

# SPRING VALLEY ROTARY SANDHILL CAMPUS



CONTEXT



VICINITY MAP



LOCATION MAP



- - - - - BOUNDARY OF SITE
- - - - - FOCUS AREA



PROJECT FOCUS AREA

# PHYSICAL ATTRIBUTES:



## AGRICULTURE VALUE OF LONG LEAF PINE TREE, *Pinus Palustris*

Speaking at a recent field day at the PeeDee Agricultural Extension and Research Center in Florence, S.C., T.J. Savereno, an Extension forestry specialist at Clemson University, noted both the historical and modern day importance of longleaf pines in the development of the United States.

Tall and majestic longleaf pine trees once covered more than 90 million acres in the Southeast, though down to about 3 million acres today, these native trees and the ecosystem they support are making a comeback in many areas.

One of the fastest growing agricultural enterprises is 'eco-agriculture.'

Many Southeastern land-owners have converted parts of their farmland for contract hunting, fishing, camping and even bird-watching. The ecosystem supported by native longleaf pines fits perfectly into the business plan for such rural enterprises.

From a dollars and cents standpoint, Savereno says longleaf pines are an attractive alternative for land owners in the Southeast.

Timber from these trees is very desirable because it tends to be long, straight and has tight growth rings and thus brings a premium price in comparison to loblolly pines.

Longleaf pines produce a high percentage of 'pole' timber, used extensively for power poles and for other commercial uses.

Prices for poles tend to not go up and down so much as does the price for saw-timber, making longleaf pines a good economic investment in some cases.

These native trees also produce a huge amount of pine straw. Early in the rotation with longleaf pines, landowners can harvest high volumes of high quality straw, according to Savereno.<sup>[1]</sup>



## WILDLIFE VEGETATION



PECAN  
*Carya illinoensis*



PEACH TREE  
*Prunus persica*



BLACK OAK  
*Quercus velutina*



LIVE OAK  
*Quercus virginiana*



CHINESE PISTACHE  
*Pistacia chinensis*



DEODAR CEDAR  
*Cedrus deodara*



CHINESE FLAME TREE  
*Koelreuteria bipinnata*

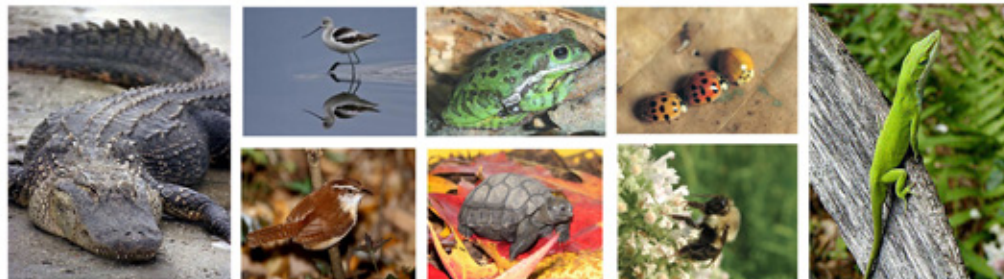


AMERICAN BEAUTYBERRY  
*Koelreuteria bipinnata*



## WILDLIFE

### AUTUMN VIEW



### LAKEVIEW

## REFERENCE

[1] <http://www.privatelandownernetwork.org/library/article.aspx?id=710>

# PHYSICAL ATTRIBUTES:

## GEOLOGY

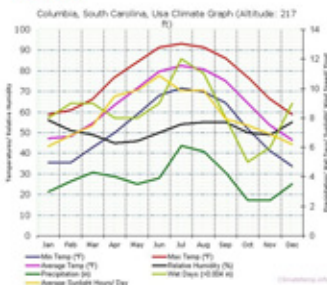


The sandhills Ecoregion is the inland portion of the coastal plain that borders the fall line. This ecoregion is frequently recognized as a physiographic province distinct from the coastal plain, although some researchers incorporate the sandhills within a broader area known as "the inner coastal plain". [1]



Although accurate vegetation maps for pine woodland are not available, the extent of this habitat type can be gauged from soil maps showing the distribution of the sandy soils in the region with which pine woodland is strongly associated. Potential pine woodland habitat in the South Carolina sandhills is illustrated highlighted in yellow, as predicted by soil type. Compared to the adjoining piedmont and upper coastal plain, upland forest cover in the sandhills is relatively unbroken. [2]

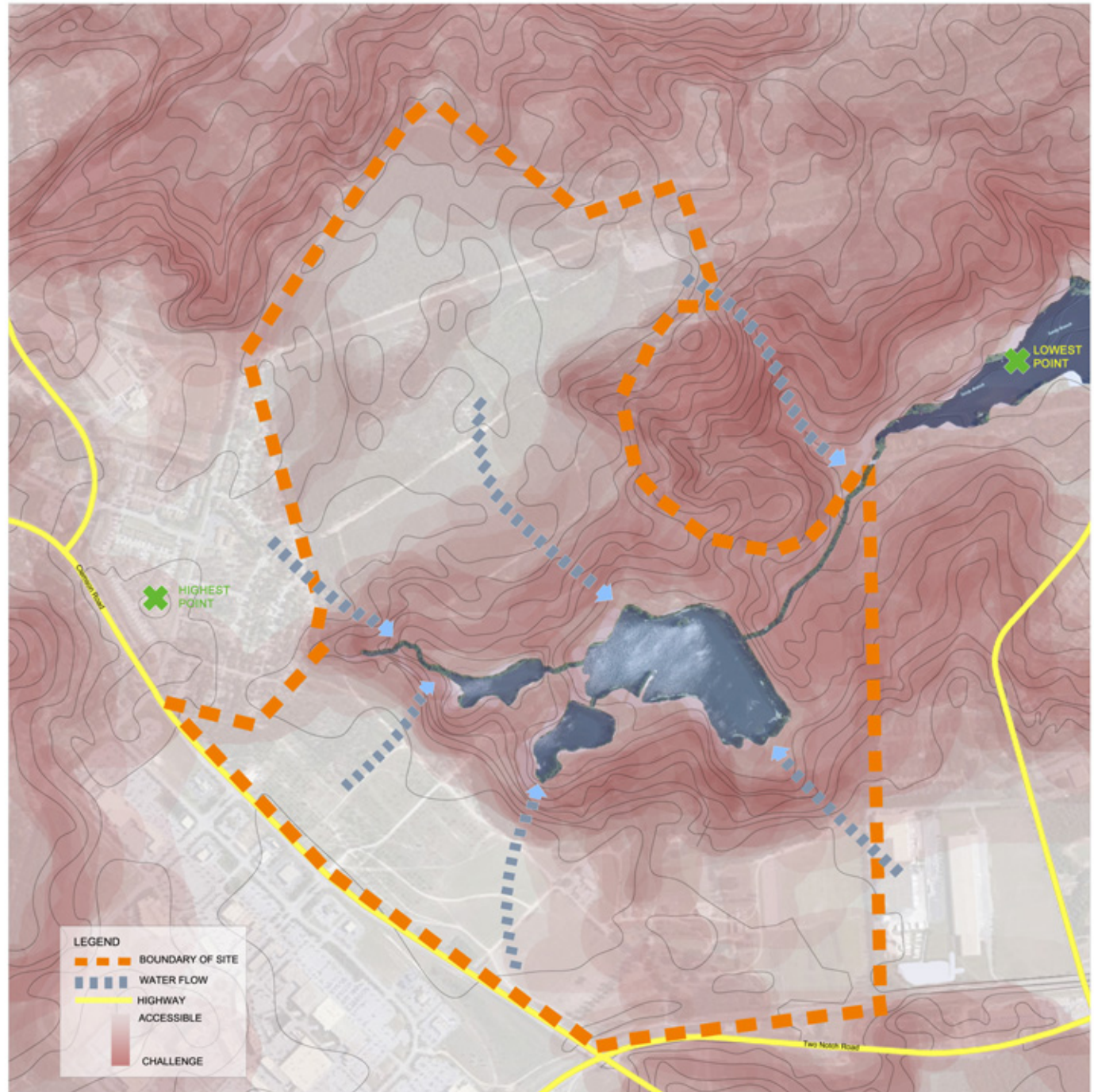
## CLIMATE



Summers in the sandhill are hot and humid, and winters can bring a chill. So the trail should provide areas that take seasonal advantage of shade and breezes.

