



AUBURN VALLEY MASTER PLAN

Yorklyn, Delaware
April 14, 2011

Prepared for:

The State of Delaware

Department of Natural Resources and Environmental Control
Division of Parks and Recreation

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Purpose

This document will serve as an internal document for the beginning of a plan for the Auburn Valley area for the Delaware Department of Natural Resources and Environmental Control.

This first draft will be revised as the design process continues. This plan will be presented at a open house for public comment and feedback.

The State of Delaware

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Brief History of the Valley – Auburn/Yorklyn Region

The area now known as Yorklyn has, until recently, been an active mill area since the early 18th century. A variety of mills have come and gone from this community, with the largest production being snuff, paper, and fibre. These three products were primarily overseen by two families, the Garretts and the Marshalls.

John Garrett I built a combination grist and sawmill along the Red Clay Creek near the current Marshall Bros. Paper Mill building along Bengé Road. John Garrett II expanded the milling in the area when he added a snuff mill farther down the Red Clay Creek along Creek Road (Route 82). This snuff mill was later expanded and the grist mill was converted to a paper mill. Both of these mills eventually passed out of Garrett family hands.

The paper mill went through several different owners and uses. Thomas Lea turned it into a cotton mill and named it the Auburn Mill. This name soon spread to refer to the whole region, until it was changed to Yorklyn in 1872 when the railroad arrived. Lea's nephew, Jacob Pusey, succeeded him in the cotton spinning business. In 1862 Pusey sold the Auburn Mill to James and William Clark who changed it into a woolen mill. After a devastating fire in the 1880s, the Clarks rebuilt the mill to make paper.

While the Garretts were milling along the Red Clay Creek just south of the Pennsylvania state line, the Marshall family was doing the same just north of the line at Marshall's Bridge, along present day Creek Road. Starting similarly to the Garretts, John Marshall built a combination grist and saw mill in 1763. Enjoying milling more than farming, John's grandson, Thomas S. Marshall, converted the family's mill into a paper mill in 1856. This mill, which came to be known as the Homestead Mill, was left to Thomas's two sons, Israel and T. Elwood, who renamed the company Marshall Bros. and expanded by following the Red Clay Creek south into Delaware and purchasing the aforementioned Auburn Mill from the Clarks in 1889 and had it operating, after upgrades, in 1890. Israel moved into the Auburn Mill farmhouse with his family to run the newly acquired mill. While the farmhouse was comfortable for the family, Israel looked to the hill above for his new house, Auburn Heights, which was completed in 1897 and became home to three generations of the Marshall family before being donated to Delaware State Parks in 2008. The stone for the mansion and carriage house was taken from the Marshall-owned quarry just north of the state line, now owned by the Kennett Land Trust.

The Marshall Brothers realized that much of their paper sales were going to fibre mills, since paper is the base ingredient of the vulcanized fibre manufacturing process. In 1901 the Marshall Bros. Company built the Insulite Mill across the road from the Auburn Mill and just below the backyard of the Auburn Heights mansion. Insulite was a type of vulcanized fibre that the brothers patented and trademarked. Because of the success of the early fibre production, the Marshall Bros. Company expanded farther downstream with the construction of Mill #1, a fibre mill just across the creek from the snuff mills. The company expansion included creating the National Fibre and Insulation Company, with J. Warren Marshall, Israel's oldest son, as the president. The Marshall Bros. Paper Mill continued to operate as separate entity, with T. Clarence Marshall, Israel's youngest son, serving as treasurer and president at various times. The fibre company continued to expand to encompass what is currently seen as the National Vulcanized Fibre (NVF) Company mills on the east side of Yorklyn Road. The Marshall family was no longer involved in either company when J. Warren Marshall died in 1953.



Auburn Heights Rose Garden 2010

The NVF Opportunity

In 2008, Division staff met with area neighbors and legislators about NVF's plans to sell portions of their remaining 119 acres in the area to developers for residential and commercial development. The neighbors, as well as the Division, had concerns about the possible impacts of the developments on the area and its viewsheds. The Division's primary concern was for the viewshed of the historic Auburn Heights mansion. A dialogue was opened with the developers, CCS Investors, and discussions ensued.

These discussions could not have come at a worse time financially for the State and the real estate market as a whole. The market was clearly showing signs of a recession and the available funding to the Division for Open Space purchases was being reviewed and was eventually frozen. Additionally, the recession had a negative impact on the residential and commercial viability of the proposed projects. The real estate market was down and CCS Investors did not move to execute their contracts with NVF quickly.

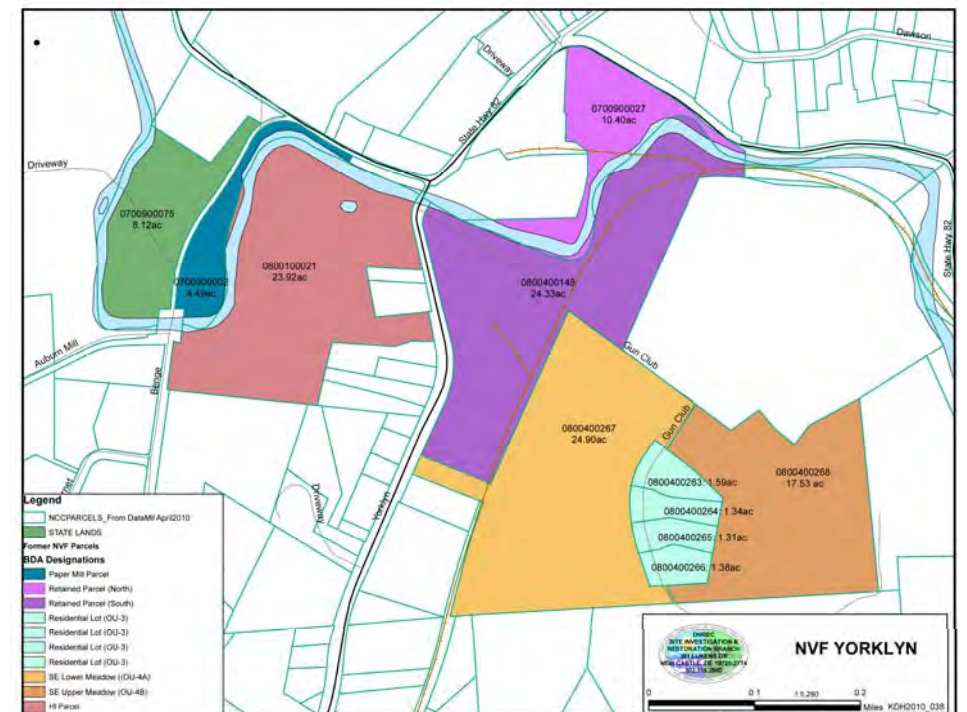
In April 2009, the NVF Company filed a petition in Bankruptcy Court for liquidation. This opened a few new doors. It placed the entire remaining 119 acres of NVF property on the table for acquisition and required the Trustee of the Company in bankruptcy to publicly re-bid the portions of the property then under contract with CCS investors.

By this time, DNREC was looking at the NVF facility from various perspectives beyond those of just the Division of Parks and Recreation. The Division of Air and Waste Management had concerns about portions of the plant proposed to be abandoned that contained hazardous materials and unknown environmental issues. The Division of Water Resources was focused on the impacts that the plant shut-down could have on aquatic life in the adjacent Red Clay Creek. The Division of Soil and Water Conservation was focused on historic flooding problems on the site and the possible hazards that the deteriorating plant posed in the floodway.

Working as a unit, DNREC was able to pull together a working group that began to secure the site and gather information about current conditions at NVF. The Division of Parks and Recreation took the lead on negotiating the purchase of the entire 119 acres of NVF, this time working together with CCS Investors as a partner to create a model for mixed conservation and development planning. Contracts were executed for the 119 acres in August, 2009 with CCS purchasing the entire property from the Bankruptcy Trustee and then the Division purchasing various parcels or conservation easements from CCS. The first piece, a conservation easement on 47 acres of hillside above the mill, was settled on in November, 2009. The remaining pieces went to settlement throughout 2010.



Overlooking Fibre Mill 2010



Milling and farming went hand in hand along the Red Clay Creek for centuries. The Oversee Farm property, about a mile away from the Auburn Heights mansion, was a standard farm for the area. The notable feature of this property is the large barn that was most likely used as a community barn since its size is much larger than the Oversee Farm could possibly utilize by itself. This property also had a spring that was used to keep a water tower filled along the railroad tracks that are now operated by the Wilmington & Western Railroad. This is the same rail line that serviced both the snuff and fibre mills. *

Red Clay Creek is among the most flood prone watersheds in Delaware due to a combination of the large size of the watershed, relatively steep slopes and the degree of development that has occurred in the watershed. Many storms have affected to Red Clay watershed in recent years causing extensive damage to both private property and community infrastructure. The NVF properties are among the most flood-prone in the watershed, primarily due to the low elevations of the building and proximity to the stream channel.

The Federal Emergency Management Agency has been collecting data on flood insurance claims in Delaware since 1978. Since 1978, two of the NVF buildings have been paid over \$4 million in flood insurance claims combined, making them the top two buildings in Delaware in terms of flood claims.

State Parks' History in the Valley

In 2000, the Division of Parks and Recreation Division was approached by area residents and local conservation organizations seeking state assistance to acquire land owned by the NVF Company (NVF). NVF was in the process of divesting itself of miscellaneous assets and property along the Red Clay Creek that were no longer necessary for the company's operations. At this time, the Delaware Nature Society (DNS) was receiving donated interest in land owned by Thomas Marshall which was adjacent to the NVF property.

As a result of these discussions, cooperative efforts, and Mr. Thomas Marshall's accelerating his donation, the State of Delaware purchased 64.5 acres of land from DNS and 104 acres of land from NVF in December, 2002. DNS then used its proceeds to acquire 87 acres of NVF property in Pennsylvania located adjacent to the Delaware NVF property. In 2004 and 2005, the State received additional land from NVF, DNS, and a neighbor (through a boundary line adjustment), resulting in a total of 19 acres being added to the State land holdings at Auburn Heights.

Ongoing negotiations with Thomas and Ruth Marshall resulted in the November 2008 donation of his family's four acres containing the historic Auburn Heights mansion with its 17th -19th century furnishings, a steam car museum, and a property management endowment. By the end of 2008, the Division of Parks and Recreation was managing 192 acres of valuable conservation and cultural resource lands known as Auburn Heights Preserve. The steam car museum on the 4 acre parcel is operated by the Friends of Auburn Heights Preserve.

Around the same time the Auburn Heights acquisitions were occurring, the State and The Nature Conservancy (TNC) were working to protect the 121 acre Oversee Farm. In 2003, the State purchased a conservation easement on the Oversee Farm using Department of Transportation (DOT) scenic easement funds and Open Space funds. At the same time, TNC purchased the underlying fee interest in the property. In December 2006, the Division of Parks and Recreation assumed ownership of the property after acquiring the fee interest from TNC.

**Please see the Auburn Mills Historic District and the Garrett Snuff Mill Historic District nominations for more detailed information on both of these properties in the appendix.*

The Development Plan for the Auburn Valley

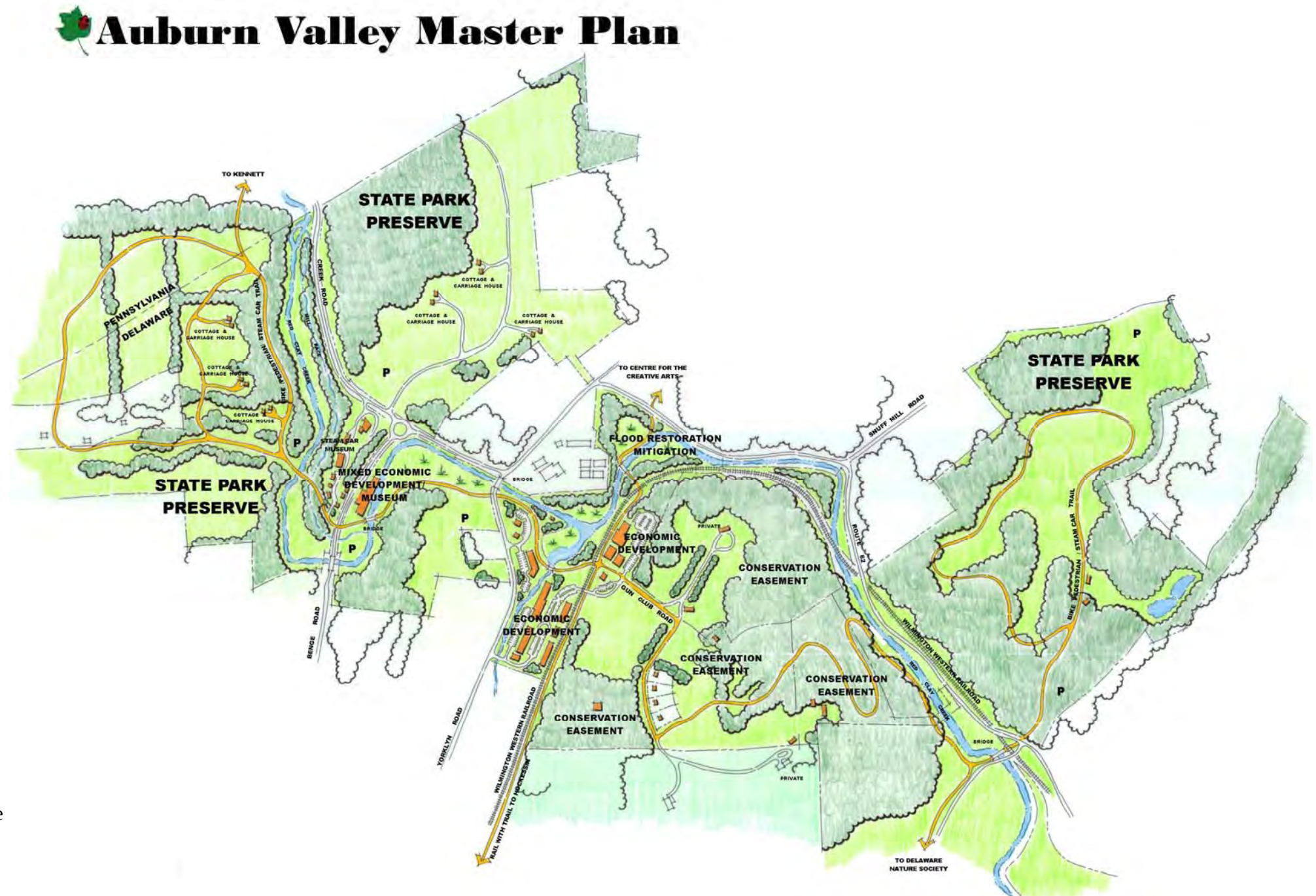
Department Vision

DNREC envisions a Delaware that offers a healthy environment where people embrace a commitment to the protection, enhancement and enjoyment of the environment in their daily lives; where Delawareans' stewardship of natural resources ensures the sustainability of these resources for the appreciation and enjoyment of future generations; and where people recognize that a healthy environment and a strong economy support one another.

Department Mission

DNREC's mission is to ensure the wise management, conservation, and enhancement of the State's natural resources, protect public health and the environment, provide quality outdoor recreation, improve the quality of life and educate the public on historic, cultural, and natural resource use, requirements and issues.

In keeping with DNREC's mission, the Auburn Valley Master Plan (AVMP) highlights an interesting combination of theme and goals that is unique in many respects. The AVMP includes elements dealing with recreation, transportation, interpretation, flood mitigation, habitat creation, historic preservation, economic redevelopment and land conservation. The scope of the plan spans from the area between Auburn Heights Preserve along the state line to the Oversee Farm Property off Snuff Mill Road.



AUBURN VALLEY

Master Plan

Site Restrictions

Site Restrictions

- 1) No new buildings shall be built on site to a total height taller than the tallest existing building on site.
- 2) No new buildings shall be built with a with a first floor elevation at or lower than the 100 year flood plain elevation at the site.
- 3) Where permitted by DNREC's Site investigation and Restoration Branch, pervious paving materials shall be used.
- 4) All building construction shall be compliant with the ICC 2006 International Codes.
- 5) In addition to all applicable State and Federal agency approvals, all redevelopment plans shall be sub ject to the approval of DNREC Parks and Recreation, DNREC Site investigation and Restoration Branch, and the Chief of Planning for DNREC's Office of the Secretary.
- 6) In addition to all applicable State and Federal agencies, all construction shall be subject to inspection by DNREC Parks and Recreation, DNREC Site investigation and Restoration Branch, and a third party inspection company designated by DNREC to ensure building code compliance.



Recreational Uses

Trails

The centerpiece of the AVMP is a large multi-use trail that, depending on trail surface, can allow for a variety of possible uses, including hiking, biking, equestrian and antique car usage with proposed connections to other key resources to give the trail a regional impact. The approximate six-mile loop trail will connect preserved property along the Pennsylvania border to the Oversee Farm Property while providing a scenic and historic experience. The AVMP anticipates the construction of at least two new trail bridges: one at the Marshall Bros. Paper Mill and one at the base of the Oversee Farm Property at Creek and Sharpless Roads. Trail widths will vary based upon terrain and budget, but at a minimum, they should provide opportunities for safe multi-modal uses along with places for safe passing of vehicles.

Additionally, the Plan provides for the possibility of regional trail connections with a rail-with-trail possible along the Wilmington & Western Railroad corridor. This trail concept, to be negotiated with the Wilmington & Western at a later date, could potentially provide a safe pedestrian route from Hockessin to Mount Cuba, Hoopes Reservoir and Valley Garden Park. The historic West Chester, Kennett & Wilmington Electric Railroad (the Kennett Trolley) ran through the area from 1903 to 1923. Consideration should be given to investigating the condition of the old trolley line bed for use as an additional regional trail possibility. Future connection to the Mason-Dixon trail should be investigated as well.

If possible, the bulk of the materials needed to construct the trail will come from crushed demolition materials from the NVF demolition projects. The top trail layer will be either asphalt, tar and chip, or stone as necessary to address available budget, amount of usage anticipated, site constraints, or deed restrictions on the property. The trail will be accessed through several possible trail-head parking areas: the Benge Road field site, the Marshall Bros. Paper Mill site, and on the Oversee Farm Property, in the areas of both the Snuff Mill Road driveway entrance and at the Creek Road and Sharpless Road intersection.

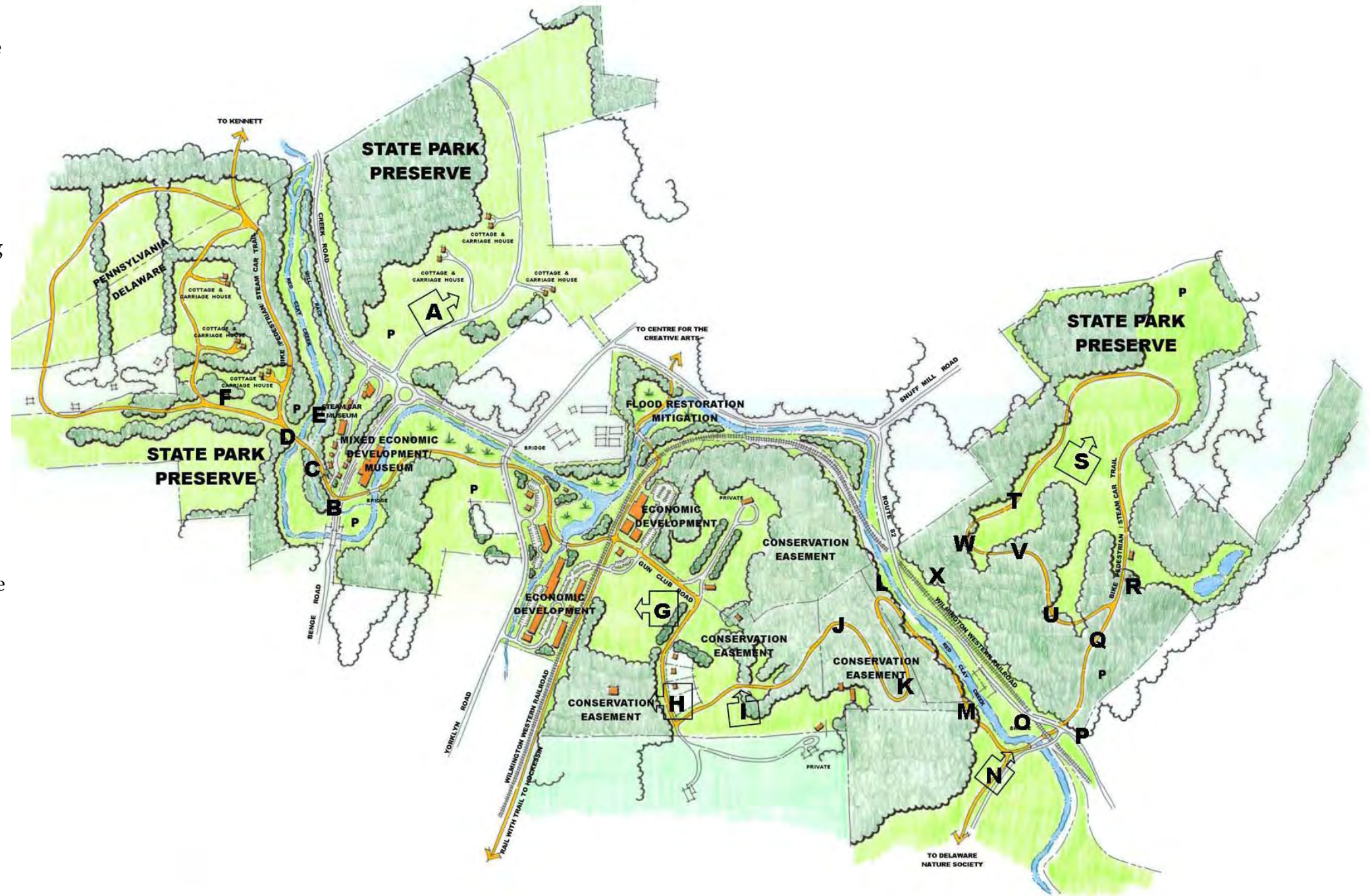
A partial assessment of existing conditions for trail planning has occurred but a more robust assessment is needed to identify new trail alignments and placement of trail support facilities that achieve environmental, social, and cultural sustainability. A cursory investigation of existing natural resource conditions indicates a landscape terrain comprised of steep slopes, quality old growth forest, fields and floodplain. Other site constraints include restrictions outlined in the conservation mosaic and sites yet to be remediated that comprise Auburn Valley lands. Slopes and trail surface treatments will factor heavily into the final decisions regarding location with the geographic scope of the AVMP.



