



## Part V #1 Existing Conditions Ross C. Mathieu Nature Trail

January 2015

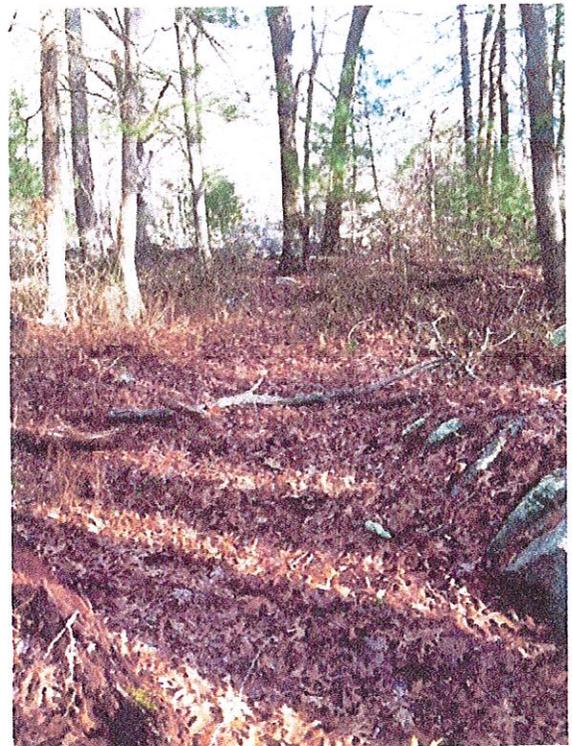


a. The existing Trail Head behind Pulaski School will receive information kiosk and bench.

b. Bridge to be replaced crosses stream which flows beside existing entrance.



c. Approach to White Trail will receive bog bridges.

