PROCTOR CREEK
STREAM ENHANCEMENT

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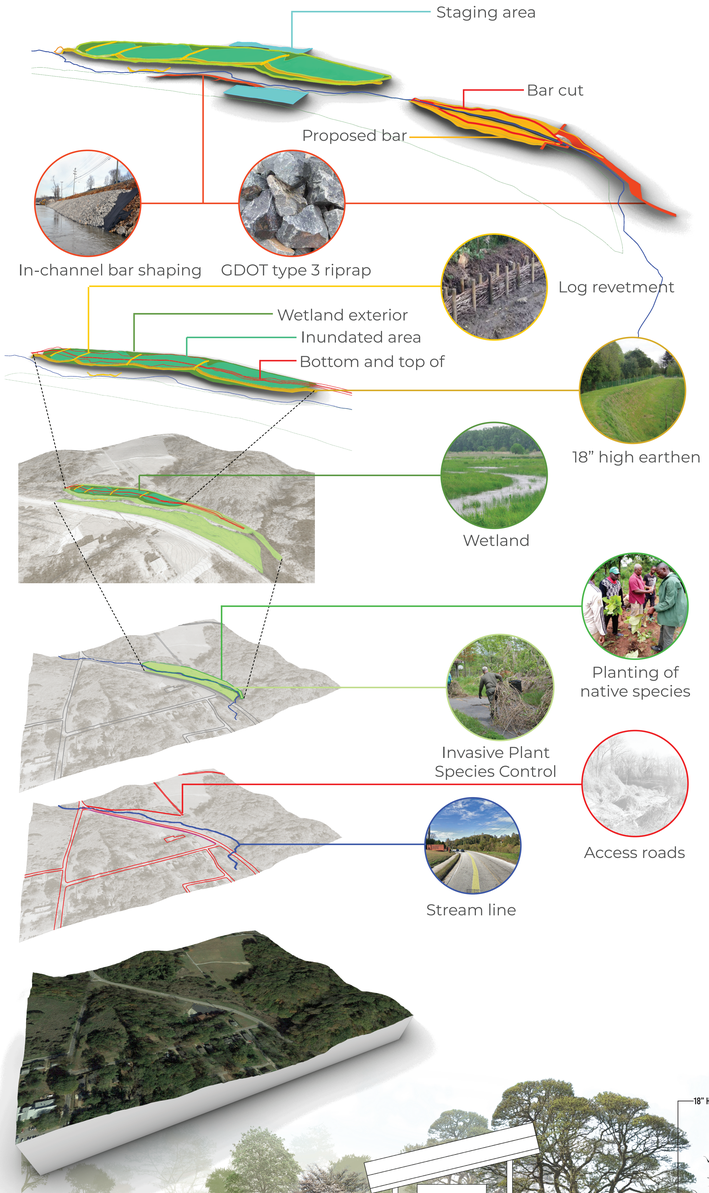
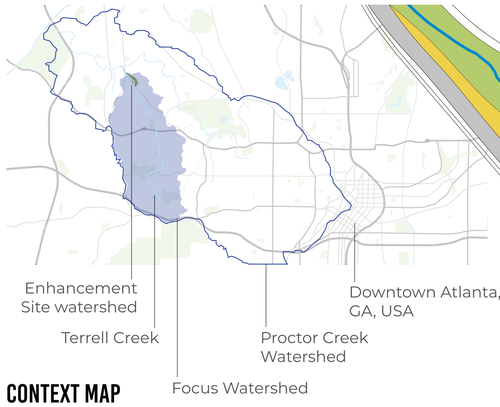
USACE CONCEPTUAL DESIGN