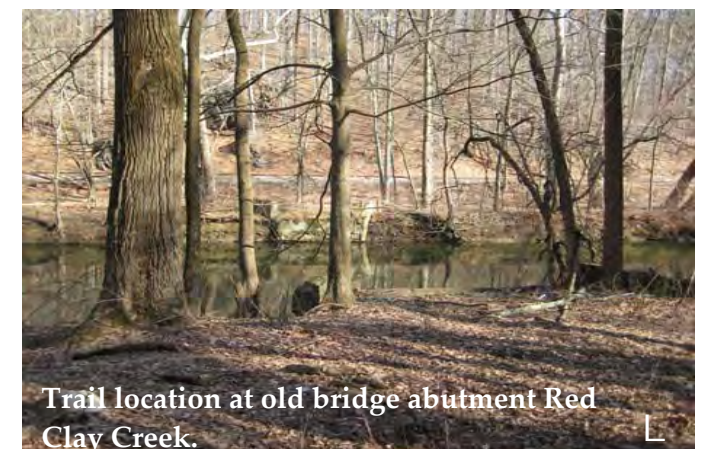
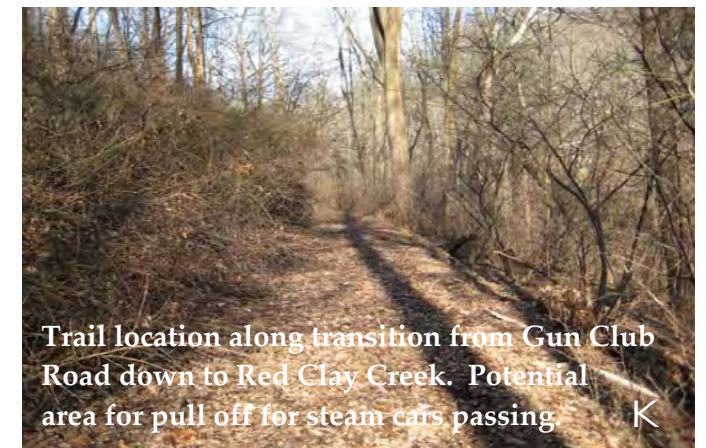
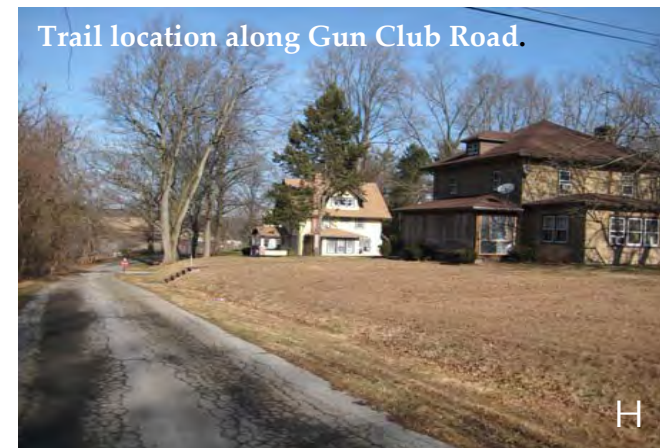
The process that has led to the AVMP concluded that a trail system will be designed to accommodate antique cars, older than 1931, as well as traditional non-motorized recreational trail uses – hiking, walking, bicycling and equestrian uses. Each of these trail uses embraces different user requirements. The future trails in the Auburn Valley must consider all the requirements in determining final recommended alignments, widths, surfaces, signing and management.

A final trail plan will do the following:

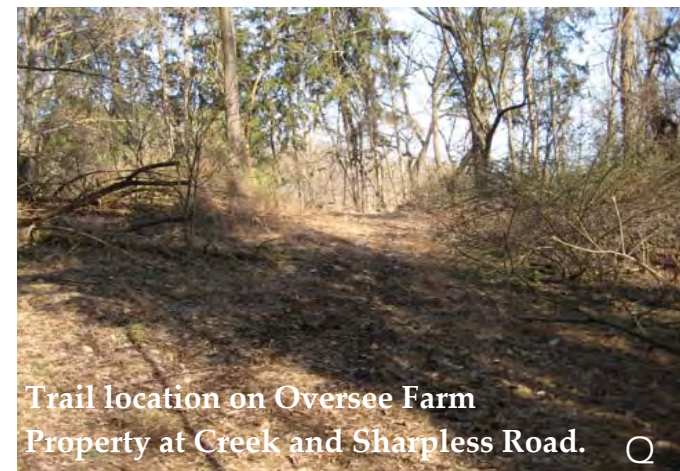
- ◆ Serve as a new recreational trail system that accommodates bicycles, pedestrians, antique cars, equestrians and horse carriages.
- ◆ Provide visitors with a safe, dynamic mix of interesting experiences that range from easy to challenging.
- ◆ Meet socially, environmentally and culturally sustainable principles and embrace visual qualities.
- ◆ Reduce costly trail maintenance.
- ◆ Sustain and support historic and environmental educational opportunities.
- ◆ Consider existing and future trail trends and open up regional trail connections.
- ◆ Identify trail bridges, trail uses, signage, and other enhancements within accepted trail standards.



Recreational Uses—Trail Views and Conditions



Recreational Uses—Trail Views and Conditions



Other Recreational Opportunities

Along the areas connected by the trail, other recreational opportunities abound for bird watching, fishing, camping, picnicking, canoeing, kayaking, cross country track, cross country skiing and bike races. Additional amenities are proposed to support these activities, including a visitor's center, restrooms, pavilions, parking areas and food service.

A Visitor's Center is proposed for the Fibre Mill site in the building along the existing railroad train spur, known as Building No. 30. This building was chosen due to its condition, proximity to the railroad spur, height above the flood plain and adaptability. The building is three stories. It is anticipated that the lower floor would either be flood-proofed and not used, or converted to a restroom facility and readapted using appropriate materials not easily damaged under flood conditions. The second floor could be converted to use as a train station to serve the anticipated Wilmington and Western spur into the Fibre Mill site (using the existing train spur on the site) and one or more other complementary uses (limited food service, gift shop or information center). The third floor of the building could be used by the Division as a visitor's center where the interpretation of the Fibre Mill site would occur. As part of the Visitor's Center complex, some of the adjacent existing Fibre Mill buildings could be retained and readapted to complement the visitor's center and provide expanded services, including food service, and create a destination for park users and train users alike. Alternate locations for the Visitor's Center could be found depending on the final development plan selected.

Along with the Visitor's Center, restrooms are proposed for the lower floor lobby of the Marshall Bros. Paper Mill museum and would be accessible to the public during park hours, even at times the museum and other amenities are closed. The design of the Marshall Brothers Paper Mill should accommodate this dual purpose use. Additional restrooms could be available within proposed commercial components of the Fibre Mill site, or through the use of Bio-Sun, or comparable composting restroom systems, at other more remote locations along the trail at designated trail heads.

A pavilion is specifically shown as an option in the plans for the Auburn Mills complex but other pavilion sites could be developed along the redirected trail and created wetlands on the Fibre Mill site or at other sites with sufficient infrastructure to support a pavilion adequately. Proposed parking areas are shown on the plans in various locations and may be constructed of either asphalt, pavers, stone, stabilized turf or turf alone. The type of material used will be driven by available budget, amount of usage anticipated, site constraints or deed restrictions on the property.

Food service is necessary at a location along the trail, or nearby, to draw people to the site, keep them at the site longer, and provide another location for restroom and comfort facilities. Food service could consist of a limited operation that is seasonal or restricted in its choices. However, to fully implement the AVMP as it is intended, preference should be given to vendors that would, by themselves, create a destination that draws additional park users and provide synergy with the other redevelopment portions. Several food service sites are possible on the Fibre Mill plans including the redevelopment of historic portions of the Fibre Mill at the Visitor's Center, provided that those buildings could be adequately flood proofed and do not interfere with possible FEMA funding and/or sustainable construction practices.



Transportation Upgrades

The AVMP calls for several transportation enhancements to the area. Traffic impact studies will need to be completed for any road realignment or relocation.

Historic Auburn Mills

- ◆ The creation of an improved intersection at Benge Road and Route 82 to slow traffic for an organized traffic flow. This may be accomplished with either a traffic circle or improved intersection.
- ◆ The possible realignment of Benge Road to create a safe buffer between the road and the Marshall Bros. Paper Mill.
- ◆ The establishment of either a four or three-way stop at Marshall Bros. Paper Mill.



Fibre Mill

- ◆ The construction of a new bridge across the Red Clay Creek on Yorklyn Road. This bridge will provide a safe trail crossing underneath the new bridge as well as provide for wider lanes on the bridge and increase safety for vehicular transportation. Along with allowing the trail user to safely pass under the new bridge, the increased deck height will provide increased flood safety and safe passage over the creek during flood conditions.
- ◆ The reconfiguration of Gun Club Road will provide better line of sight onto Yorklyn Road than the current intersection and will eliminate the road through the flood mitigation/wetland restoration area, allowing more contiguous space for those activities. The road will be more efficient, serving the economic development portions of the project, the existing residential uses, and the Visitor's Center. In addition, the new road will also provide safe passage during flood conditions.



Oversee Farm Property

- ◆ The reconstruction of the intersection of Creek and Sharpless Roads that will provide a safe trail crossing into the Oversee Farm Property as well as a new pedestrian path along the Sharpless Road.



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Historic Preservation

Historic Preservation

In addition to the Division's long term holdings such as the Auburn Heights Mansion, Marshall Steam Car museum and Oversee Farm, there are new opportunities to preserve Marshall Bros. Paper Mill, the Paper Mill Office, the NVF Mill No. 1 building, Building No. 30 and possibly one or two of the buildings on the Fibre Mill site.

At the Auburn Mills Historic District, the Paper Mill, houses on Benge Road (mill houses) and the Paper Mill Office present opportunities for preservation. The existing homes on site can be fixed up for rentals. One of the houses could be restored as a period-correct house for interpretation of what a typical mill worker's house would have been like. Other opportunities include a museum visitor center, public restrooms, light retail, light office, residential, and conversion of houses into an artists' village or art center.

At the Fibre Mill site there are opportunities to transform existing buildings on the property into light retail or restaurant. Mill No. 1 also has an adaptive reuse for commercial, residential or mixed use. The goal is to maintain the historic facade components and use them as a guide for architectural standards for the rest of the redevelopment.



Mansion



Paper Mill



Paper Mill Office



Oversee Property



Building No. 30



Mill No. 1

Auburn Mills Historic District

Auburn Mills Historic District – A Brief History

The Auburn Mills Historic District consists of the Marshall Bros. Mill building, the Paper Mill Office, the Auburn Mill farmhouse, mill houses, Auburn Heights, and several structures which are no longer standing *. This district is important to the history of Delaware. It demonstrates the evolution of a mill site from the early 18th century through the early 21st century. It also shows the interrelation between the mill owners and the mill workers and how the community developed.

Starting with an earlier mill in approximately the same location as the current paper mill, the Garrett family built their first mill along the Red Clay Creek, before amassing their snuff fortune with their later mills downstream. This first mill was a combination grist (grain) and saw mill. Many mills in this area, such as the Marshall family's first mill at Marshall's Bridge, Pennsylvania, started as grist and saw mills because of the heavy concentration of farmers in the area. Named the Auburn Mill by a later owner, this mill site saw a variety of uses under different owners, including the grist/saw mill, a paper mill (three different times), a cotton mill, a woolen mill and a fibre mill just across the street. The name Auburn became associated with the milling hamlet and it stuck until the railroad arrived in 1872 and the town was re-named Yorklyn. The current building has portions of the rebuilt mill from the 1880s, when the original mill building was devastated by a fire.

The farmhouse went along with the mill as it changed hands each time, with the intention of it being the mill owners' home. When Israel Marshall moved into the home, he and his brother had a thriving paper business which they intended to continue growing. Israel's brother Elwood built a large home on the hill above the family's homestead and the Homestead (paper) Mill at Marshall's Bridge. Israel also built a large house, Auburn Heights, in the corn field on the hill above the Auburn Mill. The farmhouse was converted into a duplex and was turned into housing for higher ranking workers. The Bank, a three-home row house, the Paper Mill Office, other workers housing, and the blacksmith's shop were built in a line next to the farmhouse across the road from the mill. In 1901, the Insulite mill was added to the site to produce the Marshall Bros. form of vulcanized fibre. The success of this operation led to further expansion of the company that would eventually leave Marshall family control and become National Vulcanized Fibre (NVF)

Options

The following pages present possible options for the Auburn Mills Historic District. The goal is to show the various elements that are available for the area. These elements can be mixed and matched.



* see nomination in appendix

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Master Plan

Auburn Mills Historic District



AUBURN VALLEY

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Historic Auburn Mills Option I

Auburn Mills Paper Mill Option I

Museum— Steam Car Museum Operated by the Friends of Auburn Heights Preserve.

Carriage House— Currently used by the Friends of Auburn Heights Preserve.

Mansion— Museum and residence for caretaker.

Maintenance Garage— Added square footage to enlarge work area.

Park Office— Existing Paper Mill Office renovated for park office.

- ◆ Parking— Parking lot for Paper Mill Museum, Steam Car Museum, Mansion and park office use.

Rental Homes— Existing privately leased homes renovated for rentals and an area of one of the homes possibly used for interpretation.

- ◆ Garage— New privately leased five-car garage constructed for either rental homes or other leasing.

Paper Mill— Building renovated for museum, upper floor for either retail, residential or commercial use through private lease.

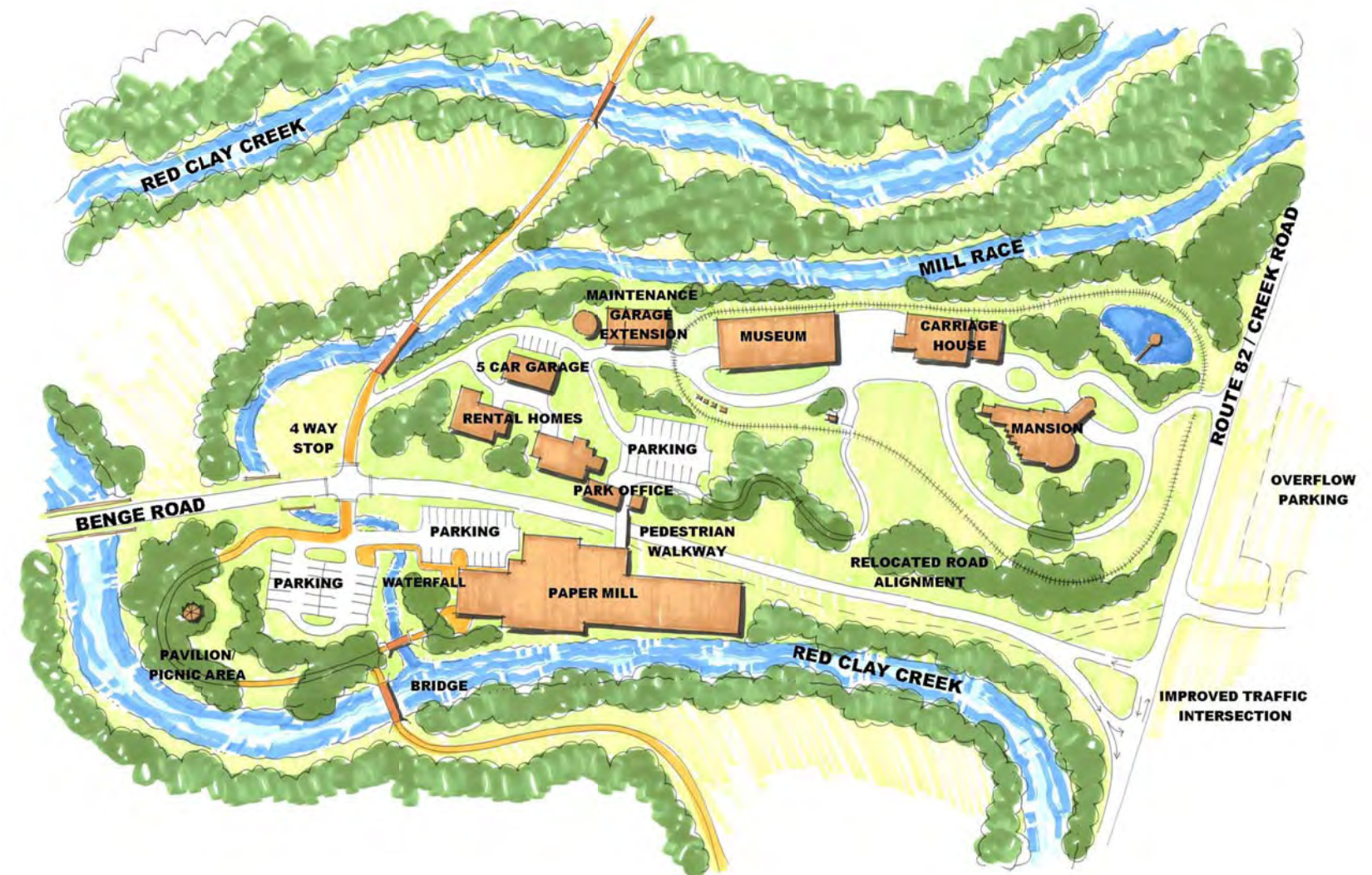
- ◆ Trail Head— Public restroom in Paper Mill Museum open during park hours.
- ◆ Parking— Parking lot for museum and 2nd floor use.

Benge Road— Realigned to provide safety distance from Paper Mill. Intersection at Creek Road to be improved for vehicle circulation. Four-way stop at Benge and road/trail crossing.

Mill Race— Parking elevated over mill race, preserving waterfall at Paper Mill. Maintain existing dam/waterfall for aesthetics and retrofitting for possible hydroelectric power generation.

Trail— Elevated pedestrian walkway connecting Paper Mill to Park office. Two existing bridges and one new bridge proposed over Red Clay Creek to accommodate pedestrians, steam cars and horse and carriages.

Picnic / Pavilion— Passive recreation area along Red Clay Creek can happen anywhere along creek throughout project.



AUBURN VALLEY

Master Plan

Historic Auburn Mills Option II

Auburn Mills Paper Mill Option II

Museum— Steam Car Museum Operated by the Friends of Auburn Heights Preserve.

Carriage House— Currently used by the Friends of Auburn Heights Preserve.

Mansion— Museum and residence for caretaker.

Maintenance Garage— Removed from existing area next to museum and a new building constructed along the mill race at Benge Road.

Park Office— Existing Paper Mill Office renovated for park office.

◆ Parking— Parking lot for Paper Mill Museum , Steam Car Museum , Mansion and office use.

Rental Homes— Existing privately leased homes renovated for rentals and an area of one of the homes possibly used for interpretation.

◆ Garage— New privately leased five-car garage constructed for either rental homes or other leasing.

Paper Mill— Building renovated for museum, upper floor for either retail, residential or commercial use through private lease.

◆ Trail Head— Public restroom in Paper Mill Museum open during park hours.

