CITY OF WILMINGTON BRANDYWINE RIVERFRONT NORTHEAST LIVING SHORELINE

LOCATED ALONG THE NORTHEAST SHORE OF THE BRANDYWINE RIVER BETWEEN NORTH PINE/JESSUPS STREETS AND NORTHEAST BOULEVARD

PREPARED BY:

DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

SEAL OF THE CITY OF WILMINGTON DELAWARE

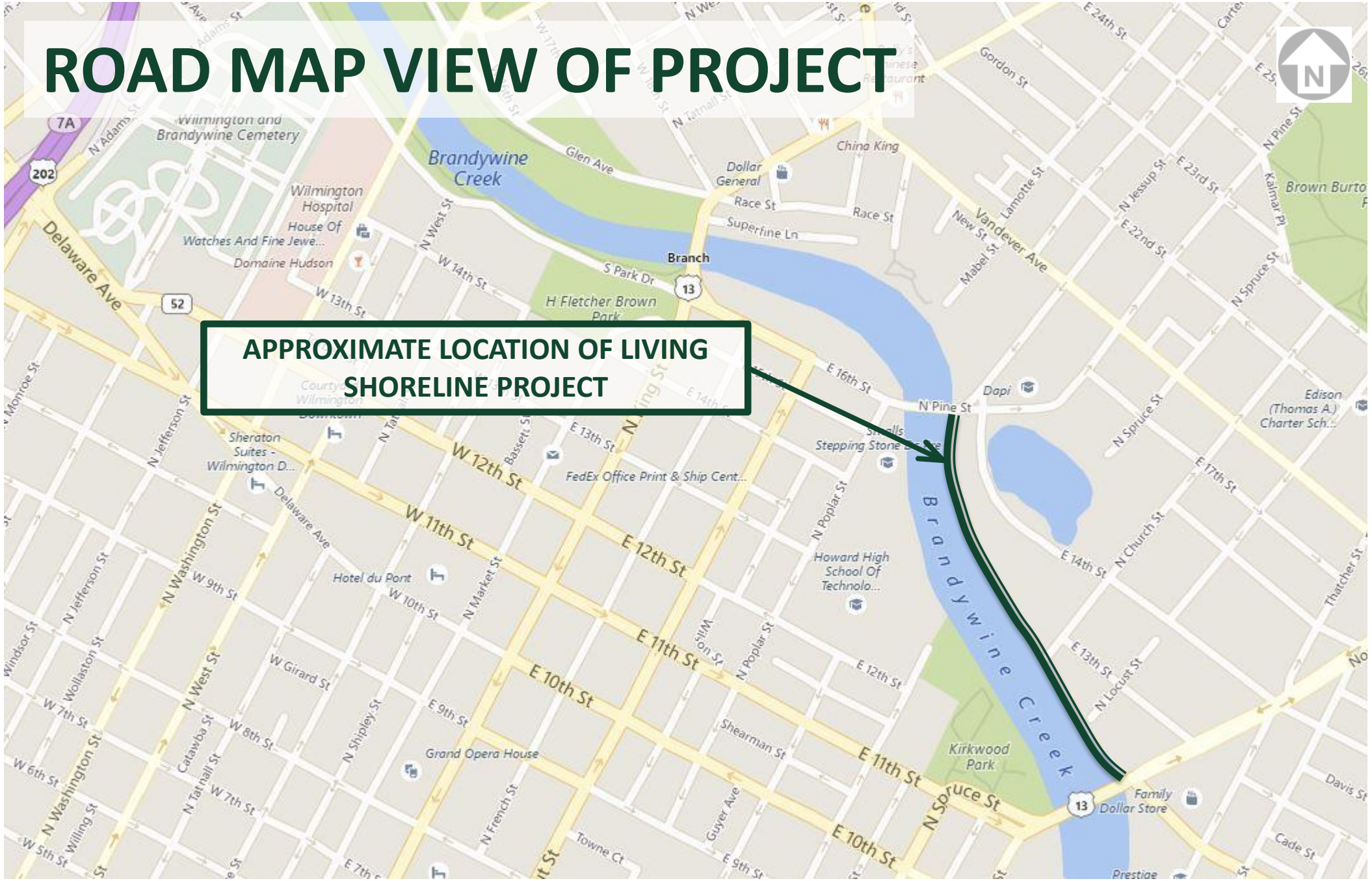
Pennoni