Hours of sunshine range between 6.1 hours per day in January and 10.9 hours per day in June. On balance there are 3011 sunshine hours annually and approximately 8.2 sunlight hours for each day.

So there is plenty of opportunity for a daily exercise routine or romantic stroll by the lake.



REFERENCE  
[1] Sandhills - South Carolina Geographic Information Systems  
[2] Sandhills Ecoregion Terrestrial Habitat: Description and Location

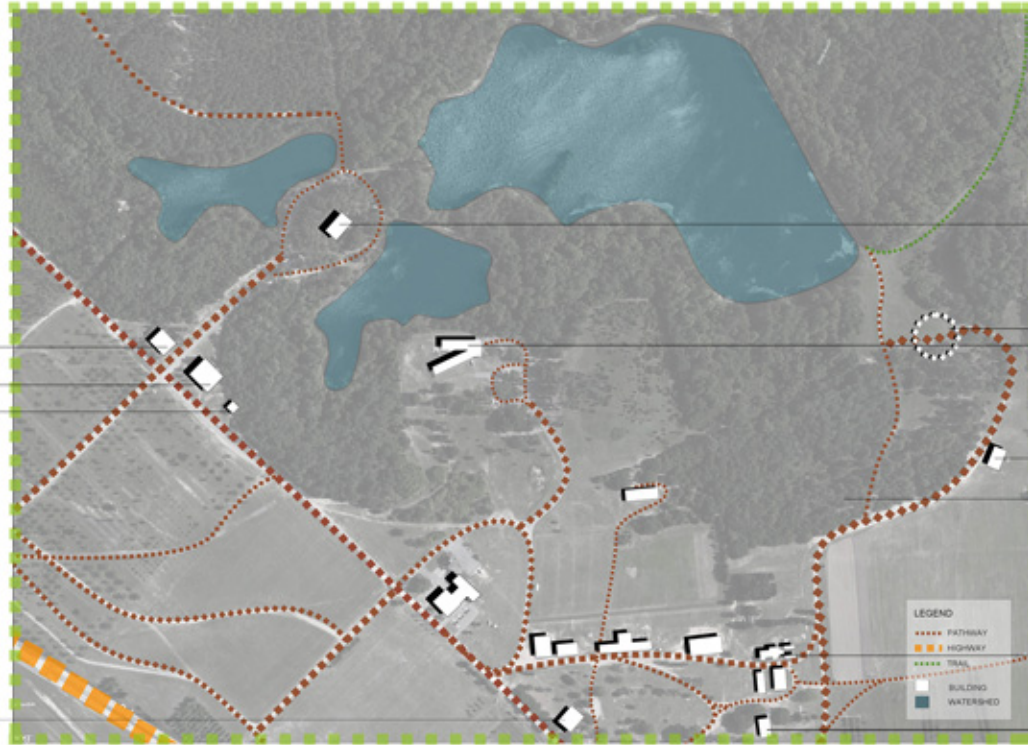
# SOCIAL & CULTURAL ATTRIBUTES:

CIVIL BUILDINGS  
PUBLIC SERVICE  
STRUCTURES  
HISTORY  
ACTIVITIES



COMPOST DEMONSTRATION  
PEST CONTROL FOUNDATION  
DEMONSTRATION  
CHIMNEY SWIFT  
(BIRD HOUSE)

COTTAGE BUILDING  
(DEPARTMENT OF PESTICIDE REGULATION)



LAKE HOUSE

CHILDRENS' GARDEN  
CIECD BUILDING  
(CLEMSON INSTITUTE FOR ECONOMIC  
+COMMUNITY DEVELOPMENT BUILDING)

CELL TOWER

EDUCATION GARDEN

SANDHILL BARN

CU RICHLAND COUNTY  
EXTENSION OFFICE

## PUBLIC SERVICE AT SANDHILLS

**Agricultural Service Laboratory**  
Provide agricultural testing, Soil Testing, Tissue Analysis, Animal Waste Analysis, Irrigation Water Analysis, Feed & Forage Testing.

**Cooperative Extension Service**  
Provide expertise in Agronomic Crops, Economic & Community Development, Food Safety & Nutrition, 4-H, Horticulture, Livestock & Forages, and Natural Resources.

**Department of Pesticide Regulation**  
Include applicator licensing and education, pesticide container recycling, integrated pest management in schools, endangered species protection, and the worker protection program

**Department of Plant Industry**  
Protect South Carolina's agricultural resources and natural ecosystems from the introduction and spread of plant and honey bee pests and invasive species.

Serve to enhance the efficiency of South Carolina's agricultural producers by providing unbiased, third party quality assurance programs for the fertilizer, organic and seed industries.

DPI enhances agricultural security in South Carolina by staffing and equipping the State Plant Emergency Response Team.

**Home and Garden Information Center**  
Provides research-based information on landscaping, gardening, plant health, household pests, food safety & preservation, and nutrition, physical activity & health.

**Plant Problem Clinic and Nematode Assay**  
A multidisciplinary program which provides diagnoses and management recommendations for plant problems.<sup>[1]</sup>

## BUILDINGS AND HISTORY



CIECD BUILDING  
(CLEMSON INSTITUTE FOR ECONOMIC  
+COMMUNITY DEVELOPMENT BUILDING)

Sandhills Research & Education Center Administrative Building is home to Sandhills Research & Education Center/Clemson Institute for Economic+Community Development Administration. A candidate for LEED Gold certification, the unique architecture blends with the local environment to preserve the natural Sandhill setting.<sup>[2]</sup>



RURAL TRAIL



COTTAGE BUILDING  
(DEPARTMENT OF PESTICIDE  
REGULATION)

The historic office building was constructed in 1927. It was the first building to be constructed on the new Experiment Station and was considered to be quite handsome. The first Station Superintendent was James A. Riley. He arrived in 1926 and supervised all new construction. Today, the Department of Pesticide Regulation occupies the building.<sup>[3]</sup>



CHILDRENS' GARDEN



LAKE HOUSE

Lake house was originally called the Pond House, built with WPA(Works Progress Administration) labor. It largely functioned as a community center during the depression. Underprivileged children attended summer camp there and dances were held on the main floor on weekends. WPA projects paid local level and paid local women to blaze a trail around the nearby pond, now available to rent for meetings.<sup>[4]</sup>



SANDHILLS BARN

## ACTIVITIES



### Sparkleberry Country Fair

The last Friday and Saturday in April finds the Sandhills REC hosting this annual rite of Spring. Come join the throngs of visitors and shoppers as you experience the rich agricultural heritage too often forgotten!<sup>[4]</sup>

### Farmers Market

The 2013 season for the popular Sandhill Farmers Market begins in early May attracting vendors and visitors. Live music performed by Keith Tracy is featured every second and fourth Tuesday. In addition to all of the great fresh products available this year the market will also feature select handmade articles.

