

DESIGN CHARRETTE

WILLISTOWN
OKEHOCKING
NATURE
CENTER

JULY 22 & 23, 2007

FINAL REPORT

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**CHARRETTE
OVERVIEW**

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**PROGRAM
INFORMATION**

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**SITE MAPS &
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CHARRETTE RESULTS

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What is a *CHARRETTE*?

A charrette is an intensive, concentrated design event, typically two or more days long, that brings together a wide range of individuals to collaborate with professional designers to generate design concepts for building or development projects. A charrette provides an effective method for permitting participants with diverse perspectives to provide input and be involved in developing the initial design ideas. A collective vision and approach can emerge from the charrette – helping to develop consensus among the community and stakeholders.



The format for a charrette can vary but often involves a series of facilitated large and small group activities. All core participants are asked to “pick up the pencil” and provide their design input, not just the professionals. In addition to the core group of participants, charrettes can provide opportunities for other individuals to participate in a more limited way. These can include public presentations, typically at the end of the charrette. Other folks, such as elected officials, regulators or potential funders, can be invited for special “VIP” presentations during the charrette activities.



Charrettes also permit effective dialogue between the professional design team (architects, landscape architects, engineers, builders, etc.) and the client/stakeholder group. By gathering the entire design team together, everyone has the benefit of hearing the issues and concerns directly from the client & stakeholders. Similarly, the project opportunities envisioned by the design team can be clearly communicated to the group. The condensed timeframe for a charrette usually permits the design of a project to advance rapidly. The consensus results from the charrette ideally provides clear direction for the design team as they move into the next phase of design work.



Charrettes are also excellent means to develop cost-effective approaches to green design. Connections and synergies between architecture and building systems can be identified that provide energy and water savings. Site design concepts can be developed to handle stormwater runoff, treat wastewater and restore damaged landscapes. Developing these ideas at the earliest stage helps ensure the environmental performance of the project will be a priority throughout the design process.

Participating in a charrette is hard work for the participants and requires full attention and a concentrated effort. However, the benefits to the project are great, everyone has an opportunity to provide their ideas and input, and, in spite of the hard work, they are a lot of fun!

Okehocking Nature Center

Willistown Township

Design Charrette

SCHEDULE

July 16, 2007

v.3

| | Sunday July 22, 2007 | | Monday July 23, 2007 | |
|------------|---|-------------------------------------|---|-------------------------|
| | | | | |
| 8:30 AM | | | Professionals & Facilitators meeting & breakfast | |
| 9:00 AM | | | 9:00 AM: CORE PARTICIPANTS ARRIVE | |
| 9:30 AM | | | Review Day 1 Work | Participant Breakfast |
| 10:00 AM | Professionals & Facilitators meet to review agenda | | Design Workgroups | |
| 10:30 AM | | | | |
| 11:00 AM | | | | |
| 11:30 AM | 11:30 AM: CORE PARTICIPANTS ARRIVE - MEET & GREET INFORMALLY | | BREAK | |
| 12:00 Noon | WELCOME & INTRODUCTIONS (Mare) | Working Lunch | Working Lunch - Group Reports and Consensus Schemes | |
| 12:15 AM | Review agenda & outcomes (Don & Muscoe) | | | |
| 12:30 PM | Project Overview & Vision - Summary of public input (Mare) | | | |
| 12:45 PM | Cultural & Natural History (Mare & ??) | | | |
| 1:00 PM | Building Program Highlights and Green Building goals (Muscoe) | | BREAK - CORE PARTICIPANTS ADJOURN | |
| 1:15 PM | Site Analysis & Opportunities (Tavis & Michele) | | Design Team Production | VIP Stakeholders visits |
| 1:30 PM | Building Systems & Energy Opportunities (BBA) | | | |
| 1:45 PM | Case Study (Cusano) | | | |
| 2:00 PM | Workgroup Instructions | | | |
| 2:15 PM | Site Design Workgroups (2-3 groups) | | BREAK | |
| 3:30 PM | | | | |
| 4:00 PM | | | | |
| 4:30 PM | Site Refinement Workgroup | Building Design & Program Workgroup | Design Team Production (dinner provided) | |
| 5:00 PM | | | | |
| 5:30 PM | FORMAL ADJOURN - END OF FIRST DAY | | | |
| 6:00 PM | Design Team Dinner (Optional) | | | |
| 6:30 PM | | | Drive to School to Set up for Public Presentation | |
| 7:00 PM | | | | |
| 7:30 PM | | | 7:00 PM Public Presentation | |
| 8:00 PM | | | | |
| 8:30 PM | | | | |

SUNDAY

Okehocking Charrette Participant Roster

| Name | Sunday Group # | | | Sun | Role |
|---------------------|----------------|---------|-------|-----------|---|
| | Leader | Support | Group | | |
| Don Watson | | | | | FACILITATOR |
| Dan Garofalo | X | | 1 | | ARCHITECT |
| Kirk Finkel | | X | 1 | | ARCHITECT |
| Brian Raicich | | | 1 | | Upper Main Line YMCA |
| Jim Kerr | | | 1 | | IMC Construction |
| Loretta Simon | | | 1 | | Treasurer Board, resident |
| Doug Tietbohl | | | 1 | | Willistown EAC. Resident |
| Bernard Cooker | | | 1 | | Open Space Review Board/resident |
| Tavis Dockwiller | X | | 2 | | LANDSCAPE ARCHITECT |
| John Hodos | | X | 2 | | MEP ENGINEER |
| Jim Freeman | | | 2 | | Attorney/Legal consult. |
| Derek Stedman | | | 2 | | Willistown/Neighbors |
| Susan Cooker | | | 2 | | NWF/Wild Ones/resident |
| Michele Adams | X | | 3 | | CIVIL ENGINEER |
| Mary McLoughlin | | X | 3 | | Willistown Township Director of Parks and Recreation, Willistown Resident |
| Susan Ploeg | | | 3 | | Willistown resident |
| Dorothy Verdon | | | 3 | | Willistown Parks & Rec/EAC/Board Secy./Willistown Resident |
| Steve Hazel | | | 3 | | Mech. Engineer/Resident |
| Andrew McQuiston | | | 3 | | Eagle Scout |
| Kelly DeCurtis | | | 3 | | Willistown Township Parks and Recreation |
| Muscoe Martin | X | | 4 | | ARCHITECT |
| Dave Marsh | | X | 4 | | MEP ENGINEER |
| Dick Menn | | | 4 | | Advisor to the team/Program Director, Community Gardens of Chester County |
| Carol Chew | | | 4 | | interior green designer and ADA |
| Brett Slensky, Esq. | | | 4 | | Manko Gold Katcher & Fox |
| Chris Rainville | | | 4 | | Eagle Scout |
| Edgar David | | | 4 | | Landscape Architect/Green bmps |
| Cole Walsh | | | 4 | | Willistown Parks and Rec/resident |
| TOTALS | | | | 28 | |

MONDAY

Okehocking Charrette Participant Roster

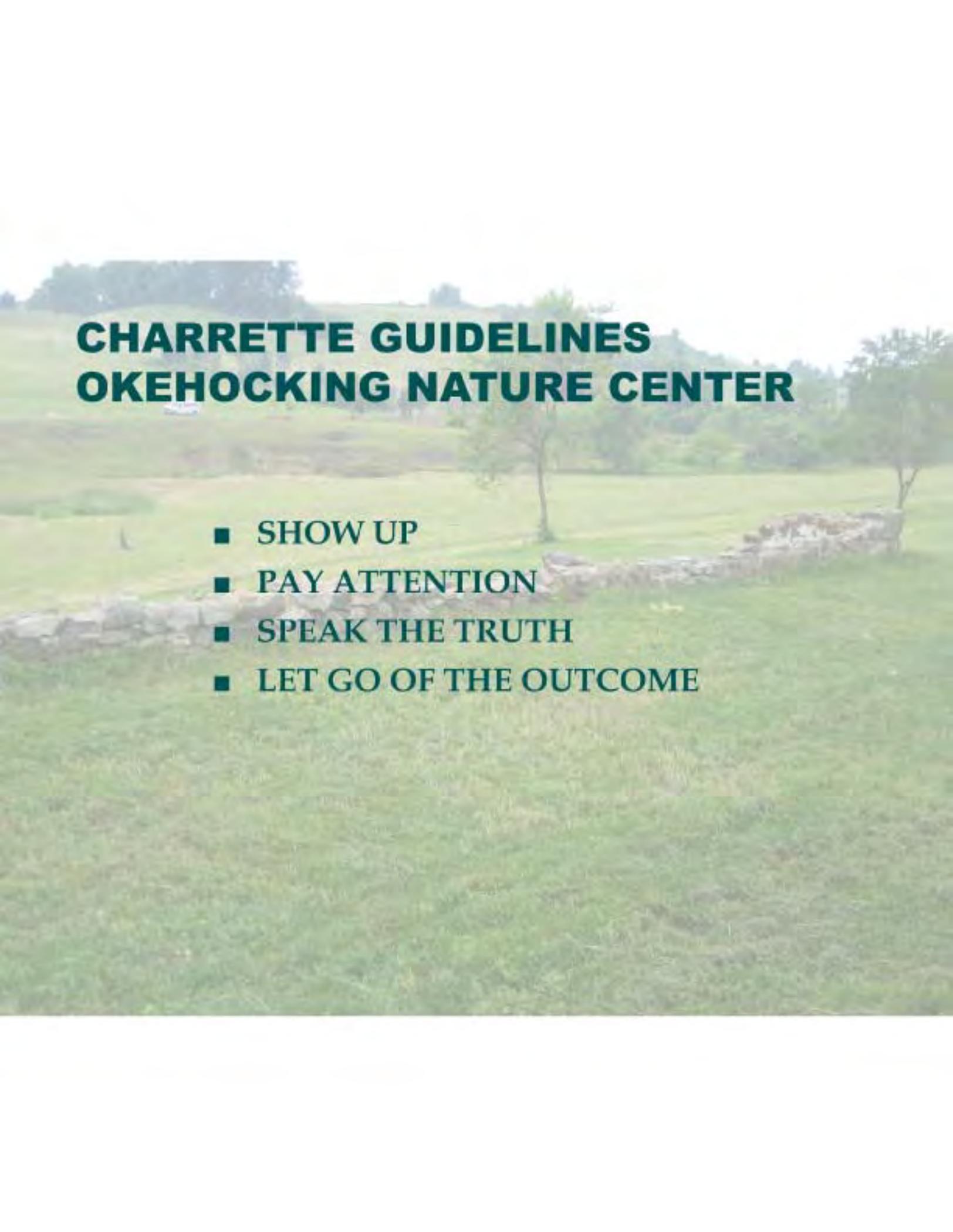
| Name | Leader | Support | GROUP | Mon |
|---------------------|--------|---------|-------|-----------|
| Muscoe Martin | X | | 1 | |
| Brian Raichich | | | 1 | |
| Derek Stedman | | | 1 | |
| Steve Hazel | | | 1 | |
| Dan Garofalo | X | | 2 | |
| Kelly DeCurtis | | X | 2 | |
| Mary McLoughlin | | | 2 | |
| Susan Ploeg | | | 2 | |
| Sandy Clause | | | 2 | |
| Brad Zerr | | | 2 | |
| Don Watson | X | | 3 | |
| Kirk Finkel | | X | 3 | |
| John Hodos | | X | 3 | |
| Dick Menn | | | 3 | |
| Tavis Dockwiller | X | | S | |
| Michele Adams | X | | S | |
| Bill Hartman | | | S | |
| Carol Chew | | | S | |
| Brett Slensky, Esq. | | | S | |
| Susan Cooker | | | S | |
| Dorothy Verdon | | | S | |
| TOTALS | | | | 21 |

Upper Main Line YMCA
Willistown/Neighbors
Mech. Engineer/Resident

Willistown Township Parks and Recreation
Willistown Township Director of Parks and Recreation, Willistown Resident
Willistown resident
Great Valley School District Director Volunteers and Community Partnerships
Paoli Hospital Director of Community Services, Willistown Resident

MEP ENGINEER
Advisor to the team/Program Director, Community Gardens of Chester County

Willistown Conservation Trust Director of Stewardship
interior green designer and ADA
Attorney, Manko Gold Katcher & Fox
NWF/Wild Ones/resident
Willistown Parks & Rec/EAC/Board Secy./Willistown Resident

A photograph of a rural landscape. In the foreground, there is a grassy field with a low stone wall running across it. In the middle ground, there are several trees, including a prominent one in the center. In the background, there is a hill with a line of trees on top. The sky is overcast and grey.

CHARRETTE GUIDELINES OKEHOCKING NATURE CENTER

- **SHOW UP**
- **PAY ATTENTION**
- **SPEAK THE TRUTH**
- **LET GO OF THE OUTCOME**

VISION STATEMENT for the OKEHOCKING NATURE

The future of conservation, environmental stewardship and environmental recreation depends on those who provide a place for people in nature. This place will create a sense of community and benefit the individuals of that community by greatly enhancing their spiritual, emotional and physical well being through their interactions, connections and affinity with nature and each other. People, through their experiences, will carry a love of nature and an understanding of its care to their own properties, resulting in wide-reaching natural resource improvement.

KEY PURPOSES

- Ignite public interest in the environment by encouraging positive relationships between people and nature.
- Encourage community "ownership" of Okehocking Preserve.
- Provide a balanced mix of environmental education and recreation.
- Create and promote a community.
- Promote and implement conservation and natural resource management now to insure their future.
- Provide a model for private & public land management, environmental ed., recreation, & conservation.
- Promote the use of green technology.
- Provide an indoor educational/meeting/gathering space and an outdoor classroom and laboratory-the Preserve itself-to community organizations.
- Hold special events.
- Provide office space for the Dept. of Parks and Recreation, partner programming staff and volunteer staff.



**OKEHOCKING NATURE CENTER PROJECT
DCNR PROJECT BRC-TAG-13-211
STEERING COMMITTEE**



**MARY MCLOUGHLIN, Willistown Township Director of Parks, Preserves and Recreation;
Willistown resident; 610-640-1669; mhm@willistown.pa.us**

**BRAD ZERR, Director of Community Services Paoli Hospital, Willistown Resident (northeast
section); 610-648-1000; zerrbp@mlhs.org**

**BRIAN RAICICH, Upper Main Line YMCA Sr. Program Director Environmental Education,
Community Outreach, Arts and Humanities, and Summer Camp; 610-647-9622x2404;
brian.raicich@umly.org**

**DEREK STEDMAN, Co-Director Habitat Resource Network of Southeast Pennsylvania; 610-357-
0875; dcsahs@verizon.net**

**DOROTHY VERDON, Township resident (northeast section); 215-901-3346;
dorothyverdon@aol.com**

JIM FREEMAN, Willistown resident (southwest section); 215-569-5637; freeman-j@blankrome.com

JIM HARTMAN, Director of Stewardship Willistown Conservation Trust; 610-353-2562

**JIM RAPP, Malvern Boy Scout Troop 7 and liaison to the Diamond Rock District of Chester
County Council of Boy Scouts of America; 610-251-5400; rappj@mlhs.org**

NORMAN MACQUEEN, Willistown Township Supervisor, Willistown resident (north central)

**SANDY CLAUS, Great Valley School District Director Volunteers and Community Partnerships,
610-889-2100; sclaus@gvsd.org**

SUSAN PLOEG, Willistown Resident (southeast section); 610-359-0538; sploeg@comcast.net

ADVISORY:

**DICK MENN, Community Gardens of Chester County, Chester County Master Gardeners; 484-
883-7309**



OKEHOCKING NATURE CENTER

7/16/2007

Draft Space Program

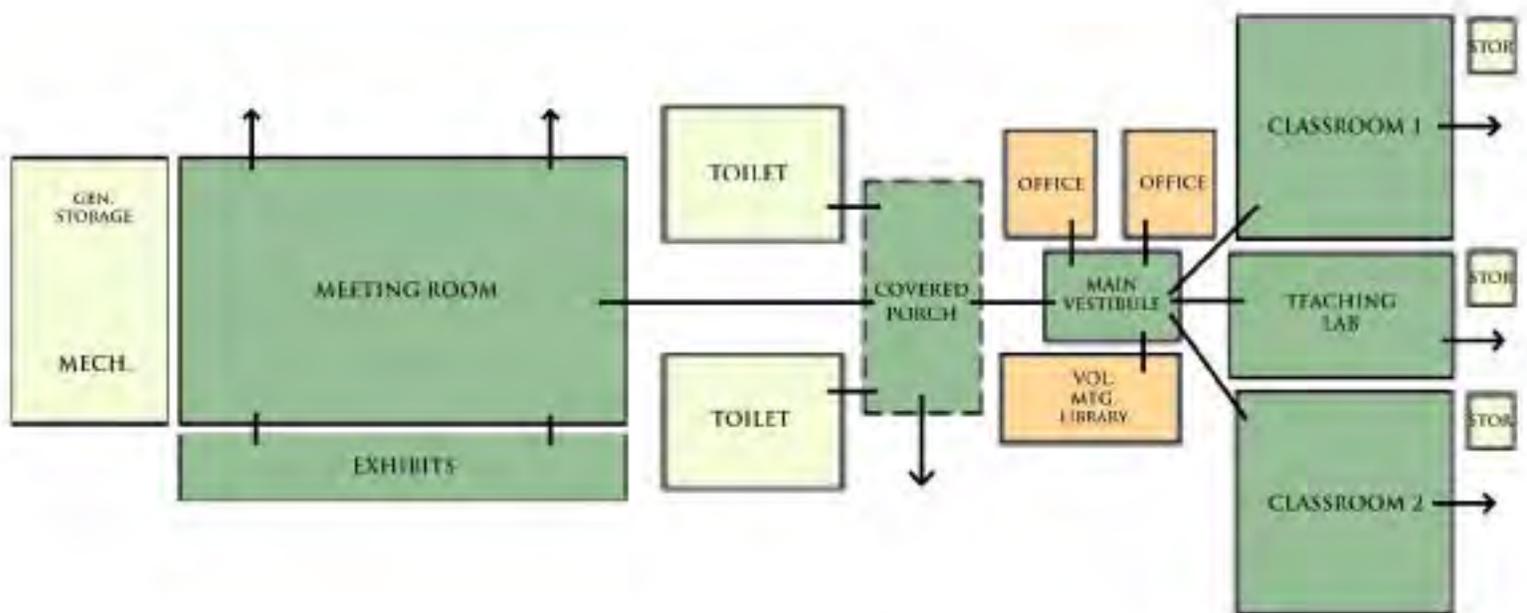
| Name | Quantity | Area <i>square ft.</i> | Area <i>Extension</i> <i>square ft.</i> | Comments |
|--|----------|---------------------------|---|---|
| 101 Main Vestibule | 1 | 150 | 150 | |
| 102 "Back door" Vestibule | 1 | 75 | 75 | Do we need a "service entrance" for deliveries, catering, etc? |
| 103 Meeting room for 75-90 people | 1 | 1500 | 1500 | |
| 103A AV storage | | | 50 | |
| 103B chair & table storage | | | 100 | |
| 104 Welcome Desk | 1 | 80 | 80 | not permanently staffed |
| 105 Gift Shop & Learning/Interpretive resources | 1 | 80 | 80 | combine with welcome desk? |
| 106 Office - Mare | 1 | 120 | 120 | Permanent, enclosed |
| 107 Offices | 1 | 120 | 120 | shared by partners, enclosed. |
| 108 volunteer/meeting/library | 1 | 200 | 200 | multipurpose area with open shared desks |
| 109 Toilets | 2 | 300 | 600 | accessible from outside, showers?? |
| 110 Exhibits | 1 | 500 | 500 | or could be combined with Meeting Room- kiosks, in alcoves or on walls... |
| | | | | Historical/Archaeological exhibit |
| | | | | Geological exhibit |
| | | | | Observation area for birdwatching |
| | | | | |
| | | | | cut into ground to reveal layers? |
| | | | | |
| 111 Teaching lab - "dirty & wet" | 1 | 350 | 350 | directly accessible to outside via mudroom/vestibule |
| 112 Classrooms with movable walls | 2 | 600 | 1200 | A/V, dividable 25 kids |
| 113 Kitchen | 1 | 200 | 200 | catering - access to Meeting Room |
| 114 Wood shop | 1 | 350 | 350 | for Boy Scouts - direct access to exterior needed? |
| 115 First Aid Center | 1 | 25 | 25 | Accessible when building is closed |
| 116 Utility/Janitor Closet | 1 | 50 | 50 | |
| 117 Electrical/Communications Closet | 1 | 25 | 25 | |
| 118 General Storage | 1 | 150 | 150 | |
| 119 Partner Educational Material Storage | 3 | 30 | 90 | separate, lockable |
| 120 Mechanical | 1 | 300 | 300 | |
| SUBTOTAL - Interior Spaces only | | | 6315 | |
| efficiency factor (corridors, walls, stairs, etc.) | 20% | | 1300 | |
| TOTAL | | | 7615 | |

Exterior Facilities

parking
 bus drop off and turnaround
 covered porch at entrance
 Raptor Center
 outdoor deck
 water fountain for people & dogs
 Amphitheatre

zoning requires approx. 40 cars. We recommend additional 40 overflow spaces (not paved).
 Close to front entrance porch and accessible path.

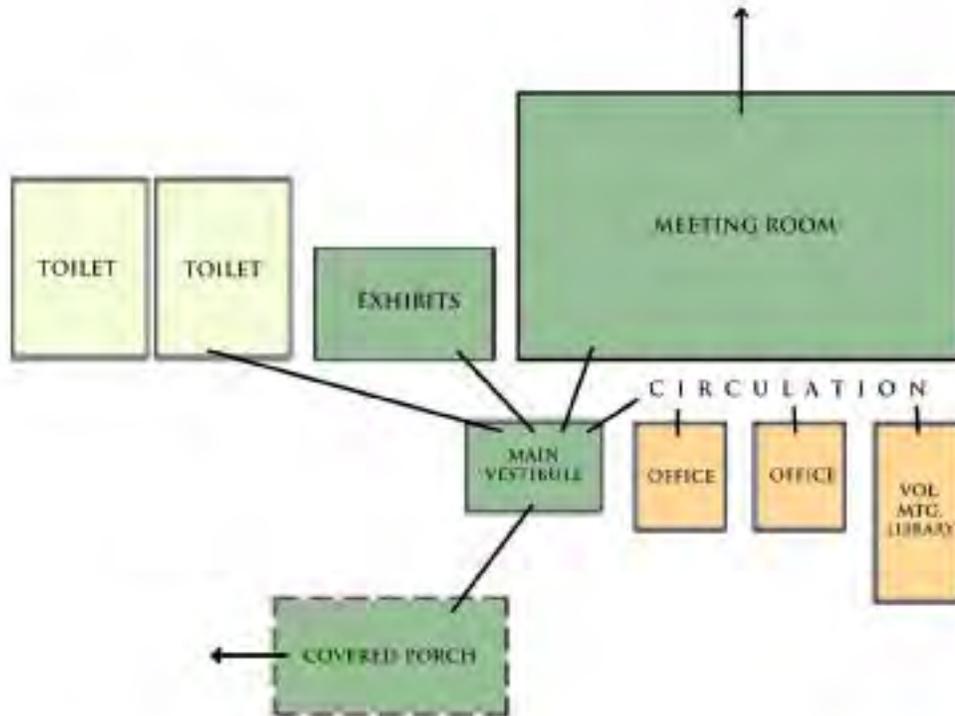
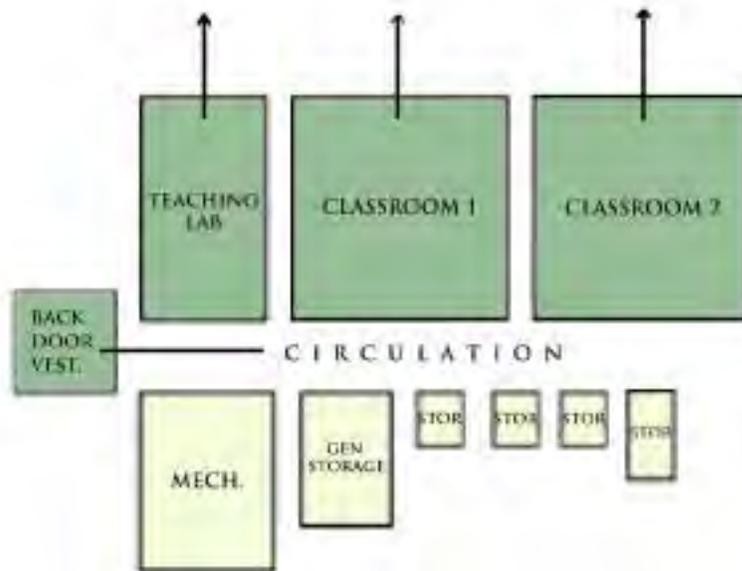
with sun shading
 accessible when closed
 remote from building?



**WILLISTOWN OKEHOCKING
NATURE CENTER**

DESIGN CHARRETTE 7.22.07

**PROGRAM DIAGRAMS - B
1 STORY**



**WILLISTOWN OKEHOCKING
NATURE CENTER**

DESIGN CHARRETTE 7.22.07

**PROGRAM DIAGRAMS - A
2 STORY**

Okehocking Nature Center
Willistown Township, PA
Mechanical, Plumbing and Electrical Systems Approach

Sustainable Design Approach

The design of sustainable buildings should be approached in a holistic manner. The design of the various building systems and components needs to be done cognizant of their effect on each other. That way, the design may be optimized to result in less overall energy usage and a superior indoor environment. Energy modeling and costing of the various scenarios would enable each possibility to be evaluated for cost and energy usage, leading to the optimum results. Costs spent on one facet of the building may yield greater savings elsewhere.

Axioms of Sustainable Design

The design of a sustainable building should consider the following:

- Optimization of building location on the site to minimize energy usage and maximize benefit from natural light, natural ventilation and rain water recovery.
- Design the building to minimize the need to expend energy to maintain the indoor environment.
- Take advantage of natural energy or mass flows (sunlight, rain, wind, etc.) to provide “free” lighting, ventilation, grey water, etc.
- Install the most energy efficient systems where possible.

Heating, Ventilating and Air Conditioning (HVAC)

The design of the HVAC system will be done in conjunction with the design of the building as a whole. The first priority should be to minimize the needs for mechanical space conditioning by judicious design of the building envelope. Then, possibilities should be investigated to use natural means to accomplish space conditioning in lieu or in addition to mechanical means. Among the possibilities to be investigated include:

- Highly effective building envelope (insulation, glazing, etc.).
- Natural ventilation via operable windows and/or glazed chimneys (“solar furnace”).
- Tempering outdoor air via buried intake ductwork (earth tubes).
- Passive or active solar heating (Trombe walls), solar orientation.
- Passive cooling – glazing selection and shading devices.
- Mixed mode HVAC which changes over based upon outdoor conditions.
- Radiant floor heating.
- High efficiency geoexchange heat pumps.
- Total energy (enthalpy) wheel heat recovery from exhaust to ventilation air.
- “Right sizing” of HVAC equipment to match expected loads.

Plumbing

The design of the plumbing systems should be done to minimize the usage of potable water. This can include reducing the needs for potable water for waste conveyance by using waterless or more efficient plumbing fixtures. Also, potable water use could be displaced by use of non-potable water for various purposes such as waste conveyance, irrigation or other needs where the water will not be ingested. This source of non-potable water could include harvested rainwater or recycled greywater. Among the possibilities to be investigated include:

- Waterless urinals.
- Composting toilets.
- Reduced need for irrigation from careful landscape design.
- Evacuated tube solar powered domestic water heating.
- Rainwater harvesting.
- Constructed wetlands to naturally recycle greywater from fixtures.

Electrical

Key to the electrical systems design will be minimizing the energy required to operate the building. Natural light should be provided to all occupied spaces. Automatic controls, including occupancy sensors and daylight harvesting sensors, will be used to provide a balance between natural and artificial light. When sufficient natural light is available, the controls will dim the lighting fixtures to reduce energy use while still maintaining the quality of the interior environment. Lighting fixtures will use high efficiency lamps and electronic ballasts to further reduce energy use.