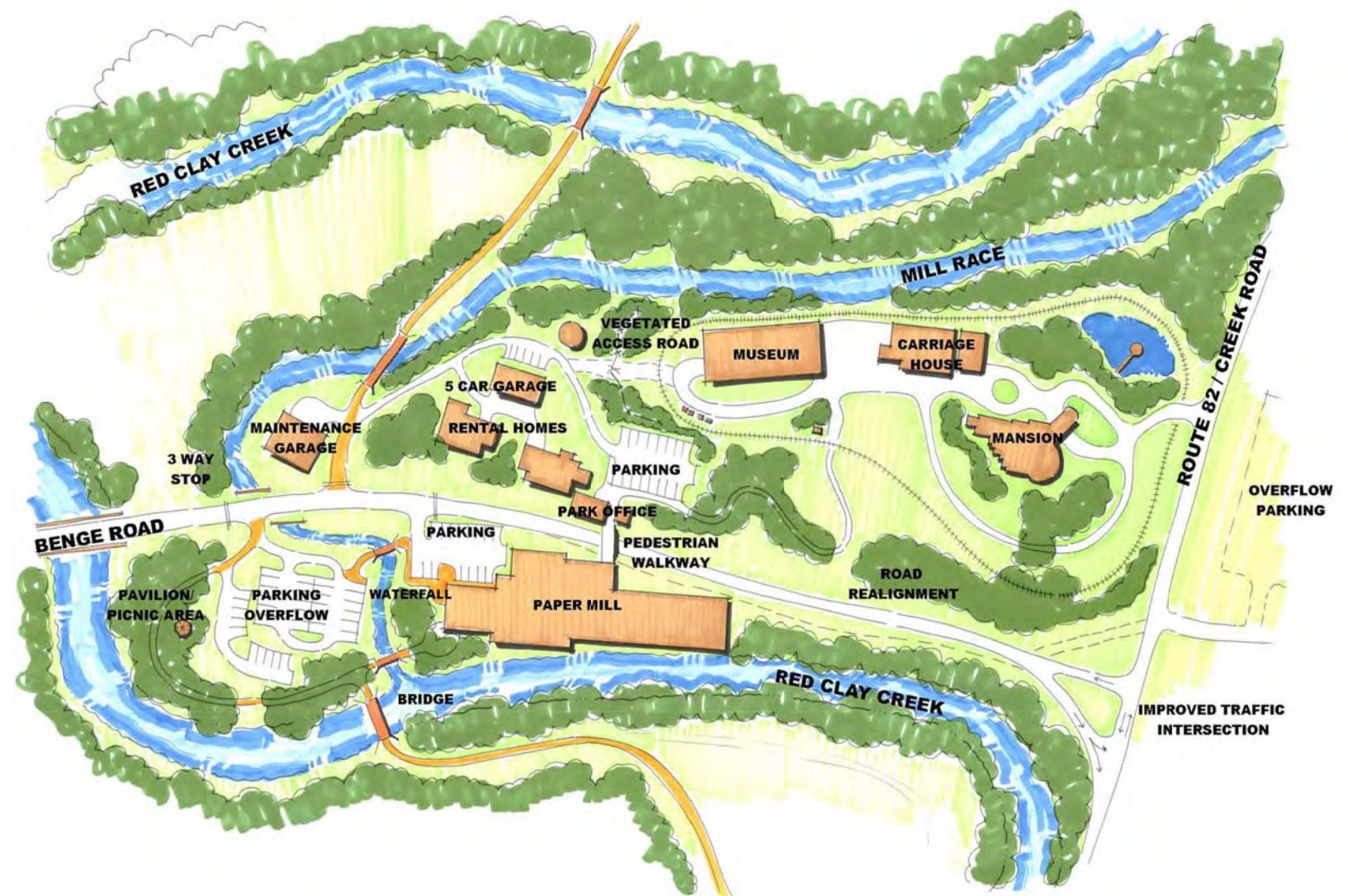
◆ Parking— Parking lot for museum and 2nd floor use.

Benge Road— Realigned to provide safe distance from Paper Mill. Intersection at Creek Road to be improved for vehicle circulation. Three-way stop at Benge and parking lot entrances.

Mill Race— Pedestrian bridge over mill race connecting parking lots. Maintain existing dam/waterfall for aesthetics and retrofitting for possible hydroelectric power generation.

Trail— Elevated pedestrian walkway connecting Paper Mill to Park office. Two existing bridges and one new bridge proposed over Red Clay Creek to accommodate pedestrians, steam cars and horse and carriages.

Picnic / Pavilion— Passive recreation area along Red Clay Creek can happen anywhere along creek throughout project.



AUBURN VALLEY

Master Plan

Historic Auburn Mills Option III

Auburn Mills Paper Mill Option III

Museum— Steam Car Museum Operated by the Friends of Auburn Heights Preserve.

Carriage House—Currently used by the Friends of Auburn Heights Preserve.

Mansion—Museum and residence for caretaker.

Maintenance Garage— Added square footage to enlarge work area. Another maintenance building constructed to look like the original barn along the mill race at Benge Road.

Park Office—Existing Paper Mill Office renovated for park office.

- ◆ Parking—Parking lot for Paper Mill Museum, Steam Car Museum, Mansion and office use.

Rental Homes—Existing privately leased homes renovated for rentals and an area of one of the homes possibly used for interpretation.

- ◆ Garage— New privately leased five-car garage constructed for either rental homes or other leasing.

Paper Mill— Building renovated for museum, upper floor for either retail, residential or commercial use through private lease.

- ◆ Trail Head— Public restroom in Paper Mill Museum open during park hours.

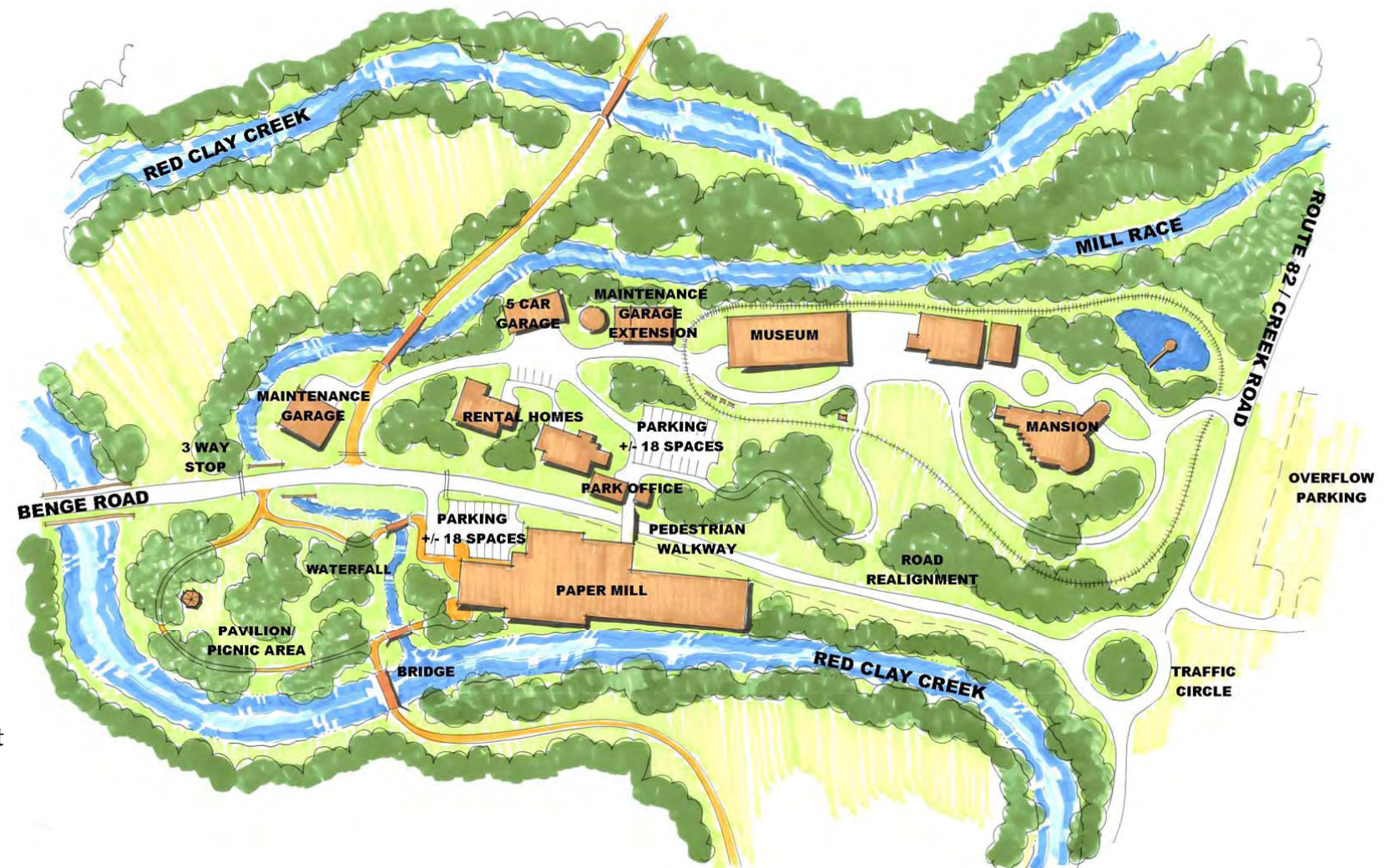
- ◆ Parking—Parking lot for museum and 2nd floor.

Benge Road— Realigned to provide buffer to Paper Mill. Intersection at Creek Road to be improved with traffic circle. Three-way stop at Benge and parking lot entrances.

Mill Race— Pedestrian bridge over mill race connecting parking lots. Maintain existing dam/waterfall for aesthetics and retrofitting for possible hydroelectric power generation.

Trail— Elevated pedestrian walkway connecting Paper Mill to Park office. Two existing bridges and one new bridge proposed over Red Clay Creek to accommodate pedestrians, steam cars and horse and carriages.

Picnic / Pavilion— Passive recreation area along Red Clay Creek can happen anywhere along creek throughout project.



AUBURN VALLEY

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Auburn Mills Paper Mill Option IV

Museum— Steam Car Museum Operated by the Friends of Auburn Heights Preserve.

Carriage House—Currently used by the Friends of Auburn Heights Preserve.

Mansion—Museum and residence for caretaker.

Maintenance Garage— Reconstructed and realigned to allow access road to pass through.

Park Office—Existing Paper Mill Office renovated for park office.

- ◆ Parking—Parking lot for Paper Mill Museum, Steam Car Museum, Mansion and office use.

Rental Homes—Existing privately leased homes renovated for rentals and an area of one of the homes possibly used for interpretation.

- ◆ Garage— New privately leased five-car garage constructed for either rental homes or other leasing.

Paper Mill— Building renovated for museum, upper floor for either retail, residential or commercial use through private lease.

- ◆ Trail Head— Public restroom in Paper Mill Museum open during park hours.
- ◆ Parking—Parking lot for museum and 2nd floor.

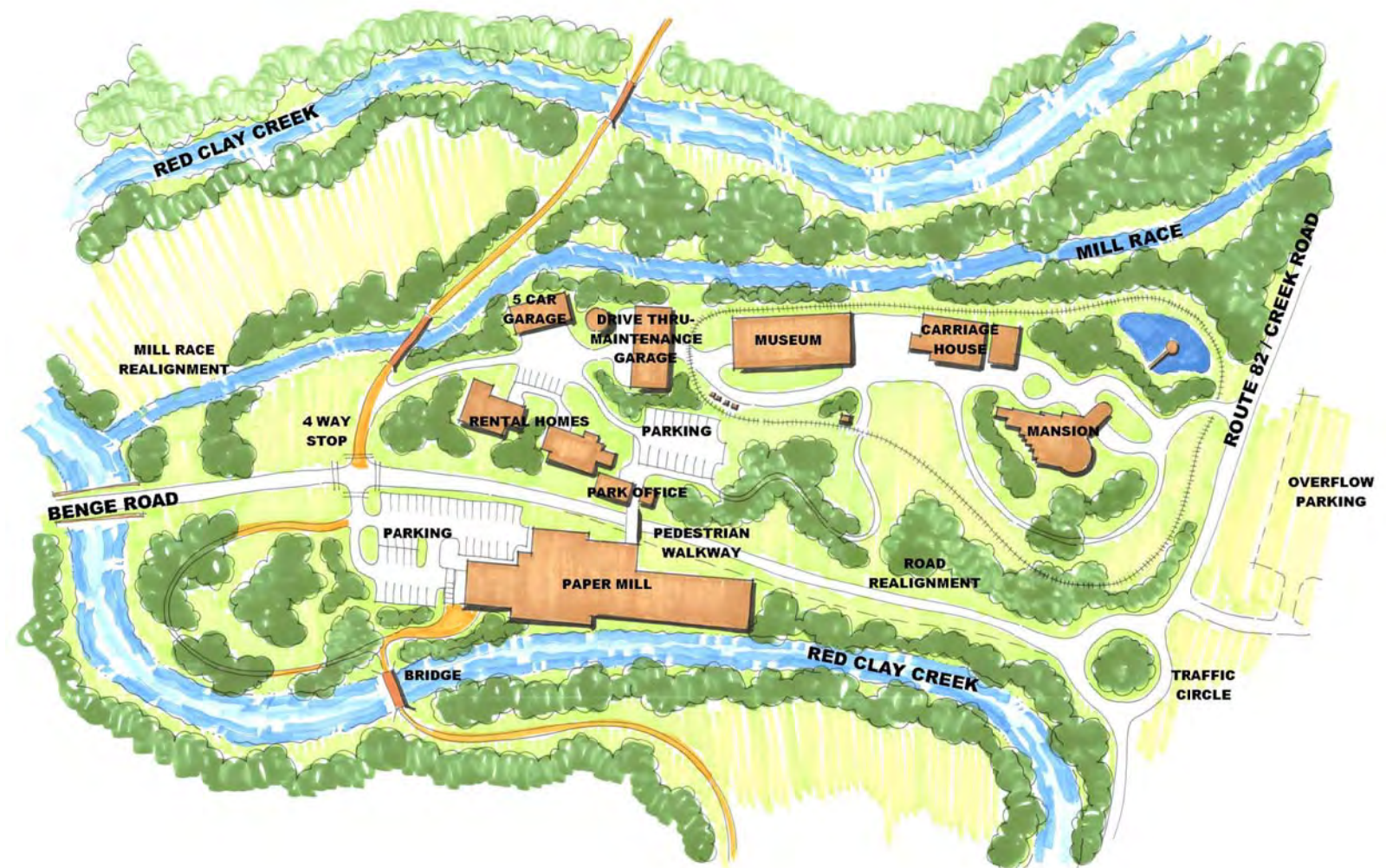
Benge Road— Realigned to provide safe distance from Paper Mill. Intersection at Creek Road to be improved with traffic circle. Four-way stop at Benge and parking lot and trail entrance.

Mill Race— Mill race relocated, connecting to Red Clay Creek before crossing under Benge Road. Reconstruct dam/waterfall for aesthetics and for possible hydroelectric power generation.

Trail— Elevated pedestrian walkway connecting Paper Mill to Park office. Two existing bridges and one new bridge proposed over Red Clay Creek to accommodate pedestrians, steam cars and horse and carriages.

Picnic / Pavilion— Passive recreation area along Red Clay Creek can happen anywhere along creek throughout project.

Historic Auburn Mills Option IV



Economic Development – Yorklyn Fibre Mills District – A Brief History

The Yorklyn Fibre Mills District consists of the various buildings that the National Vulcanized Fibre and Insulation Company (NVF) built to lead the fibre market. Having developed from a paper company, this area shows the expansion of a local company into a burgeoning market at the turn of the 20th century. Portions of this mill were in operation until 2008, shortly before the NVF Corporation filed for bankruptcy.

This site was home to the world’s largest continuous fibre machine. The mills were built by the Marshall Bros. Paper Company, but they quickly formed a separate company, led by the elder brother’s son, J. Warren Marshall. The Marshall Bros. paper mills (one in Delaware and one in Pennsylvania) continued to operate independently, however, their biggest, and sometimes only, customer was the fibre company. Always headquartered in Yorklyn, the company left family hands in 1953 with Warren’s death. It was also around this time that the Marshall Bros. Paper Company was absorbed by the fibre business. NVF eventually had several sites in Delaware in addition to other locations in Pennsylvania, Massachusetts and France. Nearly all of these other locations once belonged to other paper or fibre production companies that NVF bought. Changing world markets and the advancement of other products, among other issues, led to the end of the company and the last operating mills in Yorklyn.

Environmental Remediation

Remediation of the property is required because it is contaminated with zinc remaining from the vulcanized fibre manufacturing process. The most cost effective way to remediate is removal. The plan is to remove most of the structures at the Fibre Mill site. Once the buildings are demolished, natural vegetation will be used to stabilize most of the site. With the area remediated, the site will be ready for flood mitigation and restoration. To address historic flooding issues in the area, it is anticipated that much of the land in the 100 year flood plain will be designed to provide storage capacity to decrease the severity of local flooding. The majority of this will be done with retention areas and retainage sites that will hopefully decrease flood velocities. Wetland areas will provide flood storage, mitigation for stream relocation, habitat for returning wildlife, and secondary remediation, if needed.

Utilities

Not shown in the options, but to be included with any planning of this site, is the location of communications facilities, a study of the existing pumping station, and relocating all utilities underground.

Options

The following pages look at the possible use options today for the Fibre Mill District. The first set of options look specifically at the Fibre Mill site and the following options look at the possible use options for the Mill No. 1 site. All of these options have different elements that can be used with any options. The goal is to show the various elements that are available for this area. All proposed commercial activity will be carried out by private partners.

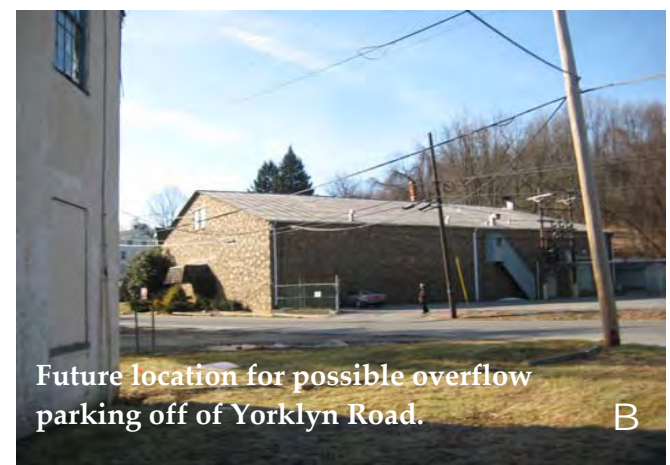
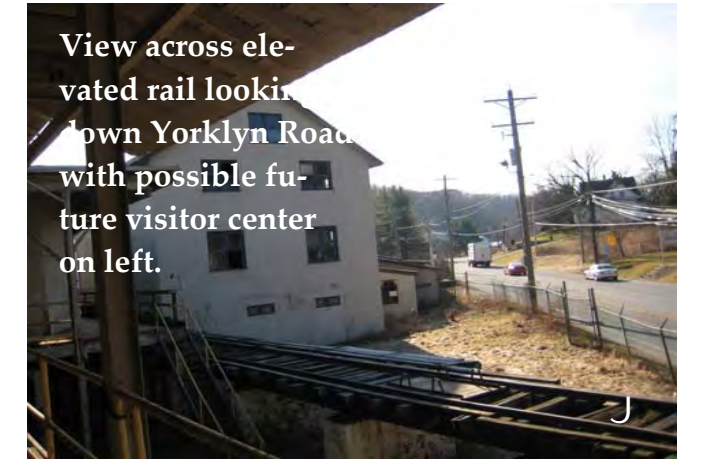
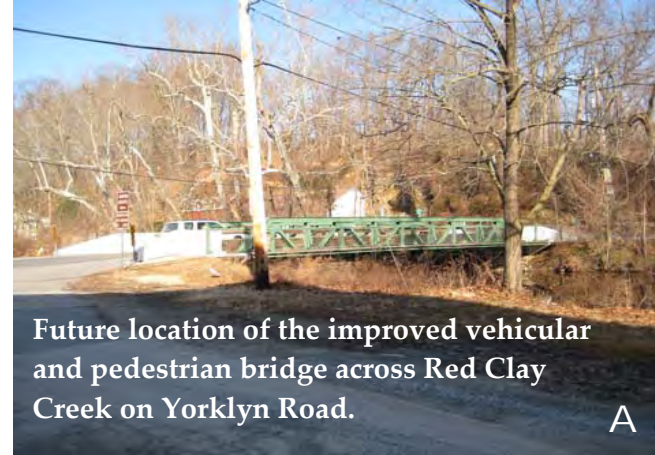


Photo key— pictures on following page

AUBURN VALLEY

Master Plan

Fibre Mills District



AUBURN VALLEY

Master Plan

Fibre Mill Option I

Fibre Mill Option I

Preservation of Building No. 30— Renovated to accommodate possible visitor center and light retail.

- ◆ Parking—parking lot for visitor center.

Possible Preservation of additional Buildings across from Building No. 30 - Renovated to accommodate commercial/ retail depending on condition and allowable uses.

Proposed Tennis Facility— Economic redevelopment area—championship indoor tennis facility with six courts and five outside courts.

- ◆ Parking— parking lot.
- ◆ Overflow event parking off of Yorklyn Road.

Commercial/ Retail Buildings—

- ◆ Parking— parking lot for commercial/retail.

Train Station—Relocate a historically appropriate station or reconstruct a copy of the historic Yorklyn Station.

Train Storage— New building for train storage.

Gun Club Road— Realigned road to bisect mill property and connect back to existing rail crossing.

Yorklyn Road— Improved vehicular/pedestrian bridge crossing over Red Clay Creek with realigned roadway.

Mitigated Wetlands— After remediation, area will be restored as wetlands and designed for flood mitigation.

Trail— Pedestrian, steam car, and horse and carriage trail follows elevated rail. Pedestrian trail loops throughout economic redevelopment area.

Railroad — Railroad will serve as tourism attraction, providing rides, dinners and historic preservation. Static railroad locomotive display if possible.



