



2014 Lower Cape Fear Stewardship Development Award Winners

Outstanding Stewardship

Live Oak Bank Headquarters – Wilmington, NC



Live Oak CEO, Chip Mahan was determined to create a superior workplace environment for employees and challenged LS3P to preserve the longleaf pines and live oaks growing on the previously undeveloped site as they designed a building which would “sit lightly on the land.” To construct the 36,500sf office building, great lengths were taken to preserve trees and the natural features of the site and to maximize the view connection from the offices and workspaces to the exterior courtyard and grove of live oak trees. The site had a high spot with a natural clearing, so the building was placed in that area to avoid the need to remove many

trees, and the parking layout was designed to weave between the existing trees shown on the survey. Of the trees that did have to be removed, two were recycled into custom furniture and artwork that is prominently displayed in the new building. Additionally, cypress siding was utilized as the exterior building material to help the structure blend into the environment.

At the centerpiece of the design was the goal of providing a superior working environment for all employees. To accomplish this, windows surround the building allowing for natural light and outdoor views to be captured from every workspace. Interior glass walls allow for transparency and views from any point within the building. The building is anchored by a central lounge that includes a large kitchen and gathering space and a two-story window wall overlooking the central courtyard. A 50-seat tiered digital conference room provides a venue for teleconferencing with satellite offices as well as employee seminars and meetings. Finally, a fitness center, exterior decks, and on-site dog park round out the list of employee amenities.

To protect water quality, pervious concrete, colored to match the pine straw, was utilized for the parking spaces. At the base the building is river rock that catches the rainwater from the Roof and infiltrates it back into the ground. Slender office wings were oriented for optimal daylighting and passive solar design to the extent that light fixtures do not need to be turned on during the day. Exterior aluminum solar shades and high-performance glazing were utilized to provide solar shading and minimize heat gain through the windows. A highly-efficient system was used to provide heating and cooling throughout the building.

Architect: LS3P Associates Ltd. – Represented by Laura Miller
Engineer: Norris and Tunstall Consulting Engineers
Contractor: Clancy and Theys
Landscape: LACC International
Other Contributors: Woods Engineering, PA (structural), CPHF Engineers (P&M), MCFayden Engineering (Electrical)

Significant Achievement

Piney Ridge Nature Preserve



In 2011, the City of Wilmington entered into a long-term conservation lease with the [North Carolina Coastal Land Trust](#) on a 39-acre tract of land owned by the Oleander Company now formally known as the Piney Ridge Nature Preserve. Located in the headwaters of Hewlett's Creek, the project was developed by the City of Wilmington for passive recreation and encompasses the Stanley Rehder Carnivorous Plant Garden, an area maintained since the 1960's that showcases native carnivorous plants.

The site epitomizes stewardship by emphasizing the natural beauty and integrity of the property through preservation and environmental education specifically featuring the collection of carnivorous plants, sandhills/pine forests, pond pine, long leaf pine, loblolly bay, uplands and wetlands classified as mineral and/or organic soil flats, pond pine, Turkey Oak, Loblolly Bay, Fetterbush, gallberry, wiregrass, as well as Catbrier. The preserve is a jewel to preservation efforts and home to the only naturalized site in North Carolina to very rare plantings.

Education and outreach programs at the site consist of a myriad of opportunities for all, including but not limited to, interpretive signs to include information about all species, regulatory and directional wayfinding signage, tours, conferences, workshops, school field trips, and a curriculum developed with Cape Fear Community College consistent with North Carolina Standard Course of Study.

The site layout also avoided wetland impacts while showcasing the natural habitat of the site. The project utilizes:

- permeable sidewalk/trail
- parking lot which promotes infiltration
- slatted pier decking to reduce impervious surface and reduce runoff
- minimizes the use of curbs and gutters
- minimized vegetation clearing to preserve existing vegetation
- minimized site grading
- a wooden overlook (to avoid wetland impacts and to act as an ADA accessible passive park

Project Recipients: Julie Rehder and Camilla Herlevich

Tonbo Meadow – Wilmington, NC



Tonbo Meadow is a 14-lot single-family cluster development on a 3.19 acre tract of land along Greenville Loop Road just south of Bradley Creek Elementary School. The placement of the primary site amenities were planned in such a way that offers the least intrusive locations for residential development.

Low Impact Development (LID) practices were utilized to protect water quality and include infiltration, stormwater wetlands, and bioswales. The LID techniques will be monitored by North Carolina State’s Engineering program to provide data regarding LID efficacy. Additionally, the

residential lots are located on the southern-most portion of the site, taking advantage of the existing drainage pattern, and keeping the road length to a minimum to minimize impervious surfaces. Designated natural-surface trails and walkways will provide access to community natural recreation areas. Additionally, a newly constructed sidewalk provides access to Bradley Creek Elementary along Greenville Loop Road. One of the pre-existing barns will be recreated to function as a rustic gathering space at the top of the meadow. Supplemental native planting will enhance existing wildlife habitat, and offer opportunities for bird, butterfly, and dragonfly watching.