The weekly market's season runs right up to Thanksgiving.<sup>[4]</sup>

### REFERENCE

- [1]<http://www.clemson.edu/publicregulatory/>
- [2]<http://www.clemson.edu/publicrec/sandhill/facilities/admin.html>
- [3]<http://www.clemson.edu/publicrec/sandhill/about/history.html>
- [4]<http://www.clemson.edu/publicrec/sandhill/festival.html>

# SOCIAL & CULTURAL ATTRIBUTES:

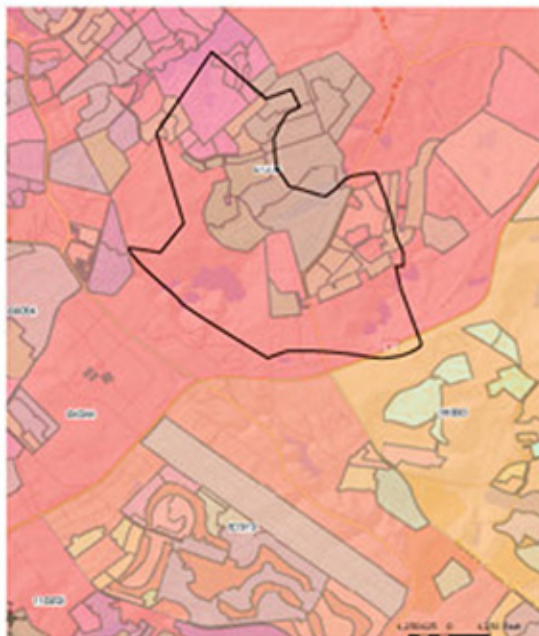
## ECONOMIC

Labor Force & Employment, June 2011

Median Hourly Wage Rates by Occupation

|                   |          |                                 |         |
|-------------------|----------|---------------------------------|---------|
| Labor Force       | 183,198  | All Occupations                 | \$15.56 |
| Employment        | 163,801  | Business & Financial Operations | \$24.79 |
| Unemployed        | 19,397   | Computer & Mathematical         | \$29.03 |
| Unemployed Rate   | 10.6%    | Architectural & Engineering     | \$29.85 |
|                   |          | Construction & Extraction       | \$15.24 |
| Per Capita Income | \$36,006 | Production Occupations          | \$12.75 |

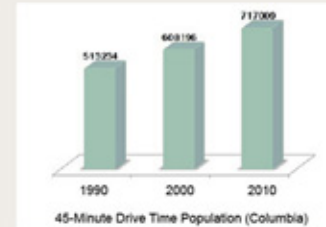
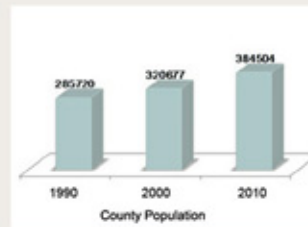
## MEDIAN HH INCOME IN 2000



## DEMOGRAPHICS

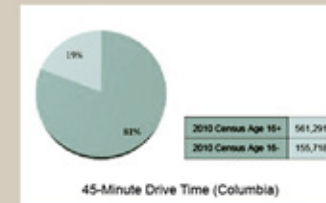
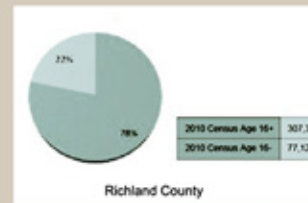
### POPULATION

The population of Richland County and its surrounding area was keeping increasing in past 20 years. For example, from 2000 to 2010, the population of Richland county increased 19.9%. According to the data we can produce the population will still increase at least in next 10-20 years.



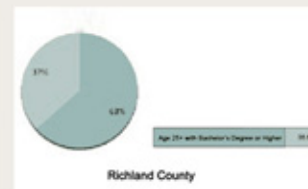
### AGE

The Median age of Richland County was 32.6, and the Median age of the surrounding area was 35.6 in 2010.



### EDUCATION

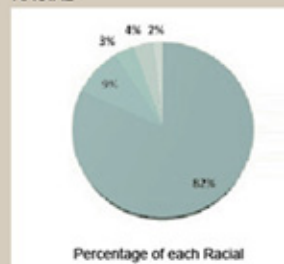
More highly-educated people in Richland County than surrounding area, because of more schools and universities here, more students activity places are needed.



## OVERVIEW

Formed in 1785, Richland County is home to the state's capital and has become the entrepreneurial and legislative hub of South Carolina. Richland County is also home to the University of South Carolina's many campus, and Fort Jackson--the Army's largest and most active initial training base. Richland County's diverse economy. Institutions of higher education, and entrepreneurial spirit make it the ideal location for business. Richland County is business ready, with twenty nine available buildings and fourteen available industrial sites across approximately 756 square miles of business friendly soil.

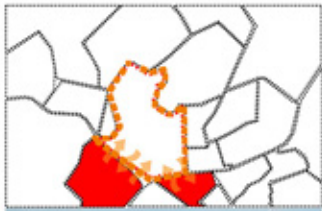
### RACIAL



| Racial      | Percentage | Change |
|-------------|------------|--------|
| Whites      | 45%        | +10%   |
| Blacks      | 45%        | +21%   |
| Hispanics   | 5%         | +114%  |
| Asians      | 2%         | +39%   |
| Multiracial | 2%         | +9%    |

| Racial      | Percentage | Change |
|-------------|------------|--------|
| Whites      | 45%        | +16%   |
| Blacks      | 45%        | +256%  |
| Hispanics   | 5%         | +264%  |
| Asians      | 3%         | +271%  |
| Multiracial | 2%         | +354%  |

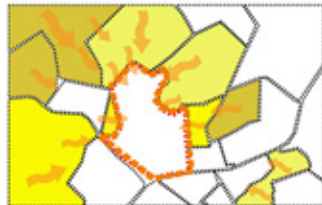
# SOCIAL & CULTURAL ATTRIBUTES:



COMMERCIAL



LAND USE INTENSITY



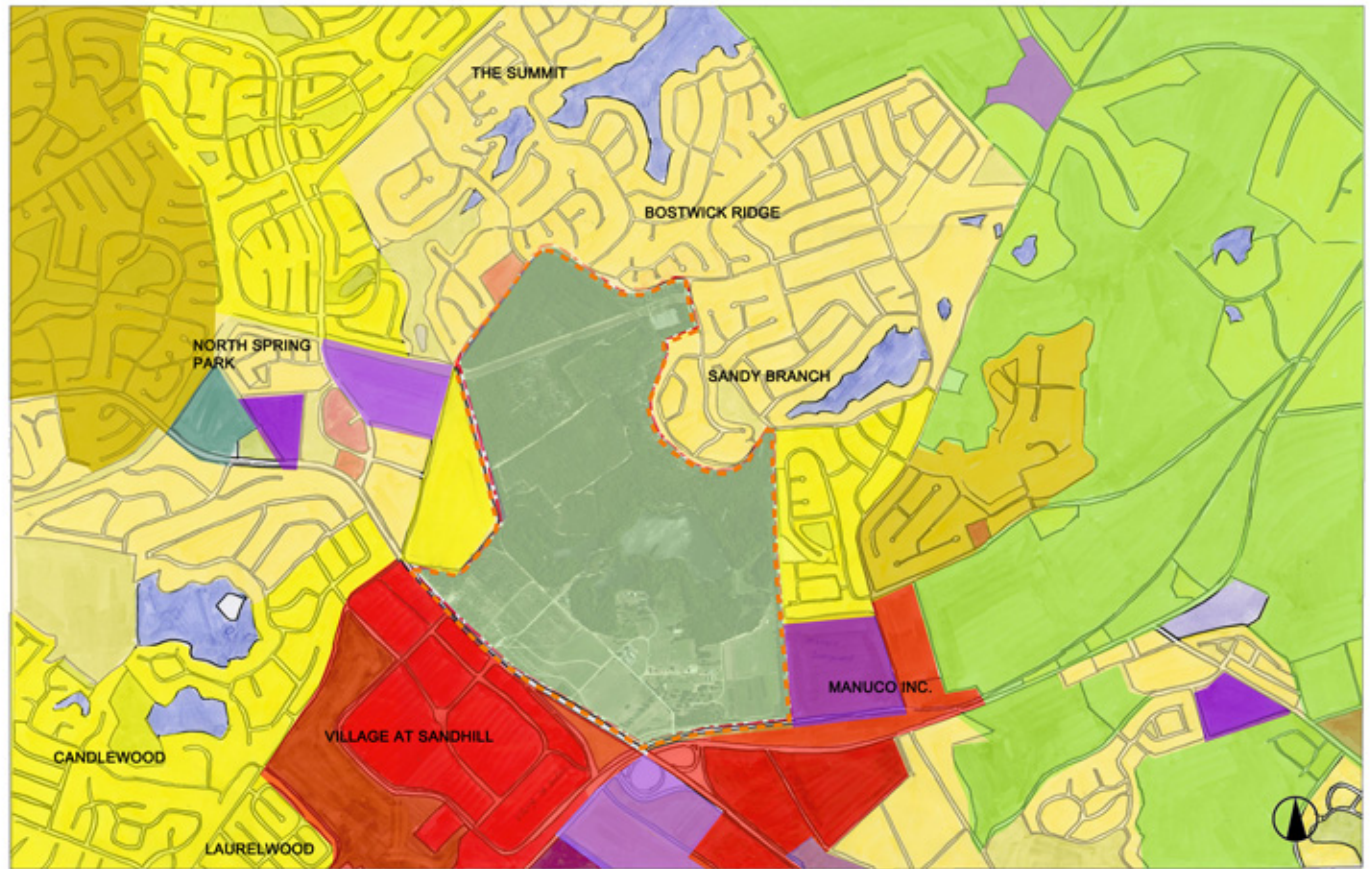
RESIDENTIAL



PROPERTY



INDUSTRIAL



LOCAL LAND USE

- |  |                                     |   |                                    |
|--|-------------------------------------|---|------------------------------------|
| RS-LD<br>(RESIDENTIAL LAND LOW DENSITY)    | RU<br>(RURAL DISTRICT)              | PARK                                      | M-1<br>(LIGHT INDUSTRIAL DISTRICT) |
| RS-MD<br>(RESIDENTIAL LAND MEDIUM DENSITY) | GC<br>(GENERAL COMMERCIAL DISTRICT) | LAKE                                      | HI<br>(HEAVY INDUSTRIAL DISTRICT)  |
| RS-HD<br>(RESIDENTIAL LAND HIGH DENSITY)   |                                     | OI<br>(OFFICE AND INSTITUTIONAL DISTRICT) |                                    |

TYPICAL LOCAL HOUSING



# SOCIAL & CULTURAL ATTRIBUTES:



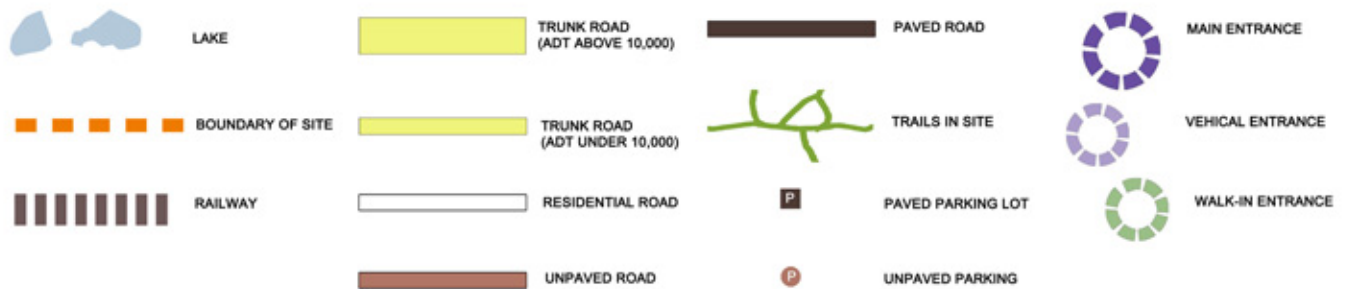
SURROUNDING ROADS



ROADS ON SITE



GATEWAYS AND PARKING



# SOCIAL & CULTURAL ATTRIBUTES:

## NORTH SPRING PARK

Richland County Recreation Commission, North Springs Park in Columbia, SC is a private company categorized under Golf Instruction.

Provide baseball, golf, softball and tennis place, also have play ground.<sup>[1]</sup>

## SESQUICENTENNIAL STATE PARK

Affectionately known to locals as "Sesqui", is a spacious, green getaway in the heart of the sandhills region. Once you're immersed in the 1,400 acres of pines, camping sites, and nature trails you forget just how close you are to bustling, downtown Columbia, South Carolina.

A retreat center complete with a kitchen and overnight, dormitory-style accommodations makes the park an ideal spot for family reunions and group gatherings. Camping sites are also available to overnight guests. The park provides kayak and canoe rentals, fishing, two nature trails and a 6-mile bicycle loop for day-use recreation.<sup>[2]</sup>



Fall by lake



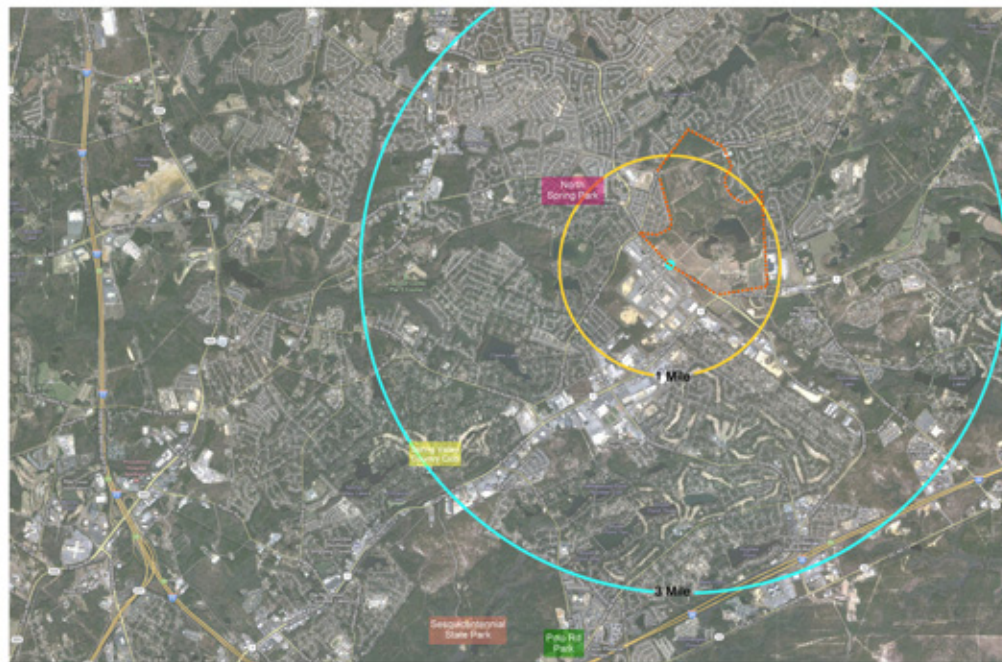
Lake Picnic



Boating



Playground



## OUTDOOR RECREATION

PUBLIC PARK OUTDOOR RECREATION AREAS WITHIN A 15MINUTE DRIVE OF SANDHILL NEIGHBOURHOODS INCLUDE:

### SPRING VALLEY COUNTRY CLUB

Spring Valley Country Club is privately owned by its members. People of all ages take pleasure in the pool facilities and snack bar during the hot summer months here in Columbia. Many leading members of the community have joined Spring Valley because of the vast opportunities available to them for business connections.<sup>[3]</sup>



Provide Golf, Tennis, Swimming, and dining place.