AUBURN VALLEY

Master Plan

Fibre Mill Option II

Fibre Mill Option II

Preservation of Building No. 30— Renovated to accommodate possible visitor center and light retail.

- ◆ Parking—parking lot for visitor center.

Four Commercial/ Retail Buildings—Economic redevelopment.

- ◆ Parking— parking lot for commercial/retail.
- ◆ Overflow event parking off of Yorklyn Road.

Train Station—Relocate a historically appropriate station or reconstruct a copy of the historic Yorklyn Station.

Train Storage— New building for train storage.

Gun Club Road— Realigned road to bisect mill property and connect back to existing rail crossing.

Yorklyn Road— Improved vehicular/pedestrian bridge crossing over Red Clay Creek with realigned roadway.

Mitigated Wetlands— After remediation, area will be restored as wetlands and designed for flood mitigation.

Trail— Pedestrian, steam car, and horse and carriage trail follows elevated rail. Pedestrian trail loops throughout economic redevelopment area.

Railroad — Railroad will serve as tourism attraction, providing rides, dinners and historic preservation. Static railroad locomotive display if possible.



AUBURN VALLEY

Master Plan

Fibre Mill Option III

Fibre Mill Option III

Preservation of Building No. 30— Renovated to accommodate possible visitor center and light retail.

- ◆ Parking— parking lot for visitor center.

Two Commercial/ Retail Buildings— Economic redevelopment.

- ◆ Parking— parking lot for commercial/retail.
- ◆ Overflow event parking off of Yorklyn Road.

One Residential Building— Economic redevelopment.

- ◆ Parking— parking lot for residential.

Train Station— Relocate a historically appropriate station or reconstruct a copy of the historic Yorklyn Station.

Train Storage— New building for train storage.

Gun Club Road— Realigned road to bisect mill property and connect back to existing rail crossing.

Yorklyn Road— Improved vehicular/pedestrian bridge crossing over Red Clay Creek with realigned roadway.

Mitigated Wetlands— After remediation, area will be restored as wetlands and designed for flood mitigation.

Trail— Pedestrian, steam car, and horse and carriage trail follows elevated rail. Pedestrian trail loops throughout economic redevelopment area.

Railroad — Railroad will serve as tourism attraction, providing rides, dinners and historic preservation. Static railroad locomotive display if possible.



AUBURN VALLEY

Master Plan

Fibre Mill Option IV

Fibre Mill Option IV

Preservation of Building No. 30— Renovated to accommodate possible visitor center and light retail.

- ◆ Parking—parking lot for visitor center.

Possible Preservation of additional buildings across from Building No. 30 - Renovated or reconstructed to accommodate commercial/ retail depending on condition and allowable uses.

Proposed tennis facility— Economic redevelopment area—championship indoor tennis facility with six courts and five outside courts.

- ◆ Parking— parking lot .
- ◆ Overflow event parking off of Yorklyn Road.

Train Station—Relocate a historically appropriate station or reconstruct a copy of the historic Yorklyn Station.

Train Storage— New building for train storage.

Gun Club Road— Realigned road to bisect mill property and connect back to existing rail crossing.

Yorklyn Road— Improved vehicular/pedestrian bridge crossing over Red Clay Creek with realigned roadway.

Mitigated Wetlands— After remediation, area will be restored as wetlands and designed for flood mitigation.

Trail— Pedestrian, steam car, and horse and carriage trail follows elevated rail. Pedestrian trail loops throughout economic redevelopment area.

Railroad — Railroad will serve as tourism attraction, providing rides, dinners and historic preservation. Static railroad locomotive display if possible.



AUBURN VALLEY

Master Plan

Fibre Mill Option V

Fibre Mill Option V

Preservation of Building No. 30— Renovated to accommodate visitor center and light retail.

- ◆ Parking—parking lot for visitor center.

Possible Preservation of additional buildings across from Building No. 30 - Renovated or reconstructed to accommodate commercial/ retail depending on condition and allowable uses.

Proposed Town Center preserving existing building with additional buildings.—Economic redevelopment.

- ◆ Parking— parking lot for commercial/retail.
- ◆ Overflow event parking off of Yorklyn Road.

Commercial/Retail—Economic redevelopment.

Train Station—Relocate a historically appropriate station or reconstruct a copy of the historic Yorklyn Station.

Train Storage— New building for train storage.

Gun Club Road— Realigned road to bisect mill property.

Yorklyn Road— Improved vehicular/pedestrian bridge crossing over Red Clay Creek with realigned roadway.

Mitigated Wetlands— After remediation, area will be restored as wetlands and designed for flood mitigation.

Trail— Pedestrian, steam car, and horse and carriage trail follows elevated rail. Pedestrian trail loops throughout economic redevelopment area.

Railroad — Railroad will serve as tourism attraction, providing rides, dinners and historic preservation. Static railroad locomotive display if possible.



AUBURN VALLEY

Master Plan

Fibre Mill Option VI

Fibre Mill Option VI

Preservation of Building No. 30— Renovated to accommodate visitor center and light retail.

- ◆ Parking—parking lot for visitor center.

Possible Preservation of additional buildings across from Building No. 30 - Renovated or reconstructed to accommodate commercial/ retail depending on condition and allowable uses.

Proposed Town Center preserving existing building with additional buildings.—Economic redevelopment.

- ◆ Parking— parking lot for commercial/retail.
- ◆ Overflow event parking off of Yorklyn Road.

Train Station—Relocate a historically appropriate station or reconstruct a copy of the historic Yorklyn Station.

Train Storage— New building for train storage.

Gun Club Road— Realigned road to bisect mill property and connect back to existing rail crossing.

Yorklyn Road— Improved vehicular/pedestrian bridge crossing over Red Clay Creek with realigned roadway.

Mitigated Wetlands— After remediation, area will be restored as wetlands and designed for flood mitigation.

Trail— Pedestrian, steam car, and horse and carriage trail follows elevated rail. Pedestrian trail loops throughout economic redevelopment area.

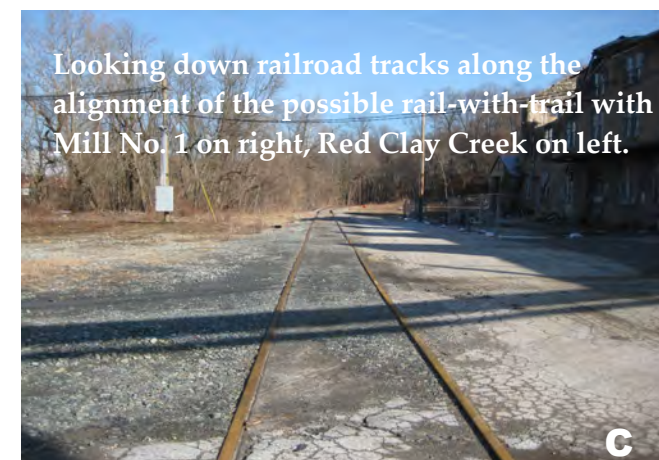
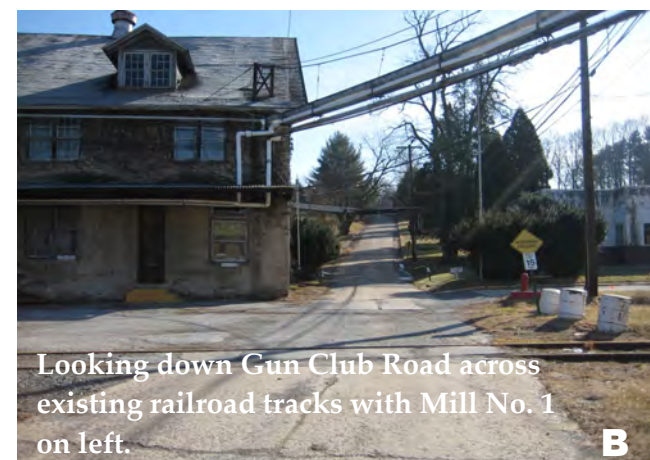
Railroad — Railroad will serve as tourism attraction, providing rides, dinners and historic preservation. Static railroad locomotive display if possible.



AUBURN VALLEY

Master Plan

Fibre Mills - Mill No.1 District



AUBURN VALLEY

Master Plan

Mill No. 1 Option I

Mill No. 1 Option I

Preservation of Mill No. 1 Complex – Economic redevelopment to accommodate residential use.

◆ Parking— parking lot for residential.

Mitigated Wetlands— Area will be restored as wetlands.

Trail— Pedestrian, steam car and equestrian use trail follows rail. Pedestrian trail loops throughout economic redevelopment area and provides possible pedestrian bridge across Red Clay Creek to wetland areas and adjoining properties on Creek Road.

Railroad — Railroad will serve as tourism attraction, providing rides, dinners and historic preservation.

Residential Cluster Housing — Three residential lots extended to end of property adjacent to railroad.



AUBURN VALLEY

Master Plan

Mill No. 1 Option II

Mill No. 1 Option II

Preservation of Mill No. 1 Complex – Economic redevelopment to accommodate residential.

◆ Parking— parking lot for residential.

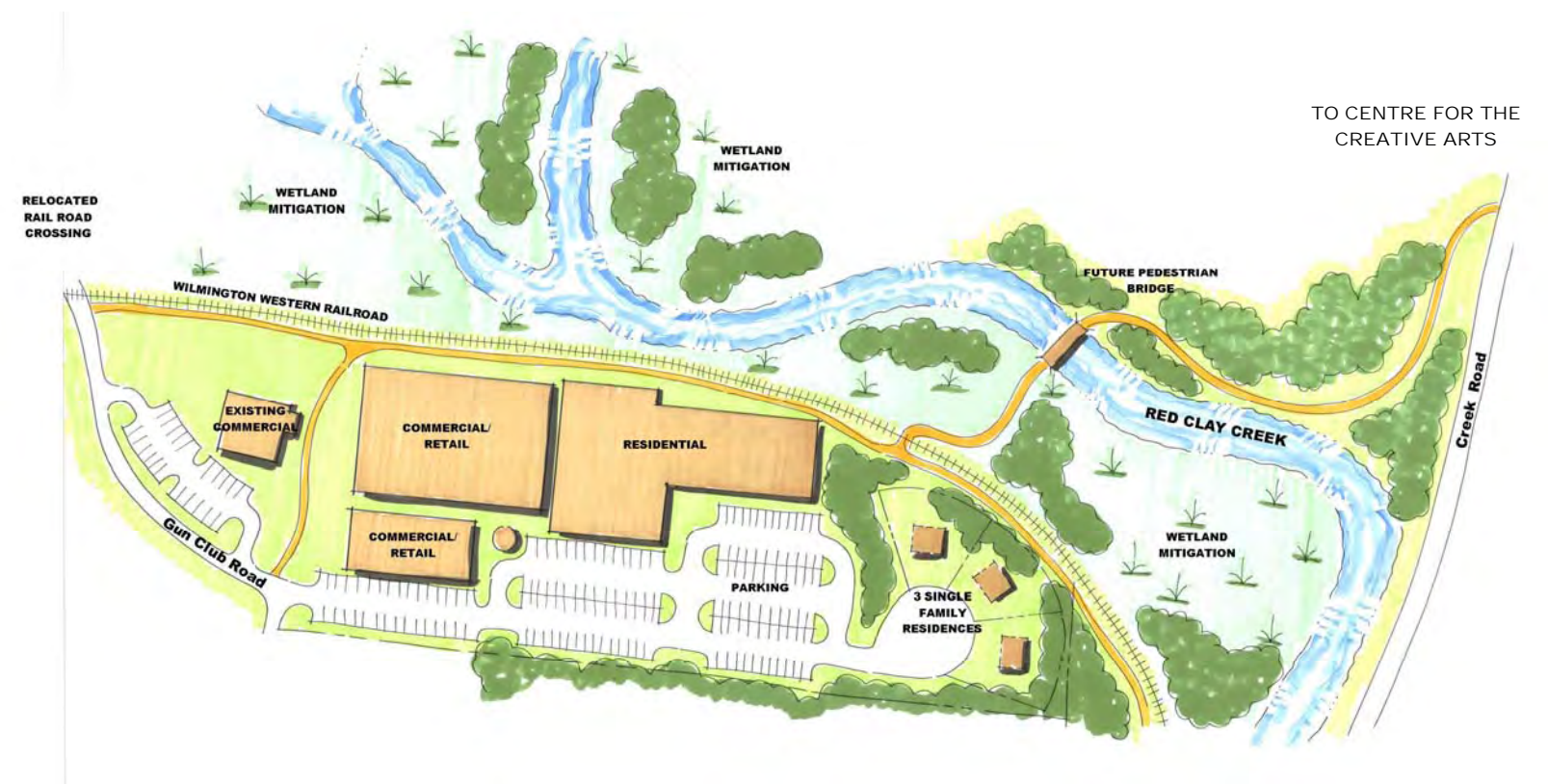
Gun Club Road— Realigned road to bisect mill property and provide a new crossing over railroad.

Mitigated Wetlands— Area will be restored as wetlands.

Trail— Pedestrian, steam car and equestrian use trail follows rail. Pedestrian trail loops throughout economic redevelopment area and provides possible pedestrian bridge across Red Clay Creek to wetland areas and adjoining properties on Creek Road.

Railroad — Railroad will serve as tourism attraction, providing rides, dinners and historic preservation.

Residential Cluster Housing — Three residential lots extended to end of property adjacent to railroad.



AUBURN VALLEY

Master Plan

Mill No. 1 Option III

Mill No. 1 Option III

Preservation of Mill No. 1 Complex – Economic redevelopment to accommodate commercial/retail

- ◆ Parking— parking lot for commercial/retail.

Mitigated Wetlands— Area will be restored as wetlands.

Trail— Pedestrian, steam car and equestrian use trail follows rail. Pedestrian trail loops throughout economic redevelopment area and provides possible pedestrian bridge across Red Clay Creek to wetland areas and adjoining properties on Creek Road.

Railroad — Railroad will serve as tourism attraction, providing rides, dinners and historic preservation.



Architectural Guidelines

Theme

All of the buildings restored/constructed under the AVMP shall adhere to a common architectural theme appropriate to 1920s NVF in Yorklyn. The Division of Parks and Recreation shall have final approval over all construction plans to ensure continuity in theme. The 1904 mill is the most likely starting point in developing a vocabulary of design elements for this project. The building has strong lines, somewhat reminiscent of the Arts and Crafts era to which it belongs. Its design also has simple, functional elements such as corrugated iron awnings, which remind us that this was an industrial site. The site should retain both the Arts and Crafts and the industrial styles, drawing as much as possible from the 1904 building and similar structures in the area, such as the Snuff Mill directly across the Red Clay Creek, and also the NVF site in Wilmington.

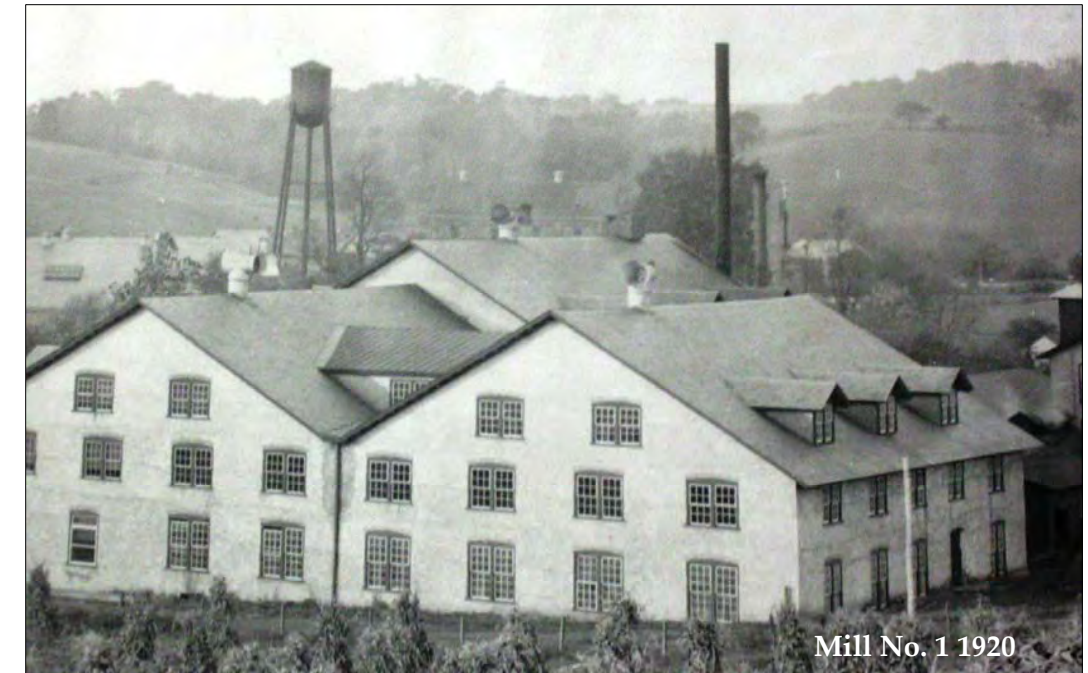
The top photo on the right shows the 1904 Mill, from an early photograph. The photograph shows the building's most important original elements – that are obscured today by additions, deterioration and overgrown vines:

- ◆ The exterior is stucco over stone and brick
- ◆ The windows are the same shapes in the photo as they are now, including the exposed brick arches. Wide spacing and diminishing size for each successive level are a feature to follow. The highest windows are slightly offset.
- ◆ Window casings are darker in color than the sashes, stiles and muntins. Original paint tests would help to define the original colors.
- ◆ Roof material was originally wood or slate shingles or a combination.
- ◆ There are two styles of tin ventilators on the rooflines – the originals are still in place.

The second photo on the right shows details from the Mill structure today.

Green Initiative— All building construction will be designed and constructed to be cost efficient and energy-saving. Building design will focus on resource efficiency, water management, energy use and water efficiency. Possible uses of solar and hydroelectric energy are two examples that will be considered when evaluating building renovations/construction.

Building Heights— Building heights will not exceed the tallest existing building on the Fibre Mile site.



AUBURN VALLEY

Master Plan

Architectural Guidelines

Roof Ventilators and Dormers

Roofline with tower, water tower in distance.



Dormers lacked the arches over their twin, double-hung windows, unlike the rest of the building. They were entirely shingled.



Across the creek from NVF is the Garrett Snuff Mill area, with the remains of mill buildings dating to various decades of the 19th and early 20th centuries.



Gabled roofs of several heights were used, with the rafters and battens showing at the eaves. The roof sheathing was bead board and the shingles were probably originally wood or slate, though now there are asphalt shingles.



There is a corrugated iron roof covering the front of the 1904 building. Depending on the approach taken to designing the complex, such industrial elements could be an unexpected but distinctive component.



The Wilmington NVF plant is also a source for design elements:



AUBURN VALLEY

Master Plan

Architectural Guidelines

Windows

The basic window form is single or double, with slightly curved arches. These are double-hung with nine panes each. There is no apron below the stool. Originally, the casings were of a different, darker color than the sashes, stiles and muntins.



Single windows are of similar construction, but with the number of panes depending on the size of the window.



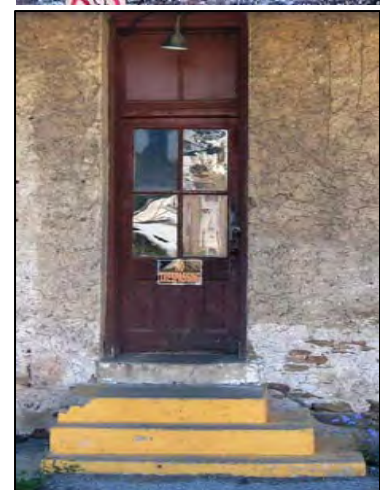
While all conform to a basic style, there are several variations on these windows, including singles and doubles and arches that are two or three bricks high. Each type should be documented. Here, for example, is a single window with three courses of bricks in the arch, double hung, with a transom. The transom has crossed wires to give the effect of diamond-shaped panes. The lower windows have no muntins and are probably replacements.



There were two sets of double doors in the front of the building for loading and unloading. Only one pair remains. The shape of the doors corresponds to the windows, including exposed brick arches. The doors have bead board panels between the rails and stiles, cross bracing on the lower panel and nine-pane windows above. Note the frame around the windows that echoes the arched shape of the door opening.



The entrance to the office part of the building is comparatively narrow. It has a four-pane window inset and three raised panels below. A large transom is above. The concrete steps appear to be a later replacement. Perhaps there was one long wooden loading dock in front originally, by which people reached both the office door and the double doors.



The mills in this area are built of brick, but style elements could be adapted to stucco structures as well.



The clerestory and Palladian windows and many other aspects of the Wilmington NVF plant could be studied for design elements.