Energy use will also be reduced by using efficient motors and Energy Star equipment and appliances. Energy use of the building can also be offset by on-site power generation, including:

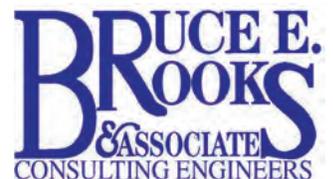
- A photovoltaic array. This array may be grid-connected, if desired.
- Use of a micro hydro turbine system in conjunction with the on-site water sources.
- Use of wind turbines.

SUSTAINABLE

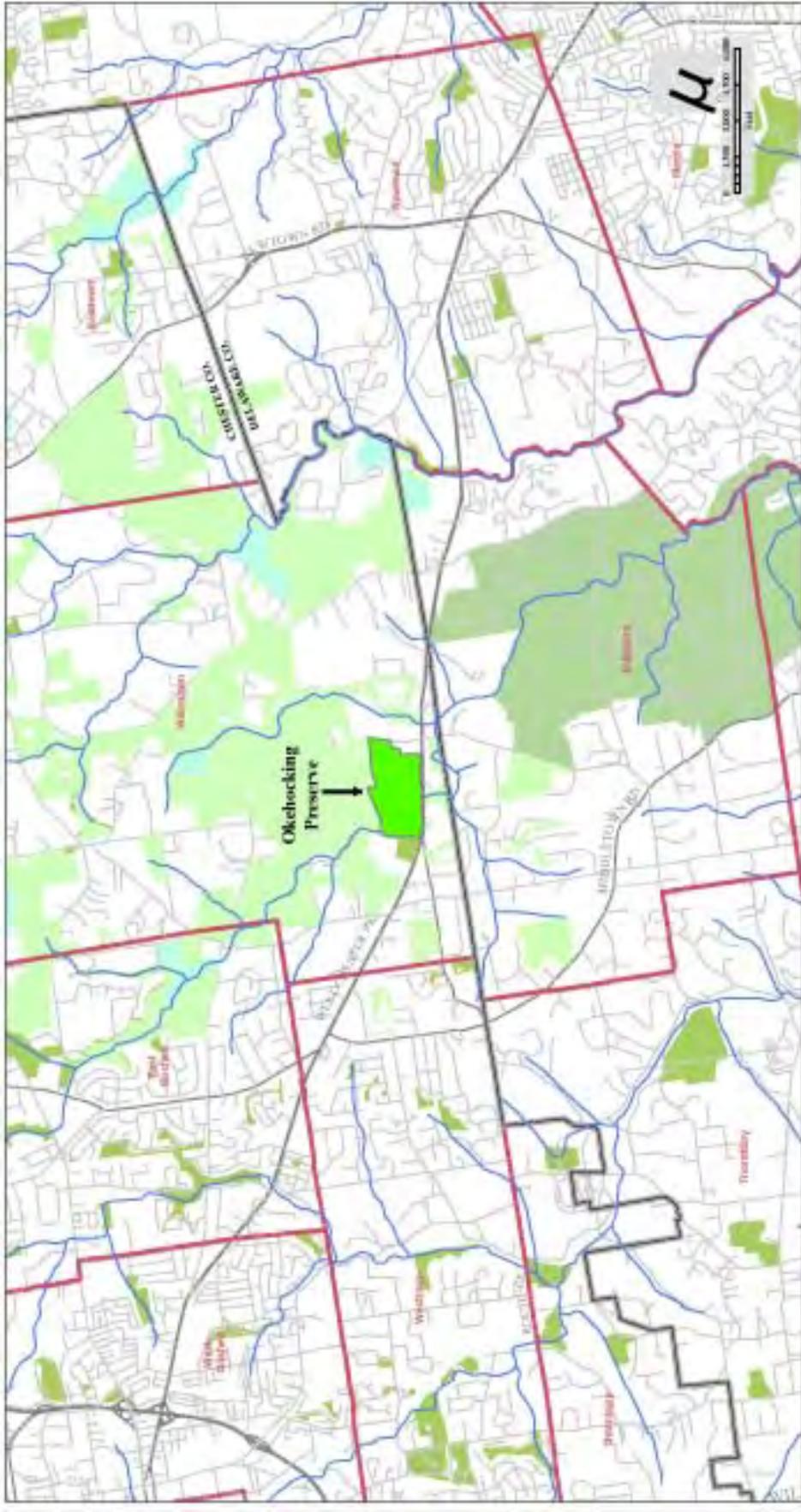
Things You Can Do On Your Next Project

- 1. Optimize the location, massing, and orientation of the building for minimum energy use.**
- 2. Provide natural light to all occupied spaces.**
- 3. Install the best glazing system you can afford.**
- 4. Provide excellent insulation in the walls, roof, and floor, and utilize air barriers.**
- 5. Minimize the amount of space to be conditioned.**
- 6. Provide a vestibule at all entrances to the building.**
- 7. Collect at least a portion of the solar energy falling on the site.**
- 8. Use energy efficient light fixtures throughout.**
- 9. Utilize high-efficiency HVAC systems for best life-cycle value.**
- 10. Match the equipment to the load (aka “right sizing”)**
- 11. Install automatic controls to minimize energy use and turn OFF anything that is not in use.**
- 12. Use energy recovery for the ventilation air and adjust the amount of air to match the occupancy.**
- 13. Install low flow or waterless plumbing fixtures.**
- 14. Collect the rainwater falling on the site and use it for something.**

Call Bruce E. Brooks and Associates for more detail on these ideas and many more. (215) 569-0400.



2209 Chestnut Street
Philadelphia, PA 19103
Phone: 215-569-0400
Fax: 215-569-2664
www.brucebrooks.com



Legend

- Okechocking Preserve
- Conservation Easements
- Land Trust Protection
- Municipal Parkland
- State Parkland
- Municipal Boundaries
- Roads
- Streams

Okechocking Preserve Management Plan
December 2005



gault | perspectives | LLC



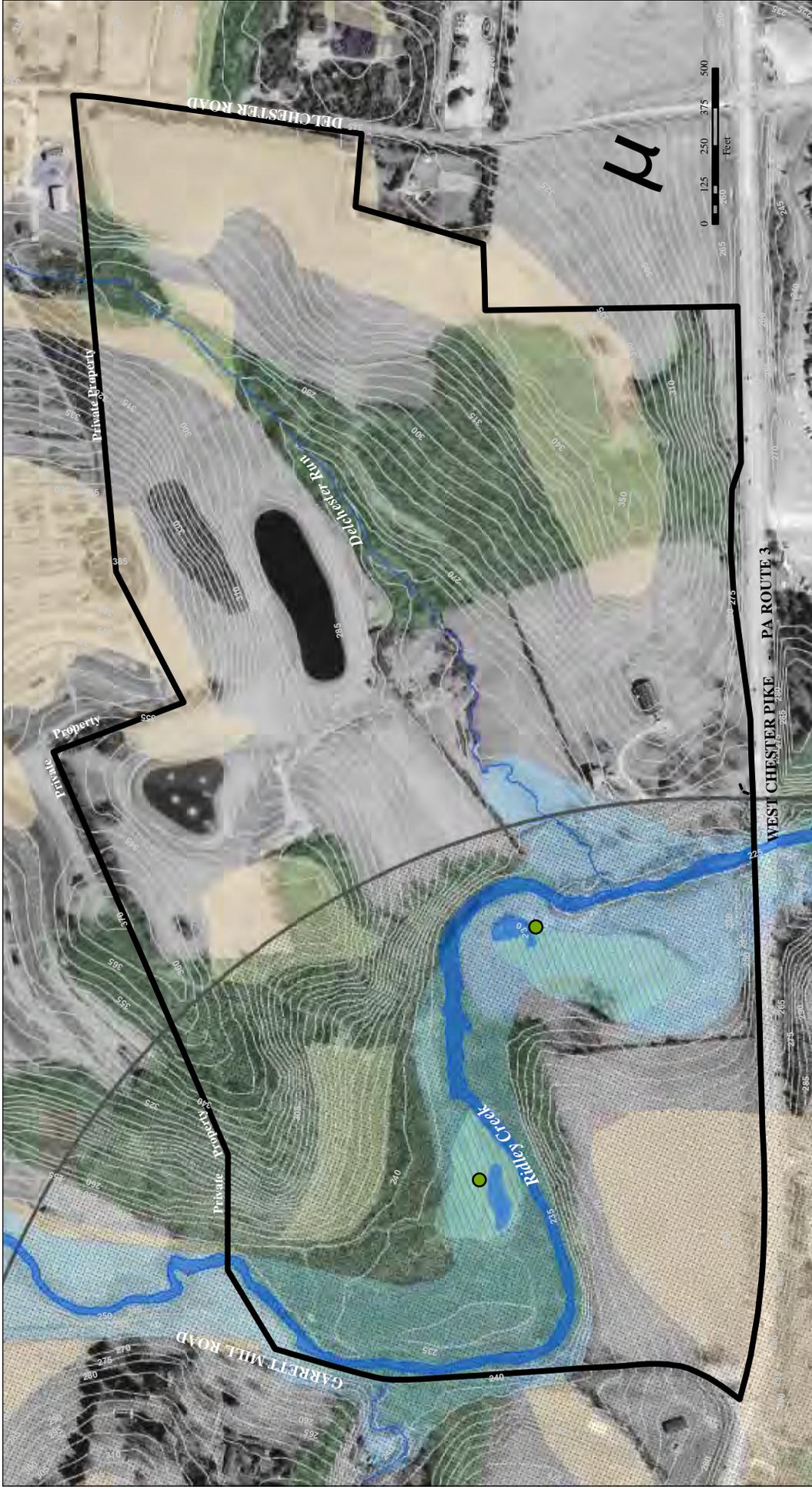
**Okechocking Preserve
Location Map
Figure 1**



**Okehocking Preserve
2005 Aerial View**



2005 DWRPC Aerials; Map prepared 07.09.07



Legend

- Rare Plant Species Sites (field verification required)
- Creeks and Tributaries
- Prime Agricultural Soils
- Woodlands
- 5-Foot Contours
- Floodplains
- NWI Wetlands
- PNDI Site

Okehocking Preserve Management Plan
December 2005



**Okehocking Preserve
Natural Features
Figure 3**



Okeocking Preserve Management Plan
December 2005



Okeocking Preserve
Aquatic Resources
Figure 4

Legend

Creeks and Tributaries



Seasonal Ponds/Possible Vernal Pools



Ponds



Spray Irrigation Fields



94441 | progressive, LLC



Okehocking Preserve Management Plan
December 2005

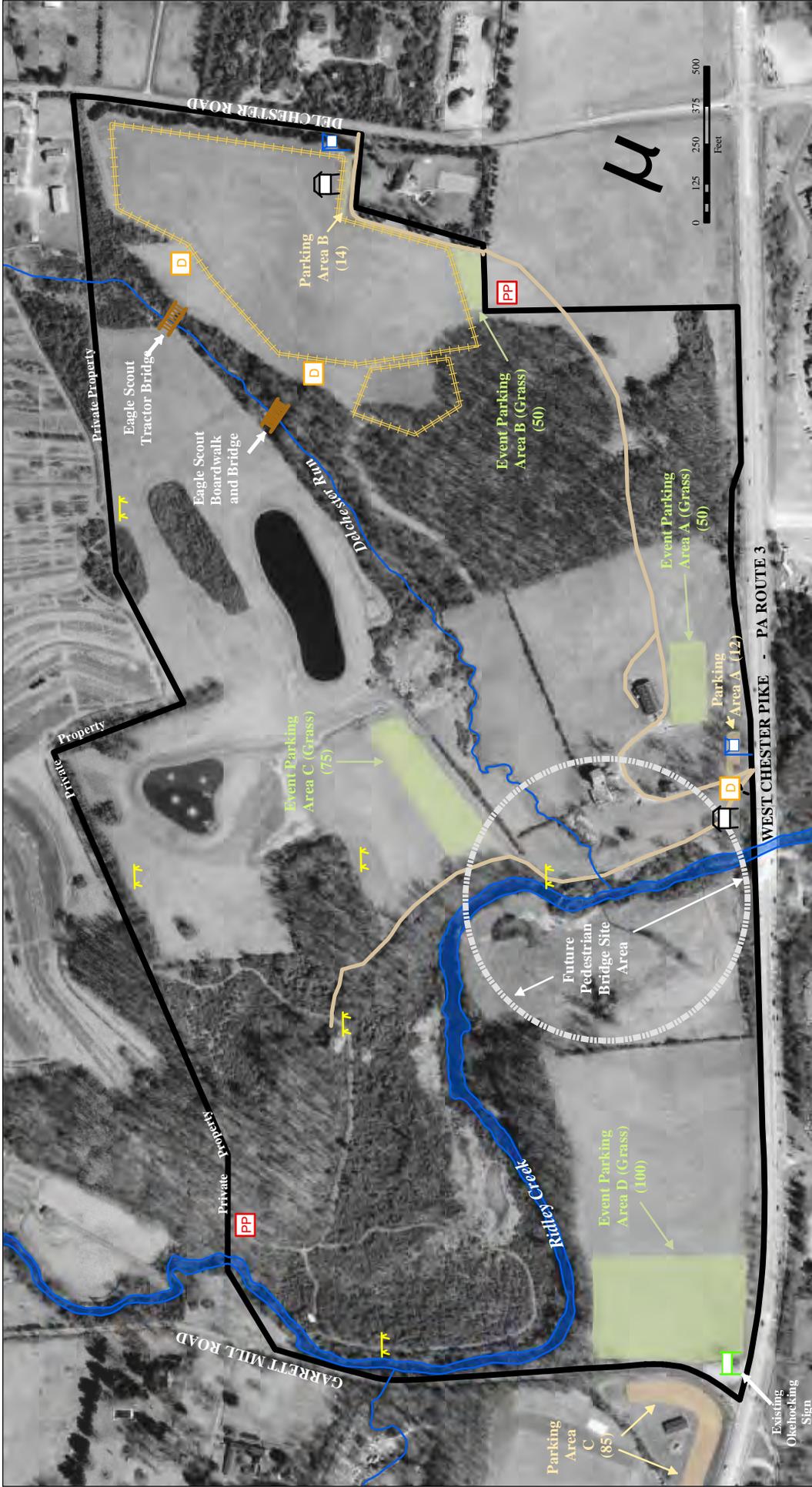


WILLETOWN
CONSERVATION
TRUST

gottlieb | perspectives, LLC



Okehocking Preserve
Historic Resources
Figure 6



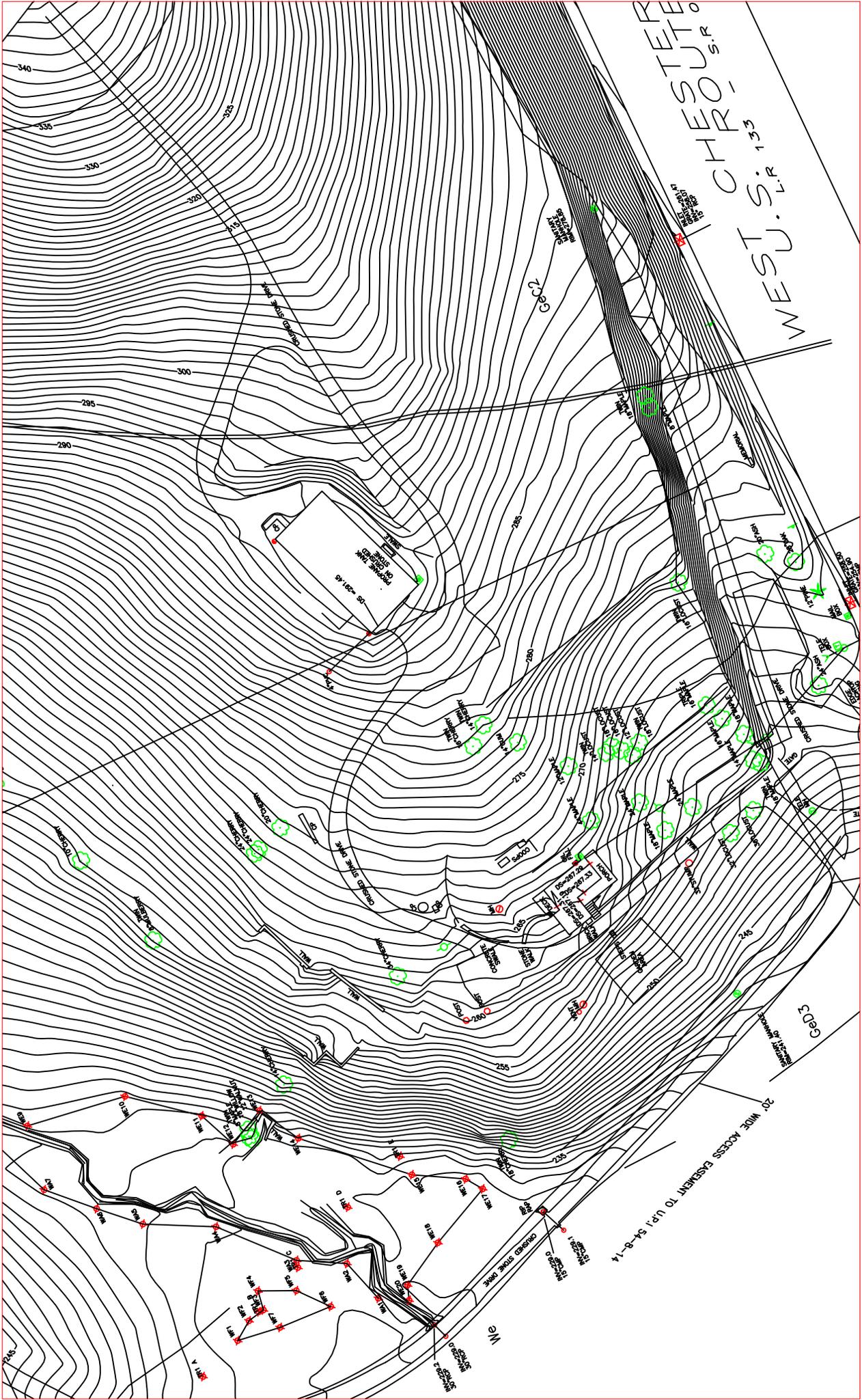
Okehocking Preserve Improvements Figure 10



Okehocking Preserve Management Plan
December 2005



- Legend**
- Existing Fences
 - Access Drives
 - Creeks and Tributaries
 - Parking Areas
 - Event Parking Areas
 - Benches
 - Display Cases
 - Entrance Signs
 - Private Property Signs
 - Dog on Leash Signs



OKEHOOCKING NATURE CENTER
 SURVEY, JUNE, 2007

PREVAILING WINDS

WCT Owned
Springhouse

Future Dam
Removal
Project

Delaware

JANUARY SUN ANGLES

JUNE SUN ANGLES

WEST CHESTER PIKE - PA F



Parking - up to 30 spaces
with bus drop off

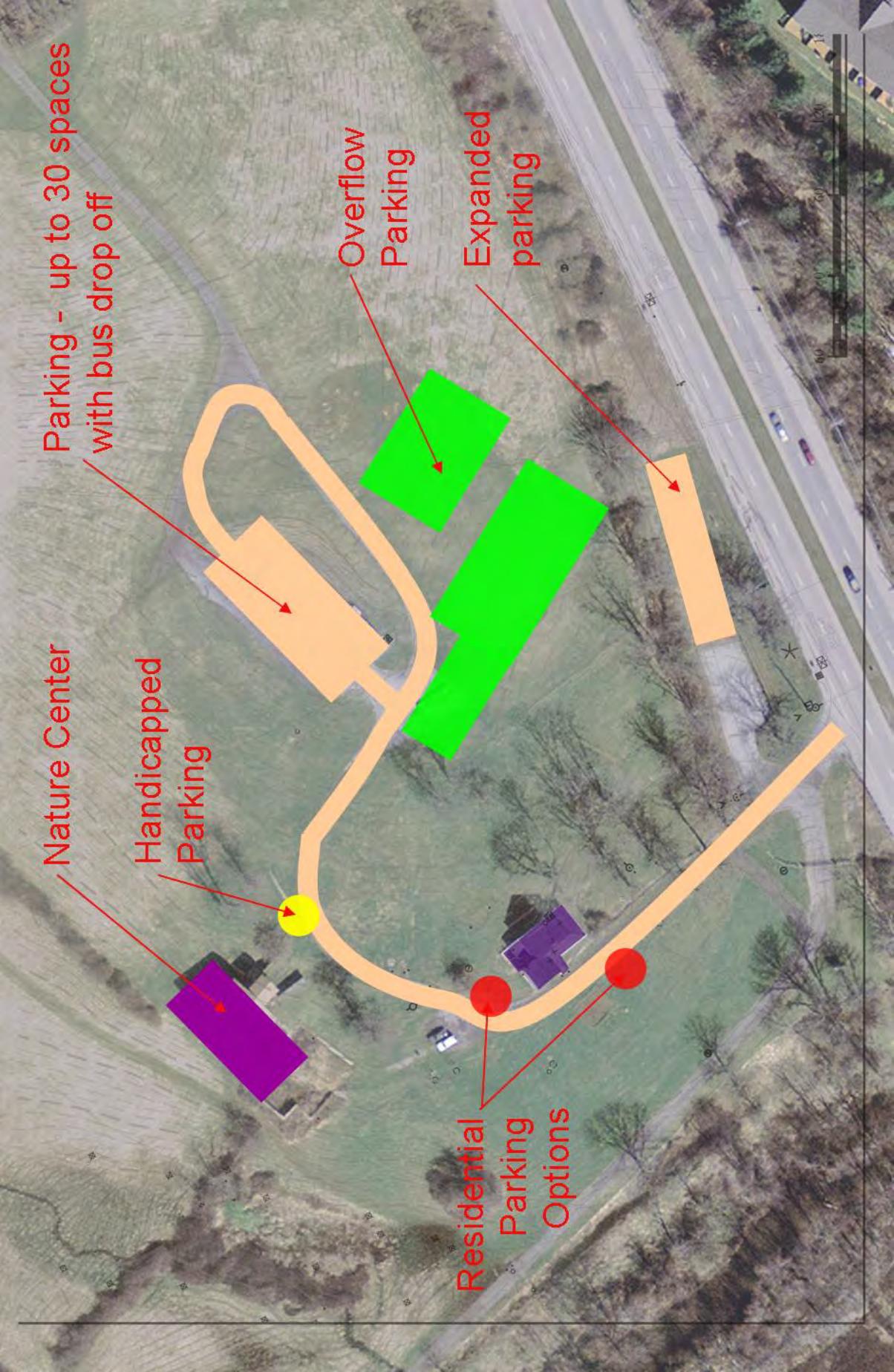
Nature Center

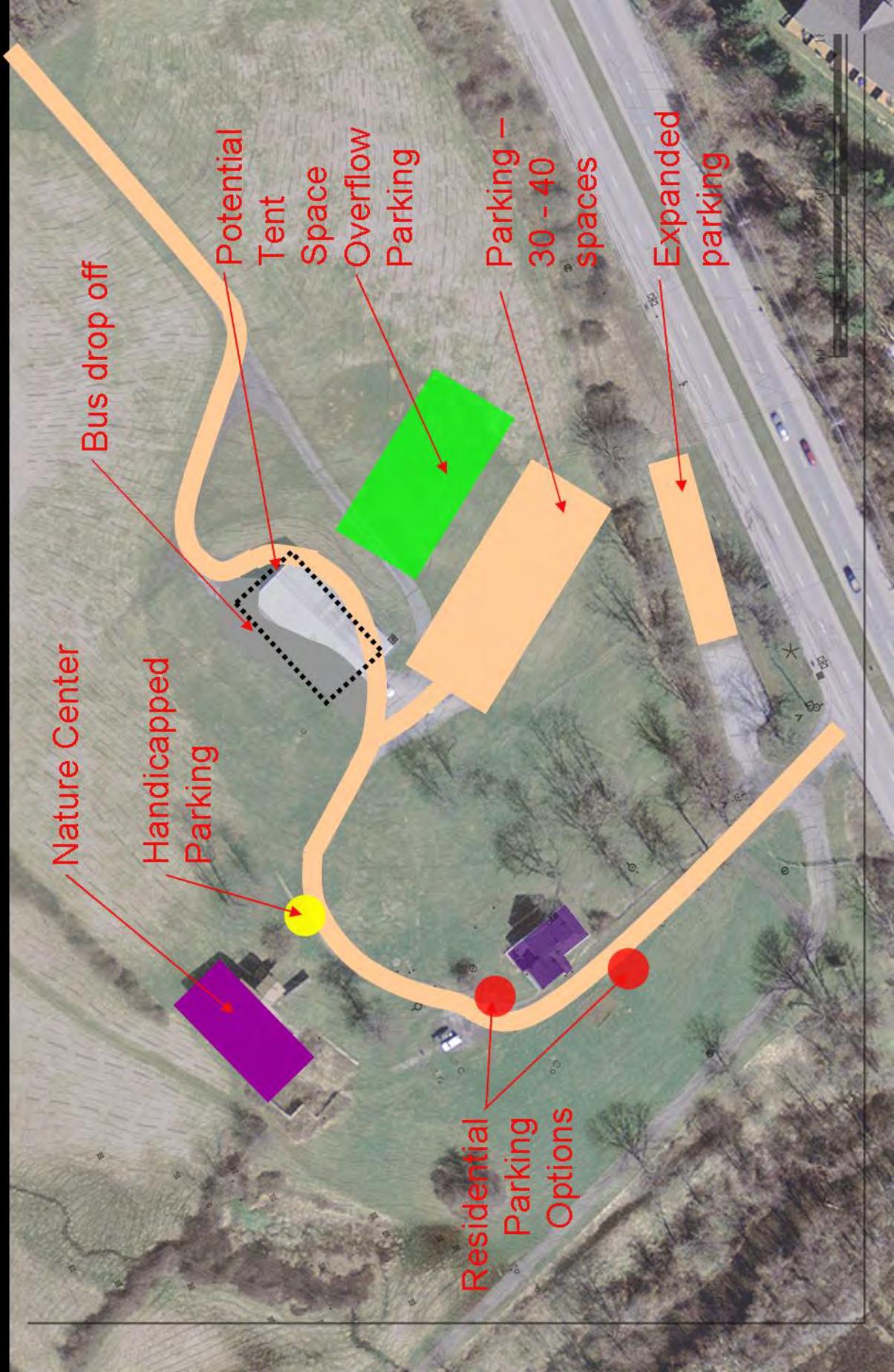
Handicapped
Parking

Overflow
Parking

Expanded
parking

Residential
Parking
Options





Nature Center

Handicapped Parking

Bus drop off

Potential Tent Space Overflow Parking

Parking - 30 - 40 spaces

Expanded parking

Residential Parking Options



Willistown Township

Newsletter

Special Edition



VOLUME XVII

MALVERN, PA

SEPTEMBER 2000

Open Space Task Force Update

Following the passage of the Open Space Referendum by Willistown Residents last November, the Township formed the Open Space Task Force which was charged with fulfilling the following acquisition goals of the Open Space Referendum: **1. Protect land for recreation, 2. Protect the Township's natural and agricultural resources, and 3. Protect the Township's scenic and historical resources.**

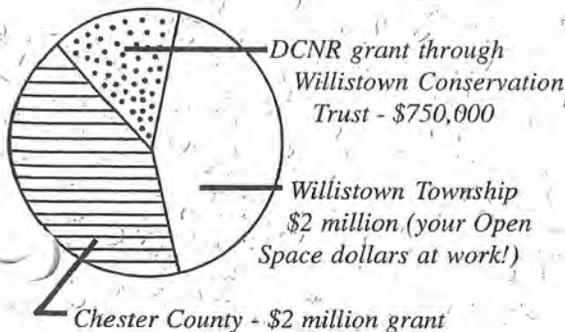
We are pleased to announce that after extensive study the Task Force has identified its first Open Space acquisition project, the 136 acre **Okehocking Tract** located North of Route 3 between Garrett Mill and Delchester Roads. The decision to pursue the acquisition of this parcel for the **benefit of current and future Township residents** was based on many criteria including 1) availability, 2) its location adjacent to the existing Garrett Mill Park (and proximity to Ridley Creek State Park), 3) its passive recreational opportunities, 4) its capacity to provide for the active recreation needs, 5) the spectacular natural and scenic resources, 6) its rich history as a portion of the Okehocking Indian Reservation, and 7) a modest per acre price to the Township of \$14,700!