PARTNERS FOR WHAT'S POSSIBLE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NOAA U.S. DEPARTMENT OF COMMERCE

Old Brandywine Village

ROAD MAP VIEW OF PROJECT



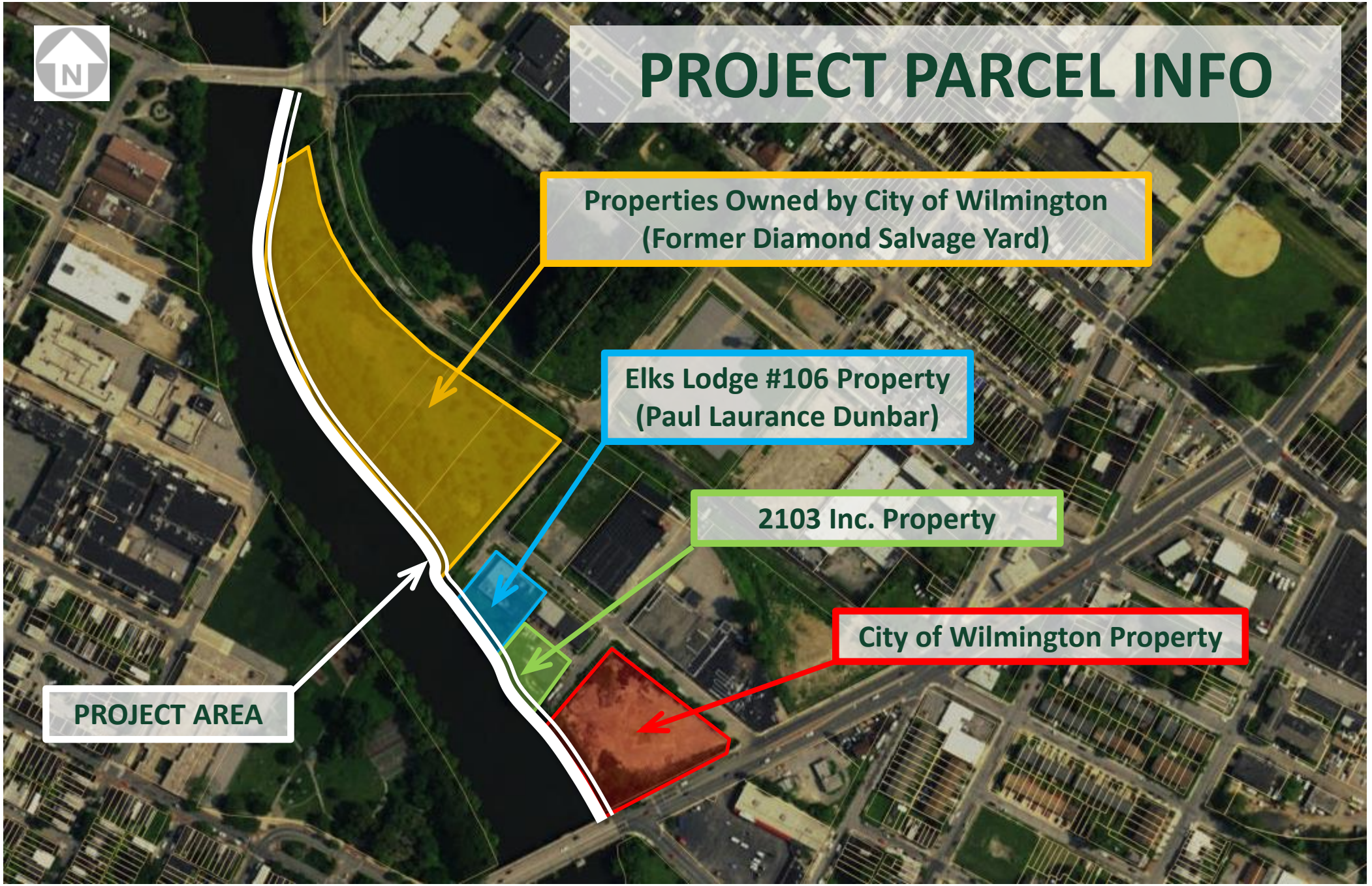
PROJECT OVERVIEW

Living Shoreline Project

- 1,800 +/- linear feet of shoreline stabilization
- Lighted and paved pathway
- Paddle sports access
- Fishing
- Water Taxi access
- Connecting with Future Projects

