services from potential students at this location</td>
</tr>
<tr>
<td>Parks</td>
<td>Lee County Parks &amp; Recreation – Buckingham Park &amp; Barkingham Dog Park</td>
<td>4.48 miles</td>
<td>Existing Baseball and soccer fields Dog park</td>
<td>Potential collaboration</td>
</tr>
<tr>
<td>Conservation 20/20</td>
<td>Buckingham Trails Preserve</td>
<td>3.60 miles</td>
<td>Established preservation area</td>
<td>Connect wildlife corridors</td>
</tr>
<tr>
<td></td>
<td>Hickory Swamp Preserve</td>
<td>.99 miles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Center</td>
<td>Buckingham Community Center</td>
<td>.84 miles</td>
<td>Facility for rent</td>
<td>Potential collaboration</td>
</tr>
<tr>
<td>Health Department</td>
<td>Lee County Florida Health Department</td>
<td>9.93 miles</td>
<td>No facility located within close proximity</td>
<td>Potential collaboration</td>
</tr>
<tr>
<td>Hospital</td>
<td>Lehigh Regional Medical Center</td>
<td>7.40 miles</td>
<td>No facility located within</td>
<td>Potential collaboration</td>
</tr>
<tr>
<td>Community Facilities/Services</td>
<td>Provider</td>
<td>Distance from site</td>
<td>Strengths / Weaknesses</td>
<td>Opportunities/Threats</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------------------------</td>
<td>--------------------</td>
<td>-------------------------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>Mental Health</td>
<td>SalusCare</td>
<td>9.59 miles</td>
<td>No facility located within close proximity</td>
<td></td>
</tr>
<tr>
<td>Shopping Center</td>
<td>Winn Dixie/CVS</td>
<td>3.57 miles</td>
<td>No facility located within close proximity</td>
<td>Retail opportunities</td>
</tr>
<tr>
<td>Food Bank</td>
<td>Harry Chapin Food Bank of Southwest Florida</td>
<td>11.77 miles</td>
<td>No facility located within close proximity</td>
<td></td>
</tr>
</tbody>
</table>

Community Facilities Recommendations

As a result of this analysis there are several opportunities that may be possible. These include:

- possible collaboration for training opportunities ex. Training and criminal justice courses
- connections to preservation areas increase environmental sustainability of the site.
Urban Design Features and Resources
A final analysis of the urban design features of the property is important to the character of how the property develops in the future.

Building Design
These housing units are from the 1960s and 1970s. Their design would be classified as “modern” due to their box-like shapes and simple structures.

Land Use
The strength of the property is that there is plenty of open space. This is important from an urban design standpoint because it provides a sense of character beyond what is provided by buildings.

Property Character
At the entrance to Buckingham right past the security house there is a small roundabout-like-feature. These features could be part of a “main street” that may be incorporated into the future use of the property. Other buildings, such as the gymnasium and the chapel give users a sense of place that does not currently exist in other parts of Lee County or the main FGCU campus.

Mixed Use
Because the property has considerable space available it can be used for mixed purposes. This might be a mix of housing dining, shopping, research, academic, and conferencing services. As was discussed earlier in this document, the uses internal to each building can be flexible. Getting the form right (e.g., clustering buildings and concentrating density and intensity) is more important than determining use. Guidance from the Form Based Code Institute could be useful as a tool to design the property. xvi

Urban Design Recommendations
- Create a main street or 'town center' feel
- Retain buildings and features that provide a sense of place
Development Plan

A Discussion about Uses
Based on feedback from the campus community a variety of environmental, academic/ research, and recreational, and community opportunities were proposed. As can be seen with the survey results, the focus of many respondents rests in creating new uses for the land. As noted previously, this will likely produce some contention between what utility the public sees for the Buckingham community, and what ideals are assessed to the property. Based on current land use maps of the area, there is not likely sufficient area to meet all desires, nor would such an endeavor necessarily bring about worthwhile results for the ecological goal.

Given that there are many uses proposed for the FGCU Buckingham Complex, planning around uses may be premature. A focus on broader principles of compatibility, suitability, and flexible use is most important. How this site can integrate with the surrounding community is also an important consideration in future development.

