

Jules Bruck, PhD, RLA



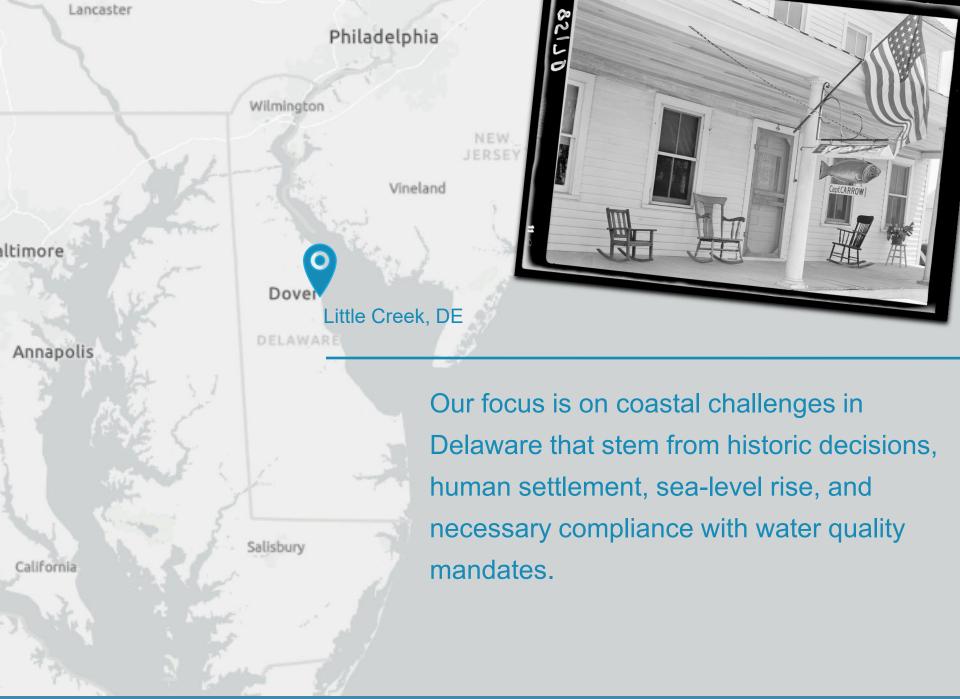


COASTAL RESILIENCE **DESIGN STUDIO**

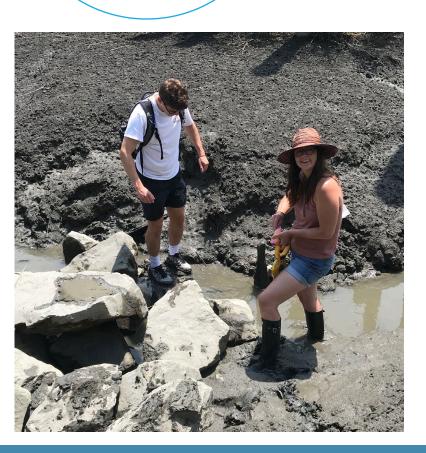


The mission of the Coastal Resilience Design Studio (CRDS) is to study and design solutions for issues affecting Delaware's coastlines and coastal communities while developing the capacity of students to become confident, capable professionals.

The **CRDS** aims to equip communities with tools, designs, and adaptation strategies aimed at mitigating disruptions from short-term hazardous events and long-term environmental changes.



Currently six undergraduate students from landscape architecture and civil engineering.



CRDS employs undergraduate and graduate students to work on behalf of select communities and calls on interdisciplinary experts to evaluate student work.