### POLO ROAD PARK

Has a great array of amenities, including a recreation building, gymnasium, game room, fitness room, classrooms, and a kitchen. The Park is also known for its many athletic fields that include lighted softball fields, six lighted soccer fields, and a football field. It is adjacent to Sesquicentennial State Park and hiking trails are accessible from here.

Provide Soccer/Rugby /Softball field.<sup>[4]</sup>



## PARKING AND FISHING AREA AT SANDHILL



## RICHLAND COUNTY TRAILS

### REFERENCE

- [1]<http://www.manta.com/c/mnyp0/north-spring-park>
- [2]<http://southernmaparks.com/sesquicentennial.asp>
- [3]<http://www.springvalleycc.com/welcome.htm>
- [4]<http://www.columbiacvb.com/listings/?action=display&listingID=16342>
- [5]<http://www.clemson.edu/publicrec/sandhill/>

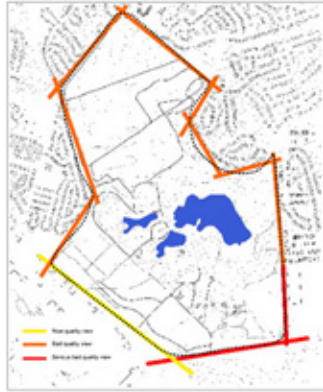


# VISUAL FACTORS:

DISTRICT SPACE ANALYSIS



BOUNDARY VIEW QUALITY



SCENIC NODE LEVEL



NOISE AFFECT ANALYSIS



VISUAL QUALITY ANALYSIS



STREET VIEW FROM GOOGLE MAP



EXISTING TRAILS AROUND LAKES



# TRAIL TYPOLOGIES:

## OVERVIEW

Trails are an integral part of our park and recreation system. They are used by people of all ages and abilities to exercise, relax, socialize, view wildlife, and travel to destinations such as school and work.

Generally, it is preferable to design a trail system with loops that offer a number of options and a variety of experiences, while preventing the need to back track. A stacked trail loop system will provide opportunities to design trails that appeal to different user groups: the core trail, which leads from the trail head, can be wide, smooth, open and flowing, while other loops branching from it can be narrower and more challenging. Intersections should occur on relatively level ground and where there is good visibility.

## TYPOLOGIES

### Linear



- for long distance trails
- for goal orientated trails eg access to areas, linking facilities
- side trails can allow access to secondary recreation features, special features, interpretive information and views

### Loop



- always guides the user back to the trailhead
- no need to retrace steps so can be more interesting to use
- less physical wear

### Stacked loop



- offers a variety of travel distances
- can be used to offer a variety of difficulties to suit user ability
- can work at different layers according to the seasons

## TOPOGRAPHY



Poor design (abrupt transitions from one type of design to another)



Tight and technical



Open and flowing

| Desirable Control Points                      | Inappropriate Control Points  |
|---|---|
| Scenic overlooks; long distance views         | Environmentally sensitive areas (e.g. wildlife habitat, rare plant species) |
| Waterfalls and other water features           | Steep side slopes   |
| Rocky outcrops                                | Low lying wet/boggy areas   |
| Historical sites                              | Water crossings and riparian zones  |
| Geological monuments                          | Sensitive archaeological sites  |
| Archaeological sites                          | Known weed infested or diseased areas                                       |
| Existing access points, roads or other trails | Inappropriate soils (e.g. loose sand, boggy clays)                          |

## TRAIL TYPE MATRIX

| Trail Type | Name | Local Access | Community | Regional | Facility Name                      | Design Features  |                                      |   |  |                         | Users  |        |            |        |  |              |              |               |                |              |       | Notes |                     |            |                                       |   |   |
|------------|------|--------------|-----------|----------|------------------------------------|--|--------------------------------------|---|--|-------------------------|--------|--------|------------|--------|--|--------------|--------------|---------------|----------------|--------------|-------|-------|---------------------|------------|---------------------------------------|---|---|
|            |      |              |           |          |                                    | surface  | width                                | longitudinal slope                        | cross slope  | ADA                     | walker | runner | dog walker | equine | wheelchair or electric mobility device | skateboarder | rollerblader | cyclist/biker | mountain biker | rollerblader | gator |       | maintenance vehicle | pickup car | feedback                              |   |   |
| SINGLE USE | A    | ✓            | ✓         | ✓        | hiking (high challenge)            | soil / stairs  | 10' - 30'                            | 0 - 15% (short segments steeper than 15%) | 2% max 4% max  | steepest (rocks, roots) | •      | ○      |            |        |  |              |              |               |                |              |       |       |                     |            |                                       |   |   |
|            | B    | ✓            | ✓         | ✓        | hiking (moderate challenge)        | soil / stairs  | 10' - 30'                            | 0 - 8%                                    | 2% max 4% max  | ○ steep                 | •      | ○      | ○          |        | limited                                |              |              |               |                |              |       |       |                     |            | landings of 60' x 60' every 1000 feet |   |   |
|            | C    | ✓            | ✓         | ✓        | hiking (accessible)                | soil / gravel / engineered wood fiber or wood chips  | f (with paving areas) - 10'          | 0 - 5% (8% for max 50')                   | 2%   |                         | •      | •      | •          | ○      | •                                      |              |              |               |                |              |       |       |                     |            |                                       | Columbia Slough ACA segments require 6" Fiber (or equivalent engineered wood fiber) and are closed to dogs and bicycles; use gravel cushion for poorly drained sites  |   |
|            | D    | ✓            | ✓         | ✓        | walking                            | engineered wood fiber or chips / gravel / pavers asphalt / concrete / wood or plastic lumber | 6" - 12" (if not paved for vehicles) | 0 - 8%                                    | 1 - 2%   |                         | •      | •      | ○          | ○      |  | ○            | ○            | ○             | ○              | ○            | ○     | ○     | ○                   | ○          |                                       | sidewalks, boardwalks and trails in developed parks; sometimes include shoulders, pavers if used for maintenance (8" min. - 10" gravel), phase out shoulders; avoid wood fiber except for 10' wide walking loops in developed parks; landings of 60' x 60' every 1000 feet on accessible trails |   |
|            | E    | ✓            | ✓         | ✓        | exercise / fitness (outdoor track) | synthetic rubber   | 2-4' / lane                          | 0 - 1%                                    | 1%   |                         | ○      | ○      | •          |        |  |              |              |               |                |              |       |       |                     |            |                                       |   | discourage use of wheelchairs and baby strollers to protect resilient surface |
|            | F    | ✓            | ✓         | ✓        | ✓                                  | hiking   | asphalt / concrete                   | 6' one-way 10' min 12' paved two-way      | 0 - 3% (up to 5% if needed up to 10% for 500' up to 12% for 50' and ramps) | 2%                      |        |        |            |        |  | ○            | ○            | ○             | ○              | ○            | ○     | ○     | ○                   | ○          | ○                                     | ○   | ○   |
| G          | ✓    | ✓            | ✓         | ✓        | mountain biking                    | soil / gravel / wood   | 10' - 4'                             | 0 - 12%                                   | 2 - 5%   |                         |        |        |            |        |  |              |              |               |                |              |       |       | •                   |            |                                       | 16' one-way single track; add width & banking (regenerative) at turns; harder surface with compacted subgrade to prevent erosion  |   |