Guiding Principles
This analysis has provided some of that background information, but more analyses needs to be completed. As a result of this analysis and focusing on form rather than use, the URP 5316 class has considered the following principles in developing a draft concept plan:

- All future development should be constrained to existing areas
- Restore natural habitats where possible, especially around 20/20 lands
- Remove human health risks (e.g., asbestos)
- Preserve unique, usable, and historic features
- Preserve existing utility and roadway infrastructure
- Ensure residential units are retained on site
- Constrain intensity / density to core areas
Draft Concept Plan

The draft concept plan (Figure 13) proposes broad parameters for development that embraces the guiding principles discussed throughout this document. The development plan is a generalized concept of the property outlining the following:

- **Community Core:** where intensity and density should occur (e.g., main street / public buildings)
- **Mixed Residential:** less intense residential and/or academic or conference buildings that step down from intensity of community core
- **Working Open Space:** open areas for conservation or environmental research that can connect 20/20 preserve lands
- **Campus Recreation:** ball fields, rope course, or other developed recreational activities
- **Welcome Center:** takes advantage of existing usable buildings
- **Transit Station:** featured entrance area for multimodal transit hub
- **Solar Field:** opportunity for sustainable demonstration project(s)
Figure 13: Future Land Use
## Appendix A: Community Facilities