Pennoni

PROJECT PARCEL INFO



Pennoni

EXISTING TIDE CONDITIONS

Pennoni

EXISTING TIDE CONDITIONS

Pennoni

EXISTING CONDITIONS

TRAVELING UPSTREAM TO DOWNSTREAM
LOOKING AT JESSUPS/PINE ST. BRIDGE

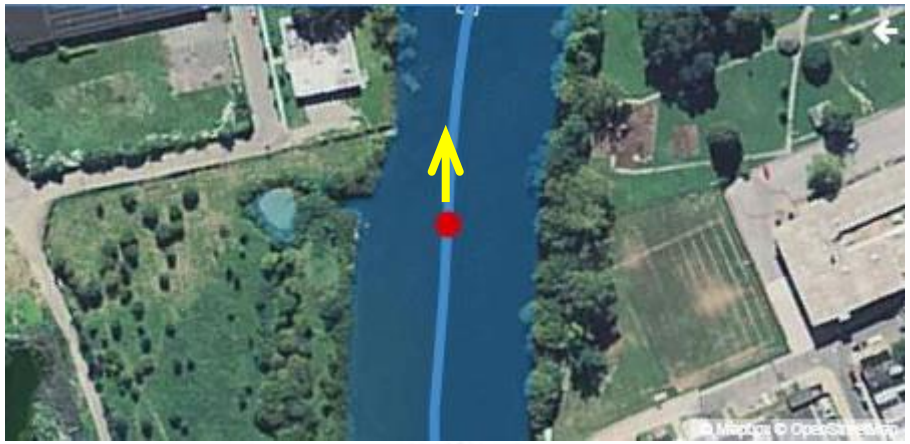
The following Images sourced from https://www.terrain360.com

EXISTING CONDITIONS

EXISTING CONDITIONS

EXISTING CONDITIONS

EXISTING CONDITIONS



EXISTING CONDITIONS

ELK'S LOGDE LOCATION

EXISTING CONDITIONS

ELK'S LOGDE LOCATION

EXISTING CONDITIONS

EXISTING CONDITIONS

EXISTING CONDITIONS

EXISTING CONDITIONS

EXISTING CONDITIONS

DOWNSTREAM AT NORTHEAST BLVD

This and previous Images sourced from https://www.terrain360.com

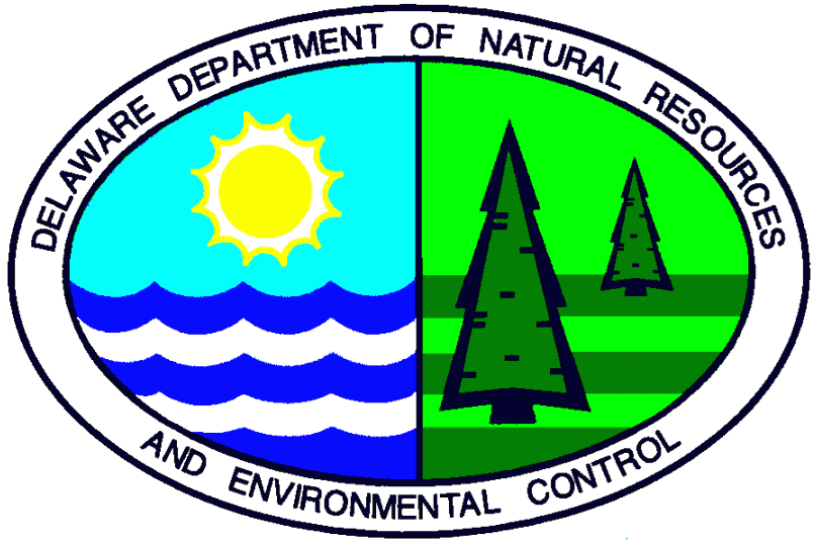
PROJECT FUNDING & OBLIGATIONS

State of Delaware Funding

- DNREC Community Environmental Project Fund

Funding Obligations

- Establish a steering committee
- Conduct a scoping meeting
- Host 3 community meetings
- Develop a concept plan



Pennoni

PROJECT OBJECTIVES

- Implement shoreline and streambank stabilization
- Improve water quality
- Provide access to the river
- Meet community needs
- Designed to fit like a “puzzle piece” with future projects
- Provide resiliency

WHAT IS A LIVING SHORELINE

- Shoreline protection with native materials such as vegetation and living, natural elements often times in combination with harder shoreline structures.

