



UNIVERSITY OF MOUNT UNION  
HUSTON-BRUMBAUGH  
**NATURE CENTER**

# **BOARDWALK** *REPLACEMENT*



# #1

## SUMMARY

Thousands of visitors tread the surface of the boardwalk each year, including those with mobility limitations, parents with strollers, and anyone who prefers improved-surface trails. School-aged children, Mount Union community members, and visitors from across Northeast Ohio use this resource for access to the outdoors. After almost 25 years of service and millions of footsteps, the Nature Center's boardwalk needs to be replaced.



# #3

## SOLUTION

Our solution is to remove and replace the existing boardwalk with a new boardwalk. Once the old boardwalk is removed, Nature Center staff and a contractor can commence with brush and hazard tree removal to safeguard the new boardwalk. The foundation of the new boardwalk will be comprised of aluminum posts driven into the ground below the frost line. A carpenter will be contracted to create and install the framing of the new boardwalk which will be attached to the aluminum posts. The walking surface of the boardwalk will be comprised of ThruFlow Premium Decking. The boardwalk will be rebuilt in 10-foot sections to ease maintenance and repair burdens in the future.



*The new deck surface  
will feature ThruFlow  
Premium Decking.*



*Frost resistant boardwalk  
construction is in use at  
the vernal pool.*





## #2

### PROBLEM STATEMENT

After almost 25 years of service and millions of footsteps, the boardwalk needs to be replaced. The plastic lumber surface of the boardwalk is in decent shape but is inferior to present-day materials that provide better traction and drainage of rainwater and snowmelt. The structural components of the boardwalk that have survived over two decades of frost heaving, fallen trees, and the inevitable degradation of wood lumber need replaced. Even with regular repairs and maintenance, the current condition of the boardwalk includes uneven surfaces, frost-heaved and dislocated segments, slopes steeper than ADA recommendations, vandalized side rails, and a walking surface that is slippery when wet or covered in fallen leaves and snow.

## #4

### IMPACT

Decommissioning the existing boardwalk can be completed in sections to reduce visitor impact. Portions of the boardwalk will remain open while other sections are being removed and replaced. New construction materials will create a boardwalk that will last even longer than the current one. New decking material will provide better traction all year long. ThruFlow’s decking exceeds ADA specifications for a non-slip surface. The boardwalk will also be widened from four feet to five feet to permit better flow of foot traffic during high-visitation periods. Installation of a new boardwalk will also allow a redesign of resting locations and observation areas, while further reducing slopes to bring the trail design in close alignment with standards for wheelchair accessibility.

## #5

### FINANCIALS

The total expected cost of replacement is \$200,000. Each 10-foot section is expected to cost \$700 in materials. Approximately 180 sections will be needed to complete a full replacement, so the full estimated cost of materials is \$126,000. See the breakdown of cost for a 10-foot section of boardwalk in the table below.

MATERIAL	QUANTITY	COST	TOTAL
ThruFlow Decking	10	\$50.00	\$500.00
2 x 6 x 10 Treated Lumber	5	\$10.00	\$50.00
2 x 8 x 10 Treated Lumber	1	\$13.25	\$13.25
3/8" Bolts	4	\$1.22	\$4.88
3/8" Lock Nuts	4	\$0.19	\$0.76
3/8" Fender Washers	8	\$0.17	\$1.36
Post Caps	2	\$2.64	\$5.28
Aluminum Pipes	2	\$60.00	\$120.00
Deck Screws	10	\$0.36	\$3.60

**TOTAL**

**\$699.13**

The remainder of the project cost includes professional services for hazard tree removal, excavation, aluminum post installation, and carpentry work. Grants and donations are being sought to reduce the financial impact of the project on the Nature Center’s operating budget.



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