DRAFT

Base Camp Sarasota
Progress Report - Program and Preliminary Design

Prepared by The Florida House Institute for Sustainable Development
February 17, 2005

The goal of this phase was to clarify scale and use of spaces (program) and design thematic architecture and a hypothetical site plan for the biological field station as part of the Land Institute planned for Sarasota County. This research and education center will be located amidst a natural forest hammock/wetlands edge setting and will offer state-of-the-art laboratory facilities and small conference and environmental education facilities. The project will feature world-class green design and create a convivial research and education environment to inspire the scientists who work there. Extensive discussion and site selection work by the Scientific Advisory Committee ranked five sites in early phases resulting in the selection of the Horse Ponds site on the Carlton Reserve as an ideal setting for the Center (the County will have final approval of site selection). The following describes the programming and design workshops and their results to date.

Field Station Program Workshop

December 14, 2005
Present: Steve Suau, John Lambie, Anne Merrill, Terry Osborn, Frank Folsom Smith, Meg Lowman

Mission of the Center

- To study subtropical ecosystems
- To train tropical, subtropical and temperate biologists,
- To advise and service local environmental management,
- To provide much-needed (but currently absent) professional scientific records through the process of peer-publications about southwest Florida ecosystems, and
- To serve as a model for tropical ecosystems and their related issues

Chronology of field station evolution

1. Project proposed by ex-state senator Robert Johnson and then-CEO Lowman to Selby Gardens in 2002, proposing that Selby (with its land-based ecology mission) become the center for a Florida ecological center; rejected

by the Board of Trustees of Selby Gardens and put on hold by Johnson and Lowman.

2. Project resurrected by Sarasota County and New college partnership in 2004, with additional partnership by University of Florida and other regional institutions

3. Planning grant submitted by M. Lowman and funded by Triad Foundation in 2005 to convene a Science Advisory Committee to select site for a potential field station, as endorsed by Sarasota County; committee completed its process in September 2005.

4. Design workshop grant submitted by Life and Environmental Sciences Cluster of the Economic Development Corporation of Sarasota County, and funded by EDC to create a master site plan and schematic green design for buildings, facilities, and plans for future use

- Phase 1. Programming workshop –December 14, 2005
- Phase 2. Design workshop – January 8-9, 2006
- Phase 3. Input to initial designs as system develops

Hypothetical phasing of construction

Phase 1. Classroom and lab unit; Dorm unit to sleep 15-20 (five rooms of 4 bunks each and/or four rooms of 4 bunks plus one faculty room with two bunks) with office space; One housing unit with kitchen space to accommodate faculty or station manager, and include office space.

Phase 2. Kitchen/dining unit that can be utilized as lecture hall; two additional units for scientists of long-term stays (with bedroom, office, kitchen, porch)

Phase 3. Greenhouse, parking, boardwalks, additional library/small conference auditorium.

PHASE 1 – Programming Workshop

Programming questions

Space requirements

Size capacity
spatial relationships/proximity
water/internet access/sewer/electric