| Trail Type   | Name | Local Access | Community | Regional | Facility Name                 | Design Features                           |  |                                |             |     | Users  |        |            |        |  |              |              |               |                |              |       | Notes |                     |            |          |   |  |   |
|--------------|------|--------------|-----------|----------|-------------------------------|---|--|--------------------------------|-------------|-----|--------|--------|------------|--------|--|--------------|--------------|---------------|----------------|--------------|-------|-------|---------------------|------------|----------|---|--|---|
|              |      |              |           |          |                               | surface                                   | width                                    | longitudinal slope             | cross slope | ADA | walker | runner | dog walker | equine | wheelchair or electric mobility device | skateboarder | rollerblader | cyclist/biker | mountain biker | rollerblader | gator |       | maintenance vehicle | pickup car | feedback |   |  |   |
| SINGLE USE   | H    |              |           |          | exercise                      | soil / wood / gravel / concrete / asphalt | 6" - 12"                                 | varies                         | varies      |     |        |        |            |        |  |              |              |               |                |              |       |       |                     |            |          |   | site specific loops with variety of challenges (k, m)  |   |
|              | I    | ✓            | ✓         | ✓        | equine**                      | soil / gravel / wood chips                | 2' - 6' (gear of riders)                 | 0 - 12% (prefer 5% max)        | 2%          |     |        |        |            | •      |  |              |              |               |                |              |       |       |                     |            |          |   | wood chips difficult to maintain   |   |
| MULTIPLE USE | J    | ✓            | ✓         | ✓        | hiking and mountain biking    | soil / gravel                             | f (with paving areas) - 10'              | 0 - 5% (to 12% if needed)      | 2%          |     | •      | •      | •          | ○      | ○                                      |              |              |               |                |              |       |       | •                   | ○          | ○        |   | adjust width for user volume & vehicular use; 6" gravel allows wheelchairs to pass                                       |   |
|              | K    | ✓            | ✓         | ✓        | hiking and equine             | soil / gravel / wood fiber                | 4' - 6' (gear of riders) - 10'           | 0 - 12% (prefer 5% max)        | 2%          |     | •      | •      | •          | ○      |  |              |              |               |                |              |       |       |                     |            |          |   | adjust width for user volume & shared use; use gravel cushion for poorly drained sites; wood chips difficult to maintain |   |
|              | L    | ✓            | ✓         | ✓        | walking and biking***         | gravel / asphalt / concrete               | 6" - 20" (10' - 12" pref. most vehicles) | 0 - 5% (5% as needed) (8% max) | 1%          |     | •      | •      | •          | •      | •                                      | •            | •            | •             | •              | •            | •     | •     | •                   | •          | •        | • | •  | if asphalt for minor park paths; 12" asphalt (8" min - 14" max) for major park path or lengthy multi-use trail; add fencing for rail-with-trail; 10" asphalt with 2" gravel shoulders used on narrow lanes; 12" - 20" concrete for overhead exposures |
|              | M    | ✓            | ✓         | ✓        | walking, biking and equine*** | gravel / asphalt / concrete               | 6" - 20" (10' - 12" pref. most vehicles) | 0 - 3% (5% max)                | 2%          |     | •      | •      | •          | •      | •                                      | •            | •            | •             | •              | •            | •     | •     | •                   | •          | •        | • | •  | if asphalt for minor park paths; 12" asphalt (8" min - 14" max) for major park path or lengthy multi-use trail; add fencing for rail-with-trail; 10" asphalt with 2" gravel shoulders used on narrow lanes; 12" - 20" concrete for overhead exposures |
| N            | ✓    | ✓            | ✓         | ✓        | fire and maintenance***       | gravel / turf block                       | 10' - 14'                                | 0 - 5% (to 12% as needed)      | 2%          |     | •      | ○      | ○          | ○      | ○                                      |              |              |               |                |              |       |       |                     | •          | •        | • | Forest Park "Fire lanes" often function as trails for hiking and/or mountain biking                                      |   |

Recreational Trail Strategy Trail Types  
 Nature Community  
 Local Access Regional

• Major use  
 ○ Minor use

\* Mobility devices that can equal bicycle speed  
 \*\* Sometimes specialized shoulder on multi-use trail  
 \*\*\* Some limitations in parks or congested areas  
 \*\*\*\* Trail type unlikely to meet environmental zone standards due to width and/or paving material; will need environmental review if in e-zones

REFERENCE  
 1. Trail Design Guidelines for Portland's Park System  
 2. Trail Design Theory

# THE PINES



According to previous site inventory and analysis, the design achieves its master plan objectives by directing movement, enhancing connectivity, increasing use and enabling event programming to revitalize and successfully adapt the existing space. The open spaces and structure have been restored, new sensory gardens created, the play area renewed and enlarged, and sculpture as modern art integrated into the landscape to attract more people here and encourage them to stay for longer periods.

This trail connects four parts of different categories: art, education, entertainment, ecology and culture, which makes the function more worthwhile, moreover it will be more attractive.

# THE PINES



**A. Vista Point**

High point on site  
Tower  
Interesting viewshed

**B. Longleaf Pine Tree Center**

Education & Culture  
Plant pine trees to create a circular trail  
Different ages of trees