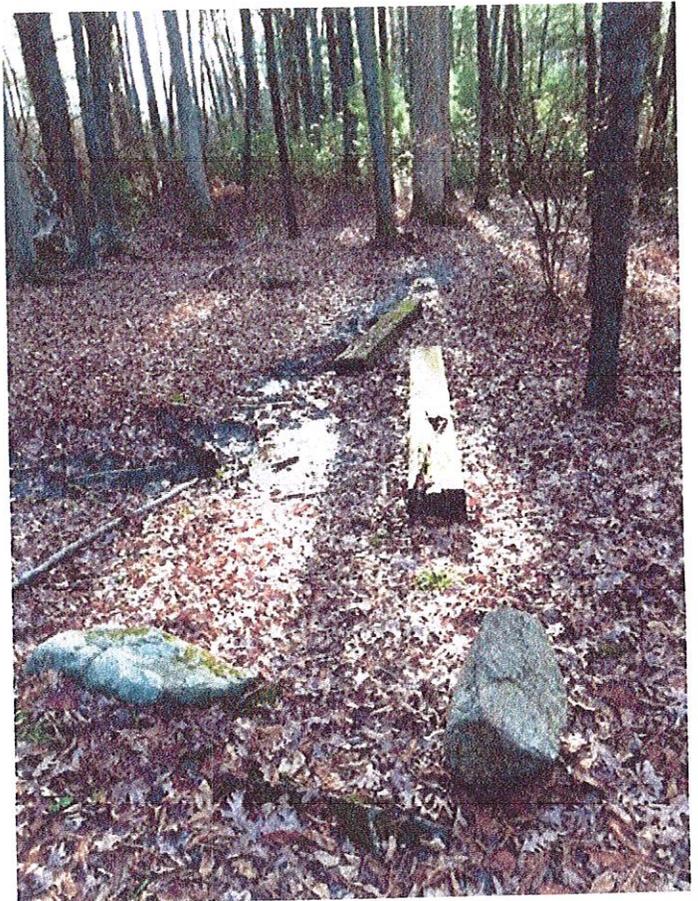


d. Upland dry area on White Trail

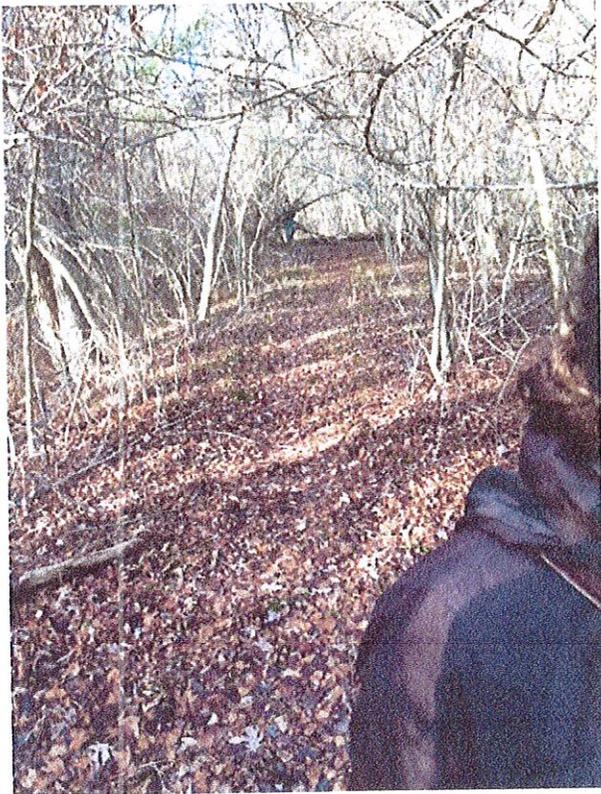
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h and i. Bog bridges will replace these existing timbers on the White Trail.



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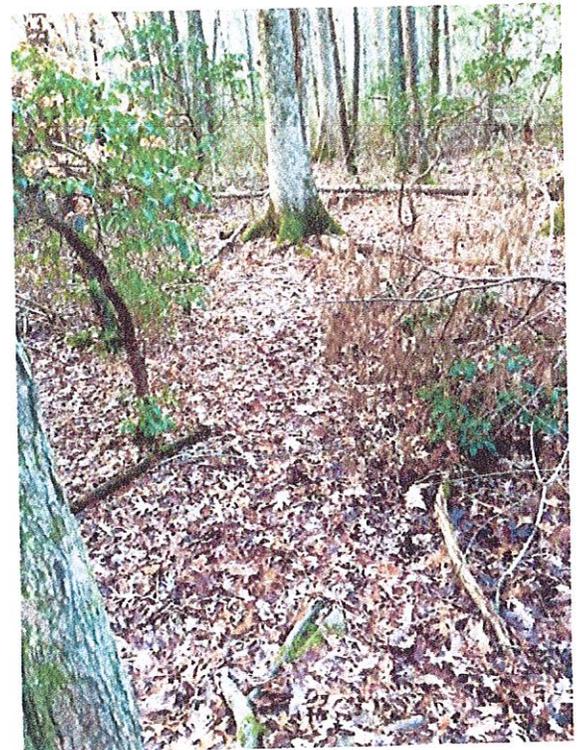
j. The new trail connections to Pequot St.



k. New Trail Head at Pequot St to receive information kiosk and bench.

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l, m, n, o. North leg of White Trail to receive new bog bridges.



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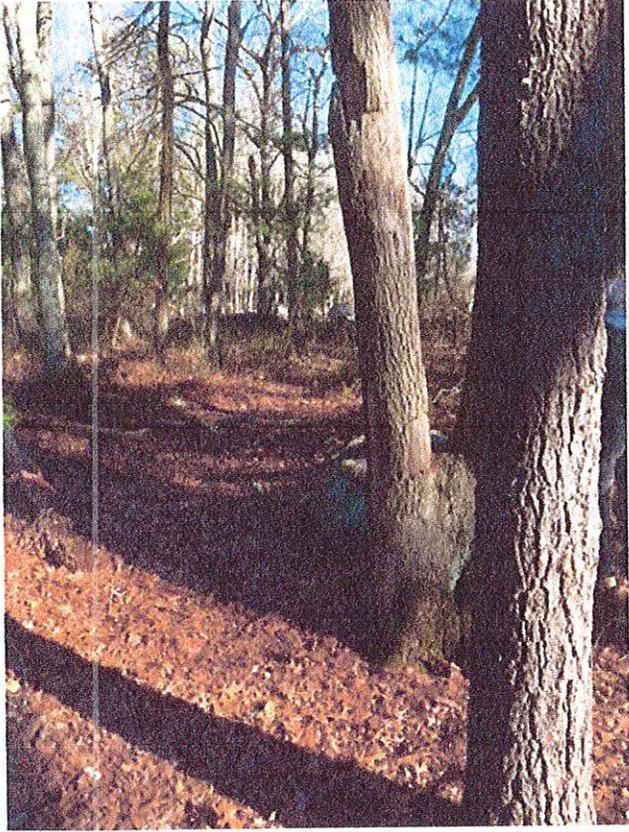
p. Approach to Yellow Trail bog bridge location