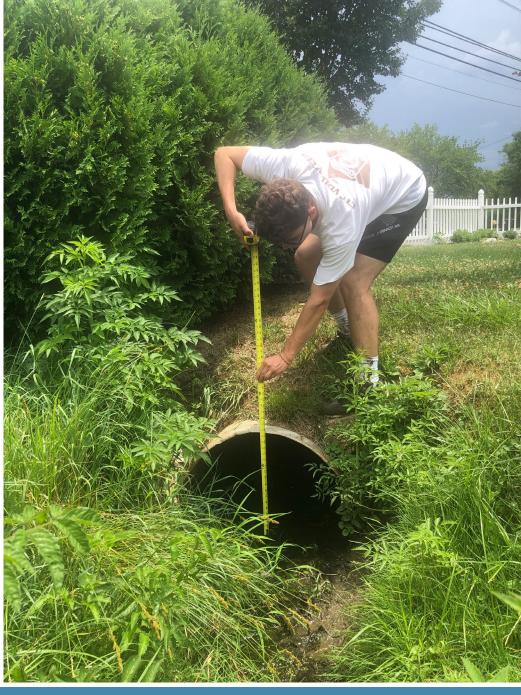
Students develop environmental, social, and economic resilience strategies and present solutions to community and agency members.

Ultimately, the studio hopes to challenge and drive policy to benefit coastal communities through more sustainable land use, planning, and education

CRDS' student designers, researchers, and engineers work as a team on complex problems to explore creative and thoughtful solutions to the many challenges facing Delaware's coastal communities.

Current or recent projects in

Lewes NE Wilmington
Little Creek Fenwick Island
Dover Frederica

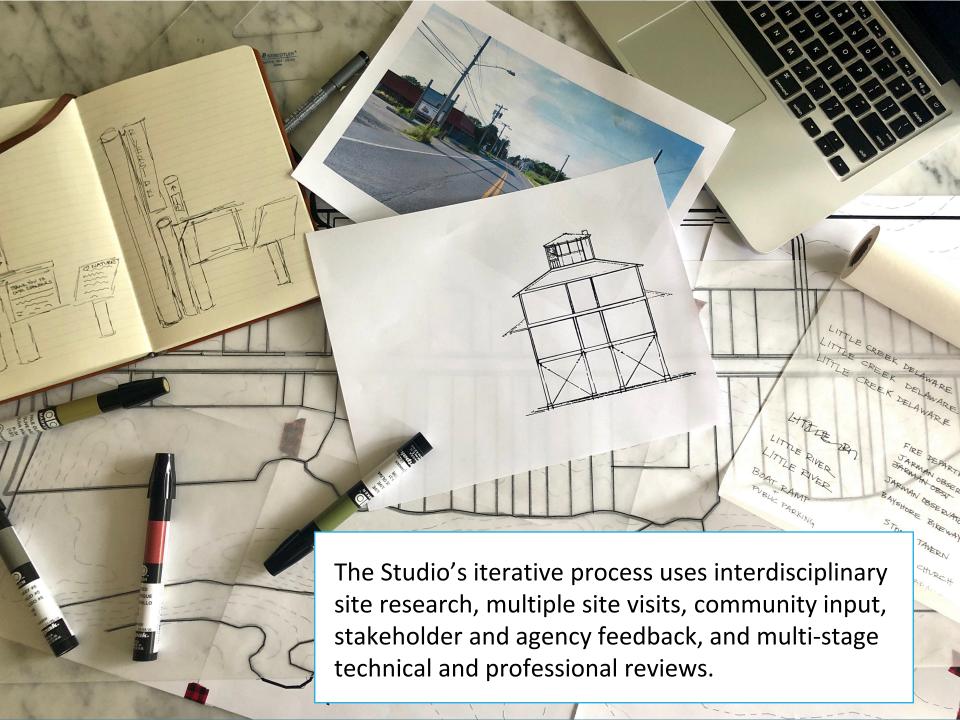




CRDS endeavors to first understand the needs of each community and what makes each place unique before any design solutions are offered. Subsequently, CRDS equips communities with tools and adaptation strategies aimed at mitigating disruptions from short-term hazardous events as well as long-term environmental, economic, and societal changes.



COASTAL RESILIENCE DESIGN STUDIO | UNIVERSITY OF DELAWARE





13 GREEN INFRASTRUCTURE: BIOSWALE

14 GREEN INFRASTRUCTURE: BIOSWALE

POP UP COMMERCIAL SPACE

15 THE PILINGS AT WATERMAN'S VILLAGE:

18 PLANTED MEDIAN & CROSSWALK

19 WATERMAN'S VILLAGE: COMMERCIAL SITE

20 GREEN INFRASTRUCTURE: RESTORED WETLAND

After the analysis phase is complete, the Studio develops multiple solutions, converging toward a set of design recommendations to present back to the community for additional feedback.