AUBURN VALLEY

Master Plan

Historic Elements



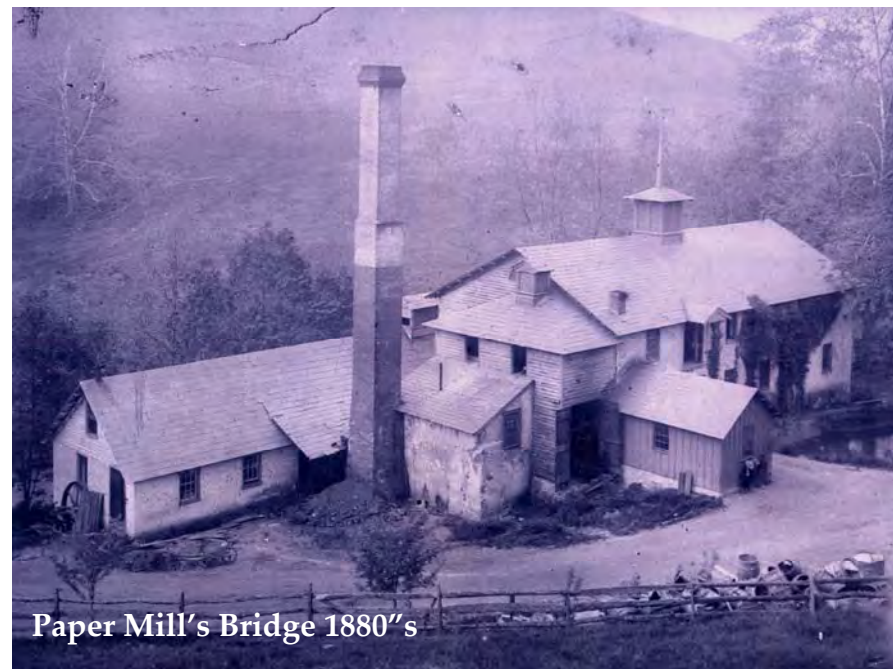
Covered Vehicular Bridge



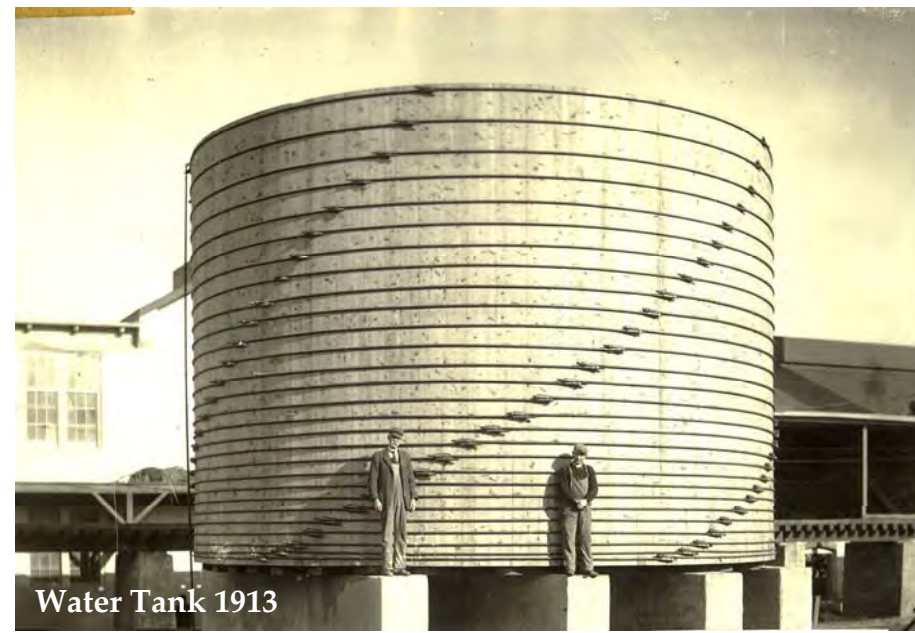
Auburn Heights 1904



Marshall Bros Paper Mill



Paper Mill's Bridge 1880's



Water Tank 1913



Water Wheel 1910

AUBURN VALLEY

Master Plan

Signage

Signage needs to be developed that blends with the architecture. Fonts and design elements from 1905—1920 could be adapted for use on display signage. Interpretive and display signs should have distinctive hardware developed for them. Here is an example of a style set of signage from the National Arboretum in Washington, D.C and elsewhere.

Kelmscott Roman
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890

Tanglewood Tales
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890

Hobby Horse
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890

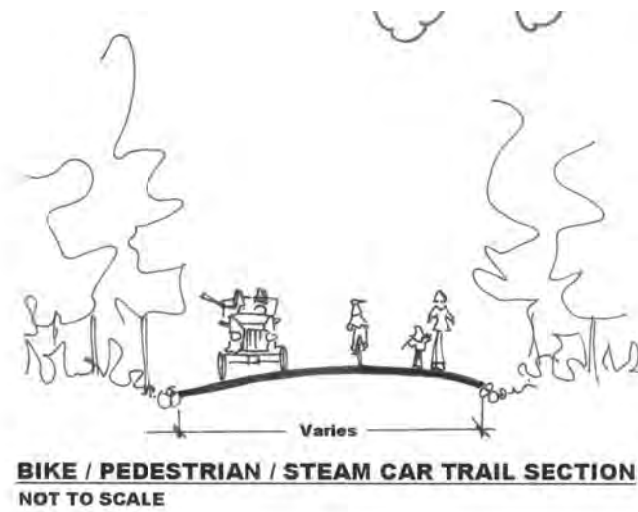
A R T N O U V I
A B C D E F G H I J K L



AUBURN VALLEY

Master Plan

Trail, Road and Parking Surface Options



Conservation Areas—Management Plan

Management – Enforcement

Management and maintenance plans need to be developed for the properties. The overall Management Plan for Auburn Heights Preserve would be primarily broken down into four sections, which include: 1) a staffing plan 2) a maintenance plan 3) an interpretive plan and 4) a policy plan that specifies the rules and proper uses of the park land. All four of these sections must be developed with the other portions in mind as they all interrelate.

Due to the expansion of activities, buildings, and land contained in this master plan, it will be necessary to increase the size of the staff on-site. The following is a proposed staffing plan for the site (the positions in **bold** are already filled):

Full Time Staff:

Park Superintendent

Park Ranger

Trainer/Educator II (Park Interpreter)

Physical Plant Maintenance Trades Mechanic II (PPMTM II)

Physical Plant Maintenance Trades Mechanic I (PPMTM I)

Conservation Tech II

Seasonal Staff:

3-5 Maintenance Staff*

1-3 Interpreters

1-2 Park Patrol Officers

1 Administrative Assistant

*One Seasonal Maintenance employee is currently employed on-site. However, this position is funded through the trust fund that the Marshalls donated with the property. This fund was donated with the expectation that it would be used for larger maintenance projects that the park budget would not be able to sustain. It has only been a temporary solution to fund a seasonal position from this trust fund.

In the original request for Auburn Heights Preserve, Park Manager and Park Ranger positions were both approved. They were not filled before the hiring freeze and were subsequently eliminated. With the current expansion of the property, they have become necessary again, with the Park Manager position being upgraded to a Park Superintendent. Many of the seasonal positions could start with one or two being filled and expanded as the visitor activity grows. The addition of the two PPMTM positions is required by the addition of more historic structures and trails. The historic structures need to be properly cared for, and they will require additional services such as restrooms, exterior lighting and parking lots. These same services will be necessary for the trails laid out in this master plan. Currently, the one Conservation Tech position works on both the maintenance of the structures and the grounds. With more land and trails being added, having this position also be the primary caretaker for the buildings is no longer an option.



Conservation Areas—Management Plan

A maintenance plan needs to be developed as part of the management plan for the site. This plan will cover such things as proper building, trail, and conserved land maintenance. Many of the buildings referred to within the AVMP are historic structures, with several of them being listed on the National Register under the Auburn Mills Historic District. These buildings will require different levels of care commensurate with their ratings. This maintenance plan will also need to address the current agricultural leases and how they will change in the future as the trail system is put in place. The maintenance of the trail will also attend to the portions of the trail that are shared with neighbors and will address how those trail sections will be managed.

Interpretive and educational programs already take place at the Auburn Heights Preserve. However, these programs can be greatly expanded as the site expands. The interpretive plan component of the management plan will address how this expansion will take place and prioritize the types of programs to be presented to the public. This plan will include current and possible future partnerships with local organizations that will benefit the interpretation of the site and the region. Currently, most of the interpretation on and off site is conducted by the Friends of Auburn Heights Preserve with assistance from the Division. This partnership will continue, but the role of the Division in the interpretation of the site as a whole will increase.

The policy portion of the management plan will use other park sites as a guide. However, the uniqueness of parts of the AVMP will necessitate new policies to be developed solely for this property. For instance, with the trail contained in the master plan being a trail for pedestrians, bicyclists, antique cars and equestrians, rules will need to be developed on right of way, approved vehicles, days/times for certain uses, fees for use, etc. The purpose of allowing antique cars on the trail is to give the owners a safe, unique experience that, in part, recreates the feeling of driving the car when it was new. This requires restrictions on the types of cars that can be utilized. Specific eras of cars will be approved for use on the trail with the stipulation that the cars replicate an original unmodified factory car, whether it is original or a reproduction.

New to the site will be fee parking lots. Currently the annual park pass is not accepted at Auburn Heights Preserve because the public does not drive onto the site, much like at the Brandywine Zoo. With the planned lots, this will mean that the property is open on a daily basis with the normal park fees enforced. How this will mesh with the nearby economic development areas and the parking associated with them will need to be assessed.

The management plan for Auburn Heights Preserve will be the first of its kind for Delaware State Parks. By combining the interpretive plan, maintenance plan, policy plan, and staffing plan into one comprehensive document, the overall operations of the park will be more efficient.



Natural Resource Management Issues

The following natural resource issues will be evaluated during the design and development process:

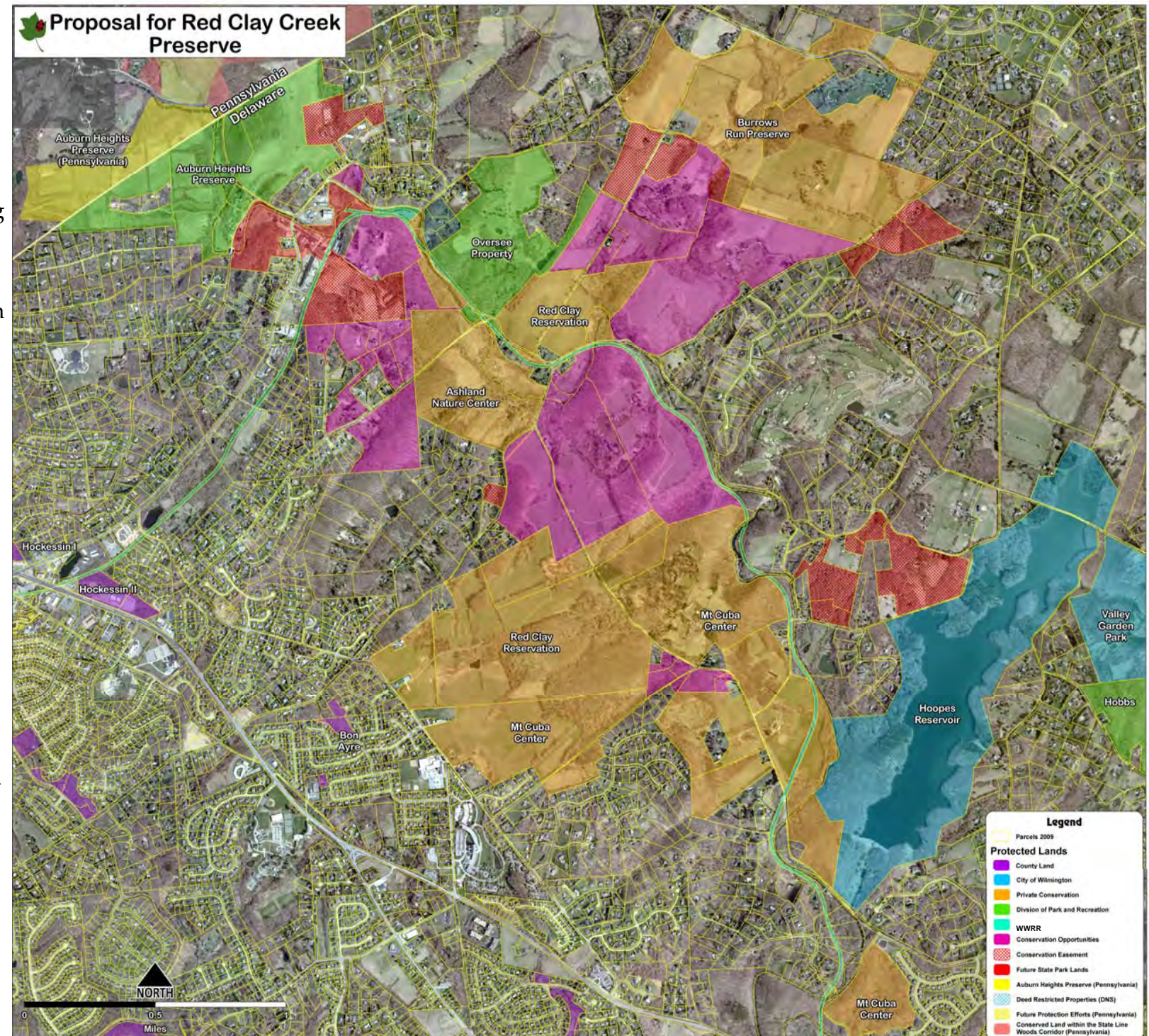
- ◆ Hunting must be included in any planning, first to reduce the overwhelming number of deer and later to maintain the population when it is reduced to an optimal number . The most pressing management issue right now is the development of a regional deer management plan.
- ◆ Control of hunters from the area that have had unrestricted access to hunting in this area will need to be managed. The Division has started an archery hunting program in Oversee Farm and Auburn Heights Preserve.
- ◆ Trespassing from surrounding properties with horses will need to be managed.
- ◆ Beaver complaints are associated with the millrace near the Tom Marshall house. Typically, the Division leaves beaver alone unless there is a specific threat to the property. If they have plenty of food and will not do too much damage, it is a Division policy to leave them alone.
- ◆ Resident Canada geese are present in numbers no causing any management concerns now but their populations must be monitored into the future.
- ◆ These two parks possess the only significant populations of shagbark hickory (*Carya ovata*) in the entire park system. These few trees could be a seed source for restoration elsewhere in the park system. These trees are scattered and uncommon in the two parks. These woods also harbor a population of an underwing moth (*Catocala nebulosa*) that feeds upon hickories and black walnut (*Juglans nigra*) as a larvae. Discovered in 2004, only two previous records of this moth for Delaware have ever been recorded (1889 and 1971, both in Wilmington). The recommendation of Kitt Heckscher (former Division of Fish and Wildlife Natural Heritage zoologist) follows: “ (finding)...this species suggests there may be a rich *Catocala*/moth fauna in these woods. Great caution is to be used if an insecticide application proposal is needed, especially if there is a gypsy moth outbreak in the future. If the property must be sprayed, Dale Schweitzer (local moth expert) would be a good resource for recommendations on how to best attempt to protect the moth fauna.
- ◆ To date, little is known about the biodiversity of both properties (some element occurrences of rare plants have been indentified). Additional surveys are necessary, especially before starting to build trails. The topography of the site has already limited the location of trails to narrow corridors in places. Invasive plants are well established along edges and in gaps, but the area contains a plethora of resources, biological and cultural.
- ◆ Numerous introduced landscape plants exist on both properties, including some state champions (European copper beech & scarlet oak). These landscape species need to be documented. A few of the landscape plants are invasive and need to be removed (no state champions) or managed to avoid an impact.
- ◆ The wetland components have several issues: historical and biological, and even practical. Some of these issues are tied up with the NVF site: dams, millraces, bridges, buildings, rail lines and other infrastructure, mostly on floodplains. Many of these issues have been examined previously and will be critical to any successful design.
- ◆ Meadows at both sites will be an important part of both parks, from both a viewshed and habitat diversity perspective.

Conservation Goals for the Region

The conservation goals for the Red Clay Creek Valley are directed at working with the regional conservation organizations and neighbors to conserve and manage the Red Clay Creek Valley for habitat protection, viewshed preservation and appropriate recreational use. These goals will be accomplished through fee simple acquisitions, conservation easements and management agreements. Several conservation and education organizations are based in the Red Clay Valley and have a long history of working toward these goals. Some of the major players are as follow:

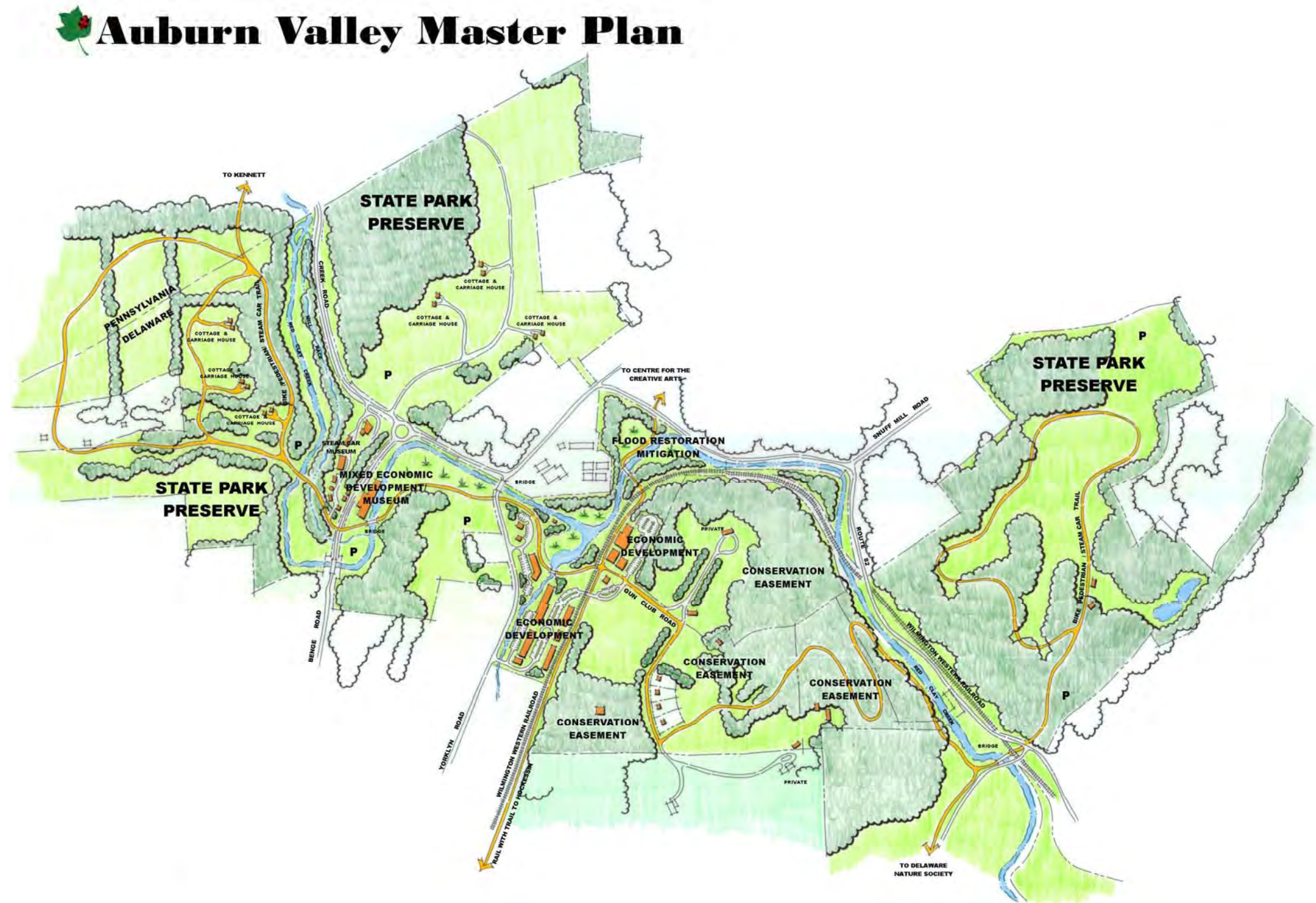
- ◆ The Mt. Cuba Center is a non-profit institution dedicated to the study, conservation and appreciation of native Piedmont plants. It owns almost 600 acres in the Red Clay Valley.
- ◆ The Red Clay Reservation, a private land trust, manages over 500 acres for conservation and land stewardship.
- ◆ The Delaware Nature Society is a non-profit member organization that emphasizes preservation, conservation and advocacy along with its strong environmental education programs on its almost 400 acres in the valley.
- ◆ Anchoring the southern end of the Red Clay Creek Valley is over 550 acres of land owned and managed by the City of Wilmington. The Valley Garden Park and Hoopes Reservoir combine to protect significant land and water resources and contribute to the scenic vistas in the area.

Ongoing discussions are directed to coordinating conservation and management efforts throughout the valley and even extending into Pennsylvania. A unifying link is the historic Wilmington and Western Railroad that winds its way along the Red Clay and through many of the protected lands.