q & r. Bog bridge location on Yellow Trail

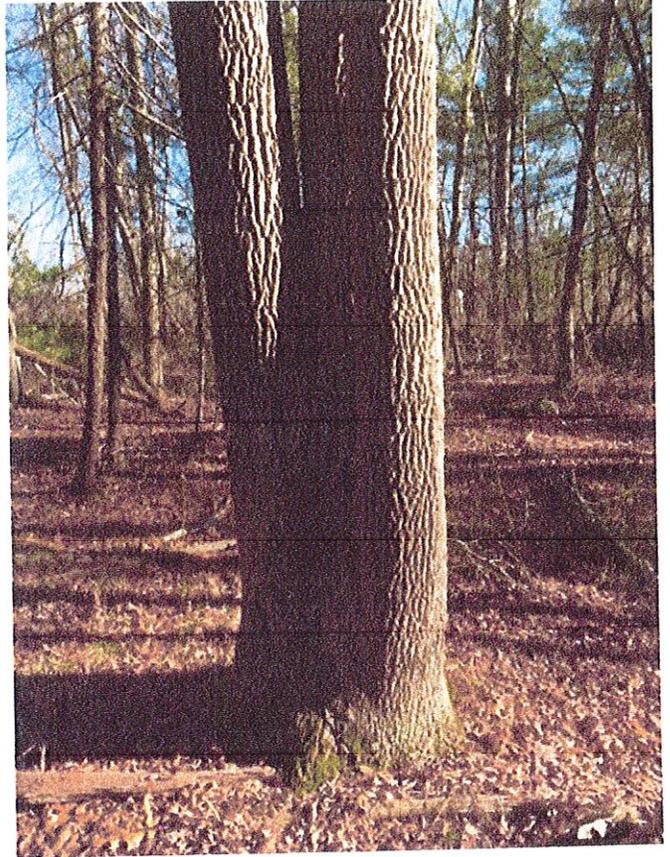


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t. Yellow Trail loop starts here.

s. New trail connection to Pulaski Park proper.

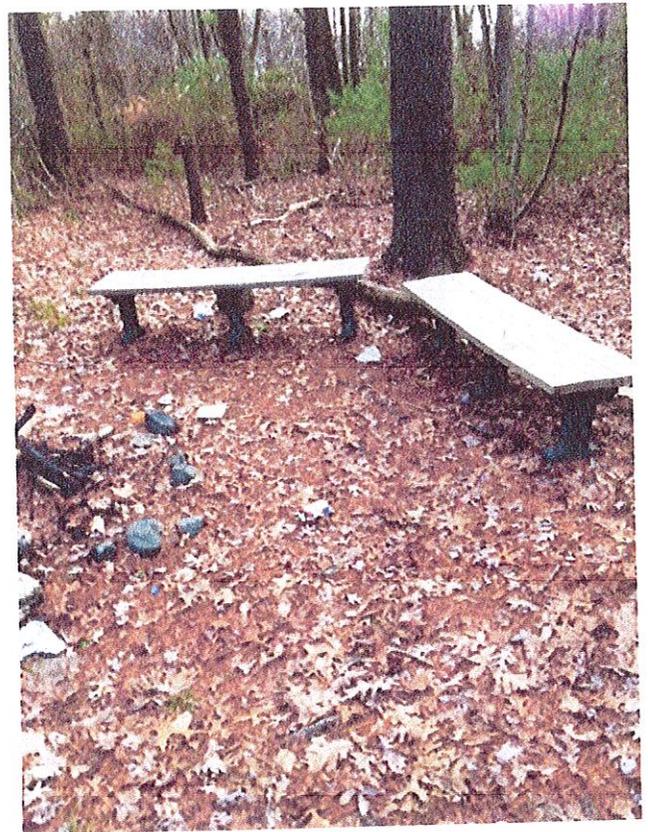


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e. View of wet woodland from trail. A new bog bridge will span the wet area in approximate location shown.



f. Outdoor classroom showing the two remaining benches.



g. Area highlighted shows approximate location that will have brush removed to create a new trail connection between the outdoor classroom and the Pulaski School.

Below from Boardwalk Construction Guidelines Acton Land Stewardship Committee  
Acton, Massachusetts, Rev. 11-12-2012

Figure 2 – Boardwalk support types

**Sill Fabrication** - Since most boardwalk locations are remote it helps to fabricate the sill assembly offsite where power tools are readily available. Lumber sills of 2"x6", 4"x6", or 6"x6" stock and plastic pipe sills use a bent Simpson "T" strap (Figure 3) to secure the stringers to the sills. Plastic pipe sills also require a stringer support pad (Figure 4) to provide a flat support surface on the pipe.