8 MULTI-USE BIKE AND WALKING TRAIL

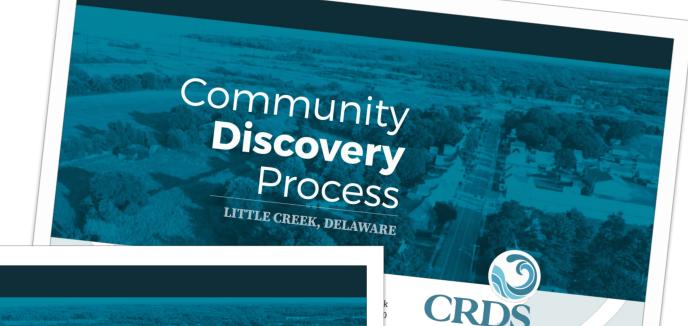
10 STONE TAVERN TRAILHEAD

9 GREEN INFRASTRUCTURE: RESTORED WETLAND

3 GREEN INFRASTRUCTURE: BIOSWALE

4 GREEN INFRASTRUCTURE: BIOSWALE

5 LITTLE CREEK PARK



Conceptual Resilience Plan

LITTLE CREEK, DELAWARE

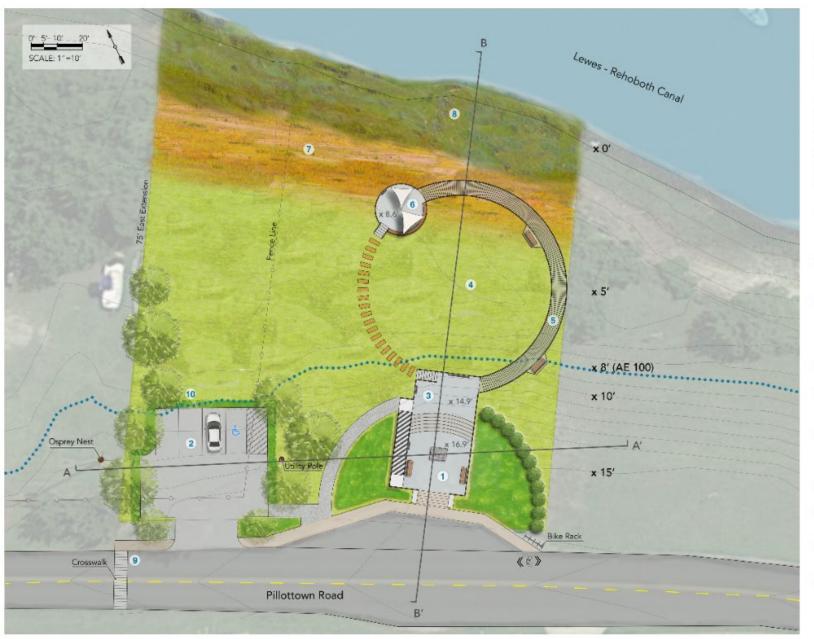
Prepared for the Town of Little Creek and Presented August 3, 2020 Ultimately, communities are given documents that detail the collective research and analysis used to derive all proposed design solutions. CRDS and partners then work with the community to develop an implementation plan.







Students presenting at a Community Visioning Workshop, Lewes, Delaware



ZWAANENDAEL - DEVRIES MONUMENT

UD COASTAL RESILIENCE DESIGN STUDIO

RUGGIERO, EMMA GAINEY, JOSH SWITLISKI, MARK

Zwannendael - DeVries Monument

Metal grate ADA ramp Benches Sign: monument significance

Parking Area

4 spaces, 1 ADA Pervious concrete Pathway to monument

Lower Monument Platform

Sitting steps Ramp up to monument Path down to lower outlook Staps down to ground level Sign: history timeline Sign: osprey nest

Internal Landscaping To be determined based

on final theme.

Elevated Pathway Metal grate; elevated

Bench seating Cable railing

Lower Outlook

Bench seating Modular shade sails Sign: meedaw buffer, living share line. & wildlife habitat

Upland Meadow

Allows for marsh migration

Living Shoreline Stabilization Spartina sp.

