



# Water Street Trailhead Project

Old Georgetown Board Meeting  
January 7, 2021





GEORGETOWN DC

## Existing conditions

WATER STREET TRAILHEAD



WATER STREET TRAILHEAD

Washington, DC



GEORGETOWN DC

## Trail context



1. BETHESDA TRAILHEAD



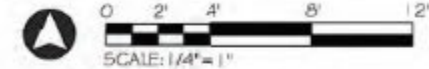
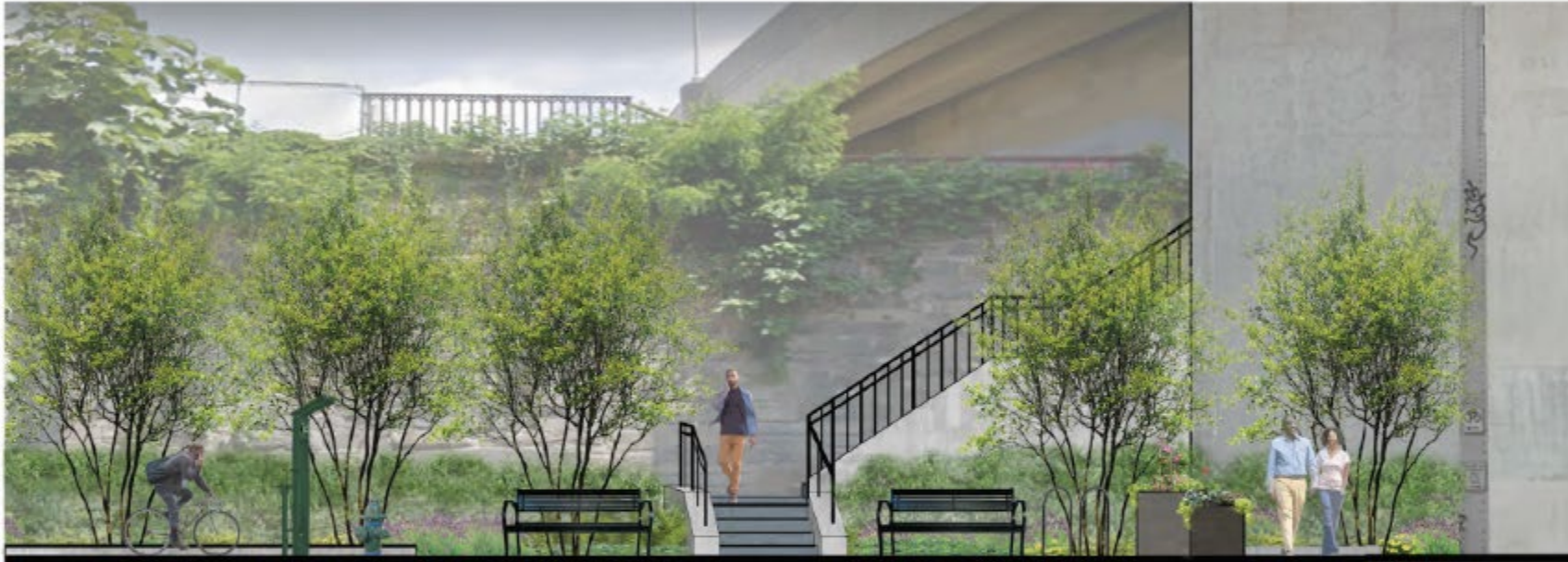
**WATER STREET TRAILHEAD RESTORATION**

Washington, DC



GEORGETOWN DC

## Trail concept





# Board Recommendations and Response

- November 5, 2020 meeting - Old Georgetown Board recommended repairing concrete steps rather than cladding with bluestone
- In response, the BID conducted site visit with concrete and masonry experts to explore:
  - Concrete repair to the most damaged portion only
  - Complete demolition and replacement of stairs
  - Bluestone cladding on stairs
  - Granite cladding on stairs
  - No repairs
- Considerations:
  - Impacts to adjacent historic stone wall
  - Lifespan of repairs
  - Aesthetic of repairs
  - Financial feasibility within the grant budget



## Two options, with preferred option

1. Bluestone cladding as originally proposed
2. Concrete repair only for the most damaged stairs

We maintain a preference for Option 1: Bluestone.