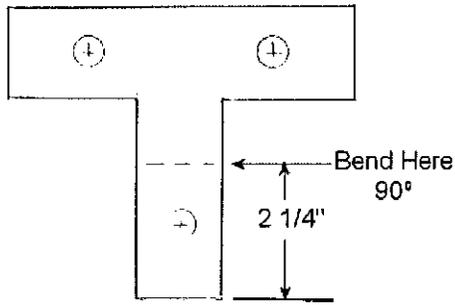


Figure 3 – Simpson T-Strap Tie

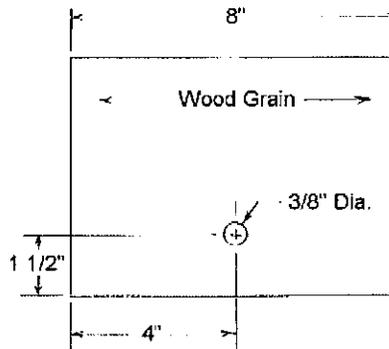


Figure 4 – Stringer Support Pad  
2"x6" ACQ Pressure Treated

**Lumber Sills** - Experience has shown that nailing the end of the stringer to the sills, either by nail toeing or driving spikes vertically through the stringer, stresses the wood and may cause a cracked stringer at the time of assembly or later from the stress of use and environmental effects due to the rigidity of the attachment. Stringers bolted to a metal bracket provide a more flexible attachment for stringer deflection. Figure 5 shows an end view of the attachment of the boardwalk stringers to the lumber sill.

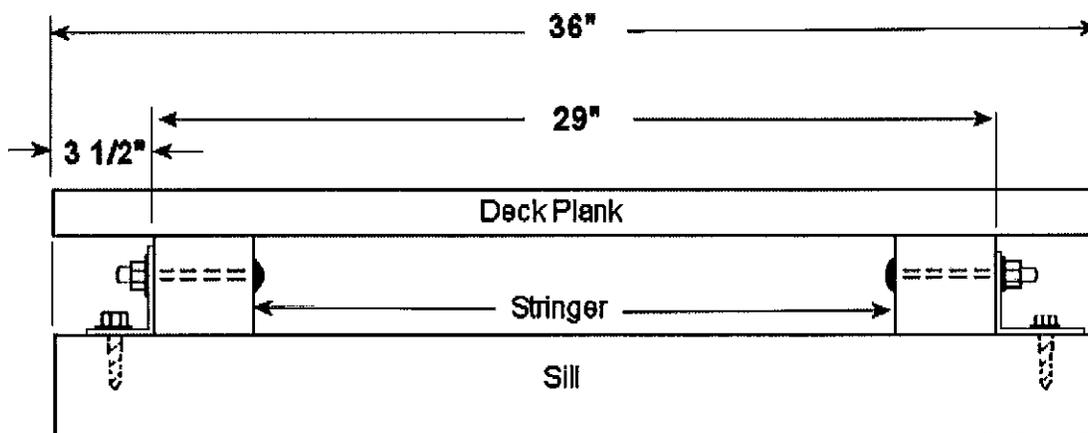


Figure 5 – ACQ/FRP Lumber Sill Assembly Detail

**Sill Placement** – After the first sill is in place and level then the stringers can be placed across the span to the second sill and with the use of a carpenter level determine if the second sill has to be dug in more or shimmed up. Shimming is accomplished with an assortment of spacers made from 5/4" or 2" PT boards as depicted in Figure 4 that are placed between the "T" straps and the sill. Once the second sill is in place and leveled then the stringers can be bolted to the "T" straps. The use of bolts to secure the joint not only strengthens it but also facilitates removal of the boardwalk sections if damaged or needing relocation. Maintain a 3/8" gap between stringers at the junction point to allow for vertical flexing in case the ground is (or becomes) spongy. This process is repeated until the last sill is reached. If the wet area experiences high flooding, particularly near brooks, anchor the sills by using re-bar driven at an angle through the sills to prevent the boardwalk from shifting off its footprint. When using steel pipe for stringer support the path of the boardwalk must be probed at stringer-length intervals through the soft soil to the firm sub-soil with a thin, firm rod such as fiberglass wands or 3/8" dia. re-bar. This measurement is needed to calculate the required pipe lengths to support the boardwalk.

Bog Bridge and Boardwalk Specifications Ross C. Mathieu Nature Trail New Bedford, MA



Boardwalk example



Bog bridge example



Trail Markers example