Oyster bags (test site)

Bike Lane, Sidewalk & Crosswalk

Continue sidewalk Two-way bike lane (canal-side)

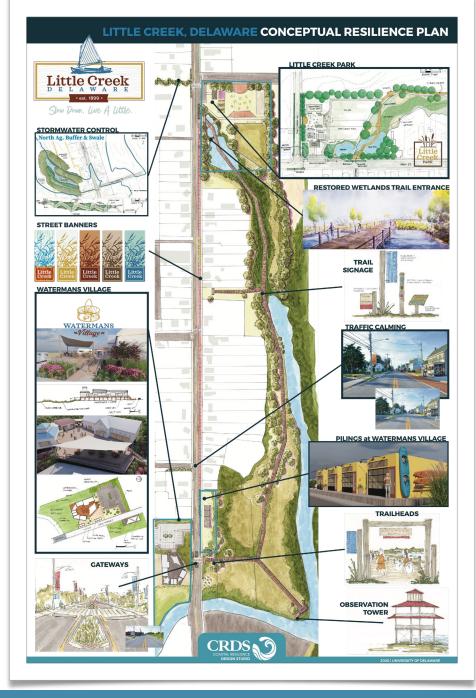
10 Planting Beds

Surround parking area Buffer boat lot / osprey nest









Little Creek, Delaware

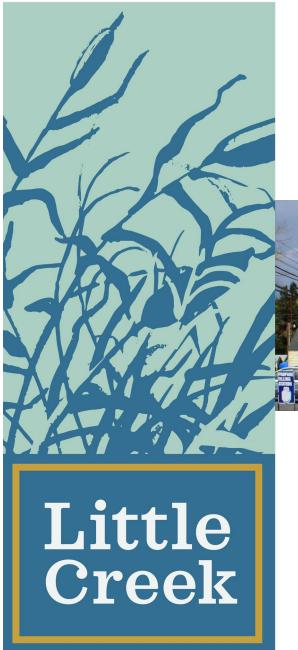


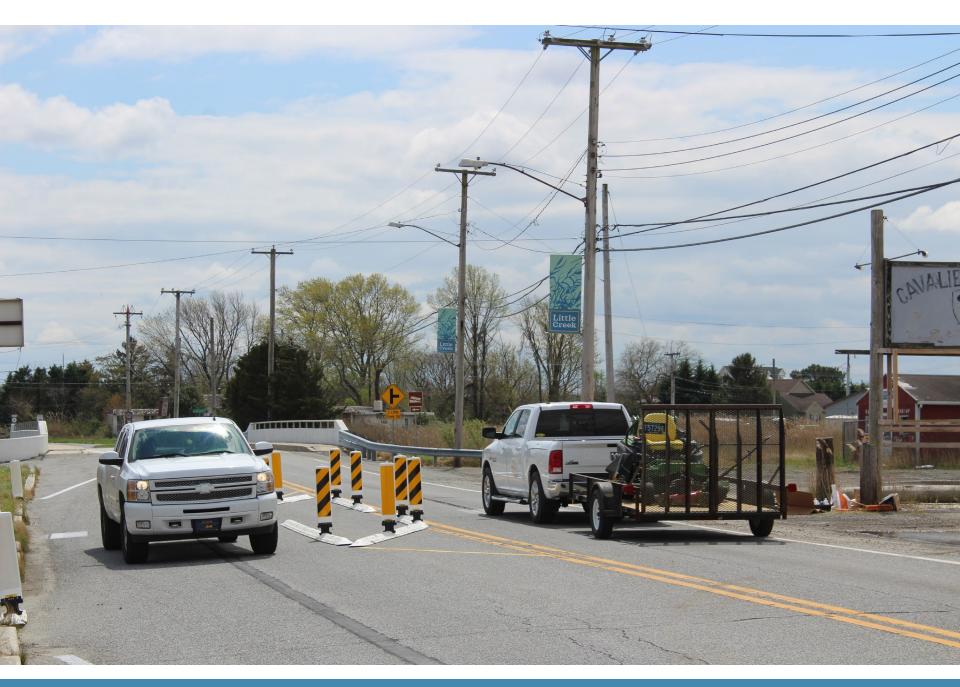














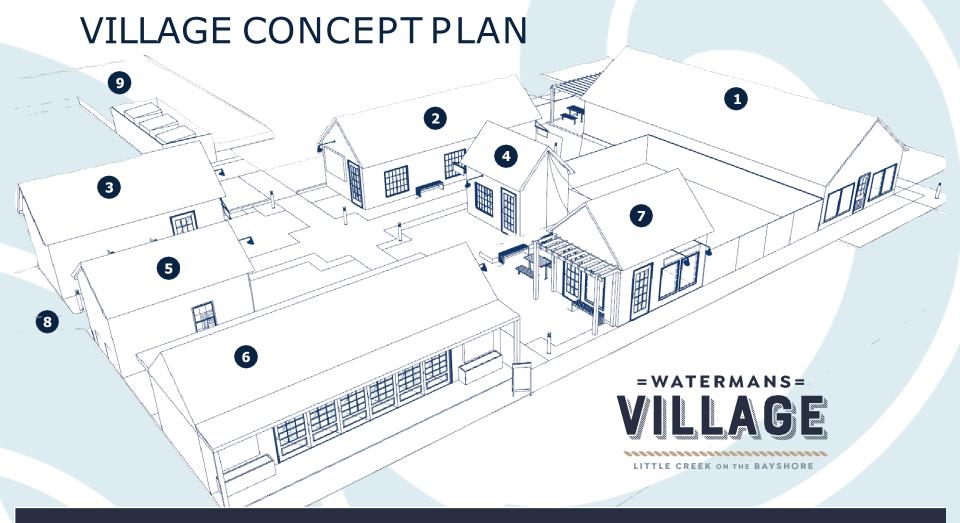




MICRO-RETAIL PATTERN BOOK

PREPARED BY THE

COASTAL RESILIENCE DESIGN STUDIO
FOR THE TOWN OF LITTLE CREEK, DELAWARE



Micro-Retail

Inspired by the ingenuity to reuse FEMA trailers as emergency storefronts along the Mississippi Gulf Coast in the aftermath of Hurricane Katrina, the first Micro-Retail units have proven to be an invaluable asset to small coastal towns looking for economic opportunity and resiliency. Characterized by a small footprint, modular design and portablity, these structures can house businesses at an attainable and sustainable scale.



WELCOME to Waterman's Village.
A reinterpretation of a small town seaport, this micro-retail center builds on our coastal history to create an inspired shopping and dining experience that is uniquely Little Creek.







1 Little Creek Grill & Patio Full service deli with a 12'x 24' patio with pergola & rear side privacy fence

2 Lucky's Bait & Tackle
14'x 36' Year-Round Retail
Located at the rear for
ease of boat/trailer
parking & frequent
commercial
deliveries

3 Lil' Creek Kayak 12'x 36' Seasonal Retail Located at rear for easy tractor access to haul boats to the waterfront

4 Open Retail 14'x16' Retail Space

5 Open Retail 10'x22' Retail Space

6 Horseshoe Market
14'x40' Three season
market supplying
summer produce, fall
pumpkins &
Christmas trees
Located for street-front
vibrancy and
maximum outdoor space

7 Big Scoop Ice Cream 8'x15' Seasonal Retail Includes large outdoor eating & seating space

Pedestrian Path
 Connects to the future
 development project on
 the Cavalier's site

Natural Planted Buffer
 Native species chosen for
 flood tolerance, mild
 salinity, and biodiversity



MAIN STREET



SCALE: 1/16" = 1'-0"