The project provides the opportunity to partner with Chester County, Willistown Conservation Trust and the state of Pennsylvania to leverage an additional \$2.75 million to the Township's \$2 million. (Please see the pie chart below.) In May the Township submitted a grant application to the Chester County Parks and Recreation Department for \$2 million in matching funds. This Fall the Willistown Conservation Trust will be applying for a Keystone Land Trust Grant from the Department of Conservation and Natural Resources (DCNR) for an additional \$750,000.

A formal approval of the Okehocking acquisition will be made at the September 25th Board of Supervisors meeting.



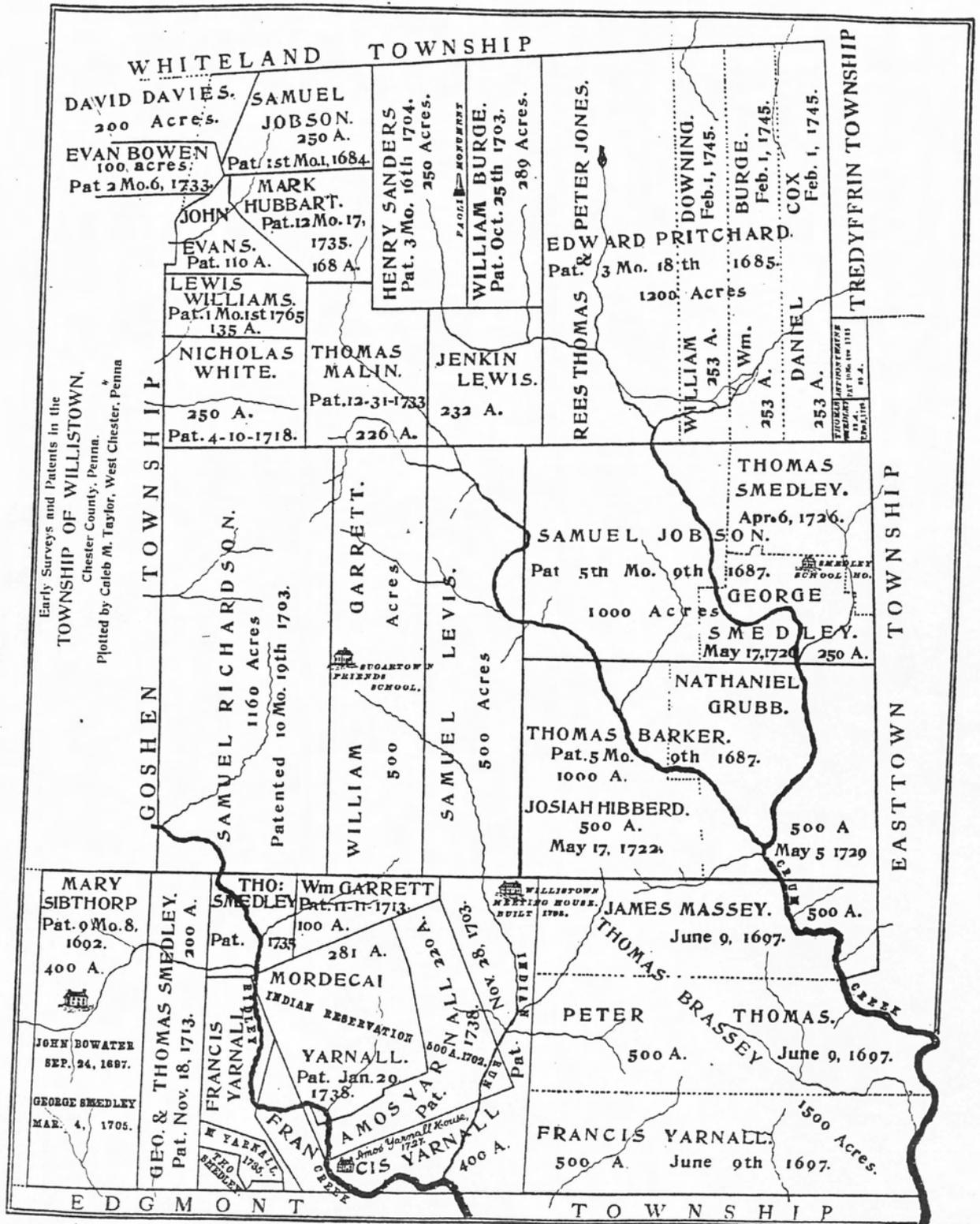
A view of the Ridley Creek traversing the Okehocking Tract in Willistown



All Township residents are invited to join us for a tour of the Okehocking tract Tuesday, September 19th between 5:00 and 7:00 PM.

Directions: Delchester Road South to Route 3, right on Route 3, first right into driveway - signs will be posted.

Please contact the Township for further information at 610-647-5300 or wrosenberry@willistown.pa.us



EARLY SURVEYS IN WILLISTOWN.

Historic
Newtown Township
(Newtown Square, Delaware County, Pa.)
1681-1983

by
Alice and Carl Lindborg, Clara McVeigh, Erma Shaver
and others

Editors: Alice and Carl Lindborg

Township of Newtown Tricentennial Commission

Select pages referring to the
Okehocking Indians of the area.

The *Mid-Woodland* period in Pennsylvania reveals the first evidence of corn which had probably been introduced through contacts with tribes in the southwest which in turn derived the grain from Mexico. Projectile points found from this period are usually of flint procured from regions distant from Pennsylvania.

In the last prehistoric period or *Late Woodland*, village life appears with agriculture as its sustaining base. Rich soil was used, usually near streams. Indians now built houses, sometimes oval, round or rectangular. Posts, set in the ground were used for walls and covered, like the roofs, with bark. Sometimes a wall of posts surrounded the villages, which could be of considerable size. The village site was used until soil productivity in the region languished or firewood became scarce, when a new village was constructed a mile or two beyond.

More pottery vessels have been found from the *Late Woodland* period sites. The work shows greater skill and elaboration of ornament. True arrowheads, triangular and small, for use with the bow, also appear. Hoes made from elk shoulder blades, pipes made of stone and clay, and stone tools have been uncovered from this period.

Carl Lindborg^{4A}

2. HISTORIC INDIANS

With the advent of the *Historic Period*, beginning about 1550 A.D., European objects began to make their appearance in Pennsylvania. But contact with the white man changed the pattern of Indian life. Trade in furs and land led to tensions and alteration in the age-old native existence. Diseases, such as tuberculosis and smallpox, to which the Indians had not built up immunity, greatly reduced the native population. Many coastal Indians were pushed toward interior lands which were already occupied by other tribes, causing inter-tribal wars.⁵

The Indians of the later *Historic Period*, living in the present Newtown Township area belonged to the OKEHOCKING clan of Unamis, a division of the larger socio-political Algonquian-speaking group of the "Lenni-Lenape" or *Delawares*.⁶ The *Okehockings* had evidently been forced north by the more warlike *Minqua* tribe (or by the Dutch) to our general area. If pressed by the *Minquas*, this could have occurred before 1600, later if by the Dutch.

In the Darby-Crum-Ridley Creek watershed, the Okehockings pursued their agricultural activities and erected lodges or village compounds. Camping sites or villages^{6A} were usually located near streams or slightly elevated lands. Village population varied from limited family groups to entire bands. Crop planting kept the summer encampments active, the work being done by the women. In winter, the men ranged far afield hunting venison, bear, etc. When in 1681 the first grant of land by Penn in the southwestern corner of what is now Newtown Township to Robert Dunton was recorded, the Indian population of the region had probably been much reduced from that of earlier years.

^{4A}. See Chapter XI of Part III, section 7 for biographical sketch of Carl Lindborg and his wife, Alice.

⁵. McCann, pages 3 and 4.

⁶. Becker, Marshall, J., *The Okehockings: A Remnant Band of Delaware Indians in Pennsylvania Archaeologist*, September, 1976.

^{6A}. Illustration #3.

such a lot *in a hurry*.”²⁸ Roger Williams wrote:

“Their brains are quick, their hands,
Their feet, their tongues, their eyes;
God may fit objects in his time,
To those quicke faculties.”²⁹

The Delaware Indians spoke at least three or four different dialects with various sub-dialects.³⁰ The “Southern Unami” dialect was indigenous to the area south of Philadelphia and southern New Jersey and was evidently the language of the Okehockings with area variations. Campanius-Holm, Pastor of the New Sweden Colony 1643-48, translated the Lutheran Catechism into the Unami dialect.

In tracing the name *Okehocking*, Dr. Marshall Becker, on page 47 of the September, 1976, *Pennsylvania Archeologist*, observes that it appears to refer to an Indian group elsewhere of similar name. In 1643, Reverend Campanius-Holm noted that Fort Christina (the site of present Wilmington, Delaware), settled in 1638, had been built by the Swedes at a place the Indians called “Hopokahacking.” Campanius-Holm also noted that Indian groups were named after the local landmarks or waterways. *Hopokahacking*: “could reach location” or “*where one could go*.” “*Okehocking*” could relate to this name in Delaware or the area taken by the Okehockings in Pennsylvania may have had similar terrain.³¹

The name Okehocking has also been related to an Indian term meaning to *surround, encircle*, such as land encircled by water, a winding stream, etc. The Indians who later lived on the Willistown Reservation were referred to in the minutes of the Commissioners of Property, December 7 & 8, 1702 as “Okanickon or Crum Creek Indians.” The warrant survey of December 15, 1702 called the Indians “Okehocking.” As early as 1682, the name “Okanichon” appeared on a grantor land deed to William Penn. This indenture of Delaware origin of July 15, 1682 concerned land in Bucks County.³²

The leader of the Society of Friends, George Fox, who preached to some of the Indians along the east coast in 1671-1672 and Pennsylvania's Proprietor, William Penn, who arrived in 1682, but whose influence was felt by 1681, believed in kindness to the Indians. This was true also of New Sweden's Governor Johan Printz who had settled in Pennsylvania in April, 1643, 1-1/2 years before Penn was born. Printz's “Instructions” from Queen Christina exhorted friendly relations with the natives, which he carried out to the best of his ability.

However, as Europeans settled on the various land grants in what is now Newtown Township, encroachment increased on the Indians living in the region. Farms, new roads began to interfere and impede the Indian way of life. Woods were cut down, hunting reduced. Complaints and requests for more secure living sites by the Okehockings are recorded in the late 1680's and 1690's

28. Lindeström, p. 204.

29. Williams, *Key*, p. 43.

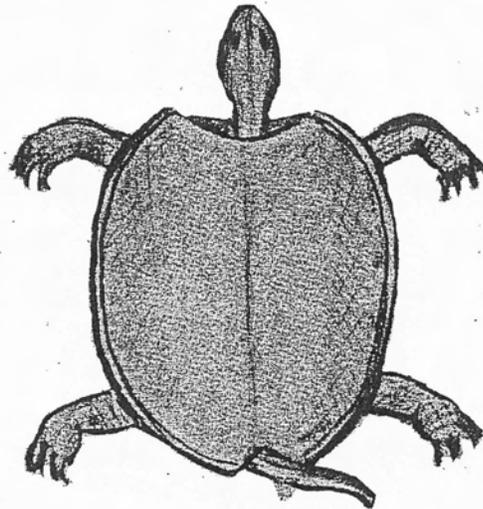
30. Harrington, M. R., *A Preliminary Sketch of Lenape Culture*, in *American Anthropology*, 15, p. 209.

31. Du Ponceau's translation of Campanius, p. 79.

32. Becker, p. 44, quoting Hazard, Samuel (Ed.), in *Pennsylvania Archives*.

OKEHOCKING
INDIAN TOWN
THE CHIEFS
POKHAI, SEPOAWNY
AND MUTAGOOA
WITH THEIR PEOPLE
OF THE UNAMI GROUP
* THEIR TOTEM * THE TORTOISE *
OF THE LENNI-LENAPE OR DELAWARES
WERE MOVED FROM LOWER
RIDLEY AND CRUM CREEKS
BY
WILLIAM PENN
TO A SQUARE TRACT OF 500 ACRES
ON THE NORTH SIDE OF THIS ROAD
EAST OF RIDLEY CREEK,
THE ONLY INDIAN RESERVATION
THE PROPRIETOR EVER ESTABLISHED
1701

Underneath, the traditional Okehocking turtle is outlined.



that "neither he nor his heirs will by any means disturb or molest the Indians in their possession or claims." The Indians shook hands with Newlin in a friendly manner and returned home. But in 1729, Chief Checochinican again appealed to the Provincial Assembly saying that in spite of the agreement some of their lands had been sold and they had been forbidden to use their timber thereon for their lodges.³⁷ Not long after, the greater part of these Indians, like their fellow tribesmen in Newtown and Willistown, left the region. A Newlin grandson, Nathaniel Newlin, became a resident and landowner in Newtown Township in 1759 and built the stone house, barn and coach house still standing on Bishop's Hollow Road.^{37A} In view of the Newlin dispute and other contentions arising between Indian and colonist it is interesting to note that Penn, like the Swedes before him, recognized Indian rights to the use of their ancestral lands even if purchased by white settlers. The wording of land grants by Penn indicates recognition of the rights of Indians living in the area.

On their tract or reservation the Okehocking women continued their agricultural work, cultivating corn and other food planting while the men hunted and fished, often far beyond the tract's borders. It was said they could walk 50 miles or more a day, going inland to north and west. By 1709, the Okehockings also appear to have made their living by fashioning and selling or bartering baskets, brooms, dishes, wooden bowls, etc., and begging. Surrounded by the increasing infringement of European settlements, the Indians grew restless and began to leave the Willistown tract, probably as early as 1718, most of them by 1732, going north to the upper Schuylkill. The decades from 1700 to 1720 saw a marked increase in Colonial population in the Newtown, Willistown, Edgmont area, attended by much road building, expanding farms, homes and herds of cattle.

Indian exodus from the Willistown Reservation, gathering momentum, reached its zenith by 1735 when all may have departed.³⁸ The Indian tract during these years of exodus remained theirs and it was only when their houses fell into decay or the owners failed to appear for several years that the surrounding white settlers knew the Indians had gone permanently, their tragic fate sealed forever. The lands they had inhabited then reverted to the Proprietary.

In 1924, the Pennsylvania Commission and the Chester County Historical Society erected a monolith with a bronze plaque on the Reservation a few feet north of the West Chester Pike and west of Delchester Road, with the following inscription:

37. Myers, Albert Cook, *Immigration of the Irish Quakers into Pa. 1682-1750*, published by the Author, Swarthmore, Pa., 1902.

37A. The Newlin-Lindborg House (illustration #19). See section 5 of Chapter VII, Part I.

38. Becker, quoting from Chester County Warrant, 1737.

Acres of Quakers



AN ARCHITECTURAL & CULTURAL HISTORY OF
WILLISTOWN TOWNSHIP,
CHESTER COUNTY, PENNSYLVANIA,
FROM FIRST SETTLEMENT THROUGH 1900

Compiled by John Charles Nagy & Penny Teaf Goulding



WILLISTOWN TOWNSHIP HISTORICAL COMMISSION

2006

NATIVE AMERICANS

The Original Local Inhabitants

WILLISTOWN TOWNSHIP was the site of the first Native American land grant in the American colonies. Because of the constant fear of being removed from their grounds, the Okehockings petitioned the Provincial Council for a secure tract of land where they would no longer be mistreated. They probably chose the Willistown land because of a symbolic turtle-headed rock outcropping located within the Okehocking tract.

In October 1702, the Okehocking Clan (or band) was granted a 500-acre parcel of mostly rugged and undulating ground. Unlike the tracts owned by the English Quaker farmers (Charles Whitaker, Francis Yarnall, Peter Thomas, and Thomas Massey) who lived nearby, this piece of territory, with the exception of the flood plain, was considered to be of little agricultural value. The land area—configured as a tilted square—is located just north of present-day West Chester Pike, south of Goshen Road and bounded by Garrett Mill Road and Plumsock Road. The orientation of this piece of land was unusual since all other tracts in Willistown Township were rectangular shapes whose boundaries followed either an east-west or north-south axis and generally paralleled township lines. Instead of following property lines in the usual manner, Delchester Road, which was first laid out in 1710, ran directly through the center of the Okehocking lands, and bisected the tract.



The Okehocking Clan belonged to the Unamis (known as the Down River People), one of the three Lenni Lenape tribes. The Unamis tribe's symbol was the tortoise, which they believed represented mother earth and was a symbolic "intermediary between the visible and invisible worlds around them" (Lindborg, *Historic Newtown Township, 1681–1983*). The Unamis tribe was part of the Algonquin nation, better known as the Lenni Lenape, the "Original People."

Lenape was the Indian name for the Delaware River. The European settlers changed the river's name to Delaware, hence the Lenni Lenapes were labeled Delawares by the settlers. The scholarly consensus of the translation of Oke-

Turtle Rock. A rock outcropping located on the western portion of the original Okehocking Land Grant. The turtle to all Native Americans represented earth—the creator of all things.

hocking is "encircling land." "Okay," meaning encircled, "hocking," land or earth. (Becker, *Pennsylvania Archaeologist*, Vol. 46, No. 3, pp. 24-61)

In 1674-1675 the warring Iroquois destroyed the Susquehannock Confederacy which included the Lenni Lenapes. The Lenapes agreed to disarm and would not independently declare war. In return they were promised peaceful co-existence with their conquerors. Unable to arm, the Lenapes were considered as women among the Indian nations. The Lenapes were a matriarchal society: prevent inbreeding, men were never allowed to marry within their own clan. Instead they "married" into the wife's clan and lived with her family.

The increasing immigration of European settlers along the lower regions of the Crum, Ridley, and Chester creeks encroached upon the Lenni Lenape lands, forcing the Indians to migrate inland and northward. The Okehocking Clan, which consisted of no more than two dozen men, women, and children, relocated to the Willistown land and used it for their summer encampment from 1696 to the mid 1730s. They wintered northward in their ancestral hunting grounds near the upper Schuylkill. By inhabiting two different locations yearly, they did not overuse any one particular area, and thereby rendering it useless. In essence, they created their own crop-rotation system.

MINUTES of the COMMISSIONERS of PROPERTY
7th/8th 10th month [December] 1702

The Ockanickon or Crum Creek Indians, having removed from their old habitations before the Proprietary's departure, by his order seated by Caleb Pusey, Nicholas Pyle, Nathaniel Newlin, and Jos Baker, on the tract in Chester County formerly laid out to Griffith Jones but now vacant.

But the said Indians expressing great uneasiness at the uncertainty of their settlements, pressed, and several times urged the neighboring Friends, that they might be confirmed in so me particular place under certain metes and bounds, that they might no more be like dogs, as they expressed themselves.

WARRANT of SURVEY

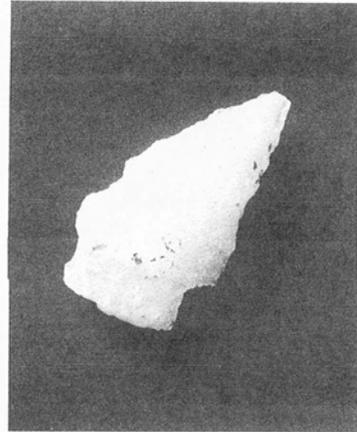
By the Commissioners of Property

Whereas Pokias, Sapopawny, Muttagoopa and others of ye nation called ye Okehocking Indians in Chester County, with their families, upon their Removal from their late settlements near Ridley and Crum Creeks, have by the Proprietor's order and appointment, been seated on another certain tract in ye said county, and on the said Ridley Creek, neare ye head thereof formerly surveyed to Griffith Jones, but by him left and acquitted & now belonging to ye Proprietary; in which place the said Indians request we would grant them a certain settlement, under sure metes and bounds, to them and their posterity, in pursuance of the Proprietors engagement in that case, made before his departure, who granted them, as 'tis credibly affirmed to us, five hundred acres in ye said place: These, therefore, are in pursuance of the said Grant, to authorize & require thee to survey and lay out to the said Pokias, Sapopawny, Muttagoopa and others of Ye said nation called ye Okehocking Indians, who were lately seated lower on ye said creeks, and their relations, and to no other whatsoever, the full quantity of five hundred acres of land in one square tract, in such place within the aforesaid tract as the said Indians shall desire; which said five hundreds acres, we do hereby grant to the said Pokias, Sapopawny, Muttagoopa and others of the said nation called the Okehocking Indians, who were lately seated as aforesaid and to their Relations and to no other, whatsoever, to have to hold to them the said Indians for a Settlement and to their Posterity of the same nation of Indians (and no other) forever, *Provided*, always, the said Indians, nor any of them, shall not give, grant or attempt to sell or any way dispose of any of the said five hundred acres of land hereby granted to any person whatsoever; but at such time as said Indians shall quitt or leave the said place, it shall be surrendered to ye Proprietary without any further claim of the said Indians, or any person whatsoever, by or under them their title or procurements; and make returns into the General Surveyor's office. Given under our hands, and the seal of the Province, at Philadelphia the 15th of ye 10th mo., 1702.

To Isaac Taylor,

Surveyor of the County of Chester.

Edward Shippen
Griffith Owen
Thos. Story
Jas. Logan



Artifacts found in the hills of the Okehocking land grant historic district.

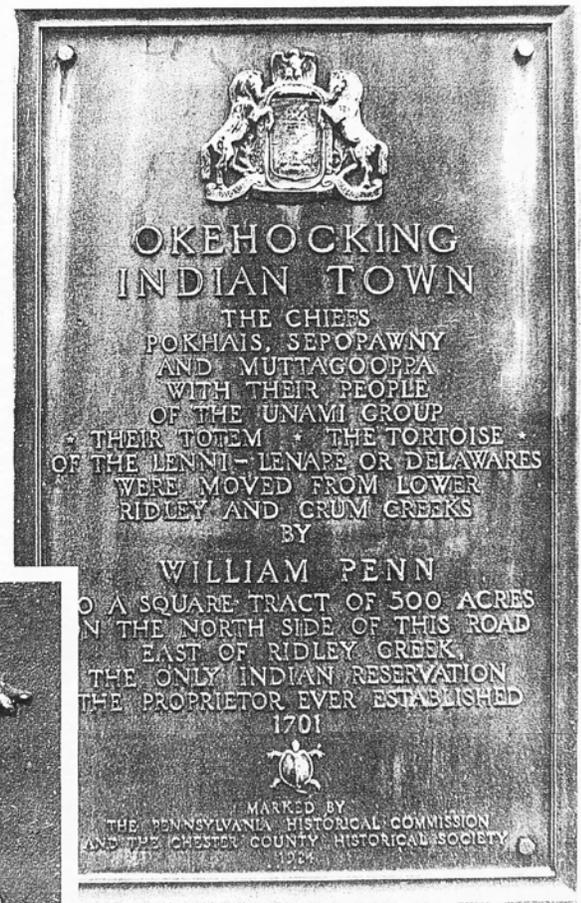
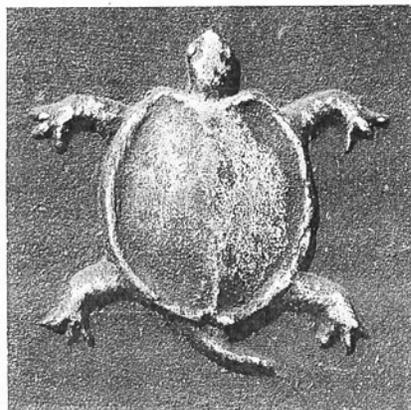


The flood plain along Ridley Creek provided limited fertile ground for the raising of crops. Burning of the fields to rid brush and undergrowth provided open ground for planting of crops, especially maize (multi-colored Indian corn), their main staple. Since the clan was migratory, their crop harvest was not abundant. In addition to crop growing, the women were the gatherers of fruit, seeds, and nuts found in the nearby forests, as well as frogs and turtles from the streams. The men hunted game and fished.

Although the Indian Land was known as Okehocking Indian Town, no archeological digs have revealed any traces of an "Indian Village." The clan lived in tent-like structures which enabled them to be more mobile, and, by trading with the European settlers, the Okehockings learned to use metal instead of stone implements and utensils. They utilized a stone-tipped arrow shaft, and preferred hunting with a bow, because it was noiseless and did not alert their prey.

The Indians, who had roamed at will through the Pennsylvania forests for centuries, did not understand the concept of land ownership and the creation of private property lines. These feelings were in direct contrast with the posture of the nearby Quaker farmers, who purchased their land, established perimeter borders, and felt they controlled the right of trespass. As the Okehockings continued to pursue game beyond the confines of their land, the neighboring landowners became increasingly annoyed. Finally, in 1718, the Indian Families began the exodus from their summer home along Ridley Creek. They removed initially to the Shamokin area (Swatara Creek); however, they continued to return to their summer hunting grounds in Willistown Township until 1735. The Lenapes ultimately settled in Oklahoma, where by 1900 they had become farmers and merchants. In 1738 the Yarnall brothers, Amos and Mordecai, received proprietary patents for the vacated land.

"Okehocking Indian Town"
 Pennsylvania Historical Commission
 marker and close-up of turtle.



Aaron Garrett² House, 1802

WEST CHESTER PIKE

THE BUILDINGS

This 2½-story fieldstone *Penn-plan* dwelling was constructed in 1802 near Ridley Creek on the north side of the West Chester and Philadelphia Road. The initials of Aaron Garrett², his wife, Jane, and the date 1802 were cut into a stone high on the western gable. The house is 20 feet wide by 30 feet deep, with a large cooking fireplace in the west gable. The first floor is supported by the original summer beam with mortised and pegged joists. A 2½-story fieldstone addition was built to the north, probably before

and operated by Joseph Jackson from 1818 through 1822.

From 1826, David Garrett, the oldest son, operated the business until 1838, when he offered the tannery for rent. In 1841 he sold the property to his uncle Robert Garrett, who apparently closed the tanning operations.

THE RESIDENTS

On June 23, 1803, Aaron¹ and Rachel Garrett conveyed by deed of gift 18 acres and 143 square perches to their son Aaron Garrett²: "Beginning at a stone in the State Road 1¼¹⁰ perches North Eastward of the middle of the Mill Race," and by lands of Aaron Garrett, Sr.¹, and land of Thomas Willing. It was part of a tract of land which Amos Yarnall¹ by his Last Will and Testament devised to Aaron Garrett¹. (Chester Co. Deed Book W2, p. 550)

By his Last Will and Testament, dated April 3, 1815, Aaron Garrett¹ bequeathed to his son Aaron Garrett²: "... all my land on the North side of the State Road (so called) supposed to contain 29 acres and lying between the two tracts of land I heretofore conveyed him by deed." (Chester Co. Estate #6156)

Aaron Garrett², son of Aaron¹ and Rachel (Cox) Garrett, was born August 22, 1775, and died on July 29,



A Willistown Township jewel in a timeless setting.

1850, with a cooking fireplace located in the northwest corner. Curved window jambs are found throughout this 19-foot-wide by 21-foot-deep addition.

The old bank barn on the property was constructed of fieldstone, with frame gables, a projecting entrance bay and bridged ramp.

Aaron Garrett¹ opened a tannery in 1802 along Ridley Creek on the north side of the West Chester Road, which was operated by his son Aaron Garrett² until his death in 1816. In his Last Will and Testament the younger Garrett bequeathed 51 acres of land and his bark mill to his three sons Aaron³, Jesse H., and David. The tannery was leased

1816. He married, September 16, 1802, at Goshen Meeting, Jane Hoopes, who was born July 25, 1781, and died July 16, 1838, daughter of Jesse and Rachel (Yarnall) Hoopes, of Goshen. Issue: i. David, born November 28, 1803; ii. Rachel Y., born July 27, 1805; iii. Betsy, born April 29, 1807; iv. Jesse Hoopes, born July 14, 1809; v. Aaron³, born August 23, 1811; vi. Jane, born February 2, 1815.