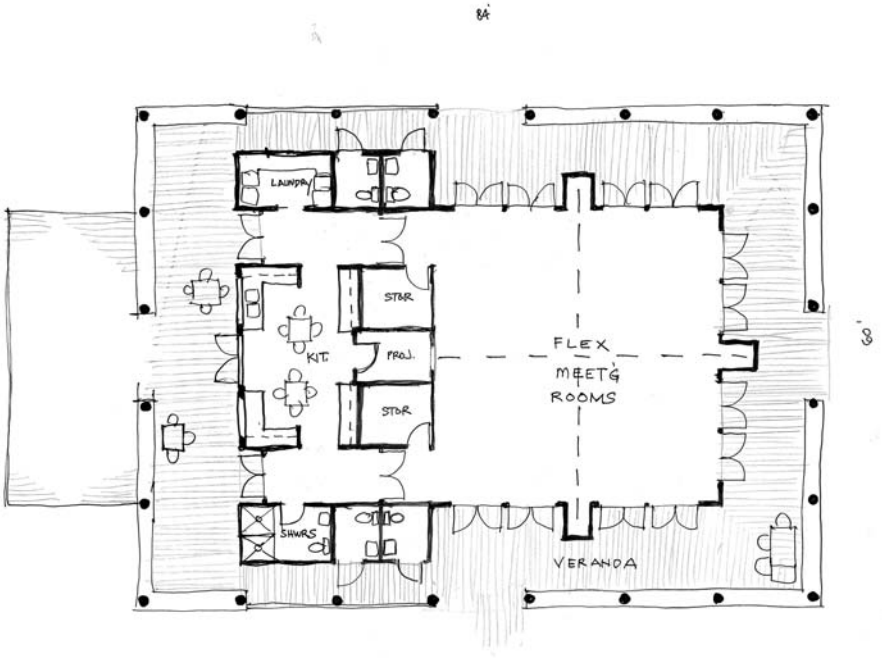
Environmental requirements

Design standards (see site planning issues)

High performance environmental design minimum site impact

Uses

- **Residential**
  - Independent units (three units with bedroom, kitchen, porch)
    - family quarters
    - long-term scientist quarters
  - Bunkhouse of 5 rooms with 4 persons each
    plus 2 toilet blocks and verandahs/porch



- **Research facility**

  - **Lab –** to accommodate 8-10 persons working at once, with approx. 20 foot by 30 foot and 3 bays of bench space, including refrigerator, drying oven, microscope stations, leaf area meter, dirty work bench space, wet lab bench space, and paperwork bench space; outdoor mudroom covered screen area for outside work with sink and bench space

- **Library/classroom** – 16 foot by 32 foot for each of two spaces, with perhaps a sliding separation wall. Library has natural history book collection, 3 carrels, 2 herbarium cabinets, table space and good natural light with desks or carrels or reading chairs at window bays

- **Office space** – 3 offices, one slightly larger for station director of 10 foot by 12 foot and two offices for senior scientists at 8 foot by 12 foot

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- **Dining facility/meeting area**
  30 foot by 50 foot space to service 60 diners and includes a kitchen (1000 square feet for dining room and 300 square feet for kitchen) or host 120 chairs for meeting room. Also nearby is an 8 foot by 12 foot administrative office to service small conferences, catering and other multipurpose use of this facility.

- **Parking and access/vehicles**
  - Shell/grass parking out of sight
  - Offsite additional parking to link with existing Carlton parking
  - Back driveway to access kitchen and administrative out of sight from ecosystem activities
  - Solar-charging golf carts and/or electric ATV vehicles to transport handicapped, VIPs, and perhaps occasional scientist use.

Site planning issues

- Separate research from conference/dining activities
- Outdoor recreation and aesthetic area
- Bring outdoors inside of all rooms and building spaces
- Possible rooftop gardens?
- Cisterns to augment water supply
- Waste water recycling
- Energy – stand alone
- Zero waste
- Interpretive design of all elements for public education
- Boardwalks to conserve soil and ground ecosystems and to direct users in specific spaces
- Canopy walks to foster environmental appreciation
- Above-ground buildings to integrate with flooding of natural ecosystems (tree houses?)

Phase 2 - Design Workshop

January 6, 2005
Invitees:

Design team including Pliny Fisk, Terry Osborn, Frank Smith, Jerry Sparkman, Michael Carlson
Critique team: Steve Suau, Meg Lowman, Elzie McCord, Jodi Johns
Facilitator: John Lambie
General stakeholders: Michelle Harvey, John Cranor, Kathy Baylis, Diane Andrews, students and others from community as identified
Graphics and rendering and logistics – Jeanne Zeigler from Folsom Group, Nicole from ESP at New College of Florida

THEMES

Site Planning
Building Design

AGENDA

Sunday January 8th

10:00 a.m.	Site visit – meet in parking lot of Carlton Reserve
5:30 p.m.	Design team meeting/dinner
7:30 p.m.	Pliny Fisk – public lecture at New College

Monday January 9th

8:00 a.m.	Design team meeting
10:00	Design team set up charrette at Keating Center, New College
10:30	Design process begins
12:30-1:30	Lunch with a pinup and critique ongoing
1:30 - 5:30	Design process continues
5:30 - 6:30	Pinup and critique and wine and cheese discussion
7:30 p.m.	Design team dinner