LAND 6390 STUDENT DESIGN ENHANCEMENT

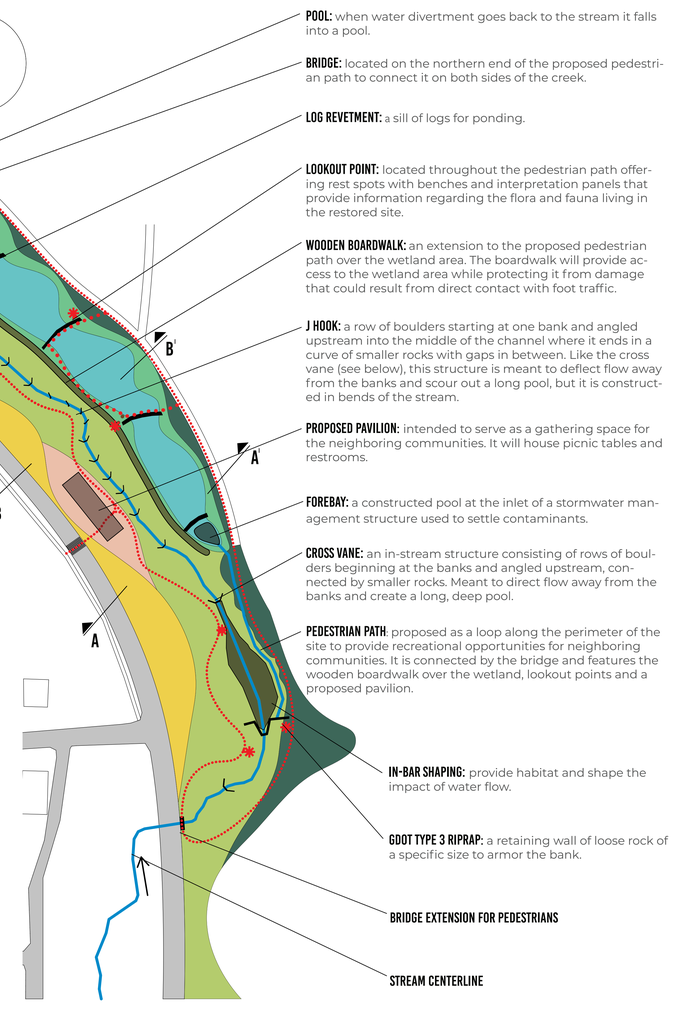


CONTEXT MAP

Proctor Creek is an 8.4-mile stream with its headwaters in in Metro Atlanta, Georgia, USA. Draining a 16-square mile watershed, its channel flows northwest into the Chattahoochee River. This urban waterway is stressed by runoff from the high impervious land cover in the watershed, resulting in severe flooding, as well being affected by pollution, erosion, and other types of degradation. In addition, many neighborhoods in the Proctor Creek watershed are challenged by emerging gentrification, and lack of access to food, banks, and other resources.

The Army Corps of Engineers (USACE) has developed a plan to restore several reaches of the creek and two of its tributaries. The USACE plan focuses on physical stream enhancements such as bank stabilization, invasive plant removal, and riparian zone planting. The project's feasibility report identifies other opportunities that could be met with further planning, especially by improving accessibility to the creek. Students from the Ecological Restoration class in the College of Environment and Design at the University of Georgia sought to enhance the USACE design by proposing alternatives that minimize the use of gray infrastructure and maximize habitat, aesthetics, and public experience of the creek.

After being briefed on the USACE plan by a Corps representative, students met with community members associated with the Proctor Creek Stewardship Council who guided our visit to the Hollywood Road stream reach. Students generated a design that incorporated native plantings, a pavilion, a loop trail, and a boardwalk with lookout points over a wetland. The goal was to create a design informed by the desires of the communities neighboring Proctor Creek while increasing the ecological benefits of the USACE plan.



POOL: when water divertment goes back to the stream it falls into a pool.

BRIDGE: located on the northern end of the proposed pedestrian path to connect it on both sides of the creek.

LOG REVETMENT: a sill of logs for ponding.

LOOKOUT POINT: located throughout the pedestrian path offering rest spots with benches and interpretation panels that provide information regarding the flora and fauna living in the restored site.

WOODEN BOARDWALK: an extension to the proposed pedestrian path over the wetland area. The boardwalk will provide access to the wetland area while protecting it from damage that could result from direct contact with foot traffic.

J HOOK: a row of boulders starting at one bank and angled upstream into the middle of the channel where it ends in a curve of smaller rocks with gaps in between. Like the cross vane (see below), this structure is meant to deflect flow away from the banks and scour out a long pool, but it is constructed in bends of the stream.

PROPOSED PAVILION: intended to serve as a gathering space for the neighboring communities. It will house picnic tables and restrooms.

FOREBAY: a constructed pool at the inlet of a stormwater management structure used to settle contaminants.

CROSS VANE: an in-stream structure consisting of rows of boulders beginning at the banks and angled upstream, connected by smaller rocks. Meant to direct flow away from the banks and create a long, deep pool.

PEDESTRIAN PATH: proposed as a loop along the perimeter of the site to provide recreational opportunities for neighboring communities. It is connected by the bridge and features the wooden boardwalk over the wetland, lookout points and a proposed pavilion.

IN-BAR SHAPING: provide habitat and shape the impact of water flow.

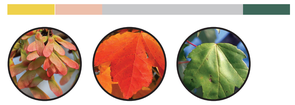
GDOT TYPE 3 RIPRAP: a retaining wall of loose rock of a specific size to armor the bank.