<table>
<thead>
<tr>
<th>Community Facilities/Services</th>
<th>Provider</th>
<th>Address</th>
<th>Distance from site</th>
<th>Describe Existing Conditions</th>
<th>Describe Strengths / Weaknesses (Existing)</th>
<th>Describe Opportunities / Threats (Future)</th>
<th>Make Tentative Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire</td>
<td>Tice Fire Protection &amp; Rescue District</td>
<td>5850 Buckingham Rd. Fort Myers, FL</td>
<td>Less than .10 mile</td>
<td>2 stations provide Basic Life Support &amp; fire protection</td>
<td>Unstable funding – SAFER grant &amp; low tax base</td>
<td>Funding - More people more potential need for services</td>
<td></td>
</tr>
<tr>
<td>Police</td>
<td>Lee County Sheriff</td>
<td>East District 1301 Homestead Rd. Lehigh Acres, FL</td>
<td>3.87 miles</td>
<td></td>
<td></td>
<td>More people more potential need for services</td>
<td>Possible collaboration for training opportunities ex. Training course</td>
</tr>
<tr>
<td>Sheriff's Dept. Gun Range</td>
<td></td>
<td>6570 Felix Romano Ave • Fort Myers, Florida 33905</td>
<td>4.91 miles</td>
<td></td>
<td></td>
<td></td>
<td>Possible collaboration for training opportunities ex. Training course &amp; Criminal Justice courses</td>
</tr>
<tr>
<td>Ambulance</td>
<td>Lee County Emergency Medical Services</td>
<td>Various locations - 36 ALS units throughout Lee County</td>
<td></td>
<td></td>
<td></td>
<td>More people more potential need for services</td>
<td></td>
</tr>
<tr>
<td>Library</td>
<td>Lee County Library</td>
<td>2421 Buckingham</td>
<td>3.43 miles</td>
<td></td>
<td></td>
<td>Additional need for services from</td>
<td></td>
</tr>
<tr>
<td>Community Facilities/Service s</td>
<td>Provider</td>
<td>Address</td>
<td>Distance from site</td>
<td>Describe Existing Conditions</td>
<td>Describe Strengths / Weaknesses (Existing)</td>
<td>Describe Opportunities / Threats (Future)</td>
<td>Make Tentative Recommendations</td>
</tr>
<tr>
<td>-------------------------------</td>
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<td>----------------------------------</td>
</tr>
<tr>
<td>System</td>
<td></td>
<td>Rd. Fort Myers, FL 33905</td>
<td></td>
<td></td>
<td>potential students at this location</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parks</td>
<td>Lee County Parks &amp; Recreation – Buckingham Park &amp; Barkingham Dog Park</td>
<td>9800 Buckingham Rd. Ft. Myers, FL 33905</td>
<td>4.48 miles</td>
<td>Baseball/soccer fields</td>
<td>Dog park</td>
<td>Possible collaboration to provide</td>
<td></td>
</tr>
<tr>
<td>Conservation 20/20</td>
<td>Buckingham Trails Preserve</td>
<td>8790 Buckingham Rd. Ft. Myers, FL 33905</td>
<td>3.60 miles</td>
<td>Preservatio n already established</td>
<td>Connect wildlife corridors</td>
<td>Possibility of connecting preserve areas?</td>
<td></td>
</tr>
<tr>
<td>Conservation 20/20</td>
<td>Hickory Swamp Preserve</td>
<td>13320 Peace Rd. Fort Myers, FL 33905</td>
<td>.99 miles</td>
<td>Preservatio n already established</td>
<td>Connect wildlife corridors</td>
<td>Possibility of connecting preserve areas?</td>
<td></td>
</tr>
<tr>
<td>Community Center</td>
<td>Buckingham Community Center</td>
<td>4940 Buckingham Rd. Ft. Myers, FL 33905</td>
<td>.84 miles</td>
<td>Faculty for rent. No organized programs</td>
<td>No established programs</td>
<td>Potential collaboration for internship/program s</td>
<td></td>
</tr>
<tr>
<td>Community Facilities/Services</td>
<td>Provider</td>
<td>Address</td>
<td>Distance from site</td>
<td>Describe Existing Conditions</td>
<td>Describe Strengths / Weaknesses (Existing)</td>
<td>Describe Opportunities / Threats (Future)</td>
<td>Make Tentative Recommendations</td>
</tr>
<tr>
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</tr>
<tr>
<td>Health Department</td>
<td>Lee County Florida Health Department</td>
<td>Michigan Clinic 3920 Michigan Ave. Fort Myers, Florida 33916</td>
<td>9.93 miles</td>
<td>No facility located within local area</td>
<td>Distance to facility</td>
<td>Potential collaboration for internship/programs for services not currently provided in local area</td>
<td>CHPSW would like possible medical facility to serve community to be located on this property.</td>
</tr>
<tr>
<td>Hospital</td>
<td>Lehigh Regional Medical Center</td>
<td>1500 Lee Blvd. Lehigh Acres, FL 33936</td>
<td>7.40 miles</td>
<td>No facility located within local area</td>
<td>Distance to facility</td>
<td>Potential collaboration for internship/programs for services not currently provided in local area</td>
<td>CHPSW would like possible medical facility to serve community to be located on this property.</td>
</tr>
<tr>
<td>Mental Health</td>
<td>SalusCare</td>
<td>2789 Ortiz Ave. Fort Myers, FL 33905</td>
<td>9.59 miles</td>
<td>No facility located within local area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shopping Center</td>
<td>Winn Dixie/CVS</td>
<td>Intersection of Buckingham Rd. &amp; Palm Beach Blvd.</td>
<td>3.57 miles</td>
<td>No facility located within local area</td>
<td></td>
<td>More people in the area will need more locations for shopping</td>
<td></td>
</tr>
<tr>
<td>Food Bank</td>
<td>Harry Chapin Food Bank of</td>
<td>2126 Alicia Street Fort Myers, FL – 33901</td>
<td>11.77 miles</td>
<td>No facility located within local area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Facilities/Service</td>
<td>Provider</td>
<td>Address</td>
<td>Distance from site</td>
<td>Describe Existing Conditions</td>
<td>Describe Strengths / Weaknesses (Existing)</td>
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<td>Make Tentative Recommendations</td>
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<tr>
<td>------------------------------</td>
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<td>------------------------------------------</td>
<td>------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Public Transit</td>
<td>Lee Tran</td>
<td>Intersection of Buckingham Rd. &amp; Palm Beach Blvd.</td>
<td>3.57 miles</td>
<td>No services located close to site</td>
<td>No service</td>
<td>Need services to move people to/from location</td>
<td>Additional bus route to access this location.</td>
</tr>
</tbody>
</table>
End Notes

i  See Buckingham vision at http://www.leegov.com/gov/dept/dcd/Planning/Documents/LeePlan/Leeplantext.pdf


iii Ibid

iv The purpose of the survey was to gather feedback from the FGCU stakeholders on property usage and priorities. The survey was distributed to the students, faculty, and staff of Florida Gulf Coast University. A total of 241 surveys were returned.


vii Florida FWS. (n.d.). Everglade Snail Kite. In Multi-Species Recovery Plan for South Florida (pp. 4-291-4-323)


xiii See also: http://www.fgcu.edu/CRM/fastfacts.html; http://www.fgcu.edu/Trustees/agenda.asp; http://www.fgcu.edu/info/mission.asp

xiv See http://www.fgcu.edu/Facilities/buckinghamcomplex.html


xvi See Form Based Code Institute at http://www.formbasedcodes.org/