Field Station Design Workshop/Charrette

January 9, 2006
Those in Attendance:
Rick Storsberg (Sarasota County Parks & Recreation), Tim Snyder (Osborn Sharp Associates, Architect), Raymond Kaiser (Private Environmental Consultant), Debbie Blenco (Sarasota County Parks & Recreation), Terry Osborn (Osborn Sharp Associates), Steve Suau (Kimley-Horn, Engineer; FL House Institute), Anne Merrill (FL House Institute and EDC, Planning & Development Consultant), John Lambie (FL House Foundation), Jono Miller (New College, Co-Director Environmental Studies), Meg Lowman (New College Professor of Biology & Environmental Studies;

Director of Environmental Initiatives), Pliny Fisk (Green Design Architect), Elzie McCord (New College Assistant Professor of Biology), Frank Folsom Smith (The Folsom Group), Michael Carlson (Carlson Studio Architecture), Diane Andrews, (EDC, Business Development Manager), Sandra Gilchrist (New College, Division Chair/Natural Sciences).

The Process

The workshop was convened January 9th at the Keating Center (New College Foundation). Brief introductions and assignments in the board room followed by immediate division into two working groups - each with architects, biologist, citizens, county staff and leaders of environmental fields to define a diversity for each design group.

Introductory Discussion Key Points

The goal of the field station: To exemplify a higher standard of green building and suitable construction techniques for unique site. To blend nature and research facility with minimal footprint and site perturbation.

Address site issues first, then building issues. Site is ranked by accessibility, security, and habitat variety.

Water table fluctuation at site-1 foot or less in the dry season; 4 feet or less in the wet season.

Some concerns about the 26,000 acre site: Lack of security because of private land ownership (turkey farm) adjacent to site, lack of sustainable true lakes, and use of an impacted site is ideal, rather than a pristine site.

Will staff be at field station to prepare meals? To inspire, elevate library to give view of canopy scenery? Roll-up screens on porch? Can seasonal storage (modular) be included under field station?

PLINY GROUP

- Key design ideas/notes from pin-up sessions
    - Cradle to cradle -- production of resources
    - Interpretation – educational value of buildings and site improvements
    - Life cycle – consider all the operations of users
    - Integrated transportation – how to come and go
    - Regionalism – food, water, materials, power, (economic issues that will affect the ecosystem of the field station)
    - Low impact foundation systems

Insert Photo

- Elements of Design
  - Screened porches
  - Verandahs that are covered for shade and for mosquitoes
  - Views of ecosystems
  - Bringing outside inside
  - Think tank element
  - Exit and entrance for food, waste and etc
  - Central areas (kitchen) to encourage sense of community

- Guiding Principles
  - Reduction of impacts on site – for energy, for materials, for footprint, for services in and out, etc.
  - Interpretation and education becoming part of what we are doing – use natural light, native materials, creating signage about the environmental footprint. (possible use of native pine that is being thinned from Curry Creek).
  - Buildings serving specific users which are scientists

Process of design is to think up front, to plan the basis to achieve the goals, and then spend the last moments in the drawings and final design. Pliny's group achieved a grid of the site, so they can proceed to delineate some designs.

Scale and life cycle are the elements of design. So we need to determine what we will use from the site for our life cycle:
Sun, air, soil, vegetation, ecosystems, wind protection, and other natural elements. We will not produce food, microscopes, or materials on site. We will produce data and information, and sustain the scientists involved. The life cycles stays persistent. If we advance to create a facility on the site, we take the entrance and look at it – perhaps potted herbs exist there; we enter; we process and eat food; we use and digest food; we use the bathroom; we have the facility organized in life cycle concepts that range from getting food to digesting food. The site needs to reflect these life cycle processes.
From all this, the elements of scale emerge – sizes of building space, perspective of library versus lab versus bathroom.
Another goal is the reduction of impact on the site that translated into life cycle and scale.