BRIDGE EXTENSION FOR PEDESTRIANS

STREAM CENTERLINE

ENHANCEMENT PLAN

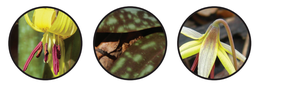
0 50 100 200 300



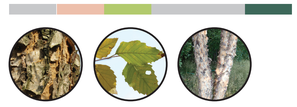
Red Maple *Acer rubrum*

Elderberry *Sambucus canadensis*

River Oats *Chasmanthium latifolium*



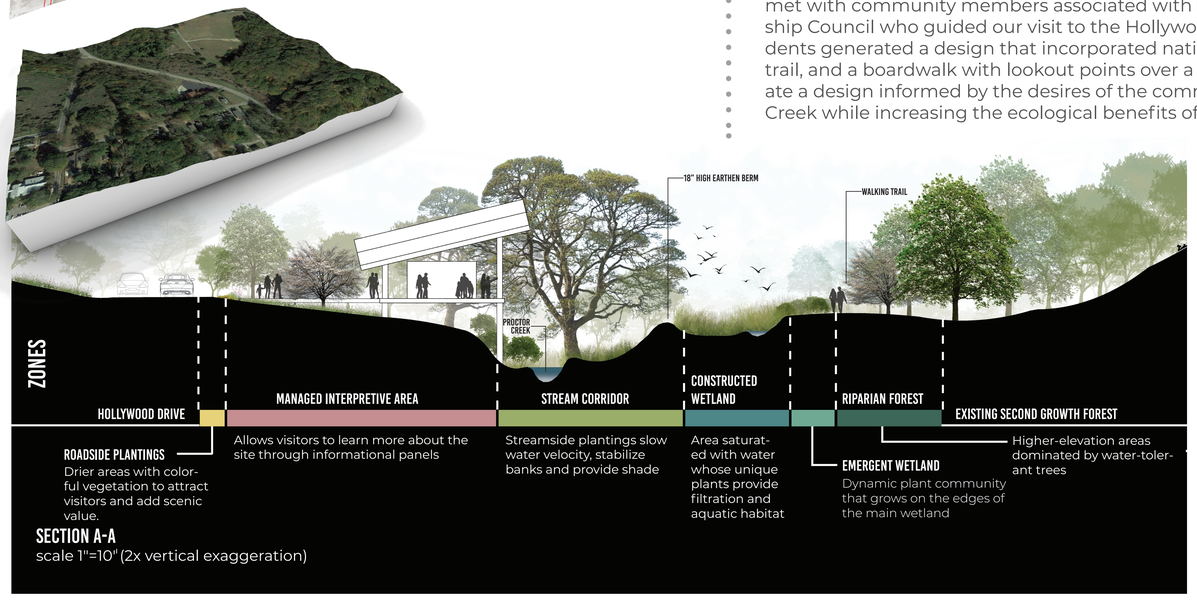
Dimpled Trout Lily *Erythronium umbilicatum*



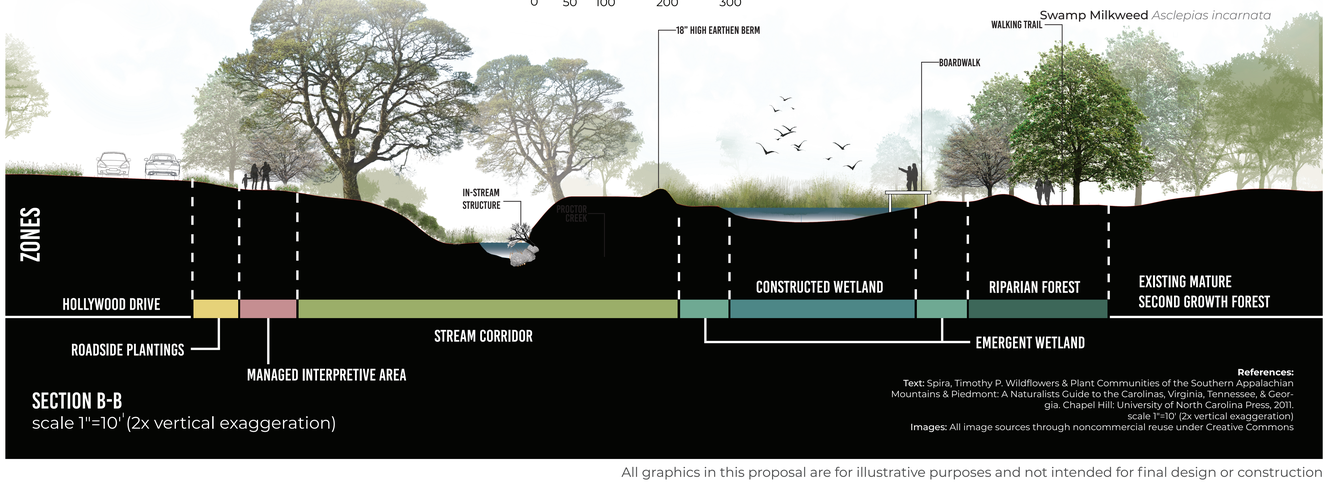
River Birch *Betula nigra*

American Sycamore *Platanus occidentalis*

Swamp Milkweed *Asclepias incarnata*



SECTION A-A
scale 1"=10' (2x vertical exaggeration)



SECTION B-B
scale 1"=10' (2x vertical exaggeration)

References:
Text: Spira, Timothy P. Wildflowers & Plant Communities of the Southern Appalachian Mountains & Piedmont: A Naturalists Guide to the Carolinas, Virginia, Tennessee, & Georgia. Chapel Hill: University of North Carolina Press, 2011.
scale 1"=10' (2x vertical exaggeration)
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