**C. Fishing Area**

Fishing club  
Outdoor recreation  
Entertainment

**D. Community Garden**

Close to western residential areas  
Close to water

**E. Picnic Area**

Between two lakes  
Entertainment  
Close to Lake House

**F. Wetland Trail**

Existing trail  
Broad walk way  
Protect habitat

**G. Children's Garden**

Existing  
Playground  
Education

**H. Sculpture Park**

Continues along side the trail  
Modern  
Public Art

**I. Education Garden**

Education  
Culture

**J. Energy Garden**

Solar energy light  
Limited tree cover  
Good sunshine  
Evening lighting

**K. Playground**

For children  
Colorful

**L. Seasonal Garden**

Landscape value  
Different colors in different season

**M. Shrub Maze**

With tower in center  
Start point and end point on the trail

**N. Lawn Terrace**

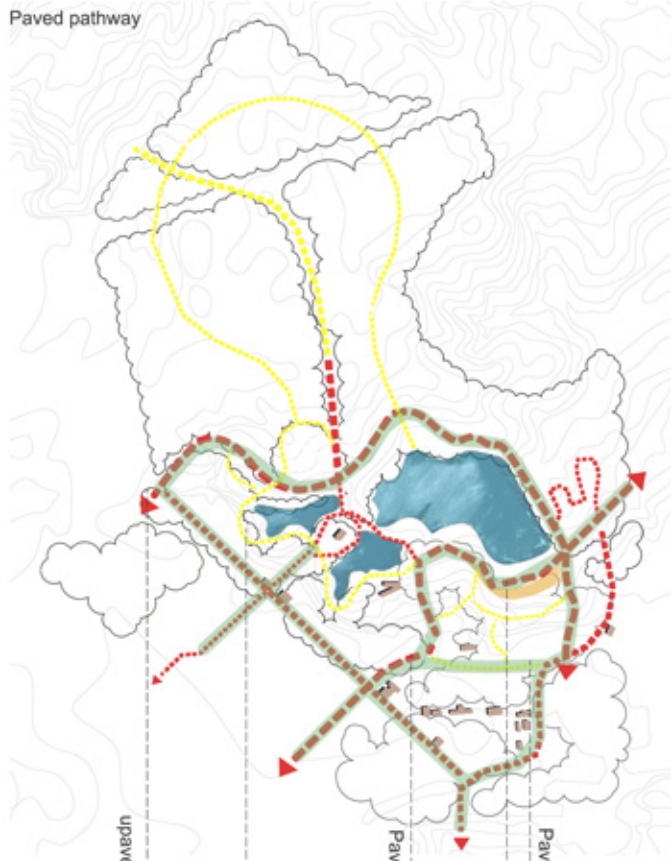
Event place

**O. Farmer's Market**

# THE PINES

VEHICULAR CIRCULATION  
PEDESTRIAN CIRCULATION  
PROPOSED AND EXISTING ROADS  
PAVEMENT ON PATHWAY

Paved pathway



Existing roads and proposed roads



Vehicle Circulation  
Parking Lot  
Gate & Entrance



Pedestrian Circulation  
Rest Stations



Four ecology part:  
Forest, grassland, wetland,  
and human activity

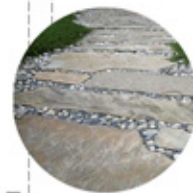
upaved / Natural



Paved / Stone



Paved / Stone



Paved / Stone



Paved / Brick



Natural sandy pathway



Broadwalk in wetland



Intersection



# THE PINES

Four areas of interest-culture, education, art, entertainment provide multiple opportunities for enjoyment.



**CULTURE**  
Community Garden



**EDUCATION**  
Longleaf Pine Trees Center



**ENTERTAINMENT**  
Playground



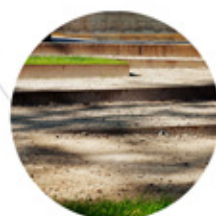
**EDUCATION**  
Seasonal Garden



**ENTERTAINMENT**  
Fishing Area



**ENTERTAINMENT**  
Picnic Area



**ART**  
Lawn Terrace



**EDUCATION**  
Solar Energy Garden



**EDUCATION**  
Farm Market



**ENTERTAINMENT**  
Tree Maze



**ART**  
Sculpture Garden

# THE PINES

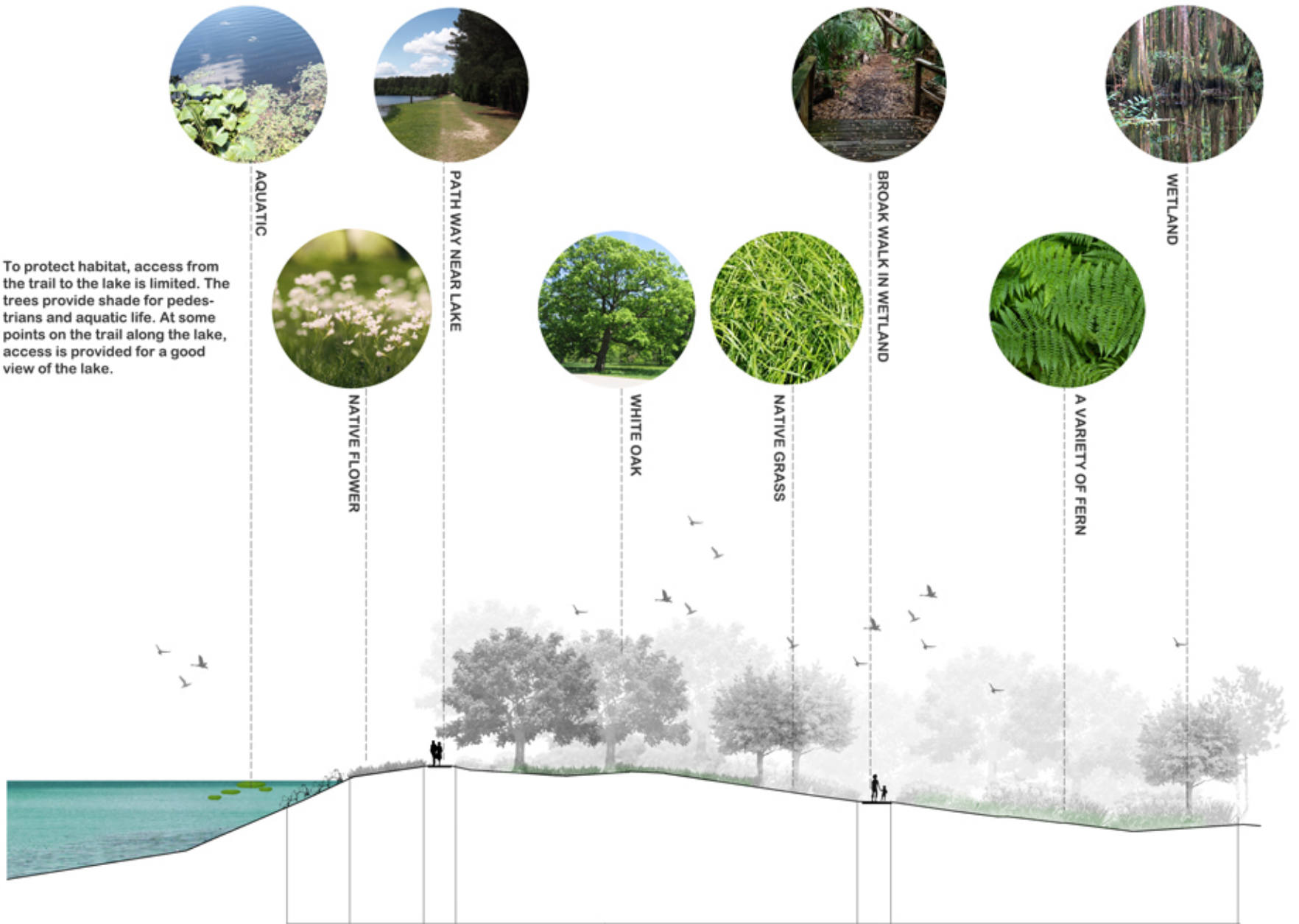
CALENDAR    MAR    APR    MAY    JUN    JUL    AUG    SEP    OCT    NOV    DEC    JAN    FEB



The list show a suggestion for the plant choice in seasonal garden. It provide different view in different season. They are all native in South Carolina, and will be gorgorous in spring and fall. Both of the flowers and fruits are attractive. The Mountain Larurel bloom only in June and July, but it can attract birds.

# THE PINES

To protect habitat, access from the trail to the lake is limited. The trees provide shade for pedestrians and aquatic life. At some points on the trail along the lake, access is provided for a good view of the lake.