POTENTIAL CONSTRUCTION UNITS FOR THE PLINY GROUP:

Fat walls© include bathrooms, kitchenettes, lab spaces, closets, small office units, etc

Portal - a site on the public site at Carlton where the scientists interface with the public. It is the energy source, wind power, transport center, distribution of food and equipment into solar buggies to take across the road. They either go to the Visitor Center and take the canopy walk to the site, or they hike along a trail that is also used by small, environmental vehicles that transport gear to the field station.

Units of structure that include fat walls at the ends, affixed by simple long screws.

Visible energy – Light shelves, PV shade systems (tracking, tracking hybrid, translucent), windmills, glass tube hot water and show the technology so that folks can see it for educational purposes.

The portal sites on the public side along with public trails and the visitor center. On the left (west) side of the road is all scientist and research regions.

The lab and classroom space is a wide open area, with decks, and a fat wall in the middle that can be moved away to form one space, or left intact to form two spaces. Structure is nuzzled in the canopy of the oaks. Bunk rooms have four individuals, with Frank posing a design that allowed some privacy. There is a granny cabin of sorts that give shelf space.

Buildings are off the ground, open-corridor, tree house structures of many various types.

Visitor Center is located northeast of the wetland (P-2) on the visitor side of the Carlton road. Then a boardwalk extends out from the visitor center along the north end of P-2 with views and a special platform for birders, crosses the road with a canopy bridge, and then enters the hammock on the other side, with an eventual platform for ranger talks and to get interpretation of scientific research. With a swipe card, scientists can proceed through a gate and continue on the walkway through the research canopy region, eventually coming down at the field station site.

OSBORN GROUP

- Condensing to minimize impact and to create sense of community.

- Community and communication – create a curved building with central facilities such as laundry, verandah, with maximum views, library on second story with a surrounding view.

- Energy can be augmented by electric sunflowers (solar plates that look like flowers); bikes would be used in many forms (as in Holland) – ADA bikes, electric bikes, bikes to cart gear, and other styles.

- They also had dorms like tree houses along a boardwalk/walkway structure and this allowed for solitude but also clustering.

- Another canopy walk was proposed to cool all structures and to inspire research. The canopy walkway encircles the two lakes, with one lab-classroom at the east end, and their residences on the west end with maximum privacy. They used different types of tree houses to illustrate the variety of structures. One building that may be outside of the canopy walk and innermost building space was the larger dining/meeting room area that was proposed with a verandah viewing the lakes, located in the mid-south section between the two wetlands.

Osborne's Group developed some wonderful and inspirational sketches that will be incorporated in the final report. These included draft suggestion of walkway placement, tree house elements, building renderings and overall site plan.

Pliny's systems can be used to minimize any habitat disturbance – his building support systems do not degrade the soil or use great amounts of cement, etc. Foundations have maximum impact in most cases, so he has researched to reduce that impact. He uses anchors into the soil for support, not cement foundations. Such systems include Fast Foot© and Stingray/Mantaray©.
GroHome© is one of his concepts, with units put together to create homes of different sizes with different amenities.
Concept of "Go light on the land".

Insert Drawings

Summary of elements in common

- Loop walkway linking elements of the field station and facilitating research "outside the door:
- Education center for the public across the road to inspire students and share the excitement of the research ongoing at the station
- Portal on the east side of road to organize human activities offsite from the station
- Tree house structures with elevated board walks
- Family and adult housing far to the west of the lakes for solitude
- Possible two labs, one close to the central facility and one to the west in isolation.
- Central dining/verandah facility in the middle of the two lakes that serves the field station with multiple uses for small conferences, County workshops, special environmental education days, and Biomimicry workshops

Unresolved Items

- Placement of lab close or far from the dining area was not agreed upon fully

- One group had a walkway along the North and the other had a walkway around the entire wetland system.

Future Agenda

For $10,000 in additional funding, Pliny suggested that we could generate a report on this design, including homework and illustration on specific items and also which incorporates some hurricane-friendly elements as well as many sustainable elements.

Field station interior design by Anne Folsom Smith – workshop forthcoming!!! Rooms with scientific themes – Chuck Darwin suite, Richard Leakey room, Einstein laboratory, Marie Curie library

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