In his Last Will and Testament, proved August 3, 1816, Aaron Garrett² devised: "I give & devise to my three sons David Garrett, Jesse H. Garrett & Aaron Garrett³ & to their heirs & assigns forever, all my two plantations, pieces

or parcels of land situate in the township of Willistown aforesaid, Containing as follows viz. the plantation wherein I live fifty-one Acres more or less, & the plantation now in the tenure of John Stemple seventy Acres, more or less, Together also with all & singular the Buildings, hereditaments and appurtenances thereunto belonging & also my Bark Mill & privilege of Grinding Bark, to be divided amongst them so that each share be equal in value, the Division to be made when my son Aaron attains to the age of twenty-one years, at which time my said three sons are to pay out of the said lands, rents unto my daughter Rachel H. Garrett the sum of two thousand dollars current money of Pennsylvania & also to pay unto my Executors hereinafter named, the sum of two thousand dollars like money aforesaid, in trust for my daughter Jane Garrett, which sum is to be paid to her when she attains to the age of twenty one years & the Interest accruing on it until that time, to be paid to my beloved wife, for the keeping of my said daughter Jane until she be five years of age.”

To his wife: “I give & bequeath to my beloved wife Jane Garrett my best bed, bedsteads, bedding & Curtains belonging thereto, my best Bureau, six of my best Chairs & Arm Chair, a Breakfast Table, the largest looking Glass, all my silver ware marked with the two letters of her maiden name, one set of my best Chinaware, a Coffee pot & set of tea pots. To be at her disposal. I also give & bequeath to my said beloved wife out of my real estate the sum of one hundred & twenty dollars current money of Pennsylvania, yearly & every year during the time she continues my widow, & also the following privileges to wit, the use of the front room down stairs & the two front rooms up stairs in my dwelling house a part of the cellar, the necessary use of the Oven & pump & half the garden also liberty of getting apples & other fruit, on the premises, for her own use, & fire wood, keeping for a horse & cow in the summer; & a sufficiency of grass for hay to keep them thro’ the winter, with liberty of stabling for the creatures, & Barn room for the hay, also privilege at all times to pass & repass uninterrupted where she may have occasion to go, to have & to hold said privileges during the time she remains my widow, & if my said wife shall not incline to occupy the above privileges she is not to lett or transfer them. The above bequests to my said wife, to be in lieu & in full of her right of dower out of my estate.” (Chester Co. Will Book M, p. 257)

In 1816 the estate inventory of Aaron Garrett², a tanner, included: wearing apparel, watch; cash, note

TANNERY for Rent. The subscriber will rent on reasonable terms his tan yard situated at the 16 mile stone, on the West Chester and Philada. road. It is well calculated for doing extensive business; all the vats and handlers are trunked into a cistern, in which stands a pump that goes by water; the bark mill all goes by water; the handlers are all in the house. The buildings are sufficiently large for doing all the work belonging to the business. Possession will be given the 1st of 10th month next. The neighborhood is good, and affords a sufficient quantity of bark and hides. DAVID GARRETT. Willistown, 9th mo. 4, 1838.

Village Record, September 11, 1838

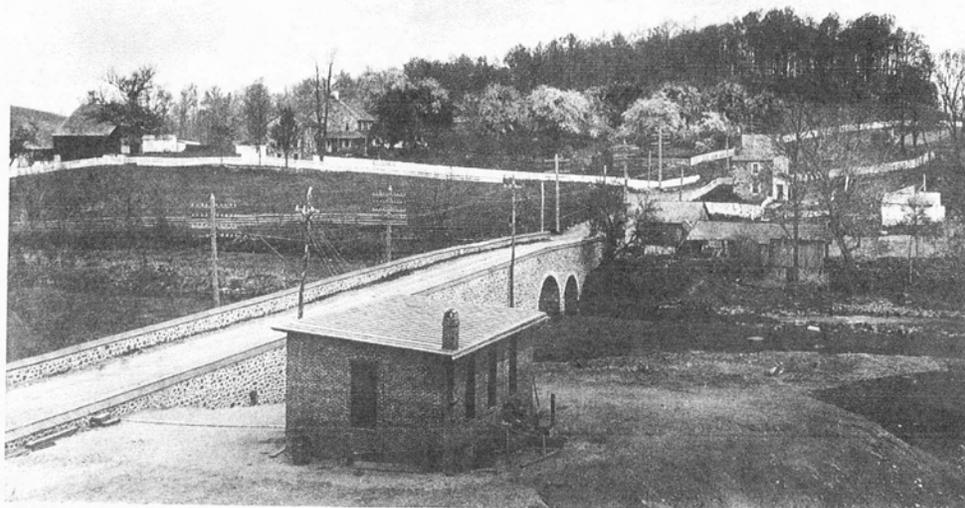
and interest; best bed, bedsteads, bedding, and curtains; bureau, chairs, table, glass; silver, chinaware, coffee pot, teapots; horse, mare, colt; yoke of oxen, two cows, sheep; pigs; wagon, cart; part of log carriage and chain, sleigh; two harrows, riding chair and harness; gears, neck chain, plow; shovels, hoes, forks, and rakes; iron bar, axe, grindstone; maul and wedges, drawing knife; carpenters’ tools, crosscut saw; barking irons, sickles, old iron; half-bushel and peck, barrel and churns; lye kettle, barrels; 40 skins, 66 hides of upper;

55 hides of harness, two hides; three stoves, currying tools; six sides of sole leather, four tops and calfskins; wheelbarrow, barrel and oil, steelyards; roping, three chaff beds and bedding; three bed quilts and blankets, three casks and sundries; carpeting, bedsteads, and sacking bottom; bureau, dressing table, and glass; three feather beds, pair bedsteads, and sacking bottom; chest, warming pan, bed quilt; three pairs bedsteads and sacking bottom; 15½ pairs of sheets, pillowcases; tablecloths, napkins, and towels; yarn; blan-

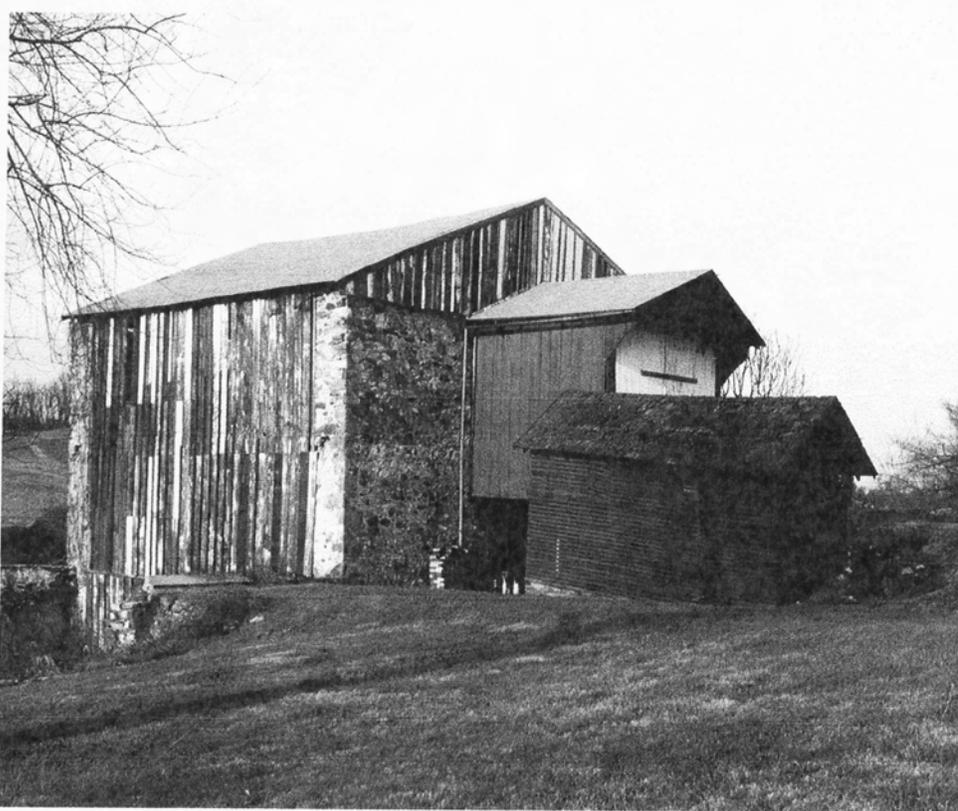


A unique split winder, one of only two found in Willistown Township.

kets, coverlets, and linen; looking glass; chairs, table, clock, desk; cupboard, stand, and irons, shovel, and tongs; candlesticks and snuffer, bread basket; plates, dishes, glasses, bowls, etc., scales; sundries in dresser, knives and forks; cradle, ironing blanket, large boiler; flax and casks, wool, vinegar; bags, wheels, and reel; table; bake iron, earthenware and bottles; baskets and lantern, feathers, saddle; sundries on the dresser in washhouse; pots and kettles, frying pan, and gridiron; flatirons, and irons, shovel, and tongs; coffee mill; tubs, bucket, pail, and washing board; dough trough, chairs, tallow; wine and kegs, soap and trough; fish and barrels, pork and barrel; scythes and hanging, earthenware; dripping pans, brushes, and jugs; Bible and other books; cow chains; 15 calfskins in barn; casks; cutting box and hay knife, clover seed; hay, fan, flax,



Looking east on unpaved West Chester Pike and trolley tracks, with Aaron Garrett's² house on far left, and power plant and Ridley Creek stone bridge in foreground.



Fieldstone and frame bank barn with corn crib located to the north of the dwelling.

and battens; wheat, oats, boards; three stacks of bark and lot of shavings.

In 1832 Aaron Garrett³, the youngest of the male heirs, attained his majority. Since his brother Jesse H. Garrett

died on April 8 of the same year, Aaron³ and his surviving brother, David, became sole owners of the property. On September 8 of that same year, Isaac Yarnall, the surviving executor of Aaron Garrett², deeded the 51¾ acres and 34 square perches to brothers Aaron Garrett³ and David Gar-

rett. The property was described as being bounded by Street Road, land of Levi Garrett, land of Robert Garrett, the lower wing wall of the Ridley Creek bridge, State Road (West Chester Pike), the junction of State and Street roads, Huey's land, and the edge of a Mill Pond on Ridley Creek. (Chester Co. Deed Book F4, p. 168)

On March 6, 1833, Aaron Garrett³ sold his moiety, or half part, of the 51¾ acres and 34 square perches to his brother, David Garrett, who had resided on the property since 1826. (Chester Co. Deed Book I4, p. 289)

David Garrett, son of Aaron² and Jane (Hoopes) Garrett, was born November 28, 1803, and died October 17, 1868, at Birmingham, Chester County. He married, at the Middletown Meeting, October 6, 1825, Anna Tay-

lor, who was born February 1, 1804, and died December 14, 1843, daughter of Israel and Ann (Malin) Taylor, of Aston. Issue: i. Samuel, born November 17, 1826; ii. Thomas Ellwood, born March 16, 1828; iii. Rachel T., born



Ladder steps leading to attic.

January 6, 1830; iv. Deborah, born January 10, 1832; v. Jesse, born July 9, 1834; vi. Jane H., born December 11, 1836; vii. David, born February 9, 1839; viii. James, born March 20, 1840; ix. Anna, born August 3, 1841. He married second, November 5, 1845, at Birmingham Meeting, Mary Ann Hoopes, who was born June 14, 1812, and died October 17, 1852, daughter of Abraham and Sidney (Jones) Hoopes. Issue: i. Anna, born December 7, 1848; ii. Edward, born May 19, 1850; iii. Sidney S., born November 30, 1851. He married a third time, February 9, 1860, at Willistown Meeting, Lavinia Hawley, who was born June 20, 1818, and died March 12, 1878, daughter of Benjamin and Deborah (Hoopes) Hawley, of Concord and Willistown. No Issue.

The tannery was leased to Joseph Jackson, who ran the business from 1818 through 1822. In 1826 David Garrett, the oldest son of Aaron², became the tanner and continued in that capacity until he offered the tanyard for rent in 1838.

David Garrett and his wife, Anna, sold 48½ acres and 25 square perches to David's uncle Robert Garrett¹, who moved from the old Amos Yarnall house on the south side of the West Chester Road along Ridley Creek. (Chester Co. Deed Book T4, p. 284)

Robert Garrett¹, son of Aaron¹ and Rachel (Cox) Garrett, was born October 27, 1782, and died January 12, 1854. He married November 18, 1812 at East Bradford, Albina Hoopes, daughter of Jesse and Rachel (Yarnall) Hoopes of Goshen. Issue: i. Charles, born September 5, 1813; ii. Robert², born January 18, 1815; iii. Rachel, born January 18, 1817; iv. Albin¹, born October 10, 1818; v. Albina H., born April 9, 1822.

In 1850 the household consisted of Robert Garrett, age 67, farmer; Hannah H. Garrett, age 19; William Trigs, age 24, farmer from Ireland. His farm consisted of 40 acres of improved and five acres of unimproved land at a cash value of \$4,500. The value of farming implements and machinery was \$68. The livestock consisted of one horse, three milk cows, two working oxen, four other cattle, six sheep, and two swine, at a total worth of \$340. The farm produced 60 bushels of wheat, 70 bushels of Indian corn, 75 bushels of oats, eight bushels of Irish potatoes, 18 lbs. of wool, 250 lbs. of butter, and six tons of hay. The value of animals slaughtered was \$55. (1850 Federal Agricultural Schedule)

Robert Garrett¹ died intestate on January 12, 1854, at the age of 72. An inventory of his estate was taken by John Evans and John Bennington on February 4, 1854, and included: cash on hand, cows, woodshed and sundries, three chains, ox yoke, two ladders, lot of shingles, seven cow chains, two wheelbarrows, half-bushel, fork and shovel, lot of harness, Dearborn, horse rake, spike harrow, sod, Wiley plows, Dearborn tongue, two cultivators, double-trees, lot of bands and two gudgeons, cutting box, riding chair, lot of iron, rope and blocks, lot of tools, grindstone, wood saw, iron wedge, corn cutters, swine, cart saddle, horse cart, hay knife, grain fan, lot of hay, churn and horse power, lot of milk pans, lot of poplar boards, churn, chair and table, andirons, two butter tubs, two churns, four barrels, two chains and hammer, lot of lumber, lot of ash plank,

FELL DOWN A FUNNEL.—On Saturday last, Mr. John Evans, nearly seventy years of age, residing in Willistown township, while ascending a ladder placed up to the funnel of his barn, slipped when near the top and fell to the bottom, breaking two of his ribs, his collar bone and sustaining other injuries. No person was in the barn, when the accident occurred, and when Mr. E. was found he was lying at the bottom of the funnel in an insensible and helpless condition. Dr. Jones of West Chester, is attending his injuries and at last accounts, with favorable results.

Jeffersonian, September 7, 1872

lot of lath, sawmill tools, two crosscut saws, log wagon and chains, lot of feeding steers, ox cart, spike harrow, plow, lot of posts, four swine, York wagon, sulky, rope, broadaxe, haines, horse, saddle, bridle, harness, lot of gears, two ox yokes, hogshead, light wagon, roller, ox cart No. 2, drag hoe and pick, two ox chains and crown bar, fifth chain, sod and hillside plow, harrow, doubletrees, 16 grain bags, broad wheel wagon, axe, dock digger and vice, three iron

Okehocking Historic District

(added 1993 - Chester County - #93000719)

Also known as **Okehocking Indian Land Grant Historic District**

Roughly bounded by West Chester Pike, Plumsock Rd., Goshen Rd. and Garrett Mill Rd.,
Willistown Township, Media

(14000 acres, 69 buildings, 2 structures, 1 object)

Historic Significance: Architecture/Engineering, Event

Architect, builder, or engineer: Multiple

Architectural Style: Colonial Revival

Area of Significance: Agriculture, Architecture, Exploration/Settlement

Period of Significance: 1700-1749, 1750-1799, 1800-1824, 1825-1849, 1850-1874,
1875-1899, 1900-1924, 1925-1949

Owner: Private

Historic Function: Agriculture/Subsistence, Domestic,
Industry/Processing/Extraction

Historic Sub-function: Agricultural Fields, Animal Facility, Manufacturing Facility,
Single Dwelling

Current Function: Agriculture/Subsistence, Domestic

Current Sub-function: Agricultural Fields, Animal Facility, Single Dwelling



THIRD ANNUAL OKEHOCKING POWWOW INSPIRES DANCE AND IMAGINATION



Kids and adults participated in totem pole painting for the third year at the powwow, thanks to Willistown resident and Powwow sponsor Missy Schwartz.

American Indians from Canada, Massachusetts, New York State, Pennsylvania, Vermont, and West Virginia inspired visitors to dance to the rhythmic drumming and captured imaginations through their storytelling and dance at this year's Third Annual Okehocking Preserve Powwow on September 23rd and 24th. Under the guidance of a Canadian Micmac tribal elder, this traditional powwow is a celebration and sharing of life, community, and nature for the American Indians and our community.

Willistown's Okehocking Preserve is an appropriate place for such a celebration. It is named after the Okehocking Clan of the Unamis tribe of Lenni Lenape Indians. Jane Carter, in her book *The Down River People of the Lenni-Lenape Indians*, © 1976, reports that the Okehockings chose 500 acres in Willistown Township, including the 165-acre Okehocking Preserve, as land they wanted for their exclusive use. William Penn then granted the Lenni Lenape the 500-acre tract, now known as the first Indian land grant in the American colonies.

Carter speculates that a factor in the Okehockings' choice of this tract may have been a large turtle-headed rock located in one of the woodlands, as the turtle was the Okehockings' heraldic emblem or crest, their totem. She states that the turtle totem was considered the most powerful totem, even more so than a wolf, because the Okehockings saw the turtle as their mythological supporter of the world, i.e., their version of Atlas.



Photo: Jeanne Rankin

Jane Carter's recounting of the Unami legend of the turtle:

A pregnant Indian princess fell from the sky one day. She landed on the back of a turtle, then swimming about in the vast primordial sea which covered all the globe. Birds dove into the sea around the turtle and brought up bits of weeds and mud. These lay on the turtle's back. In time an island was built; two infants were born to the princess. The land grew and formed the earth, still upheld by the turtle. From the Indian maiden's twin offspring the whole world was peopled.

Carter states that the Okehocking Indian "did not in any sense worship the turtle as an idol; rather, he strove to develop such a harmonious brotherhood with his chosen animal that its spirit would always help him...This sense of unity with all that supported him—the land itself, animals taken in hunting, plants eaten—fused the Indians' deepest beliefs." ■



Photo: Jeanne Rankin



Photo: Jeanne Rankin



Photo: Jeanne Rankin

Mexica Explendor presented Aztec stories through drums, dance and narration.



BOY SCOUT AHTAQUAOWEH MOCCASIN DANCERS PERFORM AT OKEHOCKING POWWOW

Doc Lenker, Moccasin Dance team mentor, providing the story of the dance performances at Okehocking's 2006 Powwow.

The Ahtaquaweh (pronounced *atta kway* away and meaning moccasin) Dancers of Willistown Boy Scout Troop 78 performed at the 2006 Powwow under the leadership of Doc Lenker, who shared stories of the dances. The dance team is open to boy and cub scouts and boys not involved in scouting. It was founded to help boys understand the American Indian culture, why they danced, who danced, and what dancing meant to them. The team gives 25 to 30 performances each year, mainly in Chester County. The Ahtaquaweh dancers presenting at the Powwow included Dan Dufoe, Phil Chow, and Mark Matsinger from Willistown Troop 78, Eric and Scott Dixon from Berwyn Troop 181, and Andy Chow from Malvern Cub Pack 76.

According to Doc Lenker, the imagery of the hoop in the hoop dance (pictured) is of the circle of life, which has no beginning and no end. The idea, as Doc understands it, is to celebrate the wonderful life we are offered and to enjoy that life while we are on the circle. One of the goals of American Indians is to stay faithful to the circle, which is made up of a set of rules by which to live. The hoop is flexible, so you can bend it and hopefully not break it. But in the event you do break it, it can be fixed.

The circle is an important American Indian image that represents many things, including the celebration of life. This is one of the reasons why the Powwow arena is configured in the shape of a circle and the dancers move around the drummers and singers in a circle within the circle. The Powwow is literally and figuratively a celebration of life.

The eagle dance (pictured) celebrates the fact that bald eagles mate for life, and when one of a couple dies, the survivor does not mate again. This traditional dance depicts one eagle's death and the surviving eagle's celebration of the life and death of its partner, followed by its flight into the future alone. Doc received American Indian approval to change the dance by adding more eagles to represent the image of a com-

munity helping the survivor by accompanying it for a part of its journey before it flies off alone. Doc relayed that the boys felt much better doing his version of the dance.

Doc volunteers his time with the Ahtaquaweh dancers because he enjoys working with children and sharing with them important values and his passion for the American Indian culture. Twenty-four of Doc's dancers—24 in a row, in fact—have become Eagle Scouts, the highest ranking attainable for a Boy Scout. This is what Doc is most proud of, and no wonder—it is an impressive statistic when compared to the nation's average of only one in 200 scouts reaching Eagle Scout status. Doc has been an assistant scoutmaster for 25 years and has been leading the moccasin dancers for 15. He acknowledged the assistance of many parents throughout his service and the positive influence adult mentorship has had and continues to have on his dancers. For more information on Willistown Troop 78, visit www.willistown78.org.



Ahtaquaweh Moccasin Dancers Dan Dufoe, Eric and Scott Dixon, and Phil and Andy Chow performed the Eagle Dance at the 2006 Okehocking Powwow; here, the Eagle celebrates the life of its spouse.



Dan Dufoe of Willistown Troop 78's Ahtaquaweh Moccasin Dancers performs the hoop dance at the Powwow.



Children learning dance moves from Jose of Mexico Explendor, an Aztec dance group.

Photo: Jeanne Rankin

THANK YOU!

This unique happyning was made possible by the partnership of Red Willow Education Center, a non-profit organization based in Willistown whose mission is to bring Native American teachings to all interested people. Funding for the event was generously donated by our Primary Powwow Sponsor, Mesa Environmental Sciences of Malvern. Mesa is an energy and environmental services company that designs and installs solar PV and thermal systems for residential and commercial customers, maintains and operates these systems, conducts energy audits and electrical use inventories, and offers environmental services. For more information on Mesa, please visit www.mesasolar.com or call 610-647-3809.

We would also like to thank the following high level donors: Commerce Bank at 3609 Winding Way in Newtown Square (610-353-1820), and Prudential Fox & Roach Realtor and Willistown resident Missy Schwartz at 431 Lancaster Avenue in Devon (610-651-2700, missy@missysellshomes.net).

Our appreciation and thanks also go to all of the other Powwow contributors and to all of the residents and businesses in Willistown who recycle, as the gathering was sponsored in part by grant funds awarded based upon the weight of materials recycled in the township.

Special thanks go to the following volunteers: Sarah Hetznecker and Dorrie Sellers from Red Willow Education Center; Judy Young from the Willistown Parks and Recreation Board; Jim Tate (Recycling Commission Chair), Brian St. Clair, Ken Lehr (also on Parks and Recreation Board), Marilyn Smith, Jeff Scutt, Mark Bem, and Cynthia Lane from the Willistown Recycling Committee; Joe and Lois LeBresco, Beth Wilkins, and Popper and crew from the Malvern Fire Company; Mike, Dan and Abbey Dufoe, CB Bradley, Kevin Compton Sr. and Jr., Wayne and Phil Chow, Mr. McDonald and Gabe, Matt Helleman, Austin Swarbrick, and Mark Matsinger from Willistown Boy Scout Troop 78 for orchestrating the parking; Ken Tankel for sound; and Farmer Bob Lange and Sugartown Strawberries for lending us our hay bale seating!

Willistown Township *Towne Crier* Newsletter Okehocking Nature Center Articles in chronological order.

SEPTEMBER 2006

OKEHOCKING NATURE CENTER PROSPECTUS

Willistown Township is pleased to announce its plans to create a nature center at Okehocking Preserve. The draft mission of the center is to enhance people's relationship with nature, sense of community, and knowledge of natural resource management and stewardship, thus improving their life experience and creating life-long natural resource advocates and practitioners. The purpose of the center is to:

- Ignite public interest in the environment and promote conservation and natural resource stewardship and improvement through providing quality environmental education programming and recreation.
- Encourage community "ownership" of Okehocking Preserve, establishing a strong volunteer base and programs that will ensure the Preserve's long-term ecologic, educational, and recreational successes and its public benefits.
- Provide a facility for public environmental education and recreation, resulting in a positive impact on the ecology at Okehocking and enriching the lives of those who visit. (Provide programs based not upon volume of participants, but upon quality that will safeguard the property from overuse.)
- Promote and execute conservation and natural resource management now to insure their future.
- Provide an indoor educational/meeting/gathering space and an outdoor classroom, which is the Preserve.
- Promote positive relationships between people and the environment and teach proper land and natural resource management techniques and stewardship.
- Provide a model for private and public land management, environmental education and recreation, and conservation.
- Promote the use of green technology.
- Provide office space for the Parks and Preserves Department, partner programming staff, volunteer staff, etc., to implement the center's programs and the Okehocking management plan.
- Provide space to community organizations/groups for meetings/lectures/events.
- Hold special Township events and lease to the public and organizations for special events.

The Township will partner with community organizations in achieving the mission and purpose of the center. The partners will offer educational and interactive programs that further their mission and coincide with the center's mission and purpose.

At this time, the Township has enrolled the Upper Main Line YMCA as a major programming partner. The Upper Main Line YMCA is one of the few YMCAs in the country that has a permanent Environmental Education Center and varied ecosystems right on its campus. The outdoor classroom at the Y includes over twenty acres of woodland, wetlands, the headwaters of Darby Creek, and a one-acre pond. The Y's Environmental Education and Summer Camp programs have been utilizing Okehocking as an outdoor classroom and environmental recreation resource since the acquisition of the Preserve in 2000.

The Upper Main Line Y's Earth Service Corps (YESC), a national service-learning program for teens ready to make a difference in their communities, has been a strong partner at Okehocking Preserve. Constructed on the building blocks of leadership development, environmental education, action, and cross-cultural awareness, this proven program allows teens to use their talents, develop new skills, and learn more about themselves and their surroundings. The program is dedicated to spreading awareness of the biodiversity in the tri-state area, the preservation and creation of wildlife habitats, and the local species that are at risk. YESC provides its participants with leadership training, outdoor adventure, and opportunities for service to the environment. In addition to its use by the YESC program, the new center will be utilized by existing Y programs that serve people of all ages. The Township is currently conducting partnership outreach to its existing partners at Okehocking and potential new partners. If there is an organization you feel may fit into the mission and purpose of the Preserve, kindly have them contact Mary McLoughlin at 610-640-1669 to discuss the possibility of their partnership.

The Township intention is to raise public and private funds, with assistance from partners where possible, to execute the project, including the construction of a "green," energy efficient building and to establish a maintenance endowment for the building. The center will be located in the middle of the property at the old barn site behind the farmhouse. The Township will own the building and the partners will run the bulk of the programming out of the center. The Willistown Conservation Trust conservation easement on the property permits this use, and the Trust and Township are looking forward to working together on the project.

If you would like to share your thoughts or insights on this project or volunteer your time, please contact Mary McLoughlin at 610-640-1669 or mhm@willistown.pa.us. To hear more about the center or discuss it in person with Mary, she will be at the Willistown Friends Meeting Environmental Stewardship Festival on Saturday, September 16th, from 11am to 4pm and will be giving a talk at 12 noon. Editor's note: More information on the Environmental Stewardship Festival is located on page XXX of this publication.

Pull quote: "Places for all people to connect with their loved ones and the natural world sustain us." Emilyn Sheffield, Ph.D.

(Public presentation and discussion on project mentioned in following article:)

Saturday, September 16, 11:00 am – 4:00 pm

WILLISTOWN QUAKER MEETING TO HOST SECOND FREE ENVIRONMENTAL STEWARDSHIP FESTIVAL – “SAVING THE EARTH BEGINS AT HOME.”