AQUATIC

PATH WAY NEAR LAKE

BROAK WALK IN WETLAND

WETLAND

NATIVE FLOWER

WHITE OAK

NATIVE GRASS

A VARIETY OF FERN

AQUATIC NATVIE FLOWER PEDESTRIAN PATHWAY WOODLAND PEDESTRIAN PATHWAY WETLAND





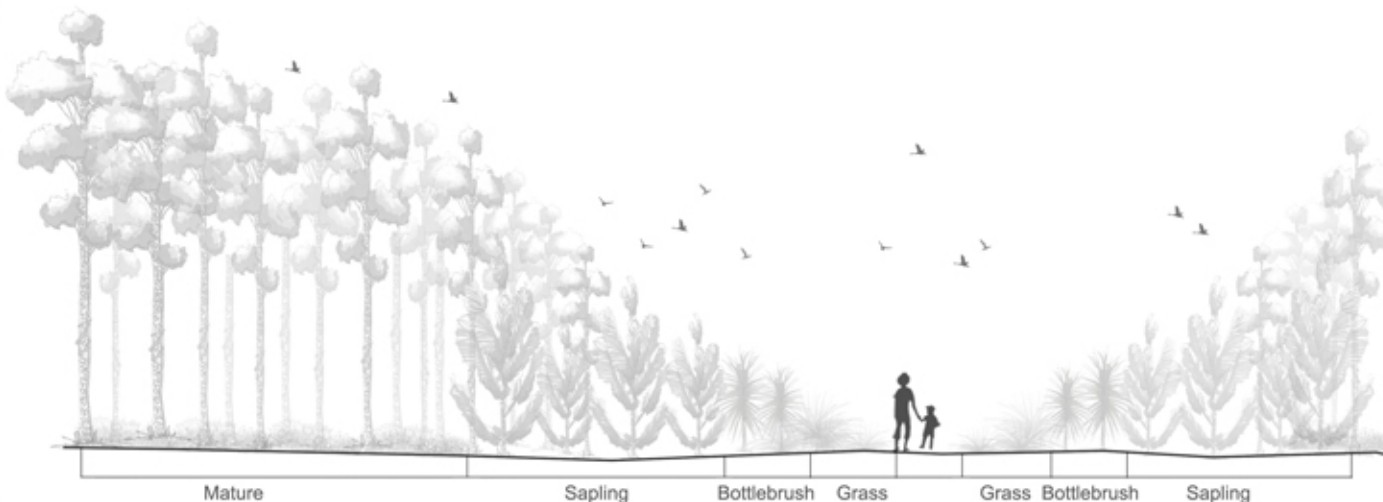
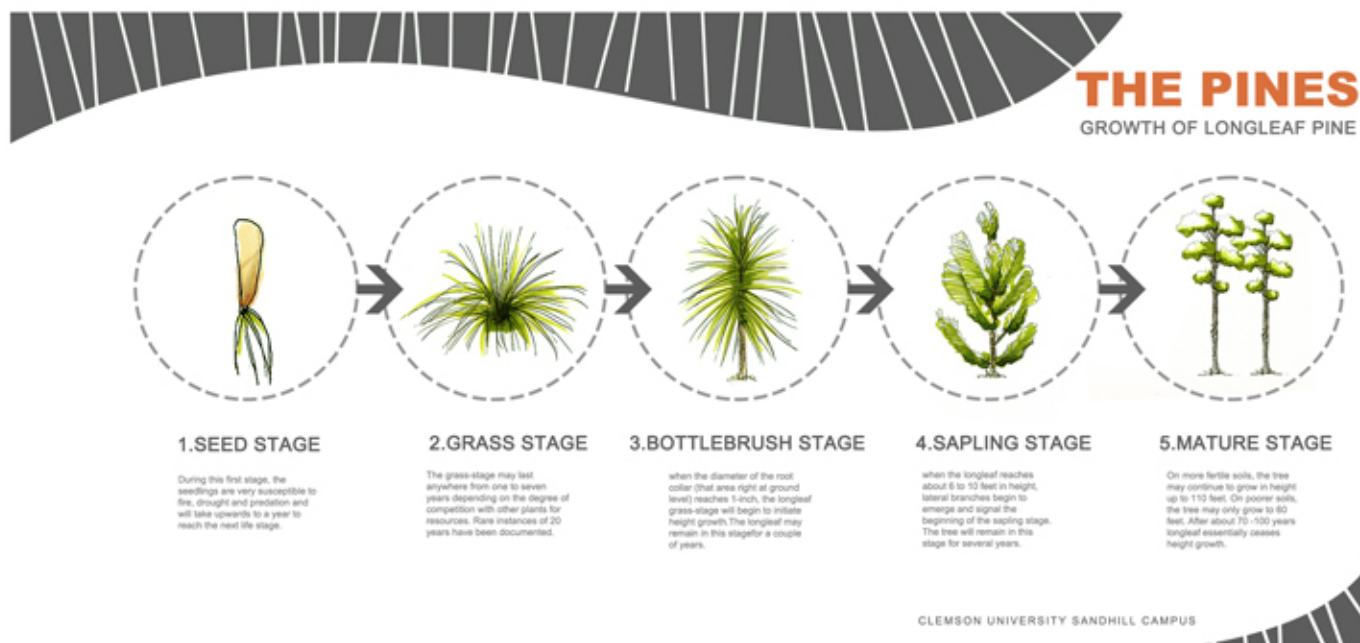
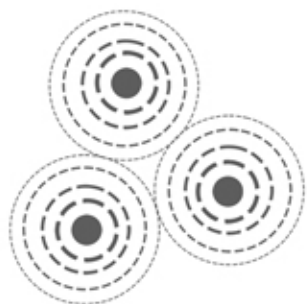
# THE PINES

According to analysis, 60% of site is woodland, and almost 85% of the trees are longleaf pine trees. A big loop as an informal pathway will be built in this area for the residents around the north part. A tower will be built at the vista point on site for interesting viewshed. A longleaf pine tree education center will be an entrance from the forest area into other areas. Here is a signage made for education.



Longleaf Pine Tree Education Center

Here is a unit in the longleaf pine tree education center. Mature pine trees (dominate trees, codominant trees, intermediate trees, overtopped or suppressed trees) will be planted in the center, and then sapling, bottlebrush, and grass. From the center, the height of pine trees change gradually.



Also, these forests can be home to hundreds of different plants and animals, with as many as 50 species of wildflower, grass, shrub and fern in a single square yard of the forest's open, sun-bathed floor. Some researchers estimate that the longleaf pine ecosystem is one of the most diverse outside of the Tropics.

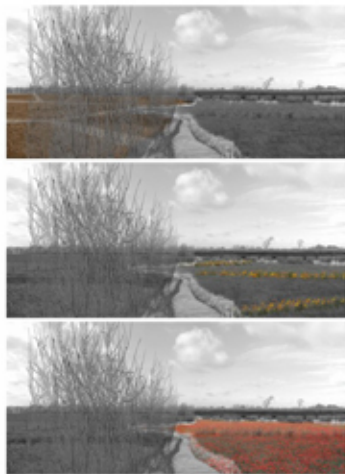


The developing ecosystem is wonderful habitat for a variety of wildlife, including quail, turkey, deer, songbirds and gopher tortoises—the only native tortoise east of the Mississippi River. This tortoise thrives in the open understory of longleaf forests, an ecosystem in part sculpted by frequent fires that would destroy forests dominated by other tree species.

# THE PINES



Wildflower in different season



Commercial area and open space



The grassland near Clemson Rd, avoid blocking the view from the commercial area to site. It is an essential part from outside to human activity area. It can also provide space for some activity for both commercial area and Sandhill campus.

On the other hand, when people walk on the trail, the wildflowers provide interesting viewshed in different seasons.