The impacts, lifespan, and costs are similar, but we believe the bluestone changes the aesthetic of the site in a positive way that will 1. contribute to an improved feeling of safety, and 2. improve visual continuity between the two trails – by bringing the stairway into the trail aesthetic.

Bluestone cladding will also allow us more control over the nature and size of the joint between the stairs and the adjacent wall – helping to control water infiltration.



# Options considered

## 1. Concrete repairs on the most damaged stairs only

Repair only the most damaged stairs in the middle run, using a small mounted machine to cleave the stairs into large chunks. Demolish stairs to the gravel base or to a depth of concrete that new stairs can be pinned into the existing concrete base and adjacent wall. Pour new concrete stairs in that location.

- **Impacts to historic stone wall: MODERATE;** machine creates heavy vibrations. Historic aqueduct shows failing mortar joints from previous attempts to stabilize and raises concerns for adjacent demolition.
- **Lifespan of repairs:** up to 10 years, with waterproofing every 2-3 years.
- **Aesthetic of repairs:** new concrete will be visibly different from existing; even if aggregate and integral color match current concrete as closely as possible, over time the replacement stairs will change color.
- **Financial feasibility:** feasible; price consistent with cost of bluestone cladding on entire staircase; no funds available for aqueduct wall repairs.



# Options Considered - Core Drill for Option #1

- OGB asked whether BID had performed a core drill on the stairs to investigate the foundation
- BID and contractor did not perform a core drill of the stairs because contractor advised that stair replacement would not be impacted by foundation conditions:
  - If there is a stone base, concrete will be removed to the stone base and replaced.
  - If concrete continues to grade, concrete will be removed to a depth allowing new concrete to be pinned to existing.





# Options considered

## 2. Complete demolition and replacement of stairs

Completely demolish the existing stairs using hand and mechanical techniques to demolish the steps and replace with new concrete or metal staircase. This is a significant construction project.

**Impacts to stone wall: SIGNIFICANT;** demolition creates heavy vibrations against historic wall for a substantial period of time; stone wall is gravity set with mortar patching. NPS will not support this option.

**Lifespan of repairs:** more than 10 years.

**Aesthetic of repairs:** new stairs would be entirely concrete or metal.

**Financial feasibility:** not feasible; cost would substantially exceed the grant budget; BID, DDOT, and NPS do not have available funding to pursue this option.



# Options considered

## 3. Bluestone cladding on staircase

Clad stairs with a 2” bluestone with a 1” mortar setting bed, using hand-held power tools to break away loose existing concrete material and weak areas in stairs that may break away in the near future. This is the BID’s preferred option.

**Impacts to stone wall: MINIMAL BUT NOT ZERO;** removal of loose concrete will create vibrations against the wall for a short period of time.

**Lifespan of repairs:** up to 10 years, with waterproofing every 2-3 years.

**Aesthetic of repairs:** relates more to the trails than to the industrial aesthetic, which the BID believes is a positive change and will contribute to improved feeling of safety.

**Financial feasibility:** feasible; contractor proposal is within the grant budget.



# Options considered

## 4. Granite cladding on staircase

Install a 4” warm tone granite with a 1” mortar setting bed instead of bluestone to clad the stairs, using a similar method to break away loose existing concrete material. This option would require significant regrading at the top and bottom of the staircase.

**Impacts to stone wall: MINIMAL BUT NOT ZERO;** removal of some concrete will create vibrations against the historic wall for a short period of time.

**Lifespan of repairs:** up to 10 years, with waterproofing every 2-3 years.

**Aesthetic of repairs:** not appropriate for trail aesthetic or surrounding industrial aesthetic.

**Financial feasibility:** not feasible; cost of granite and additional regrading required exceeds available grant funds.