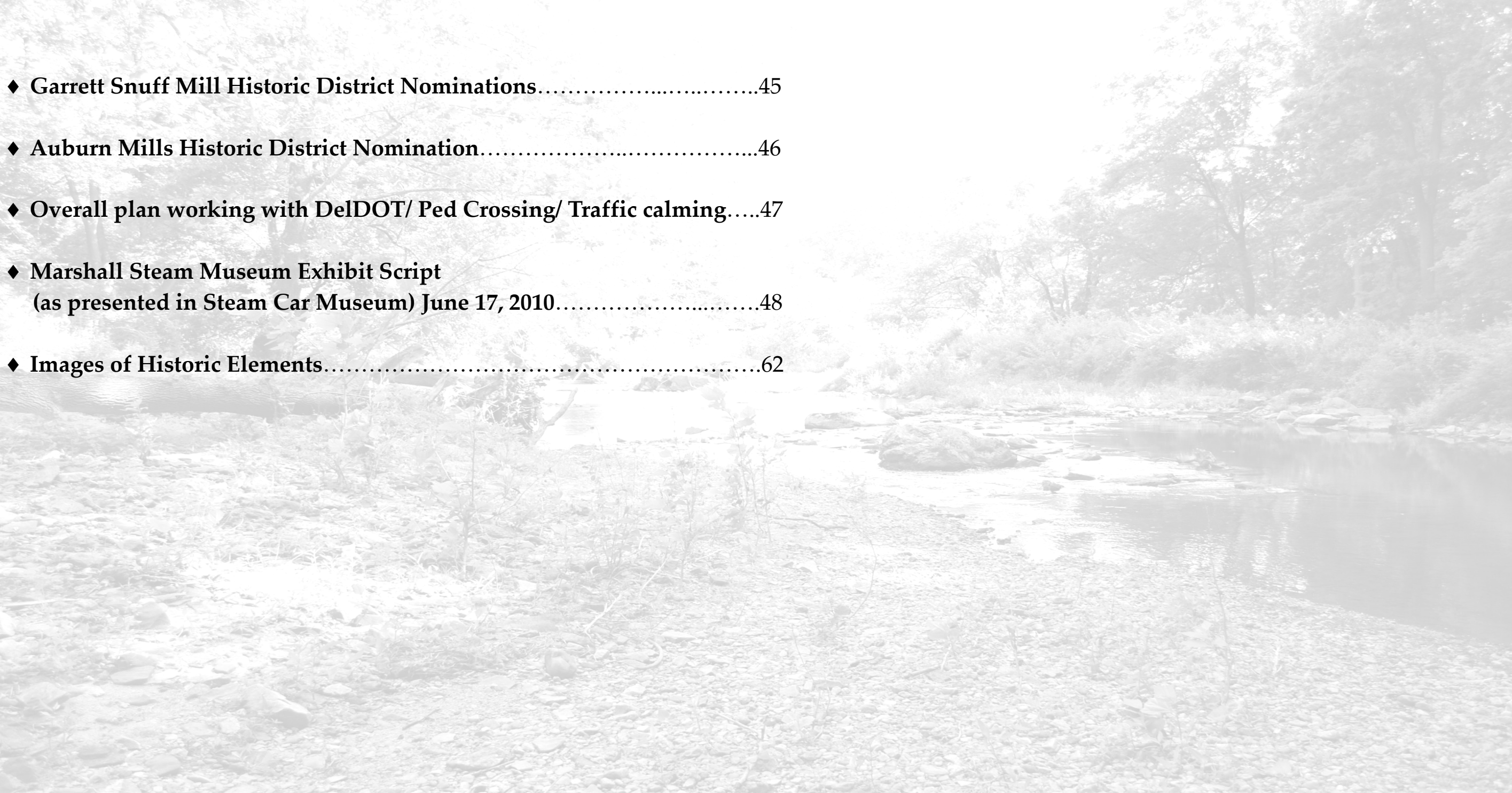


Summary

In summary, the AVMP is an internal document developed to serve as the beginning of a plan for the Auburn Valley area. This first draft includes the history and opportunities for passive and active recreation, transportation, and historic preservation. The Plan includes layout and use options for economic redevelopment of the Auburn Mills Historic District, Fibre Mill, and Mill No. 1 areas. Architectural guidelines, conservation and management opportunities are also addressed. This Plan will be presented for public comment and review and will be revised from time to time as additional information and opportunities become available.



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AUBURN VALLEY

Master Plan

Appendix

Garrett Snuff Mill Historic District Nominations

Form No. 10-300 (Rev. 10-74)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

FOR PHS USE ONLY
RECEIVED OCT 16 1974
DATE ENTERED 10/16/74

SEE INSTRUCTIONS IN HOW TO COMPLETE NATIONAL REGISTER FORMS
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME
HISTORIC
Garrett Snuff Mills Historic District
AND/OR COMMON

2 LOCATION
STREET & NUMBER
Area surrounding intersection of
Route 82 and Yorklyn Road
CITY/TOWN
Yorklyn
STATE
Delaware
VICINITY OF
1
COUNTY
New Castle
CONGRESSIONAL DISTRICT
002

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE
<input checked="" type="checkbox"/> DISTRICT	<input type="checkbox"/> PUBLIC	<input checked="" type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE
<input type="checkbox"/> BUILDINGS	<input checked="" type="checkbox"/> PRIVATE	<input type="checkbox"/> UNOCCUPIED	<input checked="" type="checkbox"/> COMMERCIAL
<input type="checkbox"/> STRUCTURE	<input type="checkbox"/> BIRTH	<input type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> EDUCATIONAL
<input type="checkbox"/> SITE	<input type="checkbox"/> PUBLIC ACQUISITION	<input type="checkbox"/> ACCESSIBLE	<input checked="" type="checkbox"/> PRIVATE RESIDENCE
<input type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input type="checkbox"/> YES RESTRICTED	<input type="checkbox"/> ENTERTAINMENT
	<input type="checkbox"/> BEING CONSIDERED	<input type="checkbox"/> YES UNRESTRICTED	<input type="checkbox"/> GOVERNMENT
		<input type="checkbox"/> NO	<input checked="" type="checkbox"/> INDUSTRIAL
			<input type="checkbox"/> MILITARY
			<input type="checkbox"/> OTHER

4 OWNER OF PROPERTY
NAME
Multiple (see continuation sheet)
STREET & NUMBER
CITY/TOWN
STATE

5 LOCATION OF LEGAL DESCRIPTION
CORNER, HOUSE, RECORD, BOOK OF DEEDS, ETC.
Public Building
STREET & NUMBER
Rodney Square
CITY/TOWN
Wilmington
STATE
Delaware

6 REPRESENTATION IN EXISTING SURVEYS
TITLE
Delaware Cultural Resource Survey, N-329; N-4098
DATE
1975-1979
DEPOSITORY FOR SURVEY RECORDS
Hall of Records
CITY/TOWN
Dover
STATE
Delaware

Form No. 10-300 (Rev. 10-74)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

PH029208 DATA SHEET
RECEIVED DEC 30 1977
DATE ENTERED MAY 21 1978

SEE INSTRUCTIONS IN HOW TO COMPLETE NATIONAL REGISTER FORMS
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME
HISTORIC
GARRETT SNUFF MILL, George W. Helme Company
AND/OR COMMON

2 LOCATION
STREET & NUMBER
Part of the intersection of Route 82 with Yorklyn Road
CITY/TOWN
Yorklyn
STATE
Delaware
VICINITY OF
10
COUNTY
New Castle
CONGRESSIONAL DISTRICT
002

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE
<input type="checkbox"/> DISTRICT	<input type="checkbox"/> PUBLIC	<input checked="" type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE
<input checked="" type="checkbox"/> BUILDINGS	<input checked="" type="checkbox"/> PRIVATE	<input type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> COMMERCIAL
<input type="checkbox"/> STRUCTURE	<input type="checkbox"/> BIRTH	<input type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> EDUCATIONAL
<input type="checkbox"/> SITE	<input type="checkbox"/> PUBLIC ACQUISITION	<input type="checkbox"/> ACCESSIBLE	<input type="checkbox"/> PRIVATE RESIDENCE
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	<input type="checkbox"/> BEING CONSIDERED	<input type="checkbox"/> YES UNRESTRICTED	<input type="checkbox"/> GOVERNMENT
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			<input type="checkbox"/> MILITARY
			<input type="checkbox"/> OTHER

4 OWNER OF PROPERTY
NAME
NVE Company (See Continuation Sheet)
STREET & NUMBER
P. O. Box 68
CITY/TOWN
Yorklyn
STATE
Delaware
VICINITY OF
19736

5 LOCATION OF LEGAL DESCRIPTION
CORNER, HOUSE, RECORD, BOOK OF DEEDS, ETC.
Public Building
STREET & NUMBER
Rodney Square
CITY/TOWN
Wilmington
STATE
Delaware

6 REPRESENTATION IN EXISTING SURVEYS
TITLE
Delaware Cultural Resource Survey, N-329
DATE
1975
DEPOSITORY FOR SURVEY RECORDS
Division of Historical and Cultural Affairs
CITY/TOWN
Dover
STATE
Delaware
19907

AUBURN VALLEY

Master Plan

Appendix

Auburn Mills Historic District Nomination

Form No. 10-302 (REV. 10-17-73)
 UNITED STATES DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES
 INVENTORY -- NOMINATION FORM**

FOR NPS USE ONLY
 RECEIVED OCT 18 1979
 DISTRICT OFFICE JAN 22 1980

SEE INSTRUCTIONS IN HOW TO COMPLETE NATIONAL REGISTER FORMS
 TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME
 HISTORIC AUBURN MILLS HISTORIC DISTRICT
 AND/OR COMMON

2 LOCATION *W. Yorklyn, DE 80 and DE 253*
 STREET & NUMBER Junction of Routes 82 and 253
 CITY/TOWN Yorklyn, DE VICINITY OF Ole
 STATE Delaware CODE 10 COUNTY New Castle CODE 002

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE
<input checked="" type="checkbox"/> STRUCTURE	<input type="checkbox"/> PUBLIC	<input type="checkbox"/> OCCUPIED	AGRICULTURE <input type="checkbox"/> MUSEUM
<input type="checkbox"/> BUILDINGS	<input checked="" type="checkbox"/> PRIVATE	<input type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> COMMERCIAL <input type="checkbox"/> PARK
<input type="checkbox"/> SITE	<input type="checkbox"/> BOTH	<input type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> EDUCATIONAL <input checked="" type="checkbox"/> PRIVATE RESIDENCE
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	<input type="checkbox"/> IN PROCESS	<input checked="" type="checkbox"/> YES, RESTRICTED	<input type="checkbox"/> GOVERNMENT <input type="checkbox"/> SCIENTIFIC
	<input type="checkbox"/> USING CONSERVED	<input type="checkbox"/> YES, UNRESTRICTED	<input checked="" type="checkbox"/> INDUSTRIAL <input type="checkbox"/> TRANSPORTATION
		<input type="checkbox"/> NO	<input type="checkbox"/> MILITARY <input type="checkbox"/> OTHER

4 OWNER OF PROPERTY
 NAME Multiple
 STREET & NUMBER
 CITY/TOWN STATE

5 LOCATION OF LEGAL DESCRIPTION
 COURTHOUSE FILE # OR DEEDS, ETC. City/County Building
 SHEET & NUMBER 200 French Street
 CITY/TOWN STATE
 Wilmington Delaware

6 REPRESENTATION IN EXISTING SURVEYS
 TITLE Delaware Cultural Resource Survey; N-5003
 DATE 1970 FEDERAL STATE COUNTY LOCAL
 DEPOSITORY FOR SURVEY RECORDS Hall of Records
 CITY/TOWN STATE
 Dover Delaware

Scenic Byways – overall plan working with DelDOT/ Ped Crossing/ Traffic Calming**Public Demand for Trail Opportunities**

Trail-related activities are the number one outdoor recreation activities in Delaware to fulfill public needs and trends. These findings were documented in the 2003 - 2008 Statewide Comprehensive Outdoor Recreation Plan (SCORP), a 5-year plan outlining both the demand and need for outdoor recreation facilities. The Plan then projects facilities that will fulfill gaps in outdoor recreation opportunities that meet the public's recreational needs. (See www.destateparks.com/SCORP/SCORP_2-2-04.pdf)

In May and June 2008, the Division of Parks and Recreation conducted a telephone survey of Delaware residents to gather information and trends on outdoor recreation patterns and preferences as well as other information on their landscape perception. These findings will be the foundation of the 2008-2011 update of the Statewide Comprehensive Outdoor Recreation Plan. For purposes of planning and projecting outdoor recreational facility needs, the State was divided into five regions for reporting results taken during the public participation phase of the Plan's development. White Clay Creek State Park falls in Region 1. Updated SCORP research of 402 Delaware households within Region 1 found that 86% of telephone survey respondents expected a member of their household to participate in walking or jogging; 60% participate in bicycling; 51% in hiking; 21% in mountain biking; and 18% in horseback riding. Based on a comparison of findings (from the previously published 2003-2008 SCORP), the trend for trail-related activities continues to be popular among the recreating public.

Priority outdoor recreation facility needs are projected that best fulfill the public's foreseen activities based on research and findings from the public opinion survey. Because Delaware is home to diverse population centers, landscape types, and varying development patterns, regional variations in outdoor recreation needs are to be expected. A common thread in all regions is the need for linear facilities, such as trails and paved pathways, that accommodate walkers, joggers, hikers, bicyclists and horse riders. These activities ranked high in every region, as well as among different ethnic groups and age categories, meaning that more linear facilities should be constructed to keep pace with the population growth and the public's participation.

Results of the 2003-2008 statewide facility needs analysis are presented in Tables 5.1 to 5.6 of the SCORP (SCORP, pages 5-2 through 5-7). Table 5.2 - Region 1 Facility Needs - place walking/jogging and biking paths as highest priorities for outdoor recreation facilities. Results from the 2008 public opinion telephone survey indicate walking/jogging and biking paths as well as hiking trails continue to be high priority facility needs for this region. Furthermore, SCORP identifies major issues of outdoor recreation and conservation concern. In response to the 2008 SCORP telephone survey, 75% of respondents living in Region 1 reported that bike and pedestrian facilities should be a very important funding priority.

The SCORP survey queried participants on several aspects of their recreational lifestyles. When asked why they participate in outdoor recreation, telephone survey respondents gave these top four answers: 1) for physical fitness, 2) to be with family and friends, 3) to be close to nature, and 4) for relaxation.

In addition to the SCORP, the Division has done two recent trail surveys and the Outdoor Foundation has released their 2009 [Outdoor Recreation Participation Report](#). Findings suggest a continued disturbing trend of lower participation rates among many groups.

MARSHALL STEAM MUSEUM EXHIBIT SCRIPT

(AS PRESENTED IN STEAM CAR MUSEUM)

June 17, 2010

From Farmers to Industrialists

In 1759, the Marshall family settled on 160 acres near Marshall's Bridge in Pennsylvania, one mile north of present-day Yorklyn. For several generations, the Marshalls farmed the land and operated a grist-saw mill along the Red Clay Creek. By 1856, Thomas S. Marshall grew weary of farming and began experimenting with paper manufacturing. The venture proved successful, and his sons, Israel and T. Elwood, soon followed him into the paper business.

Shortly after the elder Marshall's death in 1887, Israel and Elwood sought to expand the family's prospering enterprise and followed the Red Clay Creek down into nearby Yorklyn, Delaware, where they purchased an old mill. There they converted water power into steam and commenced paper production. While Elwood remained at Marshall's Bridge, Israel and his wife, Lizzie, relocated with their children to Delaware, moving into the mill owner's house. Small by today's standards, the home was considered quite large in 1890; yet within six years, business was booming at the Marshall Brothers Paper Company, and Israel was ready to move up. So in 1897, he built *Auburn Heights* in a nearby cornfield.

While grand, Auburn Heights is not unique. In fact, the plans were purchased from a catalog, but at a cost of \$11,500, the home exceeded tenfold a typical middle-class home of the period, boasting indoor plumbing, electric lighting, and steam heat.



Thomas S. Marshall & Sons Paper Mill, Marshall's Bridge, Pennsylvania, 1880s. The section to the left along with the stack and the small addition toward the road were torn down when the mill ceased operation about 1910. The remaining portion now features two townhouses, complete with waterwheel.



Israel W. Marshall (1850–1911) and Elizabeth "Lizzie" Mitchell Marshall (1854–1930).



The Marshall family homestead, Marshall's Bridge, Pennsylvania, ca. 1890s. With the Red Clay Creek in the foreground, the homestead includes Elwood's new home on the hill to the far left, with the original 1767 stone farmhouse built by John Marshall and later occupied by several generations of the family.

Auburn Heights, summer 1914. Taken by a tramp photographer, this photo shows Clarence Marshall's 1913 Stanley Roadster, identical to one in the museum now, in the front driveway. At this time, Clarence lived with his widowed mother, and his sister and brother-in-law, at Auburn Heights.



Auburn Heights, 1903. The dark trim and a handsome slate roof of the Marshall's grand home stand out in the 1903 photograph (*left*) taken by T. Clarence Marshall, then 18 years old. The design (*right*), originally published in October 1886 shows the floor plans for the main two floors, including locations of the original bathrooms. The current Auburn Heights mansion has undergone a few changes but remains largely the same. To build the home, Israel ordered the complete architectural plans at a cost of \$250. Photo, courtesy Winterthur Library, Printed Book and Periodical Collection.

Steam Rises at Auburn Heights

Israel Marshall's sons, J. Warren and T. Clarence, joined their father in the family business, which expanded in the early 1900s to include vulcanized fiber production. By 1904, Warren was named president while young Clarence, then only 19, maintained much of the mill's complex machinery (a job he loved) and indulged his passion for all things mechanical. That year Clarence also acquired his first automobile, an Orient Buckboard, replacing the internal combustion engine with a tiny steam propulsion system.

By 1908, Clarence had owned three internal combustion cars, but his passion for steam, then considered the most advanced technology of the day, inspired him to seek a "Stanley Steamer." While dealers refused to sell him a *new* Stanley (saying he was too young to care for it properly), they finally agreed to sell him a *used* 1906 Model H—and he was hooked! He continued to acquire older Stanleys until 1910, when he became a Stanley agent himself.

Clarence sold and serviced more than 50 Stanleys, but the invention of the self-starter gave internal combustion cars the competitive advantage. As steam car sales dwindled, Clarence gave up his Stanley dealership. Although the Stanley Motor Carriage Company continued in operation until 1924, the initial steam car era at Auburn Heights had come to an end.



Workers at the Marshall Brothers Paper Mill, Yorklyn, about 1905. Israel Marshall stands at the top, with his younger son, Clarence, seated in the top row, 1st on the left. John Benge, millwright and superintendent, is in the same row, far right. Photo, courtesy Hagley Museum & Library.



The Marshall Brothers Paper Mill, ca. 1920. The paper mill stands to the left. On the far right is the Insulite mill (constructed in 1901 and no longer standing), which served as the first Marshall Bros. mill to produce vulcanized fiber. Photo, courtesy Hagley Museum & Library.



Endless fiber machine in Marshall mill building #2, ca. XXXX?

The Next Generation of Steam Enthusiasts

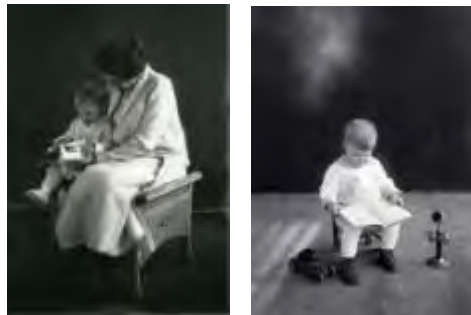
Stanleys were Clarence Marshall's first love, but by 1920, he had found two new passions—Packards and Esther L. Shallcross of Middletown, Delaware. Esther and Clarence married in 1921, and the groom gave his bride a very special wedding present—a new 1921 Packard Six.

With the popularity of steam cars declining, by 1920 Clarence relinquished his role as agent for the Stanley Motor Carriage Company and joined with Frank W. Diver two years later to form the Packard Motor Company of Wilmington. That partnership would last for nearly two decades.

Upon Esther's arrival as the new hostess at Auburn Heights, the Marshalls made numerous improvements to the home, removing the partition that separated the twin parlors to create a large living room and adding a heated sun porch. Their next major addition—a son, Thomas Clarence—arrived in February 1924. Young Tom inherited his father's aptitude for mechanical endeavors and shared his enthusiasm for locomotives, steam cars, and trap shooting—all hobbies at which father and son excelled.



1921 Packard Six. On the occasion of their wedding, T. Clarence Marshall gave his bride, Esther L. Shallcross, a new Packard sedan. It was a fitting gift since Clarence would join Frank W. Diver to form the Packard Company of Wilmington in 1922. The automobile partnership lasted almost 20 years; the marriage nearly 50 (until Clarence's death in 1969).



Left: Esther Marshall with infant Tom, 1925. *Right:* Tom Marshall, 19245. The Marshalls welcomed a new steam enthusiast to the family in February 1924, and the youngest Marshall quickly inherited the family passion for steam power.



Young Tom Marshall enjoys a spin in his first Packard (*left*), 1930. Several years later, Tom poses in an early Model C Stanley, likely the first steam car he ever saw, Farmington, Maine, 1936.



Clarence Marshall shared his affinity for mechanical work with his son, Tom. Clarence could frequently be found working on an engine repair or restoration.