The Willistown Quaker Meeting will host its second free Environmental Stewardship Festival on Saturday, September 16, 2006, 11:00 am – 4:00 pm, at the Meeting House and grounds at 7069 Goshen Road (the intersection of Goshen Road and Warren Avenue). Bring your family, friends, and neighbors to celebrate the environment and learn about practical stewardship that you can undertake. This will be an informative and fun event for the entire family, a great opportunity for you to learn what we as individuals can do to improve our natural environment.

Twenty-seven environmental organizations, individuals, and government agencies will be present with displays and demonstrations on a wide range of subjects, including:

- Electrical solar power
- Native plant propagation
- Chester County’s open space preservation program
- Volunteer stewardship at local parks
- Stream bank restoration
- Deer management
- Tree planting
- Conservation easements
- Local farm produce
- Conservation in agriculture
- Beekeeping
- Biodiesel and hybrid cars
- Energy audits

Speakers will include Mary McLoughlin, Director of Parks and Preserves for Willistown Township, who will talk about Willistown’s open space preservation program, future challenges, current stewardship opportunities, and the Okehocking Nature Center project (see the Okehocking Nature Center article in this issue for more information on this project.) Scott Kelly of Revision Architecture will make a presentation on green architecture, including a new “zero energy” house in Willistown that incorporates advanced, environmentally benign design and construction methods. Other talks will cover global warming, conservation in Willistown, woodland restoration, invasive plants, and plant pollination by insects. You will also learn how to convert your back yard into a wildlife refuge and how to have that habitat certified by the National Wildlife Federation.

Additional activities will include tours of the Meeting’s 42-acre site (including a native tall grass meadow and woodland), pumpkin painting, tree planting, bird and bat box building, a display of nature-inspired art, and environmental news. Food and beverages

will be available, and you won't want to miss the bake sale! Other booths will also be offering fresh local produce, native plant sales and animals for adoption.

The Festival will benefit the Thorncroft Equestrian Center, a local nonprofit organization that helps those with special needs. Located at the corner of Line and Boot Roads, Thorncroft's therapeutic horseback riding program is designed to help strengthen students' physical and spiritual well-being. Students include children and adults with autism, cerebral palsy, mental retardation, multiple sclerosis, and other physical and emotional challenges. The Thorncroft Mainstreamers Equestrian Display will be presented at 2 pm. See www.thorncroft.com for more information. Donations to Thorncroft will be gratefully received at the Festival.

For further information on the Festival, please contact Claudie Brock (610-459-2256) or Susan Cooker (610-644-9084) or visit the Willistown Quaker Meeting website, www.willistownfriends.org.

NOV 2006

OKEHOCKING NATURE CENTER UPDATE

As reported in the last edition of the *Crier*, the township is pursuing the creation of a nature center at Okehocking Preserve. Most recently, the township submitted a grant application for a feasibility study and schematic design to the State Department of Conservation and Natural Resources' (DCNR) Community Conservation Partnerships Program in the amount of \$106,300. The township has committed to a \$40,000 cash match to this grant application.

The township is pleased to report that Muscoe Martin of M² Architecture, an architect with extensive experience designing environmental education and nature centers utilizing green technology and sustainable design, is very interested in the project and provided a scope of work for the DCNR grant application. Muscoe served as principal-in-charge of the Cusano Environmental Education Center at the Heinz Wildlife Refuge in Tinicum as well as the Natural Lands Trust Headquarters in Media.

Programming partnership outreach for the nature center continues, meetings with 14 potential programming partners having occurred just after the deadline for this newsletter. Keep your eyes peeled for the next *Towne Crier* for news of these meetings. If you would like to share your thoughts on this project or volunteer your time, please contact Mary McLoughlin at 610-640-1669 or mhm@willistown.pa.us.

FEBRUARY 2007

HEADLINE Okehocking Nature Center Update

(SUB-HEADLINE) Partners Vision Workshop Convened

The township's preparation to build a nature center at Okehocking Preserve continues. The working mission of the Okehocking Nature Center is *to enhance people's relationship with nature, sense of community, and knowledge of natural resource stewardship, thus improving their life experience and creating life-long advocates and practitioners*. The working vision statement of the Center is that *the future of conservation, environmental stewardship, and environmental recreation depends upon providing a place in nature, about nature, for people. The possibility and benefit of such a place is emotional, physical, and spiritual well-being for the people in the nature center community. Love of nature and the care of it will go with people to their own properties, resulting in wide-reaching, regional, natural resource improvement*.

The township intends to carry on and expand its Okehocking partnerships—many of which were established as a part of the first acquisition grant applications in 2000—to assist in achieving the vision, mission and purposes of Okehocking. Utilizing the Preserve as an outdoor classroom and laboratory, the partners will offer educational and interactive programs that further their mission and coincide with the center's mission and purposes. Local educational and environmental organizations have expressed a need for such a partnership with Willistown Township.

On December 11, 2006, the township convened a vision and planning workshop to provide an opportunity for future and potential partnering organizations to express the possibilities of their partnerships and to help develop the vision and early program description for the center.

Attendees included:

Richard Menn, Chester County Master Gardeners

Sandy Claus, Great Valley School District Community Programs

Derek Stedman, Habitat Resource Network of Southeastern Pennsylvania

Warren Graham, Open Connections Property Manager and Steward; and Cindy Pizziketti, Program Coordinator

Brian Raicich, Upper Main Line YMCA, Director Environmental Education Program and Camps; and Sally Leathersich, Associate Director of Environmental Education and Arts

Lisa Rubin, Willistown Conservation Trust, Associate Stewardship Manager

Mary H. McLoughlin, Director of Parks and Preserves, Willistown Township

Could not attend:

Jim Rapp, Malvern Boy Scout Troop 7, Local Boy Scout Liaison

Susan Cooker, National Wildlife Federation, Certified Habitat Steward

Consultants:

Don Watson, FAIA, CIP, EarthRise, Interpretive Design Facilitator, www.donaldwatson.com

Muscoe Martin, AIA, LEED AP, Principle, M2 architecture, www.m2-arch.com

Luncheon guests included:

Norman MacQueen, Chairman, Willistown Township Supervisors

Joe Tankle, CEO, Upper Main Line YMCA

Bonnie Van Alen, Executive Director and President, Willistown Conservation Trust

The workshop was a resounding success, and we look forward to continued coordination with all of these organizations on the partnership opportunities at Okehocking.

We would like to send special thanks to Ed Shanaughy, Willistown resident and partner of Our Deli and Meats in Paoli, for his generosity in donating a *scrumptious* Our Deli catered lunch for the workshop participants—THANK YOU ED!

Garrett Barn Removed

The Garrett barn, located behind the farmhouse near the Route 3 entrance to Okehocking, has been removed because of structural and safety issues. The stone has been stockpiled on the property, and some wood flooring, siding, and incredible 30- to 35-foot beams have been salvaged. The intent is to utilize these materials in the Okehocking Nature Center.

APRIL 2007

Okehocking Nature Center Update (Headline) (Traci – pls insert turtle image)

Steering Committee Formation (Subhead)

We are pleased to announce that, to date, Brian Raicich and the Upper Main Line YMCA, Sandy Claus and the Great Valley School District, Dick Menn and the Chester County Master Gardeners, Derek Stedman and Southeast PA Habitat Resource Network, and Jim Rapp and the Malvern Troop 7 Boy Scouts of America (BSA), who will act as a liaison to the Diamond Rock District of Chester County BSA Council, are all serving on the Okehocking Nature Center steering committee with Willistown's Mary McLoughlin guiding the effort. These organizations have declared their commitment as partners in the Okehocking Nature Center.

St. Joseph's University Research (subhead)

Traci – insert SJU image with caption: The Okehocking Nature Center was chosen from many as a St. Joe's MBA program research project. Pictured from left to right are the team members: Rebekah Anderson, Arianna Stefanoni, Tim Unrath, and Kristen McGrath. (Not pictured: Choinita Logan.)

A St. Joseph's University MBA class team of five students (pictured at XXXX) chose the Okehocking Nature Center from a number of others as their study project for the spring semester. The team will be studying three nature centers similar in concept to the Okehocking Nature Center. Drawing from that research, the team will make recommendations of best management practices, document lessons learned, and provide their research for reference. We are honored that the ONC project was chosen by the spectacular team of Rebekah, Arriana, Tim, Kristen, and Choinita...and we are looking forward to the final product!

For more information about the Okehocking Nature Center or to give input or get involved, please contact Mary McLoughlin at 610-640-1669 or mhm@willistown.pa.us.

Grant Awarded! (subhead)

As reported in the November 2006 Towne Crier, the township applied to the State Department of Conservation and Natural Resources' (DCNR) Community Conservation Partnerships Program for funding for a feasibility study and schematic design for the Okehocking Nature Center. The DCNR announced its grant award of \$52,000 to the project, which when added to the township match of \$40,000 cash and \$14,300 of partner in-kind donations will provide the \$106,300 necessary to execute the study and design. Muscoe Martin of M² Architecture in Philadelphia, an architect with extensive experience designing environmental education and nature centers utilizing green technology and sustainable design, will be facilitating this project for the township.



Willistown's Okehocking Nature Center

A Place for People and Nature

Brief Summary

June 10, 2007 Informational and Feedback Event at UMLY

1—Interest Checklist Matrix (Top five categories listed in descending order).

- Land conservation/Preserving open space (37 responses)
- Environmental/Nature education (32 responses)
- Backyard Habitat & Green building technology/Energy Conservation (30 each)
- Environmental stewardship education (29 responses)
- Okehocking as an example of stewardship & Gardening/Native plants (28 each)

2---Project Realms – recurrent themes and interest area highlights

Stewardship

- Bring in residents to learn ways to help have ownership of land.
- Create “community learning laboratory”-- provide “take home” concepts
- Consider demo/teaching garden around Indian heritage.
- Highlight Indian cultural history as part of uniqueness of ONC.
- K through 12 need outdoor learning—ongoing education all school year
- Balance stewardship, preservation, multiple users, learning lab
- Educating and empowering community people (environmental edu.)
- Create an environment where it “OK” to be a learner, hands-on learner
- Opportunity to address local issues—deer management vs. native plants

Green Technology

- Green roof, passive solar and other energy considerations
- Application of “green technology” provides community education concepts
- Will the Nature Center building provide community building “green” ideas?
- Conservation easement dictates site placement, size, etc.
- Uses of farmhouse, pole barn?
- LEED ratings
- Will there be areas designated specifically for teens vs generic “children”?

Community

- Will ONC offer resource center for home schoolers, schools, UMLY ?
- Conduct “plant identifiers” workshops, medicinal plant/herb teachings
- Create interactive learning opportunities, geology, astromomy, bird identity

Collaborate with local CSA efforts
Provide for special populations (ie handicapped, autistic, ADD, ADHD, etc.
Collaborate with Scouts, environmental clubs, 4-H, EAC's, etc.
Hands-on learning for all ages
Outreach education—"take ONC on the road"
Teacher training/Act 48 credits

Hospital patient recovery programs—photo opportunities for wall gallery

Education

Four season usage programs
Family programs—owl prowls/frog hikes, expert guest speakers
UMLY expansion of programs
Reintroduce wildlife
Establish a weather station
Unstructured environment provided, outdoor schooling
Well-developed programs for community learners
Learn what other nature centers are doing, focusing on
Learn diversity of wildlife living in our areas/ "backyards"
Hands-on gardening, composting, insect id, pest control, invasives control

Comments from individuals

Could use ONC as a center to educate, builders, developers, landscapers
Could positively affect building codes (gray water usage proper siting, etc)
Create a "springboard" for non-partisan, political action for stewardship on
township, county, statewide, federal levels
Export concepts of stewardship to homeowners, schools, businesses,
religious institutions, etc.
Create meadows vrs. acres of useless, expensive-to-maintain lawns
Have groups "adopt" areas to maintain
Ongoing, yearly workshops on best /new environmental practices
Create synergy with other nature centers (far and wide)

3 – Volunteering

27% of 64 attendees would like to help the nature center become real
24% of 64 attendees said they would like to volunteer

4 – Community Liaisons

20% of 64 attendees will serve as community liaison

SUMMARY FLIP CHART FEEDBACK FROM EACH REALM STATION

June 10 info and feedback event review:

Look for continuous themes and items that reinforce the mission.

Black font is what was on the flip charts, Blue font are comments from the steering team

Realms

A. Stewardship

1. Remove invasives – how does it get done? Didn't want to answer, just gathered thoughts.
2. Bring in residents to learn ways to help have ownership of land. Recurrent theme!
3. Inventory current status impact of use so far. What is really there? Has been done in the Okehocking Mgmt Plan. Frequent use foot traffic is on the property currently.
4. Meaning of community lab – need to have them take what they learn home and to their communities
5. Recreation is important
6. Active recreation, summer concerts, meeting place, courts – active recreation doesn't fit the mission; conservation easement only permits active recreation at Okehocking on powwow field
7. Balance recreation and environmental interests
8. Trail system marked
9. How do we learn from other places like Longwood – suggestions on learning; see their idea garden for homeowners
10. Specify trails uses for ATV's, bikes, dogs, people, children. Some hikers ran into ATV's while out hiking. What uses do we intend and how will we specify? Maybe specify a children's trail. What can we do to make this place unique? What will be our brand? Maybe demo/teaching crop garden around Indian practices potentially as part of Tyler Arboretum CSA program. Highlight Indian cultural history. Maybe an herb garden that would attract beneficial insects.
11. Teacher (EA) would be able to extend classroom – teacher from Episcopal Academy. Felt that Okehocking would be a great outdoor classroom extension. **Follow up and invite to charrette.**
12. K-12 need outdoor learning, responsible – complimenting what learning they are getting. Ongoing education, not just the annual field trip. We need to make sure kids can get involved. Saturday programs, close to home experiences. Make it easy for families to get to. Get kid ownership, sense of pride. **Be sure to do outreach to kids to attend June 28th.**
13. Dick and Derek asked the group what their take home experiences of nature were: ticks, bugs... Need to educate that all critters in nature are not desirable – and how to deal with them.
14. Kids will be inspired and bring parents back
15. Balancing stewardship, multiple users, preservation, and learning lab - repeated theme. How we deal with all the users and protect the natural resources of the site.
16. Environmental education, community education – empowering people – so many have little confidence around doing things with their landscape. Create environment where it is okay to learn. Another repeated theme.
17. Cub scouts do plantings. Create pride, ownership, expands community – repeated theme
18. Adopt-a-highway shifted to adopt a part of stream, plantings (Pennypack has adopted sections) – do the same thing at Okehocking. “adopt a section of Okehocking?”
19. Involve all ages in surrounding community
20. Is Tyler doing the same things? **We need to follow up with Tyler to see what they are doing.**
21. Native, indigenous peoples' uses of the countryside. – What history can we provide and then share/teach. Supposedly a quarry on the property. **Call Warren Graham** to see

what history he can provide and follow up with the historical society. See book, the Down River People. Good book for us to know.

22. Ways to attract wildlife
23. Target success areas – Measure results of projects and celebrate the successes. Put it in the news.
24. Move from many small wins to larger overall wins.
25. Multi uses at Okehocking, treatment plant efficiencies, infrastructure uses – recycling water, replenishing ground water. Another learning lab.
26. Opportunity to address issues. – Deer management, wildlife issues, birding issues
27. Deer management – make that part of the learning experience. Deer love to munch native plants.
28. Relationship to native plants to deer population
29. Community stewardship
30. Demonstrate learning from ONC being taken home – user friendly learning laboratory.
31. Measuring success – how do we measure success, the various projects, stewardship
32. Parent learning gap – it seems that at times kids are learning more than the parents. How do we educate them? Kids are learning things. How do we touch the parents?
33. Reintroduce outdoors to 35+ group
34. Kids need to return parents to learning site – bring the parents back
35. Richard Louv – Last Child in the Woods. One of his themes is that you need to experience nature
36. Green star program – idea is take the National Wildlife Federation of backyard habitat. People can have their backyards certified and have the connection made, have WCT certify and map. Derek and Bernard Cooker have been working on getting done. May be able to facilitate out of Okehocking. There is an Audubon Society program as well. If we could get the connecting neighbors of Okehocking to participate in programs. Coupling of properties, interconnections of property.
37. Integrate ONC trails with Willistown walking paths – People could walk for miles. Okehocking could be the trail head
38. Deer clear out native plants.
39. Plant native trees – there is a lot of education of what are natives
40. Differentiate Okehocking from other places. For example, highlight the Native American history/heritage. Jason Ingle’s CSA program partnership? Sample planting of the “Three Sisters” planting technique used by the Indians.
41. LEED certification – make it a part of the learning experience
42. Walking paths usable by strollers, and handicap individuals. Do at Hawk Mountain and Ridley Park.
43. What is stewardship?
44. Learning how to deal with invasive species
45. Living lab
46. Indian heritage and LEED, lab to bring ideas from

B. Green Technology

1. What level/LEED at ONC?
2. Does being in NE US affect ability to go platinum? – Can be certified at different levels without solar panels

3. Impact of building at ONC vistas? Same location as old barn – would building interfere with the vistas? Don't have a choice, building where the old barn was and it is part of the easement.
4. Can ponds be capitalized on for geothermal?
5. Can wastewater reclamation become part of an ordinance? - What is the code? Would this be something that could help change township codes for other properties?
6. Slide on “break even in three years? – This sized building could be ten years
7. Any chance of using wind energy? – answer was no – township code issues with height
8. Is use of barn materials compatible with LEED rating? – Some of the structural components and maybe some inside features.
9. Size of the building? Don't know yet? Can the easement be changed? Easement allows up to 10,000 square feet. Easement does allow outbuildings. Consider amphitheater or pavilion accessory to center.
10. What LEED level do we aspire to?
Will new building respect existing scale and context of site and farmhouse – idea is build it in so that it would be context
11. Opinion – building should hug ground, try for invisibility and landscape – team agrees.
12. Can passive solar to be captured. – Probably could
13. Green roof system consideration? – That could be considered. Soil and green plantings. But can add cost because of the weight of the roof. Maybe a pavilion can have a green roof. Try to get as much of the technology into the building as possible. Maybe vertical plantings.
14. Will the application of green technology on this building provide an education opportunity? We need to utilize as many techniques as possible as model for homeowners and developers.
15. Could the farmhouse be converted for use as the ONC? It is too small. There would be a full-time tenant at the house.
16. Any discussion about building size
17. One or two stories? – If two stories, need elevator? If trail around, may need to build so both levels are accessible but elevator may not be needed.
18. How will farmhouse be affected?
19. What about parking?
20. Are you aiming for zero energy building? Can be very unattractive once designed
21. LEED level - TBD
22. Will building itself provide education opportunity for building green (the homeowners)? - [Very important to associate with what can be done at home to homeowners and developers](#)
23. Will site be sustainable? – Operational issues. That is the idea
24. Green roof?
25. Operational procedures to conserve energy?
26. What kind of materials promote sustainability
27. Is LEED certification based on design or performance? – Will go into
28. Why is building constrained to barn site? – Only place the Land Trust easement permits.
29. Will there be areas designated for children vs. teens? – Concern voiced many times through the day. ACTION - At the 28th meeting, bring this up for feedback from teens.
30. What defines “green” building materials?

31. Are manufacturers encouraged to go green by customer demand?
32. Can visitors learn about green building technology vis-à-vis this building?
33. What makes Hard Bargain Farm a green building?
34. How much of the green building technology will be visible?
35. Get back to basic is terminology?
36. Will the farmhouse and pole barn be reused?
37. Will the building reflect Chester County culture and content?
38. What is the facility's program
39. Comment? Building as part of landscape, below grade?
40. Can demolition of pole barn occur simultaneously with ONC so that its materials can be reused? – May want to see PRC is up to. ACTION – Susan, see what is going and what programming they do?

C. Community

1. Adult activities
2. Open Connections/Home school – ACTION: Follow up again with Open Connections
3. Satellite Community Support agriculture (CSA)
4. Organic
5. 4-H
6. Environmental Clubs
7. Scouting
8. Pre-school activities
9. Special populations, ie, autism, ADD, ADHD
10. Powwows
11. Music concerts
12. Env. Advisory groups, townships
13. Nature deficit disorder - speak to need in developing connection of people to nature
14. Wildlife observation
15. Check out River Bend
16. Historical markers and
17. Township anniversary celebrations
18. Native American studies – came up a few times. Part of the uniqueness
19. Offer resource center for home schoolers
20. Make sure space is used in environmentally sound manner
21. Interactive learning theme keeps coming back as a theme over and over!
22. Plant identifiers – Plant id walks. What medicinal properties, what they are. Can be walks and identifiers. Can help with the learning for homes because people can take home the learning for their yards. See what things look like.
23. Geology studies
24. May need a greenhouse to promote some of this learning or cold frames. Should go into design charrette.
25. Geology studies
26. Impact of parking – See Scott Arboretum, Brandywine (filter plants to the creek), Chanticleer. Need to show as many alternative bmp techniques as possible.
27. Keep it small, geared to kids, bike accessible
28. Hands on garden opportunities
29. Compost area
30. Teaching cycle opportunity

31. Hands on learning for kids of all ages
32. Outreach to local schools
33. Challenge, bring in people but don't overload
34. Concern of impact by school groups
35. Outreach education – take the show on the road
36. Keep front line relationship with teachers, relationship between curriculum and learning
37. Teacher training/Act 48 credits teachers may need hands on experience to be able to share with kids – design around activities at Okehocking. May need to certify the teachers so they can go back and share. State certifies the programming but not hard to get.
38. Companies, their environmental literacy goals – Some companies make their employees obtain these goals
39. Corporate retreats
40. Use the stream – Education, create a blind or observation area to watch the animal traffic by Route 3.
41. Dog walking – A portion for dog walking. Understanding what different areas are available and what uses.
42. Hospital recovery usage – photo walks, think about a gallery wall for the charrette. Garden therapy – Harriet Wentz would be a good contact. Home therapy programs

D. Education

1. UMLY expansion of programs – question, will they?
2. Well-developed birding opportunities
3. Four seasons of usage/programs
4. Guest speakers (astronomy)
5. Coyotes seen on property
6. Deer/human interaction – may have an opportunity with Audubon, PA. Important bird area – Called the Upper Ridley Crum Bird Area. President of Audubon and the org. interested in having programming at ONC. At Garrett Mill, property owner talking about paddocks and deer fencing. Keeps the deer out. Then maybe have a bird census done. Tie in trails for connections to the park. Live deer management practice that we could use as an education
7. Owl prowls/frog hikes – nighttime activities
8. Family programs
9. Weather station – Channel 10 association?
10. Tree planting/four season observation
11. Stewardship/land management linked. Volunteer to remove invasives – link it to volunteers
12. Use four senses
13. Reintroduce wildlife – would there be an opportunity to introduce frogs, lizards, turtle, etc. They should come if the water is clean. Have to be scientifically be studied.
14. Interactive
15. Unstructured environment
16. Outdoor school
17. Need for teen programs and outdoor place
18. Family learning and stewardship
19. Design areas to be tread upon lightly. Teach people how not to degrade
20. Vary times of year of programs for accessibility
21. Programs for children and teen

22. Demo gardens/organic gardening with nature and wildlife issues – look in to the Wildlife Federation Association programming. Will need composting.
23. Hands on gardening, composting, insect ID, pest control
24. Seasonal traffic planning and control
25. Learn from other nature centers such as Scott Arboretum, Great Valley Nature Center, etc. – Brochures for education that will be available. Have ONC be the spot to get your outdoor and programming information. Will this be the place to buy things such as field guides, maps, identifies? See what is available. Can partner organizations run shops or making goods to sell? Seniors to run or maybe teens with need for community service needs? Need to consider and bring up at charrette. Craft programs around the holidays. At the Brandywine, the craft materials from all over the world as long as not dyed, or altered. Two areas to consider: Education materials vs. fund-raising. Education materials for sale just to cover costs. Someone else could possibly run the bookstore or gift store. They could pay rental fee and agree to be open a certain amount of hours? Book mobile?
26. Family programs
27. Teacher Education at ONC
28. Catch critters and release
29. Outdoor education camps. Overnight camps?
30. Involve teachers
31. Integrate the natural experience of Okehocking into other parts of peoples' lives
32. Learn diversity of creatures that live in our area/yards – the Backyard Naturalists, can create own backyard experience by what you learn at Okehocking. Change how people view their backyards.
33. Set stage/create memories – for us to make those moments to create memories
34. Paradise Farm – low challenge course. Any interest in challenge courses? Vanguard School has a program. ACAC has a course.

INDEX CARD FEEDBACK June 10

Environmental Stewardship – Yellow Cards

- Ellen Simmons - LEED building. The most exciting aspect of the project for me. Could educate builders, developers, public to less wasteful practices. Could positively affect building codes. Composting toilets, grey water drainage, proper siting, underground building, etc.
- Caroline Claytor - I would love the design of the green building to have a Chester County look/feel. Thanks for a great afternoon.
- Unless native plants are resistant to deer, the deer will need to be controlled.
- Lynne Zane - Inventory current biographical environment.
 - Education is very important.
 - Program for schools
 - A trail system clearly marked would be a big help
- Sid Baglini – Wildlife rehabilitation. If can't have a rehab component at the nature center, have a list of contacts such as the Tri-state, Riverbend, etc. and phone numbers
- Bill Gladden – serve as an example at Okehocking
 - Export concepts of stewardship to: homeowners, business (no need to plant and cut cool season grasses at corporate sites. Get them to use more warm season grasses and native flowers.
- Must also include role of overabundant deer on invasive plants.

- Integrated learning systems developed from the beginning. Innovative approach. Tyler Arboretum.
- What about a classroom setting that is open aired? I.e., Caribbean schools for kids to sit on the floor or benches for demonstrations, lectures, workshops
- Considerations for interests: Chickens/eggs, peacocks, bees/honey, tree studies, garden walks, mineral station
- Love the Green Technology
- Workshop for garden clubs
- Working with garden clubs to engage in planting and maintaining spaces.
- Art classes concerning nature.
- Summer camps
- Vegetable gardens

Green Technology – Green Cards

- Resource center to educate people in eradication invasives
- Improve region to mandate/implement good stewardship practice for greater impact – have resource network
- Springboard for non-partisan practical action for stewardship practices on township county, state, fed level.
- Define naming opportunities for the building for funding resources
- Marc Gold - Site location – review trust/maybe with the environmental focus of the project a more suitable site can be selected. Better suited for full environmental benefit.
- Could the terms of the trust be negotiable. Size, footprint location for the right environmental reasons.
- Demonstration for professionals and community members. Ongoing annual workshops on new technology in green industry for corporations and homeowners.
- Lynne Zane - Green building, what can we learn from the Heinz Building
- Bill Gladden – Once building is done in serving as an example what type of proactive role and promoting use of green technology does the nature center envision. What geographic area targeted. Retrofits are encouraged as well as new. Advocate changes to state building code if needed. Advocate for changes to local codes as/if needed.
- Interest in incorporating techniques of decreasing bird strikes on windows and teaching landowners how to avoid them on their properties.
- Darcy Chang – when I think about Willistown, I think of historic Sugartown. I hope the architecture reflects the traditional homes of the surrounding area.

Community – Pink Cards

- Astronomy, birding, education on stress reducing practices such as tai chi, yoga, walking
- Generate a relationship with Audubon (organized bird/tree/native walks)
- Take care not to create “over use”. One of the attractiveness of Okehocking is that its quiet.
- Passive and active areas well thought through (wild areas preserved, not overused)
- Use space in an environmentally sound manner. Demonstration areas and ongoing workshops
- Provide healthy snacks in future vending at site.