# Options considered

## 5. No repairs to staircase

This is the no-build option if no agreement is reached on materials or if required materials and methods exceed capacity of the grant. This option would leave the stairs as they are, with potential for further degradation and continued unsafe conditions.

**Impacts to stone wall: NONE.**

**Lifespan of repairs:** Unknown; likely to be closed in the near-term due to unsafe conditions.

**Aesthetic of repairs:** Maintains existing aesthetic but crumbling infrastructure contributes to feeling that the area is unsafe.

**Financial feasibility:** Feasible; no cost for this option.



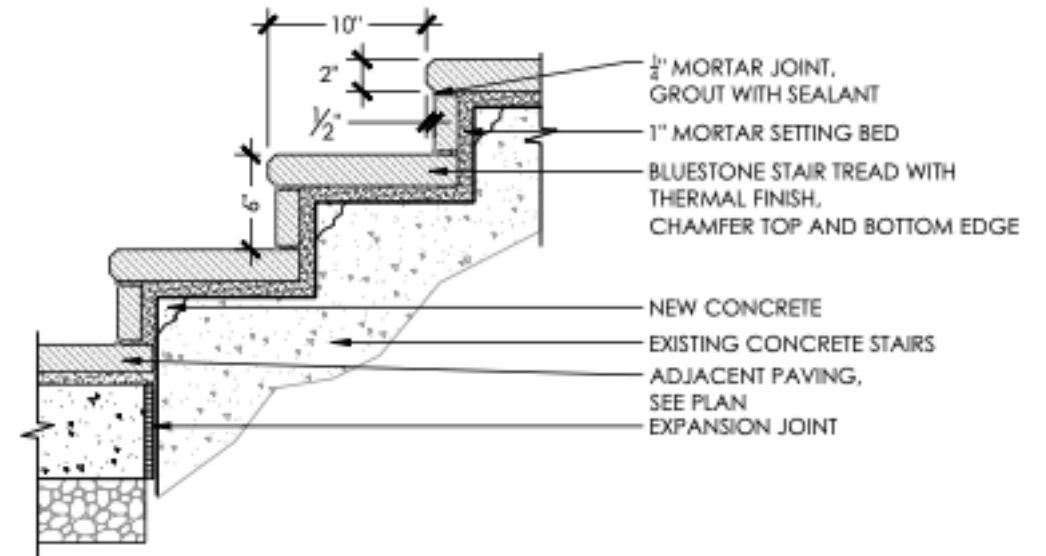
## Preferred option

Bluestone cladding as originally proposed.

The impacts, lifespan, and costs are similar to partial concrete stair replacement.

The bluestone changes the aesthetic of the site in a positive way that relates better to the trail network it connects, and will contribute to an improved feeling of safety.

Custom cut bluestone allows more control of the joint against the stone wall.



**NOTES:**

1. EXISTING CONCRETE STAIRS TO HAVE ANY LOOSE OR FRACTURED CONCRETE MATERIAL REMOVED.
2. EXISTING STEPS TO BE POWER WASHED AND DEBRIS FREE PRIOR TO REPAIR AND INSTALLATION OF CLADDING.