The homes will be oriented for maximum passive-solar orientation. They will be designed with construction techniques that reduce energy consumption beyond standard levels. Natural materials will be used in the construction of the homes such as fiber cement & cypress siding. FSC harvested flooring and cabinets, natural fiber carpeting, low or no VOC paints, and other renewable or recycled finish materials will be part of the standard package of interiors. Appliances and mechanical systems will be chosen to maximize indoor air quality and energy efficiency.

A Homeowner’s Association and restrictive covenants will be established in order to preserve and maintain the natural features associated with the site. Importantly, a maintenance manual and schedule will be developed to help preserve the function of the shared stormwater features and natural trails. Covenants will also include irrigation system and car-washing limitations, on/off-leash areas, pet waste disposal, and guidelines for home additions/renovations.

Project Recipient: Pam Fasse

Brunswick Nature Park



Located on a 911 acre property bordering Town Creek in Winnabow, The Brunswick Nature Park is a public passive recreation park that provides an exceptional mix of vegetation, wildlife, ecosystems, vistas, wetlands and waterways for citizens to explore. Phase I of the project, which is now complete, consists of picnic areas, hiking & biking trails, a canoe/kayak launch dock and a solar powered restroom facility. In an area previously cultivated as a loblolly pine plantation by International Paper, Brunswick County has partnered with the NC Coastal Land Trust to implement a forest management plan to restore

the native Longleaf Pines to the park.

Brunswick County has partnered with the Southern Off Road Biking Association (SORBA) to create the over 5 miles of biking trails with varying degrees of difficulty. Trail signage indicating level of difficulty is used throughout the park with one-way direction bike trails helps to ensure rider safety. Nearly 4 miles of hiking trails have been designated including riverfront trails along scenic Town Creek. Strict riparian buffers and conservation easements on the site limit specific uses within the park to ensure protection of its natural amenities. Proposed amenities in future phases of the project include a regional environmental education center, educational signage, boardwalks through environmentally sensitive areas and wetlands, viewing platforms/overlooks, bird blinds, and horse trails.

Project Recipients: Jim Pryor and Melinda Johnson

Stewardship Champion Awards

The Stewardship Champion Award recognizes exceptional individuals and organizations that have exemplified extraordinary vision, innovation, leadership and action for the environment in the Cape Fear Region.

Brunswick Housing Opportunities

In a partnership with 22nd Century Builders and USDA Rural Development, Brunswick Housing Opportunities is working to construct affordable, low maintenance and energy efficient workforce homes in Brunswick County. The first of these homes was completed in early 2013 near the Town of Bolivia and plans are currently underway to construct more homes throughout Brunswick County. Brunswick Housing Opportunities president Resea Willis hopes this type of home will break the stigma of what "affordable" means in the county. The home's amenities include:

- Low cost, energy efficient and fire resistant pre cast wall construction
- Roof-mounted electric solar panels with two-way meter
- R-20 wall insulation rating and R-60 attic insulation rating
- 250 Mph rated and lifetime warrantied wall and roof construction
- Lifetime warrantied exterior paint
- Energy efficient lighting fixtures
- No or low VOC paints throughout
- Green Building Coalition Certified
- Energy Star rating

Project Recipient: Resea Willis

Leonidas Jack (Leo)

- After learning that more than 1,000 Venus' flytraps were stolen from the Stanley Rehder Carnivorous Plant Garden, Leo decided to step up to protect his local environment by donating all of his birthday money to help replant the Venus Flytraps recently plundered from the Stanley Rehder Carnivorous Plant park. Because of his unselfish act, he brought greater attention to the need to provide increased protection of one of our region's precious resources.
- According to Port City Daily: Leo Jack's initiative is arguably one of the most notable shows of spirit since the theft, and there are plenty of hands at the table trying to step up protection for the plants. They also want to spread new awareness that thieving flytraps is a fairly serious crime.
- According to the Star News:
 - Leo notes: "I wanted to help because the flytraps are disappearing,"
 - Elaine Jack, Leo's mother, has made her son aware of the importance of protecting the environment and preserving coastal North Carolina's natural habitat.

- o State officials are exploring the idea of making flytrap poaching a felony and increasing the penalties. Jack hopes the punishment for plant theft will be increased. Leo wants to make sure the indigenous plants continue to thrive.