- Lynne Zane, Willistown Knoll – Township celebration day year 301, 302, etc.
- Bill Gladden – Create synergy among other Okehocking Nature Center concepts:
 - Promote green technology (see green card for comments)
 - Land stewardship
 - Sara Stein’s book spoke to issue well
 - Garden of native species and native used medicinal plants on site as demonstration
 - Continue powwows
- Handicap accessible
- The Open Connections Homeschool center was mentioned in terms of the preserve providing programs in conjunction with ONC. Open Connections is a wonderful place but it has a **large** tuition cost. I would like to see homeschoolers who form groups other than from Open Connections be able to use and learn from the preserve regularly.
- 4-H new agriculture program demonstration projects
- Camping and (limited?) campfires
- YMCA – brings experience from nature programs
- School courses for credit
- Companies are beginning to have goals in environmental literacy but lacks capacity and access to places to provide learning
- Perhaps team with local companies to collaborate in building environmental literacy in employees who are also members of community.

Education – Blue Cards

- Simplicity, less is more, don’t fight nature, and work with her
- Walking/demonstrations of “green buildings”. Nature materials.
- Partnership with local material product companies to provide materials for free
- How to structure a community nature center. Treading lightly on the land. Teach families what that is. Learn at Ashland Nature Center. Call Helen Fitchell and Mike Ricka.
- Need family based programs to sustain and nurture our interest in nature.
- Have high schoolers ??? nature at the preserve. Thoreau (English literature?)
- Start young so family/kids can see changes
- Also great place for cause/effect testing and research
- Lynne Zane - Earth Day celebration – Encourage families and communities (developments) to plant trees and track progress.
- Darci Chang - One member in my group mentioned guest speakers in a diverse range of topics from astronomy, gardening, meditation, etc.

Other – Violet Cards

- Demonstrate stewardship actions at the center which can be also done in each persons’ backyards
- Measure success of each take home and implement best practices
- Darci Chang - How do you decide what organizations that want to partner with the ONC get selected? dlhswc@hotmail.com
- Ensure lot of family accessibility. Nights, weekends, school breaks and holidays
- Let the center have its own website

- Bill Gladden – Don't let four pillars evolve into a disconnected square. Keep it circular and synergistic.
- Ashland Nature Center parallels this project.

Okehocking Nature Center
Summary of Public Comments
From the Record of Public Meeting, June 28, 2007

The following are pro/against/ neutral comments pulled from the original transcript of the Okehocking Nature Center Public Meeting held Thursday, June 28, 2007 at the General Wayne School, Malvern, PA. The name of the commenter is included with a summary of their position.

Pro Okehocking Nature Comments

- Terry Harvey – Dog walker and wants to see the preserve kept dog accessible with lease restrictions where necessary.
- Nancy Wendell – Would like to see tribute paid to the Native American history of the property
- Vicki Sharpless – Have a garden that may show how the Native Americans used the land. Have a place for the boy scouts and serving their needs and having the boy scouts serve the community. Place for them to actually earn merit badges.
- Glenn Nelson – think whole community rather than advocating personal positions.
- Brian Quinlan – Must have an educational place for children
- Vicki Sharpless – be more community minded
- Trevor Conlow – uses Okehocking for birding. Concerned that the rules are not being followed by having dogs off leash in wrong areas and is worried about those that do not clean up after their dogs (found a bag of dog waste tied to a fence)
- Ruth MacCarthy – Great project and wants to help.

Neutral Comments

- Rachel Horst – Only interest was in the products sold in the building. Concerned about what types of items
- Thelma Douglas – Wanted clarity on the barn buildings
- Quinton Todd – Factor in other buildings in the area and the function of the center being offered to the community

Against Comments

- Pete Lee – Leave Okehocking the way it is, open space. Dog walking.
- Gene Mako – Use Garrett Mill Park to build on instead of Okehocking with access to Okehocking from across the street
- Jim Shell – Concerned that activities of the nature center will interfere with the dog walking
- Wendy Neiminger – Concerned about losing the view from her development and traffic problems the center may cause
- Jennifer Strouss – Prefers open space
- Joyce Pettitt – Fears that the open space will be taken and need to give the idea some more thought.
- Pete Lee – No building reiterated.
- Annette Tobey – No building
- Dan LeFeuer – Comments were sort of pro. Can't overuse the land. Concerned about Indians and open space but had a lot of suggestions about the building.

ix June 10 and 28 OKEHOCKING NATURE CENTER PROJECT

| Categories | Number of Responses from 6/10 | Number of Responses from 6/28 | |
|--|--------------------------------------|--------------------------------------|--|
| Green Building Technology/Energy Conservation | 30 | 16 | |
| Land Conservatin/Preserving Open Space | 37 | 30 | |
| Backyard Habitat | 30 | 18 | |
| Okehocking as an Example of Stewardship | 28 | 14 | |
| Gardening/Native Plants | 28 | 21 | |
| Environmental Stewardship Education | 29 | 13 | |
| Environmental/Nature Education | 32 | 18 | |
| | | | |
| Community Nature Activities | 23 | 19 | |
| Center of Community around Nature | 21 | 10 | |
| Have such as Destination for my Family | 12 | 12 | |
| | | | |
| Historical Heritage | 21 | 12 | |
| | | | |
| Outdoor Recreation | 22 | 22 | |
| Birding | 27 | 17 | |
| Dog Walking | 15 | 20 | |
| | | | |
| | | | |
| Volunteer Section | | | Who |
| Helping this Nature Center Become Real | 17 | 11 | Caroline Claytor, Bernard Cooker, Jim Fava, Bill Gladden, Marc Gold, Sharlene Goldfischer, Warren Graham, Erin Herz, Trevor Jenkins, Cindi Myers, Jean Preston, Samantha Reiner, Karen Schneck, Ellen Simmons, Michael Stolper, Carol Tate, Mr. And Mrs. Thompson Maher, Carol Palmaccio, Doug Wendell, Jeff McQuiston, Charlotte Jones, Vicki Sharpless, Diane Horst, Doug Tietbohl, Pat Davidson |
| Volunteering for the Project | 15 | 19 | Sid Baglini, Bernard Cooker, Jim Fava, Marc Gold, Sharlene Goldfischer, Warren Graham, Darci Chang, Erin Herz, Cindi Myers, Kristen Powell, Garth Rice, Kathleen Rice, Loretta Simon, Mike Simon, Mr. And Mrs. Thompson Maher, Terry Harvey, Jeff McQuiston, Steven Voeglie, Charlotte Jones, Doug Tietbohl, Pat Reeser |
| Being a Community Liaison for the Project | 13 | 4 | Sid Baglini, Jane Fava, Jim Fava, Marc Gold, Sharlene Goldfischer, Warren Graham, Erin Herz, Jason Ingle, Trevor Jenkins, Cindi Myers, Ellen Simmons, Vicki Stone, Lynne Zane, Doug Tietbohl, Kathy Carver, Gene Makar, Ruth MacCarthy |
| | | | |
| Other/Comments | | | |
| Involvement of the home schooling community with this project, with the Preserve and with the nature center after its completion | | | |
| Native American history and heritage | | | |
| Environmental education background. Landscape design business specializing in ecological landscapes | | | |

OKEHOCKING PRESERVE NATURE CENTER WILLISTOWN TOWNSHIP

Vision and Planning Workshop December 11, 2006

Record of discussion

Convened at Willistown Township Administration Building, Malvern, PA

Goal of the workshop

Willistown Township is preparing plans to build an Environmental/Nature Center at the Okehocking Preserve. This workshop provided an opportunity for potential partnering organizations to help develop this vision statement and preliminary program description.

Participants

Sandy Claus, Great Valley School District, Community Programs.
Warren Graham, Open Connections, property manager and steward.
Sally Leathersich, Upper Main Line YMCA Assoc. Director Environmental Education and Arts.
Mary H. McLoughlin, Director of Parks and Preserves, Willistown Township.
Richard Menn (Dick); Chester County Master Gardeners.
Cindy Pizziketti, Open Connections program coordinator.
Brian Raicich, Upper Main Line YMCA Director Env. Education Program and Camps, and Chair,
Willistown Township Environmental Advisory Council.
Lisa Rubin, Willistown Conservation Trust, Associate Stewardship Manager.
Derek Stedman, Habitat Resource Network of SE PA.

Consultants

Don Watson, FAIA, CIP, EarthRise *interpretive design*, facilitator.
Muscoe Martin, AIA, LEED AP, M2 architecture.

Unable to Attend

Susan Cooker, National Wildlife Federation certified habitat steward.
Bob Lindsley, potential ONC volunteer, Willistown resident.
Jim Rapp, Malvern Troop 7 Boy Scouts of America

Luncheon guests

Norman MacQueen, Willistown Township Supervisor.
Joe Tankle, CEO, Upper Main Line YMCA.
Bonnie Van Alen, Willistown Conservation Trust Executive Director and President.

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| 4 Breakout Group 2 Site and facilities | 6 |
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| APPENDIX B - Photos of reference examples | 16 |

1 DRAFT Program Statement prepared by Mary H. McLoughlin

1. Vision Statement:

- The future of conservation, environmental stewardship and environmental recreation depends on those who provide a place for people in nature, about nature. This place will create a sense of community and benefit the individuals of that community by greatly enhancing their spiritual, emotional and physical well being through their interactions and connections with nature and each other. People, through their experiences, will carry a love of nature and an understanding of its care to their own properties, resulting in wide-reaching natural resource improvement.

2. Mission:

- Enhance people's relationships with nature, sense of community and knowledge of natural resource management and stewardship, thus improving their life experiences and creating life-long advocates and practitioners.

2. Purposes:

- Ignite public interest in the environment by encouraging positive relationships between people and nature through recreation, environmental education and stewardship.
Encourage community "ownership" of Okehocking Preserve, establishing a strong volunteer base and programs that will ensure the Preserve's long-term ecologic, educational, and recreational successes and its public benefits.
- Provide a balanced mix of environmental education and recreation at Okehocking to assure an overall improvement in the Preserve's ecological health while enriching the lives of its visitors. (Provide programs designed not so much to attract the greatest number of participants as to assure that such educational and recreational experiences do not expose the property to overuse.)
- Create and promote a community where shared interests, concerns, and activities are cultivated and sustained by the energy and commitment of its members.
- Promote and implement conservation and natural resource management now to insure their future.
- Provide a model for private and public land management, environmental education and recreation, and conservation.
- Promote the use of green technology.
- Provide an indoor educational/meeting/gathering space and an outdoor classroom-the Preserve itself-to community organizations.
- Hold special Township events.
- Provide office space for the Township Department of Parks and Preserves, partner programming staff, volunteer staff, etc., to implement the center's programs and the Okehocking management plan.

3. Action Plan: Township to partner with community organizations in achieving this mission.

- Township to raise funds (with assistance from partners where possible) to construct a green building and establish an endowment to maintain the building. Partners will run the bulk of the programming out of the Township-owned building. The partners will pay the township a fair and reasonable user fee. The township will need to create policy on events that are held at no charge to the public.
- Main education/programming partner: Upper Main Line YMCA (Environmental Education, Youth Earth Service Corps and Summer Camp programs)

2 Roundtable discussion: common needs and opportunities

Attendees submitted written statements to describe common opportunities through which the Okehocking Nature Center could support their organizational missions and programs. See APPENDIX A for full program statements.

| PARTNERING ORGANIZATION | Common needs & opportunities |
|--|---|
| Lisa Rubin, <i>Willistown Conservation Trust.</i> | Spaces for lectures and similar programs. |
| Sally Leathersich and Brian Raicich, <i>Upper Main Line YMCA.</i> | Capacity to accommodate current programs and to expand programs to service the current and future community. Spaces for pre-school to adult programs. Currently, most active with elementary school, summer camp, YMCA Earth Service Corps. |
| Sandy Claus, <i>Great Valley School District.</i> | Outdoor classroom, connected with interior classrooms. Interest in Native American heritage, among other nature topics. Fulfilling the Academic Standards for Environment and Ecology as required by the PA Dept of Education as dictated by the existing curriculum. |
| Derek Stedman, <i>Habitat Resource Network of SE PA.</i> | Network of services, volunteer connections to projects. Backyard NWF stewards, native gardens, Chapter of Wild Ones, Schoolyard habitats (e.g., Phoenixville Schoolyard meadow). |
| Dick Menn, <i>Chester County Master Gardeners.</i> | Demonstration gardens, volunteer on field projects ,display space for publications, “booth time” to respond to visitors questions about gardening and home landscape management. |
| Mary H. McLoughlin, <i>Parks and Preserves, Willistown Township.</i> | Partnerships and volunteerism for education and stewardship projects Model of stewardship based onsiteing, landscape and buildings. Model of environmental recreation, Open space and resource management. Environmental-based recreation + community + outreach. |
| Cindy Pizziketti and Warren Graham, <i>Open Connections.</i> | Services for home schoolers. Mentoring and inquiry-based programs. Because of site location, many commuters drive by: opportunity to “capture” public interest and use. Consider “Covered Bridge” for pedestrian crossing of river. Importance of history of the site. Native American artifacts: old mine (quartzite). |
| Muscoe Martin, AIA, LEED AP, M2 architecture. | Educating the educators and public through lessons of landscape and building design/construction. |

Summary of discussion: December 11 Vision Workshop

|

3 Breakout Group 1 discussion facilitated by Don Watson, interpretive planner.

How can interpretive and educational programs help fulfill the vision and mission of the Preserve and Nature Center?

Interpretive plans to improve trail use and lessons can begin immediately and help build community use and support while fundraising efforts proceed for the full site and facility development.

3.1 Interpretive design for visitors to the site.

Site interpretation (communicating the lessons of the site) should be planned along with landscape and facilities. Interpretive design extends to everything that is seen, heard and experienced, from web site, entry to the parking and site, kiosk, trails, landscape, buildings, exhibits, trail maps and other brochures.

Orientation and way finding

Site orientation and wayfinding should be at point of entry. A contour model placed horizontally with real orientation helps visitors understand the entire site, its features and trail options. Example: **Zion National Park**. (Photos attached as **APPENDIX B**).

Trails

The existing five miles of trails provide opportunities for hiking, dog walking, bird watching, nature study, shared and individual trail walks, interpretive guides to explain natural and cultural features. These should be developed for different users.

Interpretation and wayfinding along the trails will increase the quality of experience for hikers and their appreciation and support of the work of the Center. The trailhead and trail guide can be a high quality art illustration of the “web of life” represented by the wildlife habitats and species present on the Preserve.

Examples: **Sheldrake Environmental Center** and **Albany Pine Bush Trailheads**.

If signage is used, consider Interpretive signage with hands-on features for greater recall and impact. Example: **Golden Gate State Park, Colorado**

3.2 Site features to attract different groups and uses

Outreach and site features should serve the entire community.

- Design for health and exercise. Example: **Parcours Trail, West Palm Beach, FL**. There are many additional examples on the web. See, <http://www.hamiltoncountyparks.org/edu/UGO.htm>
- Design for handicap accessibility, sensory gardens and trail. Example: **Rio Grand Nature Center**.
- Community garden for children, parents (places to spend sunny hours). Example: **Dow Garden Children’s Exploration Garden**.

3.3 Telling the story of the natural and cultural history of the site

There are opportunities for interpretation and educational activities (present through exhibits, interpretive guides and numbered interpretive highlights):

- Geologic succession (post glacial) formation of the landscape.

- Early Native American site. (a quarry is located on the site and “Turtle Rock” is at a nearby location.
- Colonial history of site use by Quakers (tanning mill was on site)
- Indian Reservation.
- Recent uses as farm. Historic barn on site a great interpretive opportunity.
- Now natural area preserved as open space. Significant management activities include restoration of riparian buffers, removal of invasives, parts of site used as sewerage treatment fields – recycling and water conservation.

3.4 Environmental assets of the site

The variety of natural communities on the site provides opportunity for direct experience with lessons of nature. Trail guides and educational curricula, as well as student research, can convey the lessons of:

- Native grassland
- Wetlands, including vernal pools, Importance of regional watershed planning.
- Riparian buffers and importance of water edge trees, bushes and planting as wildlife corridor (extends adjacent State Park).
- Removal of the dam and restoration of natural stream and river flow and natural stream dynamics.
- Importance of habitat for birds, pollinators, diffusion of native plants.
- Role of forest / field edges and streamside borders for biological diversity.
- Importance of unfragmented landscape.
- Also, trail and interpretive design should highlight the beautiful views, places and sequences, to heighten appreciation of nature.
- Woodlands

Show people why open space is so critical to the health of our community: As part of public education, establish visible measures of environmental health of the open space/natural areas, including:

- Testing water quality, temperature. Document aquifer and streambed flows.
- Demonstrate relation of soil and plant quality.
- Celebrate bird, animal and insect diversity, through imaginative interpretation. (Bird census and animal census)

3.5 “Best practice” landscape features

Landscape features can demonstrate environmentally responsible design and management, including “take home lessons:” Backyard Habitat applications, etc.

- Porous pavement and "bioswales" for stormwater retention and nature cleansing.
- Rain gardens (water retention and planting)
- Demonstration garden and or native planting cold frames and animal enclosures.
- Composting and Organic gardens (volunteer and club activities). CSA gardens.
- Demonstration and research areas for removal of invasives.
- Deer enclosure.
- Winter habitat for birds. Bird feeding and quiet observation.
- Butterfly gardens. Hummingbird gardens.
- Sensory garden.

Other features of the site to be considered:

- Raptor Recovery activity on site would attract visitors interested in both recreation and education.
- Archeological dig areas also attractive as draw of family activities.
- Area of site used for Native American pow-wow, other events.
- Summer camp provides high quality and intensive recreational and educational programs in nature. Needed shelter(s) and camp fire.
- * Camp fire area with nearby shelter can be an outstanding feature of the site. Example: Islandwood, Bainbridge Island, Seattle, WA.

Additional recommendations to increase interpretive and educational opportunities of the Preserve are discussed in [Section 5](#).

4 Breakout Group 2 discussion facilitated by Muscoe Martin, Architect

How can the design of landscape and building help fulfill the vision and mission of the Preserve and Nature Center?

The design and construction of “best practice” landscape and building features can communicate and demonstrate environmental lessons and values.

4.1 General design criteria:

The Center will be designed as an environmentally friendly facility. It will integrate green design and technology, including ecological site treatment, energy efficiency, resource conservation, recycled materials and a healthy indoor environment. U.S. Green Building Council LEED™ certification will be considered, subject to allocation of budget.

Use of green building strategies such as:

- Recycled materials
- Geothermal/energy efficiency

Should blend into site.

Architectural style and appearance - should it mimic character of local buildings or be more contemporary (if older style prohibits use of green)? Discussion. What was discussion?

Bird protection (windows designed to reduce bird strikes). See www.birdsandbuildings.org for information about protection of bird habitat and reduction of bird strikes against window areas.

Provide views to site.

- Provide observation area from inside building.

Outdoor deck- amphitheatre (see an example at Springtown Manor Farm Chesco Park) should provide some sun protection for visitors.

“Bankbarn” style with two levels could be used given the north sloping site.

- Separate classrooms and public/community room on different levels.
- Astronomy and stargazing should be accommodated.

4.2 Practical Issues:

Provide bus drop-off and turn around

- Schools will send 50-100 students at a time (1-2 bus loads arriving and departing at same time, e.g. four busses, with separate arrival and departure circulation.)

Provide Multipurpose meeting room (similar to Cusano)

- Dividable
- Accommodate 75-90 people auditorium/lecture
- Accommodate two classrooms (25 students each class)
- Teaching/lab w/easy access to outdoors via a “mud room”

Bathrooms- accessible from outside

- Water for people & dogs

Storage - chairs/tables with quick set and demount convenience.

- Cubbies
- Educational stuff
- General
- Maintenance/ gardening (eventually the pole barn will come down...need maintenance structure for tractor etc.?)

Office spaces

- Provide a shared office for use by partners for prep before class with lockable storage for each partner.
- One permanent closed office for Mary (private, but with supervisory visual control)
- Shared area for volunteers to serve as a workspace, meeting room, etc.
- Exhibits – in separate area or around perimeter of M/P room?
 - o Brochure racks
 - o Kiosks
 - o Historical/archaeological exhibit (“trash through the ages”)
 - o Geological exhibit – cut into ground to reveal layers
 - o Watershed exhibit, “you are here”

Welcome Desk – self-service mainly, but occasionally staffed, including volunteer, placed for visibility to and from parking entry and to and from trails

First Aid Center (accessible when building is closed)

Shelter available when building is closed (could be at the out door gathering place/ampitheater/fire pit)

Library for books, web-based resources (could be in farmhouse)

Gift Shop and learning/interpretive resources– seasonal items (could be in farmhouse)

Existing Farmhouse – what could be housed there?

- o Tenant who would be on site as caretaker, answer alarms, etc. would be good. Could be a local police or fireman.
- o Offices could also be provided in farmhouse, perhaps shared with residential tenant

Raptor Center

YMCA is willing to run a raptor center at the Preserve. Would be mostly outside in caged area, adjacent to building. Nearby facilities are at Great Valley Nature Center and Schuylkill Center for Environmental Education.

4.3 Miscellaneous Issues

Summer programs

YMCA does overnight camping at Preserve.

Checkout the competition in the area for visitors, programs, etc., e.g., Tyler, etc.

5 Additional notes provided after the Workshop Donald Watson, FAIA, CIP

This section reviews opportunities to improve the visitor experiences of the Preserve and Nature Center site. The goal is to provide activities for all people in the community whose support and volunteerism is essential to fulfill the Center's mission and long-term sustainability.

5.1 Visitor needs and program opportunities

Site/facilities design and interpretive planning has definable outcomes that include:

- *Increase the number of visitors who enjoy the site.*
- *Turn visitors into active members and volunteers.*
- *Increase program participation and financial support.*
- *Increase informed public support.*
- *Contribute a significant natural and cultural resource to the community and beyond.*

Typically, the present or potential visitor to a community-based preserve and nature center may include:

- *Occasional visitors, alone or in small groups*, interested in outdoor recreation. Such visitors may become volunteers and financial supporters.
- *Group trips organized by schools and clubs*, interested in “fun” experiences, outdoor recreation and education. School visits normally generate only very modest revenues (and in some cases can be a drain on expenditures), but they are a very effective means for public education and for broad community interest and support.
- *Fee-based or free-of-charge program participants* for occasional or regular events, such as nature walks and outdoor recreation (photography, bird watching, painting, etc.). Such programs are a source of modest to substantial income, but depend upon staff management and/or volunteer involvement to assure high quality.
- *Volunteers* and potential volunteers are thus an important segment of the visitor population and deserve special mention in a visitor profile, e.g., a goal of interpretive planning may be to encourage visitors to become volunteers.

5.2 Promoting educational experiences with a natural area and preserve.

The Table below lists ways to provide environmental education in different formats. Many do not require indoor facilities and are thus of interest to extend use of available resources. Many can be supported by educators, home schooling families and volunteers.

Type 1, *on-site research assignments*, requires little or no facilities.

Types 2 and 3, *Discovery Trails* and *Indoor discovery exhibits* (self-guided) are effective uses of limited resources, requiring the least infrastructure of facilities and staff.

Type 4, *school visits*, requires dedicated facilities and staff and are not normally supported by program fees. School visits face declining school revenues and school bus program cutbacks, and thus rely on subsidies, grants and/or endowment funding.

Type 5, *In-school presentations*, is cost effective, since it utilizes off-site facilities.

Type 6, *contract educational modules*, represents a trend for some nature centers and museums as a response to declining school field trips.

Type 7 is unusual, being represented by only a few examples in the United States.

Ways that nature preserves and centers deliver interpretive / educational programs

| * | Delivery Method | Description | Advantages | Disadvantages | Staffing |
|---|---------------------------------------|---|--|---|--|
| 1 | On-site research assignments | Students are given study assignments and/or design them with a teacher. | Outdoor research is carried out by students for most grade levels | Research assignments must be carefully coordinated. | Preparation Advising |
| 2 | On-site discovery trails | Trail with numbers w/ guidebook w/ clues, questions, study assignments | Guidebooks create connection, universal design | Guidebooks must be carefully prepared | Little or no staff required. |
| 3 | Indoor exhibit/discovery tables | Visitors use self-guided exhibits and artifacts for exploration. | Provides indoor introduction to outdoor learning | Limited by exhibit space and learning stations | Some staff guidance is helpful (mentoring) |
| 4 | School class visits on-site | Organized school bus tours (approx. 1-2 hours) | Large numbers of students experience site and staff | Limited by staffing – Highly constrained by time limits | Usually 1 staff per 15 students |
| 5 | In-school presentations | Staff visit schools for outreach programs | Most convenient for schools. Does not require on-site facilities. | Students do not gain direct experience of site. | Outreach staff required |
| 6 | Contract educational modules | Center offers courses, facilities and programs to meet State educational criteria | Provides unique service with reliable base of clients and revenues. | Costly to develop and operate beyond scope of average Center. | 1/15 ratio plus management |
| 7 | All-school curriculum theme and focus | School adopts Center’s site as locus for place-based education | Provides focus and involvement of entire school | Challenging and requiring many years to develop | Staff serve as teachers of the host school |
| 8 | On site YMCA programming | Fulfilling PA State Required Ecological Curriculum for state testing | <i>Sandy and Brian to complete this section with proper language</i> | | |

5.3 Site and facility features for visitor orientation

Features below assist way finding and orientation. They help make the site safer and more comfortable for visitors. The entire sequence of entry is designed from the visitor’s point of view, to be clear, comfortable and engaging.

- **Entry sign at road.** To be easily identified graphically and seen as one drives from both directions. It should have title of the site only. It should be clearly lit for night travelers. Information that may change, e.g., seasonal hours and activities, are best presented on a separate sign or appendage.

- **Car and bus traffic to parking.** Safe traffic flow should be one-way flow into parking (w/ counter clockwise travel into and around parking.). Drop off has to be clearly defined. HC drop off must be maintained in all weather conditions (*what does this mean? Even when building is closed?*) and should be very easily accessed, short and near building cover. Provide distinctly separate areas for high peak arrival (assume two busses off loading) and for departure (assume two busses loading at the same time).
- **Paving and planting at parking.** Parking landscape can provide natural means of visual separation, shade and stormwater retention. Stormwater swales can be developed as a “bioswale” design with bushes, grasses and rocks like a riverbed. This becomes a demonstration of how to handle storm water runoff for all parking areas.
- **Site orientation.** Views between parking to Nature Center entry should be clearly visible from outside and inside the building reception desk. Trail map and whole site information should be provided in one central place, outside, available to visitors without entering the building (but visible from reception desk). This area might be covered (like a porch) and should ideally serve as “gateway” to the trails.
- **Welcome seating circle.** A welcome (seating) circle is helpful, close to the building entry. It provides opportunity for teachers to gather classes and provide orientation. If set apart somewhat, it can also serve as an outdoor class area. If covered, it provides shade and foul weather protection. An immediately accessible courtyard or outdoor patio / garden can accommodate uses of interior areas. Depending on season, various south-facing (sunny) and east or north orientations (shaded/cool) offer “bioclimatic” opportunities.
- **Visual access to reception.** Create direct view and access to welcome / reception. A place for a receptionist should be provided immediately adjacent (for volunteer and/or staff) with sight lines to and from parking and to and from trails. If the Center provides opportunity for changing exhibits, the reception area needs to be located so that a volunteer monitor can supervise the exhibit area as well.
- **Trail wayfinding.** Trail use can be greatly assisted by clear way finding. Various approaches are outlined below.

5.4 Trails and signage

Trails are the hallways of nature’s classroom. The visitor’s experience begins upon arrival. The view of entry and parking provides the first impression. From that point on, the visitor is presented with a series of choices in the approach and entry into a center building or directly to trails. Graphic signs and symbols help to provide consistency, redundancy and reassurance to overlay and support way finding

- **Trail signage**

Signage or marking for way finding is normally required for sites that invite public access. Some nature sites and trails are best designed and managed for minimal impact, “leaving no trace but shadows and footfalls.” To assess different approaches to trail design, consider the following objectives of trail marking.