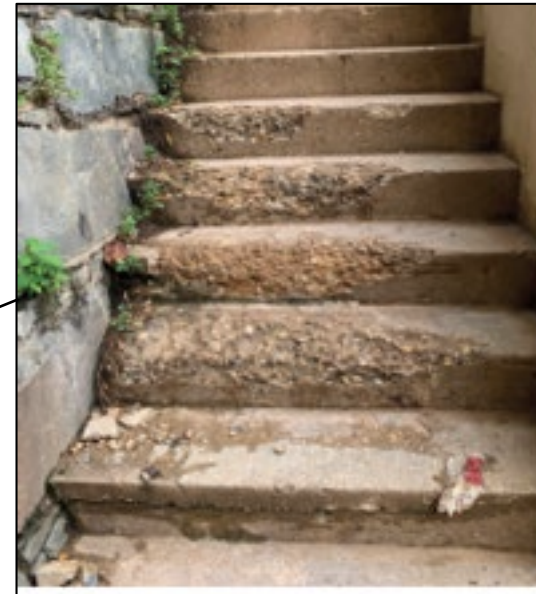
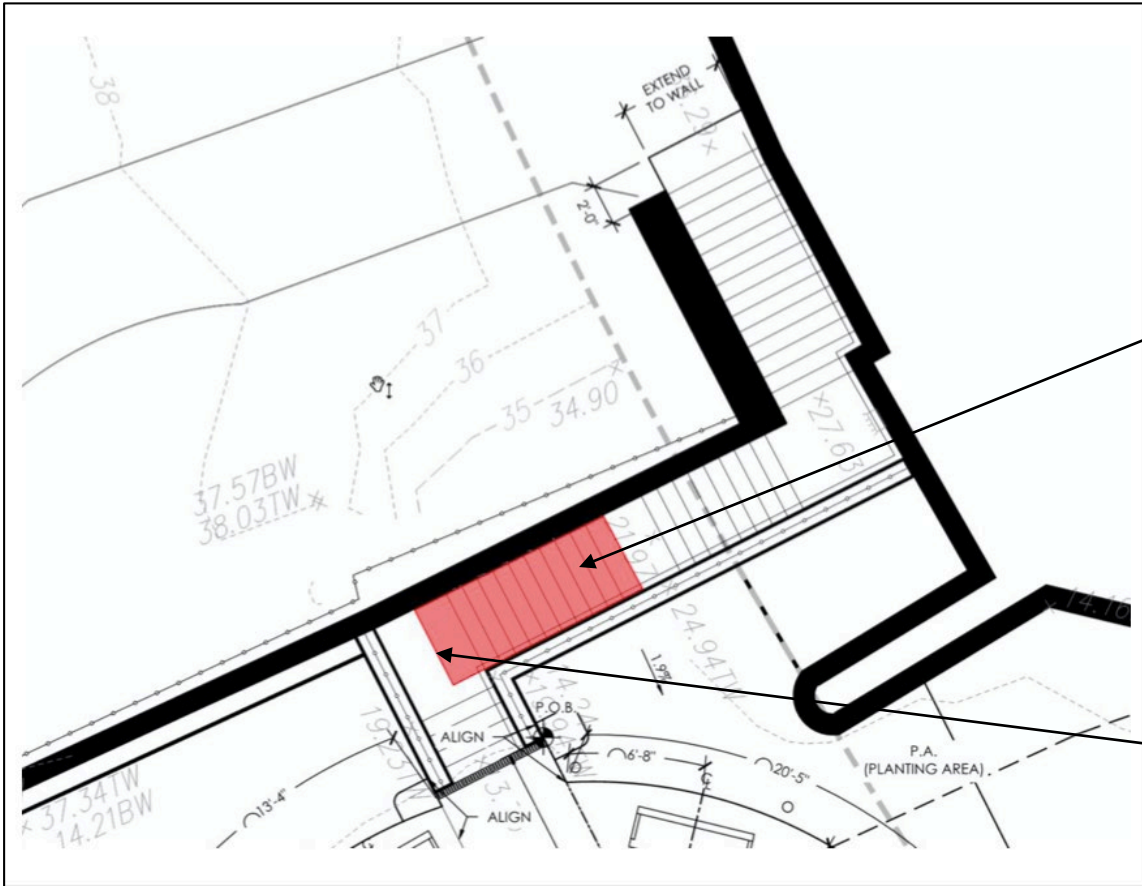
**BLUESTONE STEPS**

1 1/2" = 1'



## Partial concrete replacement option

Replace only the most damaged concrete section.



Damaged section of stairs



Condition at joint between old and new concrete