Building the Collection

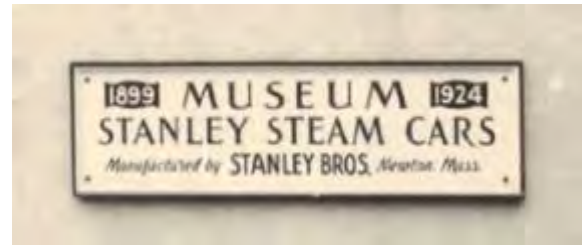
When a 1913 Stanley touring car, belonging to a local farmer, became available in 1940, Clarence Marshall was eager to relive the steam car experiences he had enjoyed as a young man. A group of local teenagers also sought the car, however, and made the first offer. Clarence won out, convincing the owner that the teens were too young and inexperienced—a lecture he had heard more than three decades earlier. Still at Auburn Heights today, the car became the seed of the premier collection of operating steam automobiles. By the summer of 1942, when gas rationing went into effect, Clarence owned three Stanleys and soon used one on a regular basis to conserve gasoline.

By 1946, he had acquired about 20 cars, most of them steamers, but had nowhere to keep them until 1947, when the present museum building was completed. A talented mechanic, Clarence soon restored many of his cars, although cosmetic work was done elsewhere. When he died in 1969, approximately 34 cars remained in the collection.

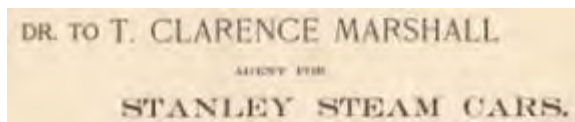
During his lifetime, Clarence Marshall owned more than 60 antique autos, the majority of them steamers, and he passed along his passion for steam travel to his son, Tom. Upon Clarence's death in 1969, Tom inherited the collection, which today includes 14 Stanleys, one 1901 Mobile steam car, a 1916 Rauch & Lang electric car, and two 1930s Packards. A 1909 White steam car, on loan, also remains on display in the museum.



1913 Stanley Model 76, the car that started the collection in 1940, is admired in Bird-in-Hand, Pennsylvania, during a stop on the 1961 Glidden Tour.



The Marshall steam car collection and museum, 1949. Many of the cars shown in this photograph remain in the collection today.



Clarence Marshall in a new Stanley Model 74 at Auburn Heights, 1912. Clarence serviced the cars he sold—all from the Carriage House at Auburn Heights.



An early Stanley Model H-5 at Auburn Heights, 1908.

Hitting the Open Road

The antique automobiles in this museum are considered an *operating* collection since nearly all are registered and may be driven

on public roads. Friends of Auburn Heights Preserve volunteers take them to local shows and special events, regularly participating in parades, fundraisers, community events, and the East Coast steam car tours.

On today's roads, Stanleys travel between 25 mph and 45 mph, which can be challenging in modern traffic conditions, but in their heyday, these automobiles were known for their hill-climbing ability, silent operation, and speed. Stanleys could out-climb and out-accelerate contemporary cars due to what the Stanleys termed the latter's inferior "internal explosion engines."

Riding the Rails of the Auburn Valley Railroad

The dream of a father and son, the Auburn Valley Railroad emerged more than a half century ago, when T. Clarence Marshall began construction of a Union Pacific 4-8-4 "Northern-type" steam locomotive in 1½-inch scale (1/8 actual size). The building of one locomotive took him 7,500 hours alone.

The track that now encircles the Auburn Heights property was laid with great care in the spring of 1960, and by August, the AVRR (as it became known) was complete. The inaugural run took place on Clarence's 75th birthday, August 5, 1960, after which the Marshalls invited the public to enjoy the new attraction several days each year—and they did! Several hundred rode the Auburn Valley Railroad's one train during the fall of 1960, and by April 1961, a second locomotive, the #402, entered service.

Today, the AVRR continues to attract the young—and young at heart—introducing them to the power of steam locomotives.



Ongoing construction of the Auburn Valley Railroad, 1960. The Marshalls hired Everett Hollingsworth of Fairville, Pennsylvania, to lay out, build, and grade the roadbed for a loop around the Auburn Heights property.



Clarence Marshall fills the tender of #401, 1960.



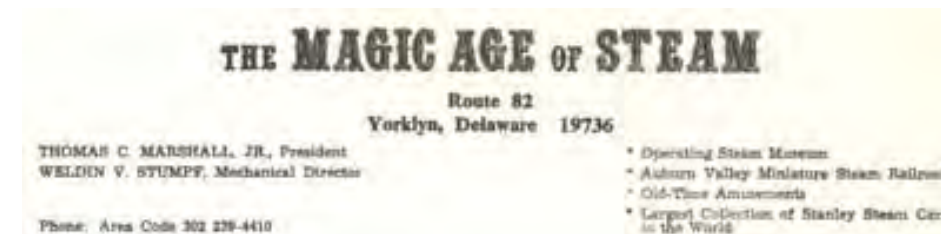
Left: Clarence Marshall leaves West Yorklyn Station with a trainload of passengers, 1960. *Right:* Tom also assumes the role of engineer aboard the Auburn Valley Railroad, 1960. Many of the early trips on the AVRR were to raise awareness and funds for the Wilmington & Western Railroad, which was still in the planning stage.

The Magic Age of Steam

Following the death of Clarence, Tom Marshall opened the grounds at Auburn Heights, including the Auburn Valley Railroad (AVRR), Marshall Steam Museum and other rides, to the general public to foster an appreciation for steam power. Named the “Magic Age of Steam,” the popular attraction opened in September 1971, with just two rides offered—the little train and the Stanley Steamer Mountain Wagon.

One year later, Tom added the Toonerville Trolley and a four-basket Ferris Wheel. Eventually, a paddle-wheel steamboat, the “Robert E. Lee,” was added to circle a newly constructed pond on the property. Other improvements to satisfy public needs included construction of a snack bar building with rest rooms, addition of a new steam heating system and storage building, and expansion of the AVRR with a double-tracked tunnel and trestle.

Originally open on weekends only for seven months of the year, Tom launched daily operations for the busiest months, July and August, in 1973. Many children celebrated birthdays at the “Magic Age,” but by 1977, attendance waned, and the park closed following the 1977 “Old-Fashioned Christmas” event.



The Ferris wheel and Toonerville Trolley as pictured in a brochure for the Magic Age of Steam. Photo, courtesy Delaware State Parks, Marshall Collection.

The Marshall Steam Team

Having no children of his own, Tom Marshall began to think seriously in the 1990s about how to preserve and maintain his collection for future generations. In 1997, he invited a small group of auto enthusiasts to attend a series of lectures and demonstrations on the operation and maintenance of steam cars. The “Marshall Steam Team” grew, and in 2004 received a charter as a 501(c)(3) charitable corporation to be known as the Friends of Auburn Heights Preserve.

Today, the F.A.H.P. membership encompasses more than 200 households, with over 60 active volunteers who maintain and drive the antique automobiles, work as conductors on the railroad, give tours of the museum and mansion, run special events and offer educational programming. Every Tuesday and Thursday evening, volunteers gather at the carriage house to work on various projects related to the maintenance of the collections or on other needed tasks.

In addition to operating the cars on the estate, the “Steam Team” members drive the cars to many local and regional events, enabling the public to experience firsthand the technology of an earlier age. Over the course of a year, the Marshall Steam Museum collection travels to more than two dozen off-site events.



Original “Steam Team” member Bill Schwoebel works on the Model K vaporizer, October 2007. Volunteers with an affinity for mechanical tasks take a leading role in maintaining the museum collections.



“Steam Team” member Art Wallace puts some of the finishing touches on the Stanley Museum’s 1910 Stanley Model 70, which F.A.H.P. repaired during the winter of 2007–2008.

Membership Makes It Better

The Friends of Auburn Heights Preserve welcomes new members and volunteers. No experience needed to join the fun!

Become a Member ...

Many join to lend financial support and keep up-to-date on the latest activities at Auburn Heights. Benefits include:

Complimentary Steamin’ Day tickets

Tom Marshall’s “Weekly e-News” with updates on the latest activities

The quarterly *Auburn Heights Herald*, with informative articles on local history and steam vehicle technology

Membership rates start at \$30 and cover the entire household (primary member, spouse and all children still living at home).

Become a Volunteer ...

We’re committed to matching volunteer skills and interests with meaningful tasks. Roles needed include:

Mechanics to help with technical projects in the steam car shop and museum
Conductors & engineers on the Auburn Valley Railroad
Docents to give tours of the mansion and museum
Horticulturists to tend the Auburn Heights gardens
Administrative help for the F.A.H.P. office
Name your interest, and we’ll find a job for you!

Pick up a brochure and contact us now!



Volunteers attend a spring 2009 steam car driving class. Potential new steam car operators with the Friends of Auburn Heights Preserve undergo rigorous training before earning the privilege of driving a collection vehicle.



Longtime volunteer Bill Rule explains how to prepare a Stanley during a “Firing Up” demonstration, a regular feature at Steamin’ Day events. Photo, courtesy Delaware State Parks.

T. Clarence Marshall, Agent for Stanley Steam Cars

Having already gained extensive experience with steam technology, Clarence Marshall attempted to buy his first Stanley steam car in 1906. Rebuffed by a Philadelphia Stanley agent who believed Clarence was too young to take proper care of the car, Clarence persisted and succeeded in purchasing a used 1906 Model H.

Between 1906 and 1910, Clarence owned three used Stanleys but continued his efforts to buy his first *new* model. By 1910, he solved the problem by becoming a Stanley agent himself, the first for all of Delaware and Chester County, Pennsylvania. He sold more than 50 Stanleys during his 10 years as an agent, also providing numerous spare parts and completing various repairs on customer cars.

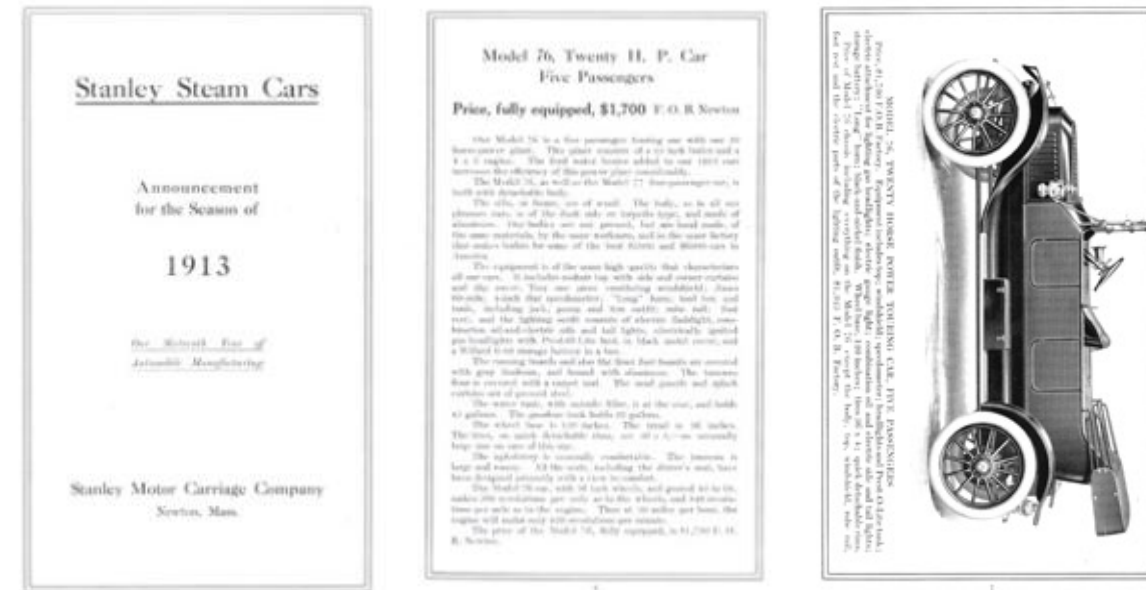
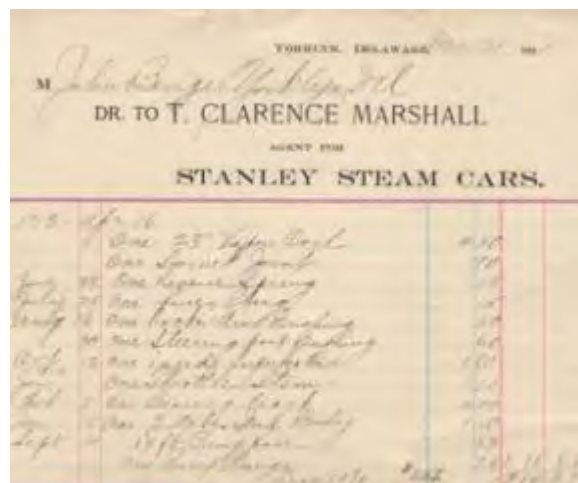
While a Stanley agent, Clarence met the Stanley twins—Francis E. and Freelan O.—who invented and manufactured the “Stanley Steamer.” Because the brothers dressed alike and never identified themselves, he was never sure if he met both of the

twins once or one of them twice!



This 1908 Stanley Model K Semi-Racer was purchased by Clarence used in 1910, shortly before he became a Stanley agent. Clarence once drove this car, which was built for speed, 75 miles per hour. He sold it in 1913, but it returned to Auburn Heights in 1986 when Tom reacquired it for the collection.

1913 Model 76. Sold by Clarence to John Becker when new in 1913, this car became the first in the Marshall Collection when Tom Marshall re-purchased it for \$150 in 1940.



Purchasing a car, especially a Stanley, in the early 20th century differed greatly from doing so today. Buyers ordered a car out of a catalog such as this one. The car you received might not look precisely like the one in the picture, and all images were in black-and-white. When a customer's Stanley was delivered to Clarence, he would notify them and offer a lesson on how to operate and maintain the car.

Clarence Marshall used the carriage house at Auburn Heights (built in 1902) as the base of operations for what we would today call a dealership. Unfortunately, fire destroyed the interior in 1914 after a worker's torch ignited some hay. The interior was rebuilt using steel so such a blaze would not happen again.

Thank You to Our Community Partners

The Friends of Auburn Heights Preserve appreciates the extraordinary support received from granting agencies as well as community businesses and organizations that have generously donated goods and services to support our educational mission.

- Christmas Shop Foundation
- Country Butcher Market, Kennett Square
- Crystal Trust
- Hagley Museum & Library
- Marshall-Reynolds Foundation
- R.C. Fabricators
- Shinn's Paint Store
- Winterthur Museum, Garden & Library

Auburn Heights Preserve One Family's Legacy to Delaware

Auburn Heights Preserve is Delaware's newest State Park site thanks to the generosity of Thomas and Ruth Marshall. The preserve encompasses nearly 200 acres of protected land, with the 4-acre core estate located on a hilltop adjacent to the Red Clay Creek and the original family mill buildings.

For more than a half century, the Marshalls invited the community to visit Auburn Heights and the Marshall Steam Museum for special events and gatherings. While no longer a private residence, the mansion still holds the mementos and antique furnishings that tell the story of three generations of the Marshall family. The Friends of Auburn Heights Preserve, Inc. and Delaware State Parks proudly continue the Marshall tradition of sharing the mansion, museum, and grounds with the community through tours and educational programs that highlight the Marshall family's contributions to Delaware industrial history.

Although Tom and Ruth Marshall no longer live at Auburn Heights, it is not unusual to see them working on the property—tending to the cars, gardens, trains, and buildings. They remain the cornerstone of the volunteer base that makes up the Friends of Auburn Heights Preserve, Delaware State Parks' partner in operating this site.



Tom and Ruth Marshall enjoy a ride in the 1905 Stanley CX on its 100th birthday, July 31, 2005. Volunteers with the Friends of Auburn Heights Preserve work hard—and play hard too!

The Joseph Boxler Education Fund Sharing the Power of Steam

When Joe Boxler joined the Friends of Auburn Heights Preserve (F.A.H.P.), he brought not only a youthful spirit and vitality to volunteer work nights (every Tuesday and Thursday evening) but also a sincere respect for the impact of steam technology across generations. His curiosity and tenacity were immediately apparent, and he became a valued F.A.H.P. member and friend.

Following Joe's tragic death in a traffic accident in October 2007, the Boxler family partnered with F.A.H.P. to establish the Joseph Boxler Education Fund to honor his memory and share with others the energy and enthusiasm he brought to every undertaking. The fund supports educational programs at Auburn Heights and seeks to foster a greater appreciation for the impact of steam technology.



Volunteer Art Sybell and Joe Boxler paint "Little Toot," an Auburn Heights attraction for its youngest visitors.



Specifications

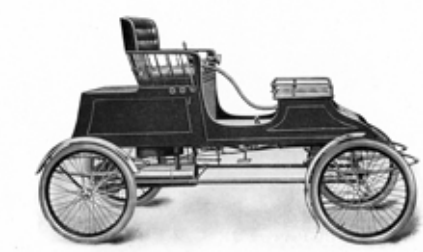
Capacity: 2/4 passengers
 Engine: 4½ horsepower
 Weight: 900 pounds
 Wheelbase: 65 inches
 Cost: \$650 in 1901; today's equivalent: \$17,000

In 1899, the Stanley brothers sold their fledgling business to John B. Walker and Anzi L. Barber, but the latter partnership immediately fell apart, with Barber launching the Locomobile Company in Bridgeport, Connecticut, and Walker starting Mobile Company of America in Tarrytown, New York. Both manufactured vehicles of Stanley design. Mobile's manufacturing ended just a few years later, about the same time Locomobile switched to building high-quality gas cars.

Purchased new in 1901 by the Hodgetts family, this Mobile received an aftermarket modification in 1903 that lengthened its wheelbase and added a front seat. Soon after, Edwin Hodgetts drove with three passengers from Wallingford, Connecticut, to Atlantic City, New Jersey, and back—an astonishing feat for such a delicate machine on the roads of that era.

Alexis I. du Pont purchased the car from Edwin Hodgetts in 1945. He made it operational and gave it a quick cosmetic restoration. After 60 years of care, du Pont sold the car to the Friends of Auburn Heights Preserve, which became only the third owner. It is the oldest car in the collection and remains the only one that uses the chain drive of the Stanleys' earliest design.

1902 Stanley Stick-Seat Runabout



Specifications

Capacity: 2/4 passengers

Engine: 6 horsepower

Weight: 900 pounds

Wheelbase: 70 inches

Cost: \$650 in 1902; today's equivalent: \$16,700

Like most early steam cars, the first Stanleys featured a vertical engine under the seat with chain drive to the rear axle. With this model, the Stanleys mounted the engine in front of the rear axle and geared it directly to the axle. Until the end of production in 1924, all Stanley cars used this design. Note the tiller steering on the "wrong side."

This Stick-Seat Runabout was purchased in 1944 from an antiques dealer in Harrisburg, Pennsylvania, and restored to running condition. In 1986, it was restored again and painted. To celebrate its 100th birthday in 2002, it was driven nearly 100 miles, including a trip to the Hagley Car Show and return.

1905 Stanley Model CX



Specifications

Capacity: 2/4 passengers

Engine: 8 horsepower

Weight: 1,000 pounds

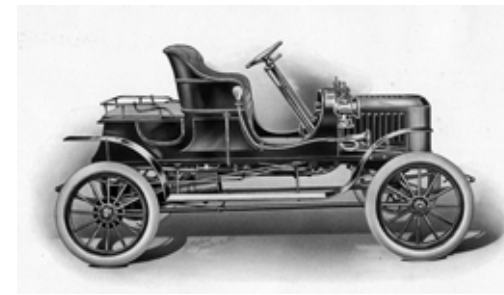
Wheelbase: 78 inches

Cost: \$670 in 1905; today's equivalent: \$16,900

Slightly larger and more powerful than the 1902 model, the CX was the last model with tiller steering and a boiler under the seat. A very primitive car today, this model was nonetheless used for track racing, and in 1904 a very similar model was driven by F. E. Stanley up the motor road to the top of Mount Washington in 28 minutes.

Tom Marshall bought this car from Robert Smith of St. Michaels, Maryland, in 1975. Painted red, white and blue in honor of the nation's bicentennial, it participated in several parades in 1976. In 1986, the color scheme changed to the present colors. It has been driven on 2 one- and two-cylinder tours and to several local events.

1908 Stanley Model EX



Specifications

Capacity: 4 passengers

Engine: 10 horsepower

Weight: 1,200 pounds

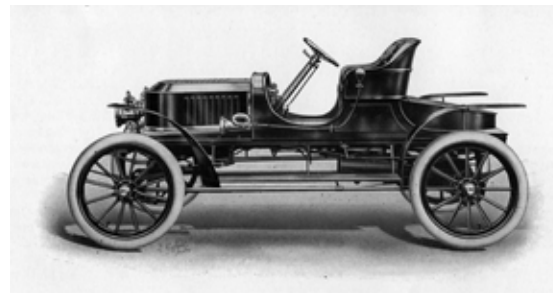
Wheelbase: 90 inches

Cost: \$870 in 1908; today's equivalent: \$20,400

The Stanley Motor Carriage Company made styling changes in 1905–7, placing the boiler and burner under a hood in front and replacing the tiller with a steering wheel. The driver finally made it to the front seat, but he was still on the "wrong side."

The Model EX, made for three years, represented the largest production of any model throughout the Stanley company's 25-year history. This car was purchased for the museum by Clarence Marshall in 1948 and painted the following year. The original owner was a Mr. Coolidge of Vermont, whose cousin—Calvin Coolidge, our 30th President—may have ridden in this car.