- (1) *Safety*, to indicate where it is safe to walk, indicating marked trails have been inspected to remove obvious hazards, including falls, rock slides, overhanging limbs, management of poison ivy, etc. A geometric system is recommended for safety markers, ideally with universal graphic language.
- (2) *Way finding*, usually related to trail maps, and best introduced by an easily understood map at the entry trailhead. Ideally, trails and choices of paths and direction are identified in terms of length and time (average adult). It may help to mark distances on the trails. Where trails have multiple paths, the path intersections should indicate recommended directions and/or shortest distance to “entry/exit/parking.” (see *Wayfinding approaches* below).
- (3) *Interpretation*. Interpretive trails are normally marked with numbers that help identify things to see. Simplicity works in your favor...often the most effective guide is a simple one pager that explains highlights related to a numbered trail. A fancier "Walk Book" can be developed, but keep it simple...and/or invite interactive note taking and nature observation/journaling.
- (4) *Interpretive stations*. Consider seating and interpretive signage for significant features. Signage approaches to interpretation must be tested for comprehension, content and interest. Don't overdo these. Nature is best appreciated in silence and left as is. A good rule for interpretation is “Can you improve on silence?”
- (5) *Universal design*. Interpretive trails and interpretive stations that invite public use should be designed according to principles of universal design, accessible to all people of all ages and abilities. An accessible "sensory trail" near parking is ideal. It should be hard surfaced and include sounds and fragrances of nature for orientation using all senses. Rugged wheelchairs (wide base and fat tires) and assisted tours may provide this.

5.5 A simple way finding system for trails

- Trailhead shows map of trails and provides a take-along trail map.
- A letter (A, B, C, etc.) marks all branch intersections in the trails
- Reference to north arrow on the map and repeated on the intersection letter post may be helpful.
- Distances between lettered intersections are indicated on the map in mileage.
- If the trail is provided with an interpretive trail walk book, the interpretive stations are numbered.
- Outstanding interpretive settings are indicated on the trail map and by modest signs, especially if for trail spurs (overlooks, streamside repose, etc.).
- Signs that point the shortest way to the exit, the trailhead, or parking are helpful.
- Trail signage systems should be set up on a provisional basis and tested by a broadly representative group—including representative ages and abilities—and including “first time” visitors who are not familiar with the trails.

The following page summarizes selected highlights of interpretive features to create a comfortable, safe and engaging “gateway experience.”

insert “ Summary of Selected Highlights”

APPENDIX A – Program statements submitted by partnering organizations

YMCA Okehocking Nature Center Proposal DRAFT

YMCA mission: YMCA of the Upper Main Line

(Association that includes Eagleview YMCA, Lionville Community YMCA, and Upper Main Line YMCA)

Mission: Our mission is to enrich our community by building a healthy Spirit, Mind and Body for all.

Upper Main Line YMCA - Environmental Education Center

Mission: To provide educational opportunities for the appreciation, understanding, and enjoyment of the natural world and to encourage and practice environmental stewardship.

Target Audience: Pre school (4-6yrs, early elementary (6-9yrs) – programming
Youth Earth Service Corps – age?
Adults – moms, dads, aunts, uncles, grannies, gpas – those who
sign the kids up

Service Area: Radnor to just west of Malvern (east/west)
Great Valley High School/Devault to Edgmont (north/south)

Participant numbers: 10-20 per class, up to 25

Programs (existing which can utilize ONC) 8 week sessions with some one time activities

- Guided walks (day and night)
- School groups
- Scout groups
- Eco-birthday parties
- Summer camps – general nature camp, and specialized one time camps 1-2 times/year
- Workshops (bird box building, nature crafts, etc)

Facility

Summary: All separate areas: 1) Art/Exhibit, 2) Educational Exhibit, 3) Animal/Bird Exhibit, 4) Multipurpose room (including lab area that can be closed off)

- Front door must have awning/shelter (group entering building backs up at door)
- Welcome Center / Desk
- Office space and office storage space for instructors – Files, storage locker
- All purpose room with dividers, separate from display area
- Art work
 - Raptor models (Hawk Mt., carved animals – realistic, not as high maintenance as taxidermy, and kids don't ask why we killed the animals)
- Bathrooms (if green) should have informational signage explaining process
- Exhibits
 - Who is the audience (pre-school, school age, adults?) and base the exhibits around this audience
 - Animal exhibits separate from educational exhibits
 - Series of animal exhibits showcasing the distinct ecosystems found in the area/watershed. Design this area with animal exhibit maintenance in mind
 - Taxidermy exhibits (probably not taxidermy, but art)

- Farm meadow exhibit detailing old fields, etc
- Historical/Native American exhibit detailing the change in the environment
- Educational hands on exhibits (ex: Heinz wetland exhibits)
 - Vernal pool through the seasons – flip map display like Baltimore Aquarium
 - something watershed oriented distinct to Oke
 - Invasive plant exhibit
 - Wetland video – Bill Nigh the science guy at Cusano on screen; new DVD each month at Oke?
 - Computer station (Cornell Lab bird software or pick your own garden and see what wildlife it attracts – software design)
 - OKE provides habitat for these animals and how that ties into the big picture for region and beyond – show importance of Oke as fulfilling an environmental purpose, not just beautiful open space
 - Fish exhibit detailing the species using Ridley Creek and healthy stream indicators
 - Insects: Native vs. Non-native
 - Interactive table top exhibits for children – little kids touch and manipulate, go through tunnels like squirrels at Planes borough Preserve, NJ
 - Trash (Past-Farm dump and Present-your house; 100 yrs ago and today) incorporate recycling into exhibit
 - Pose problems ecosystems face in the area and potential solutions by the community – Community service aspect, “How you can help”
 - Site history exhibits
 - Seasonal display/information of what is seen in the Preserve (computer/binder/display) – what to look for; staff change out each season
- Wildlife observation logbook – for people to get psyched about what they saw by recording it, and for others to check and see what to go see today.
- White board detailing noteworthy sightings and upcoming events
- Library (either public or staff only) local libraries volunteers? Farm house?
- Gift shop (possibly in farm house so it doesn’t impose on Nature Center space) with proper storage area
- Indoor/outdoor observation area (weather dependant - glass windows facing out with scope from indoors, move outside onto deck), tied into amphitheatre on descending hillside –
- Light and open, windows with bird guards in place – glass being manufactured with dots in it that people don’t see but birds do?
- Outdoor hose hook-ups
- Migratory Sound Station
- Weather station
- Lab room/animal care room
- Storage closet – large enough to house class materials and also tables and chairs
- Mini kitchen for use by staff and possible overnight camping programs – farmhouse?
- Raptor Center – outdoor cages attached to building; YMCA maintain
 - Maintenance capture system for waste
 - Trash disposal system
 - Camera system in nest boxes when birds are hidden
 - Security system

Okehocking Nature Center Vision Statement Willistown Conservation Trust

Mission Statement

The mission of the Willistown Conservation Trust is to preserve the open land, rural character, scenic, historic and ecologically significant resources of the Willistown area and nearby communities, with particular emphasis on the Crum, Ridley and Darby Creek watersheds.

Our organization is interested in the prospect of a community nature center located at the Okehocking Preserve that will provide environmental education opportunities for our community. After all, we believe that knowledge is the first step in effective conservation. It is our hope that this proposal will provide valuable ideas towards creating something that brings our community together with nature for all ages.

How can ONC help us meet our organizational goals?

If we want to continue to conserve land in our program area, we need to enhance the public interest in conservation. One of the ways to achieve this is through increased educational opportunities for landowners so that they can become more involved in the protection of natural habitats. The following criteria would be useful to further our organization's goals:

- Provide a place where volunteers could meet and learn about monitoring bird populations along with local bird clubs or conservation organizations.
- Provide our supporters with education programs provided by other organizations, which specialize in various areas of expertise.
- Make various habitats surrounding the nature center visible to the public. For example, displays showing birds, butterflies, insects, and mammals that may be observed in the field and provide observation areas. This would be especially helpful to increase the public's awareness and appreciation of protected grassland habitats.
- As we are interested in hosting lectures a few times per year, provide a space that could accommodate up to 75 people.
- Generate a place where people can share ideas, collect and analyze new ideas, and formulate and test new conservation strategies.
- Provide a place in our community where children and families can experience the natural world more deeply and discover the joy of connectedness in the process.

Overall, conservation through science can provide insights into the "why" and "how" of numerous topics such as breeding bird habitat, deer management, and native species landscaping. We believe it is critical that we make the knowledge derived from the scientific community accessible and meaningful to the public. Therefore, the center should strive to integrate content, activities, and educational resources within a creative space, which stimulates learning.

Malvern Troop 7

BSA Mission Statement

The mission of the Boy Scouts of America is to prepare young people to make ethical and moral choices over their lifetimes by instilling in them the values of the Scout Oath and Law.

BSA Vision Statement

The Boy Scouts of America is the nation's foremost youth program of character development and values-based leadership training. Scouting will continue to

- Offer young people responsible fun and adventure;
- Instill in young people lifetime values and develop in them ethical character as expressed in the Scout Oath and Law;
- Train young people in citizenship, service, and leadership;
- Serve America's communities and families with its quality, values-based program.

Preserve as outdoor learning environment; one will offer meeting place from which to hold programs

Troop 7 as liaison to other troops for partnership on accomplishing 20 environmental merit badges

Preserve ideal location for the following merit badges; YMCA to offer some instruction to fulfill badges

| | | | | |
|------------------------------|---------------------|-----------------------|-----------------------------|--------------|
| Bird study | Backpacking | Environmental science | Geology | Forestry |
| fish and wildlife management | | hiking | Indian lore | Mammal study |
| orienteering | wilderness survival | | soil and water conservation | |
| Nature study | | | | |

Troop 7 to "adopt" Okehocking as project service location; eagle scout projects to continue, etc.

Facility:

Workshop for project work

Here are some definitions of the various roles that Master Gardeners can (and do) play that you may find helpful as we proceed with the planning for the Okehocking Center. Taken together, they will give you a pretty good idea of the overall mission of the Chester County Master Gardener Program:

The Penn State Cooperative Extension website says that the mission of the Master Gardener Program is to "provide timely research-based information for all Pennsylvania citizens on important current and emerging issues pertaining to horticulture and gardening."

The Penn State Master Gardener Policy Statement defines Master Gardeners as volunteers "who support Penn State Cooperative Extension's educational programs in consumer horticulture. They develop their horticultural expertise through participation in educational programs conducted by Penn State University faculty and cooperative extension staff. Faculty and extension staff also provide diagnostic support for horticultural issues and questions to those Master Gardener volunteers participating actively in the program. Extension publications, teaching materials, and/or other program support materials are provided as deemed appropriate by faculty and county extension staff responsible for leading and supervising the Master Gardener program. Information presented by Master Gardeners must be consistent with Penn State Cooperative Extension recommendations concerning various aspects of consumer horticulture."

The American Horticultural Society website describes the Master Gardener program as "a two-part educational effort, in which avid gardeners are provided many hours of intense home horticulture training, and in return they 'pay back' local university extension agents through volunteerism. Master Gardeners assist with garden lectures, exhibits, demonstrations, school and community gardening, phone diagnostic service, research, and many other projects."

... And then there's my own perspective: Because Master Gardeners in Chester County strive to make Pennsylvania State University's research in horticultural sciences as accessible as possible to the general public, we spend a good part of our volunteer efforts as circuit-riding reference librarians and gardening guides: Drawing on our access to hundreds of Cooperative Extension publications on topics ranging from pruning to pests, we respond to questions and distribute research-based information to home gardeners--either face-to-face at fairs, expositions, workshops, and in livingrooms throughout the county, or on the phone, through the Extension office "Hortline." In fact, when homeowners (as opposed to commercial growers) follow the frequent advice to "call your local extension agent" for answers to plant and pest problems, they will more often than not find a Master Gardener on the other end of the line. (Exceptions would be an occasional call on a "green industry" scale, such as a detailed question about how to thin a woodlot or control noxious weeds in a horse pasture. In Chester County, inquiries in that category would usually be referred to the Extension Agent and Director, Cheryl Fairbairn, or to the Horticulture Educator, Cheryl Bjornson.)

Demonstration gardens are another staple of Master Gardener programs throughout North America; and our Chester County contingent is always on the lookout for new opportunities to help any group, public or private, to establish sustainable or self-sustaining garden spaces that promise to yield educational, aesthetic, environmental--and, of course, therapeutic--benefits.

APPENDIX B - Photos of reference examples.



High Desert Museum - Bend, OR



Islandwood Environmental Education Center, Bainbridge Island, WA

**OUTDOOR PAVILIONS
CLASSROOMS**

quiet observation

porch / gathering

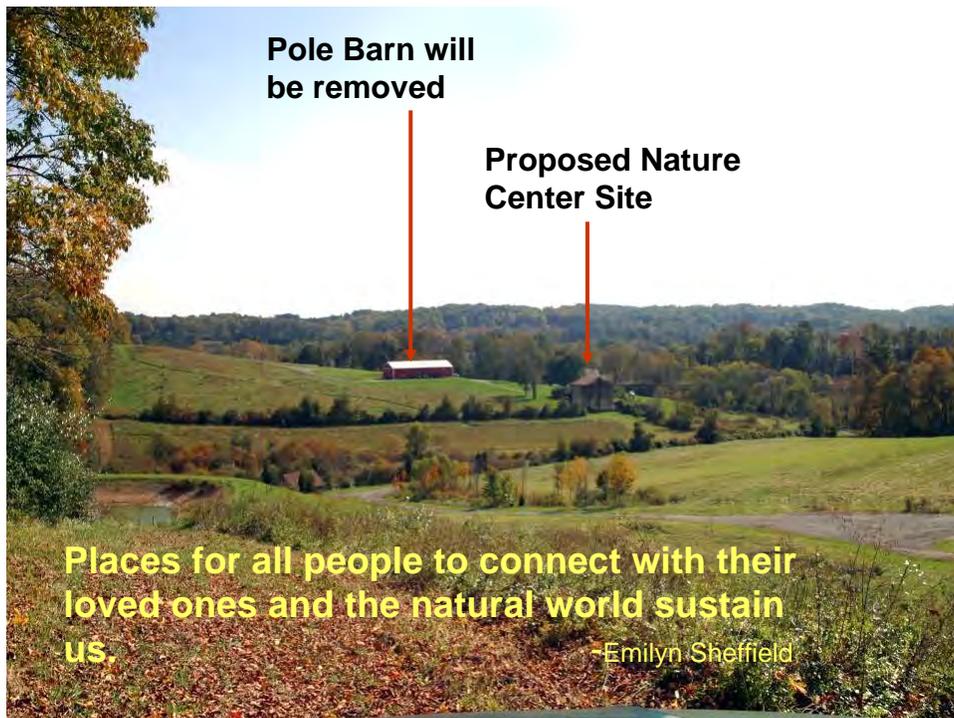
campfire pavilion

**Public Presentation
July 23, 2007**

**Willistown Okehocking Nature Center
Results of the July 22/23 Design Charrette**



View of the interior of Willistown Township's 170-acre Okehocking Preserve.



Pole Barn will be removed

Proposed Nature Center Site

Places for all people to connect with their loved ones and the natural world sustain us.

-Emilyn Sheffield





OKEHOCKING NATURE CENTER

WILLISTOWN TOWNSHIP

What is a CHARRETTE?



Show Up

Pay Attention

Speak the Truth

Let Go of the Outcome






Sunday: 27 people

Monday 24 people



OKEHOCKING NATURE CENTER

WILLISTOWN TOWNSHIP

DESIGN
TEAM

M2 Architecture
Viridian Landscape Studio
Bruce Brooks & Associates
Cahill Associates
Don Watson



OKEHOCKING NATURE CENTER

WILLISTOWN TOWNSHIP



Legend
Okehocking Preserve
Creeks and Tributaries
Willistown Conservation Trust Parcel
Willistown Conservation Trust Access Easement

Okehocking Preserve Management Plan
December 2005
perspective, LLC
WILLISTOWN CONSERVATION TRUST



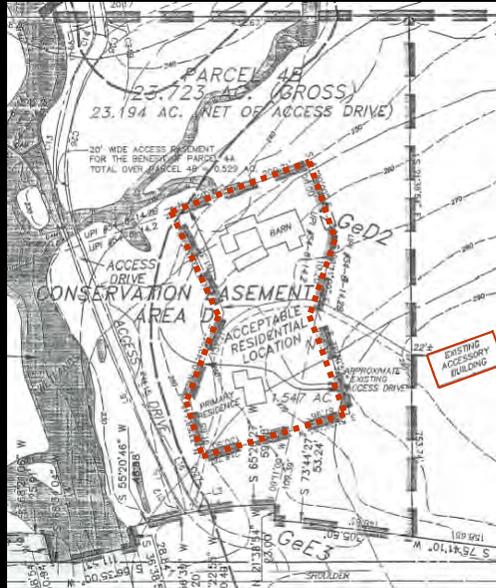
Okehocking Preserve
Aerial Photograph
Base Map
Figure 2



OKEHOCKING NATURE CENTER

WILLISTOWN TOWNSHIP

BUILDING LOCATION



OKEHOCKING NATURE CENTER

WILLISTOWN TOWNSHIP

DESIGN PRINCIPLES

- The Preserve should be the focus not the building.
- Minimize roads, conserve green space
- Limit footprints – step lightly!
- Approach and arrival should begin before you get out of your car.





OKEHOCKING NATURE CENTER

WILLISTOWN TOWNSHIP

DESIGN PRINCIPLES

- Green building and site design
- Compatibility with local design style.
- Minimize site lighting to preserve the "donut hole" of darkness
- Demonstration examples that visitors can take away for themselves. Use entire site as classroom.



What Is A Green Building?

Respects its Site
Energy Efficient
Water Conserving
Resource Efficient
Healthy Indoor Environment
Lasts a Long Time



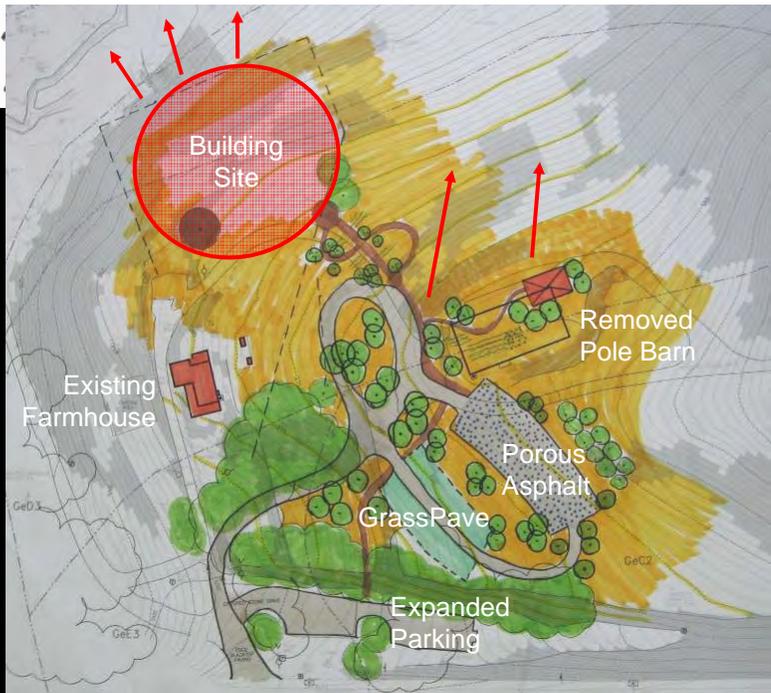
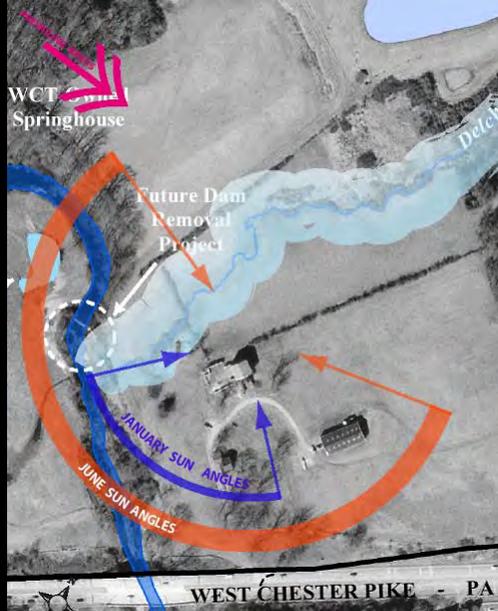
LEED
LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN



OKEHOCKING NATURE CENTER

WILLISTOWN TOWNSHIP

Environmental Forces

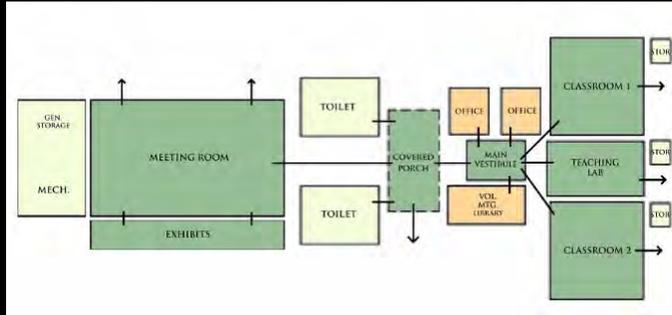




OKEHOCKING NATURE CENTER

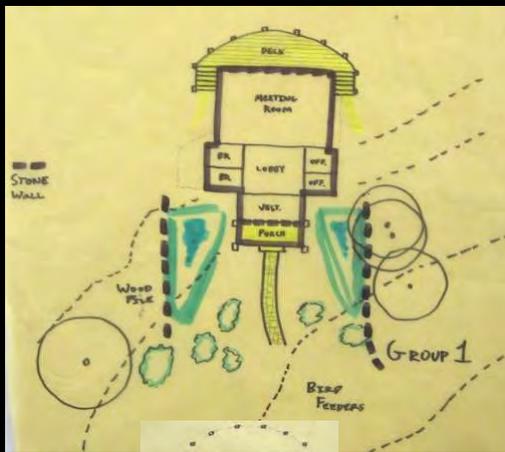
WILLISTOWN TOWNSHIP

BUILDING PROGRAM ELEMENTS



OKEHOCKING NATURE CENTER

WILLISTOWN TOWNSHIP

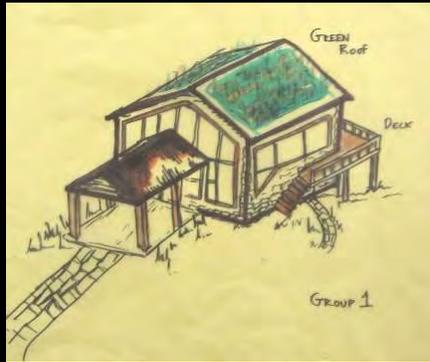


Scheme 1



OKEHOCKING NATURE CENTER

WILLISTOWN TOWNSHIP

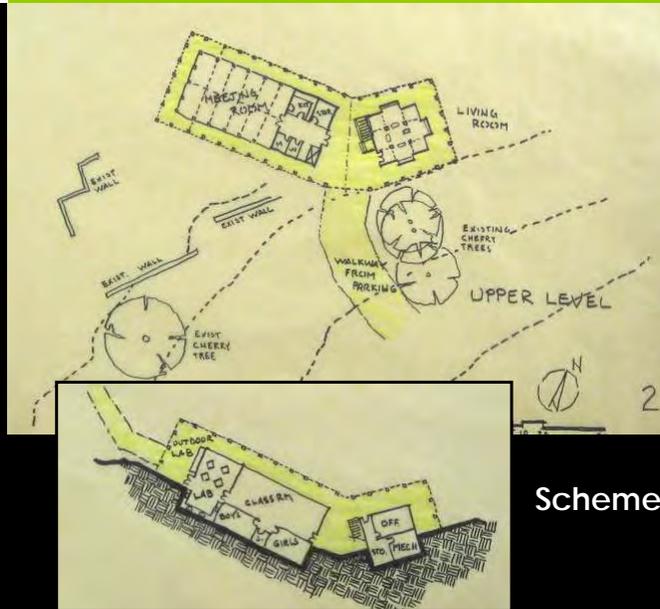


Scheme 1



OKEHOCKING NATURE CENTER

WILLISTOWN TOWNSHIP



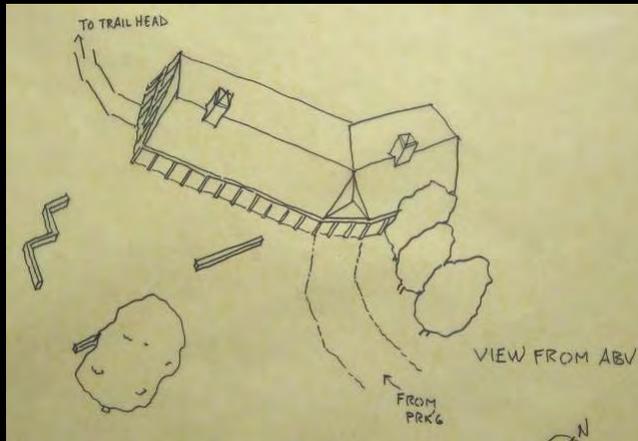
Scheme 2





OKEHOCKING NATURE CENTER

WILLISTOWN TOWNSHIP

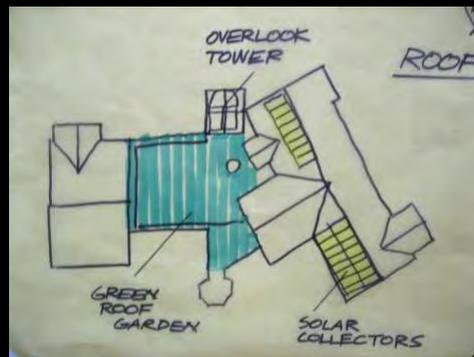


Scheme 2



OKEHOCKING NATURE CENTER

WILLISTOWN TOWNSHIP



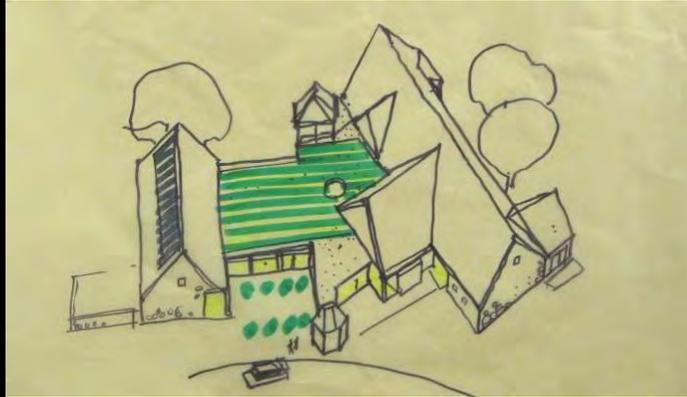
Scheme 3





OKEHOCKING NATURE CENTER

WILLISTOWN TOWNSHIP



Scheme 3



OKEHOCKING NATURE CENTER

WILLISTOWN TOWNSHIP

Sustainability Lessons

- Use of technology for conservation.
- Water message:
 - Rain maintains ground water recharge for creeks.
 - Storm water management at roadways and parking areas.
 - Infiltration
 - Porous paving
- Recycle building gray water from toilets. Composting toilets at remote locations.
- Collect building rain water with rain water barrels for irrigation of garden areas.
- Opportunities for hydropower as educational exhibit and potential power generation.
- Utilize southern light for green roof and photovoltaics opportunities.





Thank you for your time.

What do you think?