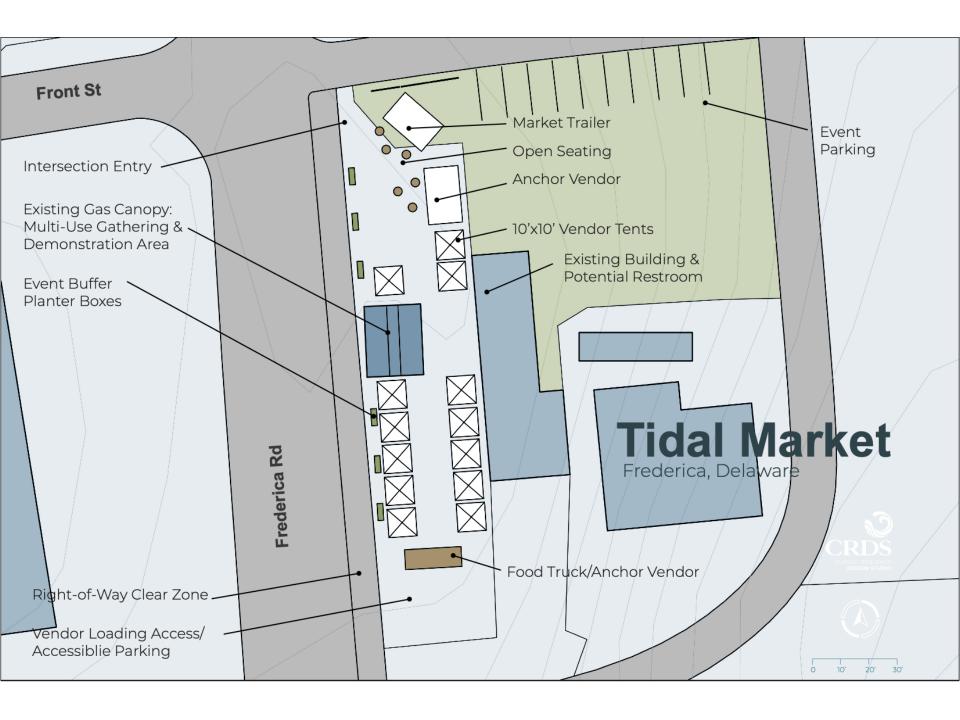


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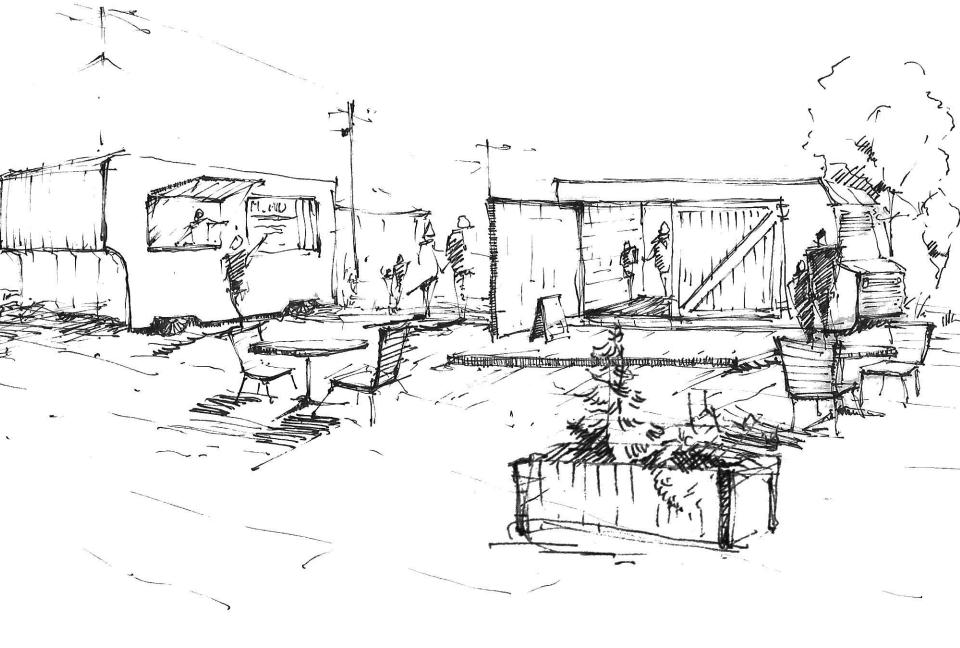




Where your flavor journey begins.







Frederica, Delaware

























Upcoming Projects

Hampton, VA
Pickering Beach, DE
Claymont, DE





CRDS

COASTAL RESILIENCE

DESIGN STUDIO

Questions?