1908 Stanley Gentleman's Speedy Roadster Model H-5



Specifications

Capacity: 2 passengers

Engine: 20 horsepower
Weight: 1,350 pounds
Wheelbase: 100 inches
Cost: \$1,350 in 1908; today's equivalent: \$32,500

By 1908, the Stanleys were manufacturing a full line of models, from family touring cars to limousines to fast roadsters. The Model H-5 is the sports car of the line, advertised as "intended for those who wish to hit up a speed of 65 or 70 miles an hour on a good, safe road."

This vehicle was purchased from Murray M. Brown of Athol, Massachusetts, around 1950, when his wife of one year said either the car had to go or she would. A toolmaker by trade, Brown purchased the car during World War II and completely disassembled it to refinish each piece. The story goes that he painted and striped the pieces while in the nude to prevent any dust from clothing getting into the paint.

Clarence Marshall purchased the Model H-5 pieces from Brown and assembled them, taking the car to meets sponsored by the Antique Automobile Collectors of America. His son Tom drove it on a 1973 steam car tour. This automobile also participated in the great New Jersey Steam and Air Race about 1975 and traveled to Columbus, Ohio, for the annual convention of Stanley Steamer, Inc., the rug cleaning company.

1908 Stanley Semi-Racer Model K

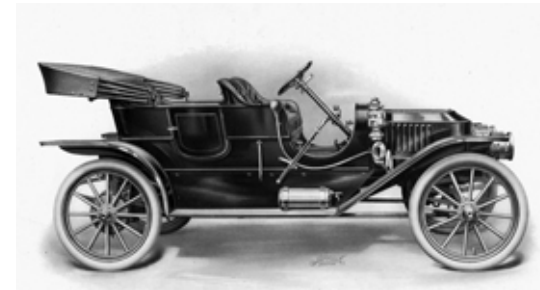


Specifications
Capacity: 3 passengers
Engine: 30 horsepower
Weight: 1,850 pounds
Wheelbase: 108 inches
Cost: \$1,800 in 1908; today's equivalent: \$43,300

In 1906, the Stanleys developed their strongest power plant ever, using a 4½-inch x 6½-inch engine and a 30-inch-diameter boiler. That same year, this power plant drove their streamlined racer to a world land speed record of 127.66 MPH. By 1907, the same power plant, with a somewhat smaller boiler, was installed in a very light three-passenger vehicle, creating one of the very first muscle cars. The catalog termed it a "semi-racer," and only 26 were built.

Clarence Marshall bought a used Model K in 1910 and owned it for three years. That vehicle was later broken up and the parts thrown in the back corner of a machine shop in Avondale, Pennsylvania. In 1945, Hyde Ballard gathered up what he could find and used many of the original parts to rebuild the car. Tom Marshall acquired and restored it in 1986.

1910 Stanley Touring Model 71



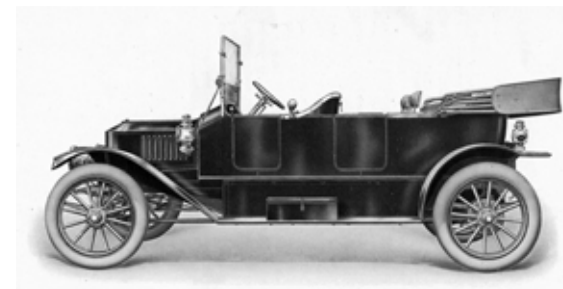
Specifications
Capacity: 4 passengers
Engine: 20 horsepower
Weight: 2,200 pounds
Wheelbase: 115 inches
Cost: \$1,400 in 1910; today's equivalent: \$32,600

A stylish touring car with outstanding performance, the Model 71 came equipped with top and side curtains, but a windshield was optional. The wood body is the smallest and lightest supplied by the Stanleys. While rated at 20 horsepower, the engine was capable of developing 105 horsepower with unlimited steam.

Purchased from Mr. Gould of Union, New Hampshire, in 1945, this car underwent restoration the following year and was then driven and shown at the Antique Automobile Club of America Fall Meet at Devon, Pennsylvania. An excellent original car, the only known mechanical work done at that time was the installation of a newly retubed boiler and a wheel change to a slightly smaller diameter, making it possible to get tires.

This Model 71 again underwent professional restoration in 1998 by Charles W. Johnson of Wellsville, Pennsylvania.

1912 Stanley Touring Model 87



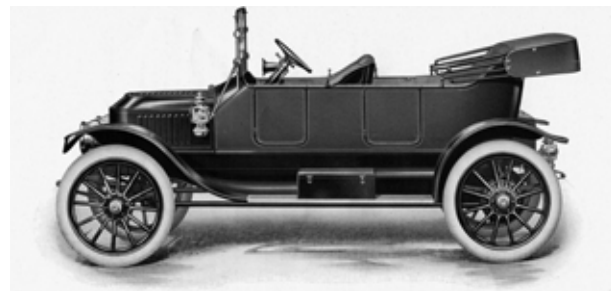
Specifications
Capacity: 7 passengers
Engine: 30 horsepower
Weight: 4,200 pounds
Wheelbase: 134 inches
Cost: \$2,500 in 1912; today's equivalent: \$57,100

The Stanley Model 87 was the largest and most powerful touring car ever built by the company. A roomy touring body on a large chassis, it was propelled by the 30-horsepower power plant, identical to that powering 12- and 15-passenger buses called Mountain Wagons.

This Model 87 was purchased in 1950 by Clarence Marshall from Paul A. Bourdon of Woodstock, Vermont. Bourdon had used elements from the bodies of two similar cars to make this one, but otherwise, the car was very much original when acquired. Clarence Marshall drove the car with only minor mechanical improvements on three consecutive Glidden tours.

To prepare it for long-distance touring, Tom Marshall initiated a number of enhancements before driving it on many Steam Car Tours and four “Trans-Con” Tours. Having traveled more than 70,000 miles since 1950, it holds the record for the longest trip ever made in a steam car—8,328 miles—without an accompanying vehicle.

1913 Stanley Touring Model 76



Specifications

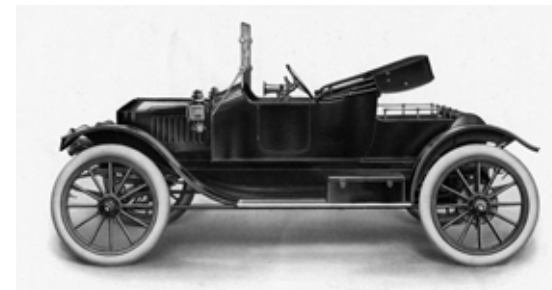
Capacity: 5 passengers
 Engine: 20 horsepower
 Weight: 2,800 pounds
 Wheelbase: 120 inches
 Cost: \$1,700 in 1913; today’s equivalent: \$38,000

A fine family excursion car, the Model 76 features an aluminum-skinned body over a wooden frame. Affectionately referred to as “the Becker car,” this was the first automobile acquired by Clarence Marshall when he began building his steam car collection.

Originally sold new by Marshall to John Becker of Kennett Township, Pennsylvania, in February 1913, it was driven by Becker 9,100 miles in six years. In 1919, the owner retired it to a dry garage, where it remained for two decades until Marshall bought it in 1940 for \$150. He soon had it running again, changing the boiler to a Derr water-tube type and installing a Cruban burner.

In 1954, a partial restoration and repainting resulted in the installation of the original type Stanley boiler and burner. In 1986, the undercarriage and wheels were painted yellow, much closer to the original color, and a new top and leather upholstery replaced the original. The engine has never been out of the car, and mechanically, it is almost as built. The car has probably been driven about 45,000 miles since 1940 and has been on four Glidden Tours and many steam car tours.

1913 Stanley Roadster Model 78



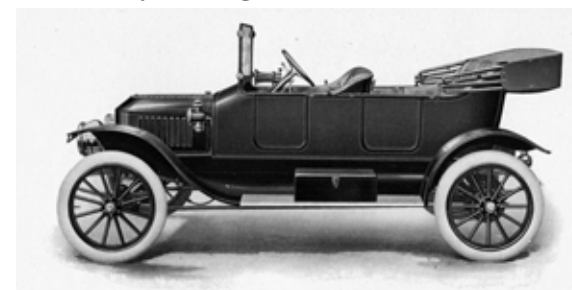
Specifications

Capacity: 2 passengers
 Engine: 20 horsepower
 Weight: 2,500 pounds
 Wheelbase: 115 inches
 Cost: \$1,640 in 1913; today’s equivalent: \$36,700

Purchased for the museum about 1949, this car was originally owned by Dr. J. H. Allen of St. Johnsbury, Vermont. It is one of three metal-bodied 20-horsepower roadsters in existence, and the only surviving Model 78. After its purchase, this very original car received a quick paint job, new top, side curtains, and some engine work before being driven 1,200 miles on the 1950 Glidden Tour. It also participated in the 1974 Steam Car Tour. The wheels installed after the 1950 restoration were 34x4, but these were eventually changed in 1974 to Elster Hayes wheels and Coker rims.

In 2010, the Friends of Auburn Heights Preserve commissioned a complete restoration of this car by Charles W. Johnson of Wellsville, Pennsylvania.

1914 Stanley Touring Model 607



Specifications

Capacity: 4 passengers
 Engine: 10 horsepower
 Weight: 2,200 pounds
 Wheelbase: 112 inches
 Cost: \$1,450 in 1914; today’s equivalent: \$32,100

The 10-horsepower Stanleys far outnumbered all others because they were the least expensive, but 1914 was the final year for

these smaller cars, as it was for wood frames, full elliptic springs in front, right-hand steering, and gas lights.

Tom Marshall purchased this vehicle in 1946 for \$500 from Donald H. Randall of Randolph, Massachusetts. Before it was driven 400 miles to Delaware, a newly built burner was installed at Randall's home. At this time, if an antique car went to a meet or tour, it was simply driven there, so between 1946 and 1952, the car traveled about 10,000 miles, completing the Glidden Tour in 1948 and venturing twice to New England in 1948 and 1951 to attend steam car meets.

In 1949, the Model 607 underwent cosmetic restoration in Bill Allaband's shop in Kennett Square, Pennsylvania. Six decades later, in 2009, the Friends of Auburn Heights Preserve completely disassembled the vehicle, which is currently undergoing a full restoration.

1915 Stanley Mountain Wagon Model 820



Specifications

Capacity: 15 passengers
Engine: 30 horsepower
Weight: 5,000 pounds
Wheelbase: 136 inches
Cost: \$2,350 in 1915; today's equivalent: \$51,800

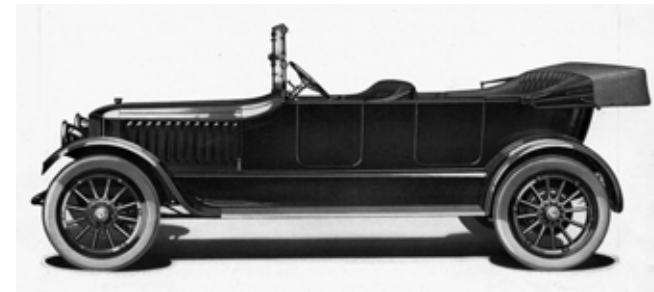
The 15-passenger version of Stanley's commercial offering, the Model 820 was the largest Stanley passenger vehicle ever built, and this example remains the only surviving 15-passenger model.

Believed to have been originally owned by the Litchfield Shuttle Company of Southbridge, Massachusetts, the Model 820 had been used to haul logs out of the New Hampshire woods before its purchase by Clarence Marshall in 1946 for \$1,700 from George Monreau of Cochrasset, Massachusetts.

Driven home after purchase, the vehicle immediately underwent an "early restoration," with a new paint job (changing the color from black to the original red), installation of smaller, heavier wheels and tires, an engine change, and some burner work. Seat cushions were covered in imitation leather and a new top was made. A reliable car, it ran for 30 years with minimal maintenance.

More than 100,000 passengers have ridden in this vehicle, many for very short rides, and it may easily hold the record for the most passengers carried in an authentic antique car. Driven not only on two Glidden Tours but to many local meets and on a tour in Colorado, the total mileage since acquisition remains low—less than 15,000 miles.

1916 Stanley Touring Model 725



Specifications

Capacity: 5 passengers
Engine: 20 horsepower
Weight: 3,400 pounds
Wheelbase: 130 inches
Cost: \$1,975 in 1916; today's equivalent: \$39,800

By 1915, the need to stop for water every 30 miles or so became an inconvenience to motorists, who frequently used cars for regular transportation. The increase in automobile use also resulted in a decrease in the use of horses and a reduction in the number of convenient roadside horse troughs where water could be readily "borrowed." In addition, the rise in vehicular traffic made the Stanley's cloud of exhaust steam a nuisance and, occasionally, a hazard.

In 1915, the Stanleys drastically changed the design and appearance of their cars. Few cars were built that year, but afterward, all Stanleys had a condenser to catch the exhaust steam and channel it to the water tank for reuse.

Clarence Marshall purchased the Model 725 in 1948 from Mervin Allatt, Donald Randall or Ralph VanDine (who served as early vintage "steam car dealers"). An exceptional original condensing car, it has needed very little mechanical work to the engine and moving parts. Used intermittently for more than 60 years, the Model 725 has participated in many steam car tours and has appeared at numerous local events and shows.

1916 Rauch & Lang Electric

Specifications

Capacity: 5 passengers
Engine: 90 volts
Weight: 3,500 pounds
Wheelbase: 92 inches
Cost: \$2,800 in 1916; today's equivalent: \$56,500

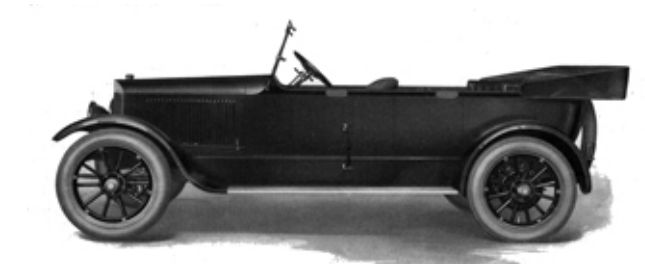
Early electric cars boasted a top speed of 20–25 MPH and a range of only about 30 miles before needing to be recharged. While the cars were heavy and tiller steering was difficult, most early operators were women.

The Rauch & Lang and Baker Electric cars were closely connected for many years, and through 1916, practically identical lines were sold under both names. Baker built the power plants; Rauch & Lang built the bodies. Starting in 1917, the cars were sold only as Baker Electrics.

Purchased in about 1950 by Clarence Marshall from Spencer Sharpless of Wayne, Pennsylvania, this car had been in storage. A mercury-vapor type charger came with the car, but the vapor bulb had lost its vacuum, and attempts to charge the batteries were unsuccessful. In the early 1950s, a motor-generator charger was donated to the Marshall collection by Frank V. du Pont. The original-type batteries remained in the car until 2002.

The car stood as a static exhibit in the museum until late 2001, when members of the Steam Team convinced Tom Marshall that it should run again. They purchased and installed new deep-cell golf-cart-type batteries and activated the motor-generator charger. A small charger was soon installed next to the rear batteries to simplify the recharging process.

1918 Stanley Touring Model 735



Specifications

Capacity: 7 passengers
Engine: 20 horsepower
Weight: 3,850 pounds
Wheelbase: 130 inches
Cost: \$2,600 in 1918; today's equivalent: \$37,000

The Model 735, produced from 1918 through 1922, was one of the most successful late Stanley models, with an estimated 1,100 built, constituting more than 10% of the company's total output. It used the same 20-horsepower power plant that had remained fundamentally unchanged from 1915 through 1924.

This Model 735 was purchased in 1946 from the original owner in New Haven, Connecticut, at a cost of \$75. It had 5,038 miles on the odometer. According to the serial number, this was the fourth Model 735 produced.

Soon after purchase, the car was repainted by Bill Allaband in Kennett Square, Pennsylvania, and likely had a newly-retubed boiler installed. The car was then driven on the 1947 Glidden Tour in New England and in the 1953 Glidden Tour to Detroit, and with its newly designed piston valve engine, to a Steam Car Tour at Kent, Ohio, in 1957.

1922 Stanley Touring Model 740



Specifications

Capacity: 7 passengers
Engine: 20 horsepower
Weight: 4,200 pounds
Wheelbase: 130 inches
Cost: \$2,750 in 1922; today's equivalent: \$35,200

By 1922, the Stanley factory remained the last manufacturer of steam cars, but production was high at more than 450 cars that year. Visually indistinguishable from contemporary gas cars, the performance of late Stanleys had nonetheless fallen far behind. The Model 740 weighed more than 4,000 pounds but used the same power plant as the 2,000-pound cars from more than 10 years earlier. Only minor engineering changes had been made during that time. Although its performance is leisurely, the car offers a smooth and near-silent ride.

Clarence Marshall purchased the Model 740, the second car in his emerging collection, from Robert B. Chase of Earlville, New York. He used it for daily transportation during World War II, when gasoline was rationed but kerosene remained available and in little demand.

This car is quite original, with only a paint job in the 1940s over the original paint. It has a "California top," made of fabric stretched over an iron framework that does not fold down. The engine may never have been out of this car, but the boiler was changed during World War II, but not since. The wheels are original, and it is believed that the mileage on the odometer is correct and reflects the total on the car since new.

1932 Packard Phaeton Model 905



Specifications

Capacity: 4 passengers
Engine: 160 horsepower
Weight: 5,450 pounds

Wheelbase: 142 inches
Cost: \$4,750 in 1932; today's equivalent: \$74,600

Originally sold in Washington, D.C., this car had approximately five owners before its acquisition by Tom Marshall in 1956. Prior owners included Smithsonian historian S. Hempstone Oliver, and Gordon F. Biehn of Hockessin, Delaware.

Tom Marshall purchased the car for \$1,900, driving it on a 1,300-mile trip to northern New England in 1974 and cosmetically restoring it in 1975–76. Total mileage exceeds 100,000 miles.

1937 Packard Model 1508



Specifications
Capacity: 7 passengers
Engine: 175 horsepower
Weight: 6,000 pounds
Wheelbase: 144 inches
Cost: \$4,500 in 1937; today's equivalent: \$67,200

Purchased new in November 1937 (after the 1938 models had been introduced), this car has been a favorite of two generations of Marshalls—Clarence and Tom. Total mileage exceeds 67,000 and encompasses a nearly 12,000-mile trip to the West Coast and Canada in 1941 as well as numerous outing's to tow Stanleys to Yorklyn in the late 1940s. It was repainted about 1980, but the chrome and upholstery remain original.

1909 White Model O Steam Car



Specifications
Capacity: 5 passengers
Engine: 20 horsepower
Weight: 3,500 pounds
Wheelbase: 104 inches
Cost: \$2,000 in 1909; today's equivalent: \$48,600

The White Sewing Machine Company of Cleveland built about 8,000 steam cars from 1901 through 1910. White steam cars differed greatly from Stanleys. More sophisticated and complicated, with a coil boiler and compound engine, they had condensers (to recycle the water) starting in 1903. White manufactured two sizes: the smaller 20-horsepower cars (like this one) and the huge 30-horsepower models (later termed 40-horsepower) that cost twice as much. Although Stanleys remain better known today, more Whites were sold during the 10-year period when both were produced.

The late Harm and Betty Andrews of Warren, Ohio, were beloved by the steam car community and attended steam car tours for many years. This beautiful White steam car from Harm's collection is on loan to the Friends of Auburn Heights Preserve by the Andrews children in memory of their parents. We thank Mike May for arranging the loan.



Figure 1. This picture of the Kennett trolley was taken at the Pennsylvania/Delaware state line. The trolley is coming from Kennett Square and about to enter Delaware. Red Clay Creek is on the far left and the dirt road between the creek and the trolley tracks is Creek Road. Creek Road crossed the trolley tracks just below the hillside in the foreground and continued on to the left to Yorklyn. The millrace that supplied water power to the Marshall Mills begins just to the left of this photo.



Figure 6. This picture of the Kennett Trolley appears to have been taken sometime later than the pictures in figures 4 and 5. A handrail has been added to the footbridge and a trellis constructed at the top of the steps coming up from the footbridge. Photo Credit - Hagley Library and Museum



Figure 8. This is the Yorklyn area in 1903. The Landenburg Branch of the B. & O. R.R. and the Yorklyn Station are in the foreground. The Kennett Trolley tracks can be seen as a horizontal line through the center of the picture.



Figure 4. This picture, taken from the hillside near the Marshall residence, shows the trolley tracks running beside the millrace and the footbridge leading over to the Marshall trolley stop. From this camera angle the boarding platform appears to be out of line with the footbridge. This is due to the trolley tracks being at a much lower level than the top of the retaining wall of the millrace. Although they are not visible, there were probably steps connecting the footbridge with the platform just as there are steps on the steeper part of the hillside on this side of the millrace. Photo Credit - Hagley Museum and Library



Figure 5. This picture appears to be taken about the same time as the one in figure 4 (possibly the same winter). Here the flood plain meadow has been flooded by the Red Clay Creek but the trolley tracks are above the water indicating the trolley roadbed was on a grade level somewhat higher than the meadow. Photo Credit - Hagley Library and Museum



Figure 9. This photo was taken about 1914 after an elevated coal siding had been constructed along the north side of the trolley tracks and additional mills were also constructed. The corner of the roof at the trolley stop on Yorklyn Road can be seen just beyond the end of the coal siding. The stately house on the far hill is the Marshall residence. Photo Credit - Hagley Library and Museum