OKEHOCKING NATURE CENTER STEERING
TEAM

Sunday and Monday, July 22 and 23, 2007
688 Sugartown Road, Malvern, PA
Two-day design charrette



Sunday, July 22, 2007

- I. Participants for Sunday (see attendance sheet for non-consultant participants)
 - a. Dave Marks, Mechanical Engineer consulting on the project
 - b. Michele Adams, Civil Engineer
 - c. Don Watson, Co-moderator of the charrette and nature centers surveys and author
 - d. Steve Hazel, Consultant
 - e. Tavis Dockwiller, Consultant, landscape architect
 - f. Muscoe Martin, Consultant, lead architect
- II. Rules of a charrette:
 - a. Show up, pay attention
 - b. Speak the truth
 - c. Let go the outcome
 - d. Hope to have a lot of consensus on where the building is going and
- III. Review of agenda by Muscoe
 - a. Old barn, footprint was about 3000 square feet. Beyond the old footprint, the team should be thinking of the constraints of the area and the consultant team will make sure the break out teams are aware of the constraints.
 - b. Before the schematic design, like to start with the charrette to get the input and incorporate into the design. The design team will be spending the rest of the summer and into September to come up with the final design. The design team will keep the participants informed throughout the process so that changes/feedback can be incorporated.
 - c. Mare McLoughlin – Introduction to the project
 - i. Okehocking Preserve – still acquiring. Will be over 182 acres. Acquired through Chester County funds, Natural Lands Trust funds and Willistown Township Open Space Funds
 - ii. Now into the management phase of the property and there is a management plan in place for the property. Out of the process of writing the management plan, came the idea of a nature center. A vision workshop was held last December (2006) where environmental and educational partners participated to come up with the overall usage and purpose of a nature center and developed connections to come up programming ideas and partners for the property. Willistown has 25 years of conservation activity. Need to create the connections to nature for future sustainability.
 - iii. Have been undergoing public input process. Two public meetings, newsletter articles, public notices. The group was asked to keep in mind the public input summarized in the workbook and supplemental
 - iv. History overview – We would also like to celebrate the unique history of Okehocking – the Native American history. This is something else to keep in mind during the charrette working sessions.
- IV. Other things to keep in mind:

- a. Green technology and living labs – have ideas and examples of green technology that the community can come and see, learn and then take back and apply at home.
 - b. Env. Stewardship – another living lab example for people to learn about how they can apply good environmental processes and practices to their own homes.
 - c. Free play – keep in mind the children activities and not so structured play.
 - d. Community – Celebration of the history, partner organizations, strength and longevity via sharing, bringing the community to this place. Share the benefits of nature with our community.
 - e. The board of supervisors ultimately will have the decision to make the center go and approve the lease agreement. We have some research to do to answer some supervisor questions but will continue to answer questions for the supervisors as they come.
 - f. The concept will be that a non-profit will lease the land from the township and run the center. The non-profit will need to raise money for the endowment to maintain the facility and foundation grants will hopefully help fund the building(s). The non-profit group is being established at this time. Hope to start fund raising by this October. Need to have a memo of understanding in place with the township. More public meetings will be held as the project develops.
- V. Building program Elements (Muscoe)
- a. 3-4,000 square feet recommendation of Don Watson
 - b. Possible bank barn approach? May explore other options
 - c. Keep in mind 8,000 sq ft flat space where pole barn was (asked about putting building there, Mare explained why it could not be placed there and the state requirements and land trust easement)
 - d. Questions about orientation of building
 - e. Woodshop request – haven't had a chance to find out needs
 - f. Results of different sketch plans from previous meetings or input? Visioning session, sizing from input and from our professional recommendations.
 - g. Gift shop in space diagram not in visuals? Might be a few items sold at a reception desk, part of another space...but up for discussion if going to need own storage or space. Coat closet, cubbies not visible here.
 - h. Don – how long do you want this building to last? 100 year plus, loose fit (don't end up with a space that will only function in one-way...multiuse areas can evolve...more generic in the sense that they are adaptable. Covered bridge construction.
 - i. Kitchen caterer type or not?
 - j. CLIMATE CHANGE
 - i. Buildings worse contributors to green house gasses
 - ii. Root of the word ecology is "oikos" = house
 - iii. 3 components of sustainability
 - iv. Ecology
 - v. Cultural rules
 - vi. Jobs generated
 - k. LEED certification: Why not go for platinum? Going platinum is not being ruled out and it keeping the certification in mind will not change what we do today or tomorrow.
 - l. Question: will it help with fundraising? May be able to easily get to the Silver LEED level and that probably won't be more or less of a draw to be higher certified. Don – LEED did develop commercial requirements. LEED starts with the design and need to focus on lower energy usage activities on site. Also, having many of the

activities done outside would not add or detract from LEED certification but would benefit the center from overall energy usages.

- m. Mare – another important thing to keep in mind are the outdoor learning opportunities and classrooms. Are there possibilities for developing programs that lend themselves to being held outdoors?
 - n. BC – long-term plans for larger trees such as hemlocks and oak to change the energy usage far into the future. Please keep in mind for a design concept.
- VI. Overview of Cusano Environmental Education Center
- a. Very similar in structure with a non-profit raising the funds and goals. In this case, the non-profit raised the funds and then turned the running of the building/center over to the government.
 - b. 18,000 square feet – larger than what is proposed for our building. Classrooms, buildings and offices were incorporated.
 - c. Used geothermal wells but can cost quite a bit but can be planned more efficiently. Used natural light, did energy assessment to determine best layout.
 - d. Waster water treatment (“marsh machine”). Uses about \$300-400/year for energy and electricity! Now using solar panels.
 - e. Mare – did site visit to Cusano. Have lessons learned from.
 - i. Solar panels and radiant floor heat recommended.
 - ii. Items in the building is fading due to the large amount
 - iii. Sound absorbing materials – recommend using
 - iv. Side access for school kids – helps with noise
 - v. Classroom – watch design of the classroom to plan for desks or tables. Cusano planned for desks but then used tables and then the room was too small.
 - vi. Passive water filtration system – there is some maintenance needed for the water treatment and would recommend maybe a different approach for our center.
- VII. There are possible water efficiencies on the site. Integrated process to have the building integrated with the systems. Often mechanical systems are 75% of building systems. Use of green energy, grant monies for funding some of the systems. Building opportunities may include siting of the building to get use of the sun (balance), building shading, find creative ways to use the natural lighting, geo-coupled heat pump systems, could use a water source close to the facility to provide the geothermal system. Storm water recycling and use it for wastewater and irrigation.
- VIII. Renewable energy – solar energy for hot water. Solar usage, in current sketches - do not currently have a south facing site to take advantage of the true solar but may be able to come up with alternative solar usages.
- IX. Decisions around where we are going to need to have mechanical systems. Displacement systems can be used to make those mechanical systems more efficient.
- a. Mare – keep in mind that any green options we discuss, we need to think about what the community can take back to their own homes.
 - b. Carol – are the green options pretty flexible to change over the long-term as the usage and interior of the building changes over the year.
 - c. How do code issues impact using wind or solar chimneys – local ordinances may impact the overall design.
 - d. Brian – can use a silo design to keep with the barn type building
 - e. Susan P. – to use a rock bed for cooling, would only need a couple of feet deep
 - f. Dorothy – will there be redundant mechanical systems to supplemental energy production.

- g. Discussions around water turbines. Questions around how water turbines impact the life systems. Would need to determine the local regulations before being able to determine what could be used.
- h. Doug – can we use the energy sources found in the wastewater plant. Possible geothermal usage or wastewater?
- i. Use the concept of the nature center being the trailhead.
- j. Don Watson – the amt of gas used for mowing residential properties is very wasteful. The message should be to grow, not mow. Could save energy not mowing. Two hrs of running a lawn mower uses more energy as running a modern car 500 miles.
- k. Make sure the building works with what is happening in the land! Don Watson – location of the staff/volunteer is key. Seeing someone right away increases the perception of safety for the visitor. Visitor center separate from the nature center – but place it between parking and the trailhead so that someone will be the “greeter”. Dog walkers currently use the Delchester Road and don’t want to shut that down but maybe think of the greeting function with those arriving in cars and buses. Those that are there for the nature center experience and not just the walking. The function of the building may not always have someone on working to be that greeter.
- l. Susan – do we have vandalism concerns? The township still plans on having a tenant on site. Not as a grounds keeper but at least someone there. Can be subtle ways to be increase security. Can incorporate a gate to open and close gates at various times into the function of the site.
- m. Parking – can use grass to off set the parking needs and meet code. Parking in snow – can actually plow on the grass design parking lots. Handicap parking spaces will be available close to the building. Parking needs to be reasonably placed close to the building. The grading needs to be less than 5%. Maybe use radiant heat in the walkways to minimize plowing and shoveling. Try to plan for the smaller usage numbers with a contingent plan for overflow parking.
- n. Master calendar of events, operational we need to consider how to manage the partner organization programming. The idea would be the programming partners would be responsible for the scheduling and signing up for the classes and programs.
- o. Bernard – may not want to have a large buses going through the very old house.

ACTION – Mare to get zoning books to the design team

3:00 p.m. - Break out session

- I. Report out
 - a. Group One – principles: protecting the farm house and screen with plantings. Remove two sections of existing roadway. Preserve historic features and draw attention. Two story building to fit the landscape and elongate the design to maximize the sunlight. Green roof. Experience to start the minute the visitor leaves the car. Use the landscape, not the building to guide the visitor. Visible materials – salvaged lumber, green roof, and natural stones. Have the green roof visible from as many areas as possible. Use native tree plantings to screen the buildings. Pole barn area to be outdoor classroom space with amphitheater area in the rear of that section. Utilizing the natural slope for the amphitheater. Grass parking design up to the building. Back half of the building is open to give views of the preserve. Public areas on the top level, offices on the top level. Flat roof.
 - b. Group Two – Redo the roadway coming in to have a circle. One parking area close to the building. Parking lots would drain into a central pond. Teaching learning gardens around the parking. Amphitheater to emphasis the views – can

also use as a teaching garden. Used the ruins of the old barn as an amphitheater. Bridge that would connect the parking to the center. Screen the existing home. Visitor experience to start immediately upon entering. Travel from parking lot to parking lot. Using the roof as a teaching area and incorporating decks/terrace to maximize outdoor space. Pavilion would be connected to the building by covered walkway. Fire pit in the pavilion. Two-story design but one-story design. One-story would lend itself to more flexibility of expansion if needed.

- c. Group Three – Very similar to Group One design. Additional overflow to existing parking. Turnaround area as a paved compass area. Old pole barn as outdoor pavilion. Two-story building. Southern exposure for solar panels. Want to keep the barn ruins. Keeping the pavilion incorporate the Native American culture built into design. Visitor experience to start immediately upon entering
- d. Group Four – Come off route 3 with screening trees along the drive. Gathering place for drop off. Three parking areas with two being grass. Emergency access and handicap from drive. Two-story design. The existing road would rarely be used. Guide folks as they make their way to the nature center to maximize the experience of the walk. Amphitheater in the natural slope. The top floor would be the public area.
- e. More comments
- f. Group 2 – draw is the water feature that immediately hits you.
- g. Group 4 – designed to keep the parking away from the building. Hide the parking and create pull off area for the views along the drive.
- h. How to we address multi-generational experiences
- i. Group 2 - Cranky kids – the loop can be used a drop off area. All the activity areas are grouped and are close. Trail heads all stem from the
- j. Group 4 – Design lends itself to providing the natural experience for those that may not be able to walk as far. Driving experience.
- k. Group 3 – keep pavilion area to have the great views while still having a close enough access to the parking lots.
- l. Group 2 has a two amphitheater design. The more activity generated is self-supporting and lends itself to more people and security.
- m. What do we need to add to make the community feel that this is their space? Community draw with the historic aspects.
- n. Almost every drawing had an outdoor pavilion or amphitheater design. Place for green weddings? Deciding to have weddings on site is a huge undertaking and all aspects of the wedding planning would need to be taken into consideration for the design. We do need to think of other sources of income.
- o. From the June 10 event, we heard that we need to plan for all age groups. We may need to revisit what would be the draw for teenagers. Use the pavilion as a public gathering area? Maybe we plan picnic areas in the ruins. Nature centers that cater to teenagers are very successful and we may need to plan for a youth room and teen groups.
- p. Policeman or fireman family as the renters for the farmhouse. Most designs are simply showcasing what is already there. Highlight what is unique about Willistown. The sight could become the place for volunteerism. Composting, removal of invasive species, natural food, acting out the learnings,
- q. From those that cannot attend on Monday:
 - i. Bernard – don't forget that public money was used to acquire the land. Keep in mind that this is a nature preserve. The biggest piece of publicly owned land in Willistown Township and need to respect that. Need to

- also respect the heritage of the land. Tread softly and try to minimize the impact to the land while achieving the goals.
- ii. Loretta – building for the future and keep that in mind. How would the entire area of the center function sustainably.
- iii. Doug – Interesting how everyone has converged on a few ideas and everyone is still focusing on the least impact to the land. This may be something very important to point out to the public at Monday’s meeting.

Monday, July 23, 2007

- I. Introduce new participants for the day (see sign in sheet for participants)
- II. Agenda
- I. Overview of yesterday
 - a. Issues to address
 - b. Work on business plans
 - c. Usage of building
 - d. Prep for public meeting
- II. Overview of yesterday – scheme review
 - a. All the teams seemed to move off the ruins area to preserve that
 - b. Hide parking in the hill
 - c. Use parking to enhance the learning experience from the time visitors exit their cars
 - d. All teams focused on the pole barn site as a tent/pavilion area
 - e. Possible to use the tent/pavilion area as a drop off site
 - f. Learning landscape on the way to the buildings – possibly growing food, native plants, variety of experiences
 - g. Storm water management off parking lots (being treated differently than water treatment from the buildings)
 - h. Green roof aspects were spoken about in all the designs
 - i. Working gardens – raised beds, interactive landscapes, CSA connections, berries
 - j. Municipality will own the land and will manage the property and the non-profit will own the facility. Without an endowment, the center will need to discover other alternative money making schemes (birthday parties, weddings, parties). The hope is not to have to do this – but to have the endowment support the mission of the center. Then the partners will (if needs are met) will schedule the activities. The non-profit will work with the partners in the scheduling. Examples of nature centers that run like we are proposing are few but successful. We need to learn from the examples and learn from their mistakes and trials.
 - k. The groups all seemed to focus on the “oh ahs” being arriving at the building but instead arriving at the preserve.
 - l. Issues to Address
 - m. If we decided to keep the center open all year – heating/cooling issues need to be addressed
 - n. Security – having someone living on site is an asset. Possible arrangement for the rental property.
 - o. The entire site as classroom was a continuing theme.
 - p. Define the many trails – places that are defined so people know what to expect and can use the trails to their needs
 - q. A place for youth – bonfire, party, group gathering
 - r. Botanical garden in Wash were the entire property is the classroom
 - s. Define uses for drop off areas and where they are placed. Nature center drop off can be more remote
 - t. Demographics of the future – think about how the population will be changing

- u. The issues above should direct the discussions of the day.
- III. How are we using the building
- a. Building Program Elements
 - b. YMCA (Brian) – Teaching lab combined into the classroom and eliminating the 2nd classroom but making the meeting room dividable. Room would need to accommodate 20-30 students. From Great Valley, there could be 40-70 students but those kids could be divided into smaller groups. The classrooms would need to have tables.
 - c. Wet lab would be used in the winter – more ideal to be an indoor facility. Imaging Stroud River facility. They have an indoor wet lab with microscopes and equipment. Having something like this would
 - d. Wet lab – would have islands, lab tables, plumbing hook ups, no chemicals, ph testing, not foreseeing a burner. Nature centers that have this try to be first in class to be able to say they are meeting educational requirements. Would need electricity. Plant samples, water testing, projector. This room would need to accommodate about 30 kids. Kids doing homework on the weekends with their families. Need a lot of storage spaces with locks, bank of sinks. Production line clean up area. Drain on the floor. Cleanability of the floor and room is key. Need to plan for what to do with groups that may be waiting and where they may be waiting. Security of the equipment. Also may want to bring in adult groups for soil studies, water, etc. Have it available to all age groups. Needs to be ADA accessible.
 - e. Muscoe- With movable tables, there could be two sizes of tables. Is there a way to have room for smaller tables with the fixed lab tables.
 - f. Meeting Room – exercise classes, dividable, clear the room and have an exhibit, make it easy to store the chairs and tables. Various set ups would require the storage area that needs to be dedicated for just this need.
 - g. Additional classrooms – if we want to bring in serious nature educators, then we may need to have the additional classroom space to be able to accommodate the need to move the classes along quickly and on schedule. Make the classroom very appealing (“to die for”).
 - h. Windows to what is being studied (birds, creek, water, plants, etc)
 - i. Vestibule – Viewable from those passing by the building or the vestibule area. Anything that anyone has found. Kids love it. Can get close and touch it. Low cost, comfortable furniture. Formal use during the week, informal family use on the weekend.
 - j. Exploration room – Cusano’s was not working well with a long hall, maybe a round room or something more open that would allow people to explore and play. “Grandmother’s attic” feel. Flexible space, maybe audiovisual display in this area. Add places to sit and enjoy the space. Include a reception area. Fireplace for warmth – using wood is not efficient. Use the stone from the old barn. Use a mantle for the audiovisual display. Find heat efficient ways to operate the fireplace. Donated books for people to read and be in public but having a quiet place to sit. Would not have a full-time dedicated staff to take care of the animals. May need to come up with ways to have animals on site with someone to take care of them.
 - k. Kitchen – organic food? Needs to be thought out. Was thinking of a catering type of kitchen. Could use residential equipment that would not require the health inspections. Fridge, ovens (2), range. “Catering kitchen”. To get the requirements, you work with a caterer. Find restaurants that can donate the equipment. Spaghetti dinners, soup and tea/coffee for book clubs. Examples: Audubon Nature Center in Dayton, OH. Virginia Living Museum. YMCA of the Rockies has an explore room that is focused on the fireplace. Bainbridge Island includes an astronomy deck.

- l. Hallway as an exhibit
- m. Kids through seniors will be the users. Think about different ages and different uses. Astronomy is a huge interest. If we can create some sort of deck near a classroom for telescopes with easy access to get back in for warmth/protection from the elements. Indoor learning opportunities for what is being seen outside.
- n. Meadow accessibility right from the classroom to be able to go out, do some learnings, and then come back in and apply those learnings easily and quickly. See what you are talking about. Cleaning and storing seeds.
- o. Water quality issues of the area: dry summers. Use the waters that falls on the site for irrigation
- p. Year long usage: will we need A/C. 15-25% of a summer camp day would be spent indoors. The township will decide programming after the building design. Need to consider the offices as well as the ages of the users (kids and the seniors). Need to determine the threshold for turning on the a/c. People are used to a/c. Need to come up with ways to provide the cooling without a/c. Could consider portable a/c for large events.
- q. A/C but we can still show that we can have natural cooling built in. Would need to clearly defined usage of the a/c.
- r. Bathrooms – should have bathrooms that are accessible from the outside. Accessible and lockable from the inside. Maybe have two unisex bathrooms near the trailhead of near the pavilion. Composting toilets. Need to have bathrooms with 5-6 toilets in each. French Creek Park – bathrooms are accessible when building is closed but
- s. Office space: Township office (closed room, lockable) and one closed room for the partners, separate lockable storage closets, volunteer area with lockable space for personal objects.
- t. Meeting room size – 90 people lecture

ACTION: For the team, keep the list going of what features we would like to see on site.

- IV. Break Out Groups – Site design vs. Building design
 - a. SITE PEOPLE:
 - b. See flip chart sheets
 - c. How to heal the landscape
 - d. Understand we are to a point where we need to steward the land
 - e. Meadows as beautiful vrs grass
 - f. Don- working garden, wheel barrows, volunteers, NEED MAINTENANCE SHED in the landscape
 - g. Don- reuse water with drip etc.
 - h. SP- drop off issue –
 - i. Weddings/birthday parties...no weddings; birthdays ok!
 - j. Brochures at center not drop off
 - k. Sequential experience going to the building, staging it, drop off, decompression
 - l. Minimize parking look
 - m. Capturing storm water from parking lot for gardens
 - n. Storm water management
- V. BUILDING PEOPLE – DON:
 - a. Master plan with schematic design detail to go into fundraising
 - b. Large room: multipurpose
 - c. AC? Yes and No. Plan sustainably – passively cooled with ac back up, ground source heat pump?

- d. Wet lab – wonderful idea, have something that no other school has, more expensive than plain old classroom – but will have the advantage – nature centers with this asset doing well, attracting schools to meet state required curriculum, and more loose study
 - e. Display versus explore
 - f. “Grandmother’s attic” haphazard stuff for people to touch, used furniture, etc. most successful in centers versus. Museum display approach.
 - g. Kitchen – building committee decide who are we serving, usually catering kitchen – ask caterer what do you need? ASK MEREDITH. Get used kitchen equipment from restaurant that went out of business
 - h. Composting toilet for exterior visitors, keep inside potties for indoor access only.
 - i. State standards for first aid/lie down room?
 - j. Using this for fundraising...
 - k. Woodshop – put in maintenance shed
 - l. Volunteer station at entry; coat closet etc. part of visitor flow.
- VI. Break out groups, one story versus two story building designs
- a. Group 1 – two story building. Energy benefits, entrance through gardens with water. Rain water from the roof feeding the water. Wood piles for the Carolina wrens. Bird feeders in the gardens. Butterflies, moths and skippers drawn to the oak trees. Keep up the solid straight façade. Main living room experience. Needs elevator. Green roof that blends into the natural slope of the hill. Slightly sloped roof. Switch grass – grow two acres. Palletized heating system. Four season planting around the building. Interest and appeal all year long with the views. Lots of length wise southern exposure using sun tubes for interior lighting. Main entry is on the 2nd floor.
 - b. Group 2 – Two story design taking advantage of the bank barn effect. Keep the ruins behind the building. Also needs elevator. Relationship between meeting room and living room. Living room would need views as would meeting room. First idea was more linear. Aha moment leaving the parking lot then a gap btwn the buildings that would create a secondary aha moment. Literature in the vestibule. Living room to one side, meeting room to the other. Would pass through a service area to get to the meeting room. Large, gracious stairway in the gap. Wetlab and classroom would be adjacent to the outdoor ruins area. Offices and storage and mechanical under the living room. Twisted the building for more of an orientation for the south access. Overhanging, generous roof with a wrap around deck/porch that could be segmented for privacy as needed. Silo for ventilation. Gardens inviting into the building. More of a traditional view as you approach. Dog trot southern house
 - c. Group 3 – mission was to design a one story building for mechanical and storage. Entry is from the opp. Direction. Maintain as much outdoor circulation as possible. Dividing space btwn the entry way from the classroom spaces. Garden spaces as you enter. Living room feel with entry vestibule with comfortable sitting. Kitchen off the meeting room space. Two offices off the back. Exterior corridor sets apart the classroom from the meeting room/living room access. Balcony off the meeting area space. Green roof. Many garden options. Basement below. Possible tower construction for astronomy. When approaching the building, have a “see through” approach. Vestibule for the literature and reception. Bioclimatic courtyard. Toilets would serve both sides. The advantage of the one story building is the full accessibility and ease of access and separation of the types of usage. The basement would afford a lot of storage space. May provide less expensive connections since things would not need to be hidden above.
- VII. General response:
- a. The dog trot area is very usable space that could possibly be outdoor classroom. With two story designs have more of a bioclimatic benefit.

- b. Circulation working through the living room and is that something we want. Some designs see this as a coming and going area and other groups saw it as a private thinking room. Would folks use the living room if separated? The views into the living room would need to be obvious. Want stairs to be primary for people. Elevators are critical to those that use them. But, there are many inherent problems with having elevators and inspections and fixing expenses. Sometimes the need for an elevator is not apparent. Speaks to the need to the need for the receptionist. Need a fully accessible route to be get to the elevator. Deliveries may need elevator.
- c. Elevator in a lot of buildings are directly viewable. There are a lot of health concerns with not using the stairs. Need to find ways to have people use the stairs as the primary mode of getting up and down.
- d. Need to keep thinking of how you move in and out of the building.
- e. Meeting room dual function as a classroom.
- f. Outdoor connectors would not count against the 10,000 sq. gross footprint.
- g. In the one floor design, all storage space below.
- h. How much disturbance
- i. Where will the building be placed
- j. How much area is disturbed vs. how much was already disturbed
- k. What are the contributions the three designs bringing to the community
- l. Doing a condensed view
- m. What generally the building will look like (modern, traditional, inline with local architecture)

Charrette Notes

SUNDAY
JULY 22, 2007

Ideas:

- Protect Farmhouse and surround with trees and gardens
- Use site as exhibits, kiosks? Signage?
- Green roof that blends the building into the landscape
- Hug into the slope
- Use the landscape, not the building, to guide arrival
- Hide the parking, and start the exhibit from the outdoor classroom
- Leave the car behind to start the transformation experience
- Build expectation on arrival

GROUP DISCUSSION

Group 1 – Sunday

- Protect the farmhouse and use planting to screen (remove sections of existing road)
- Use the entire site as the exhibit
- 2 story building, narrow and long, across the slope, hug the slope
- Green roof viewed from above blends into the hillside
- The experience starts when you close the car door
- Use the landscape, not the building, to guide the arrival
- Dominant visible materials are: Natural local stone, salvaged lumber, green roof
- Use new native trees to screen new building and the farm house

Group 2 – Sunday

- Drop off/Corral
- Potential users:
 - - working adults
 - - pre school children
 - - multi generation
 - - teenager/young adult
 - - events... weddings, parties, birthdays?
 - - schools
 - - residents walking
- Pavilion:
 - - permanent roof, with temp. roll down walls
 - - fire pit
 - - winter classes
 - - yurt like
- “Zone of privacy” at house, tenant should still see the facility

- Trail head at building
- Ah ha moment on foot
- Minimize lighting (keep the donut hole)
- Where to spend \$?... more road = less garden
- Landscape:
- Long term management
- Flowery meadow
- CSA – veggie orchard
- Maintenance shed, water supply
- Extend woodland
- Backyard habitat
- As heritage
- Ideas garden
- Outdoor lab
- Volunteer planting
- Invasive species control
- Sustainability lessons: (Technology)
- Water message, rain = base flow infiltration, porous
- Storm
- Recycle H2O building
- Hydro power?
- Green roof
- Consensus:
- Revised entry road
- Parking pole barn closer to route 3... and not a mass of asphalt, integrate into road if possible
- Amphitheatre for 60
- Pavilion/fire pit
- Didactic landscape as part of entry sequence
- Outdoor classroom

Group 3 – Sunday

- Use ruins for outdoor classroom, or garden... ruins give opportunities
- Roof – walk across – path
- Flat roof vs. pitched
- Green roof – educational opportunities
- Access to roof built into landscape
- Attach building to ruins area
- Park close to route 3 with drop off areas close to building
- Use pole barn site for tent parties and outdoor classroom
- Pole barn site – need good view
- Drop off spot for pole barn site
- Buffering the farm house but not too much – security feeling

- Parking areas should be the beginning of the nature center experience. The “foyer” of the nature center
- Buses loop through parking lots
- “Educational parking” spaces closer to the building
- Van road to the entrance
- Overflow connected to the existing spots
- Parking below pole barn site
- Hide parking with landscaping
- Use existing road to connect parking to building... use above path as van drop off
- Do we need that many parking spots?
- Drop off only area – grass pavers
- “Compass” parking lot

Group 4 – Sunday

- Relation of Building to Site Discussion:
- Part of landscape
- Blend in → not stick out (Rustic?)
- Building personality compatible with Easmont regulations
- Avoid house, re: access to center
- Building frames view of site
- End of visual axis while walking
- Access from Delchester Road? Nature center gain experience of view when cant walk. Work with snow/ice? Homeowner?
- Difficulty pulling onto W.C. pike
- Car loop near building for drop off
- Event parking → how many? Turf lot
- Second access off W.C. pike for emergency and tenant house
- Grading to hide view of cars in primary entry drive
- Trails that cross road
- Trail parallel to road
- Road wide enough for passing, or only 1 way. Passing side spaces? Use flagmen to hold cars
- Fix entrance to W.C. pike
- 20 visits of 35-60 kids (640 total) school visits
- Cars through woods? → paving, compaction, salt, stormwater management? → too much impact!
- Loop off of W.C. pike up on hill to view
- 2 story building → elevator access from outdoors?
- “ooh ahh!”
- Tee pee?
- Open central hall to trailheads

MONDAY
JULY 23, 2007

Programmatic Discussion:

- Storage
- Meeting room
- Wet Lab – lab tables, storage, clean up band of sinks production line
- Nature learning classroom
- Astronomy deck
- Display/Explore... both Indoor and Outdoor
- Need kitchen
- First Aid closet

Group 1 Discussion (Monday):

- 1 vs. 2 story... 2= less of a footprint
- Switch grass, palletizing (?) for heating... and spray fields
- 4 season thinking