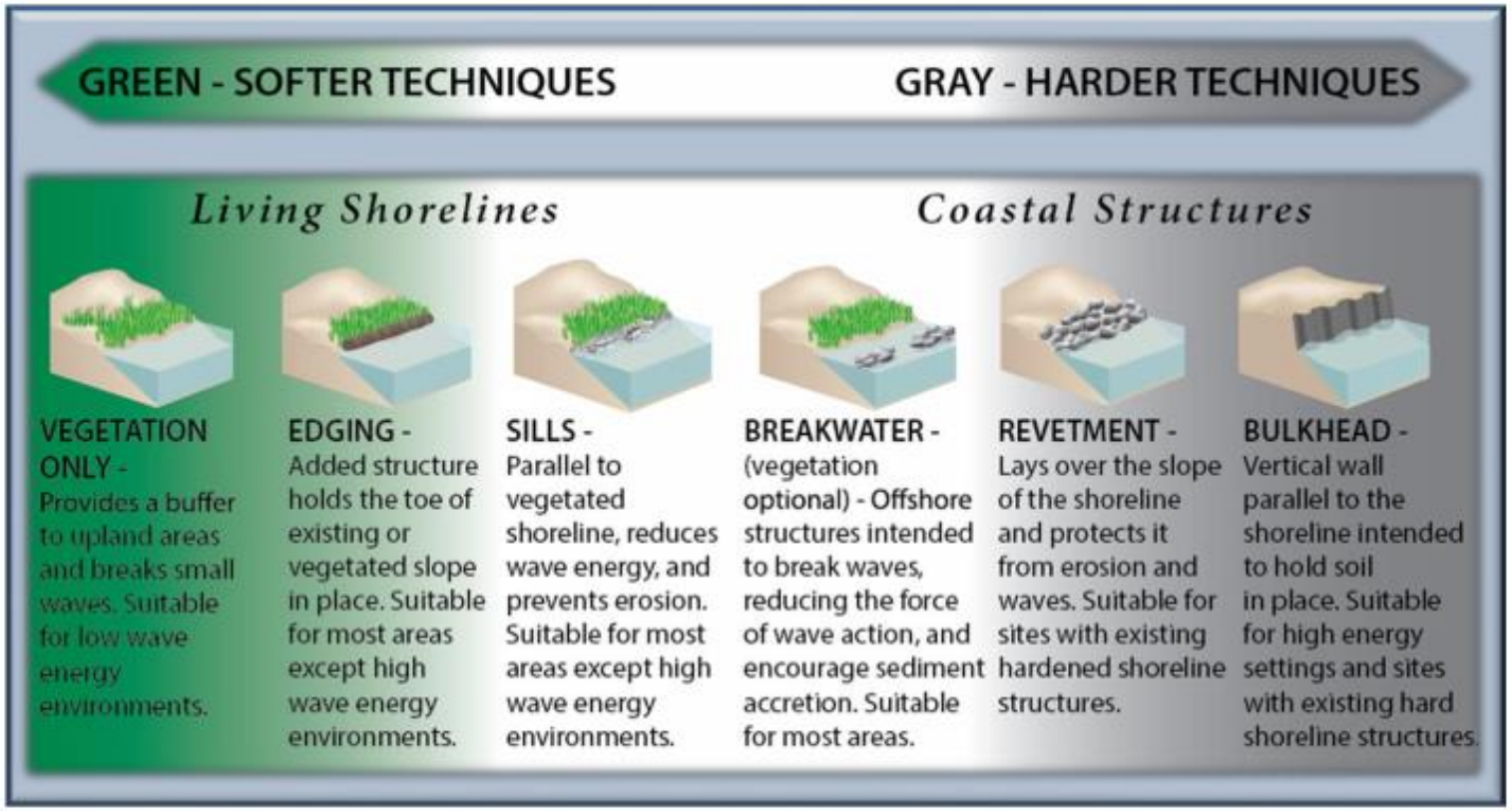
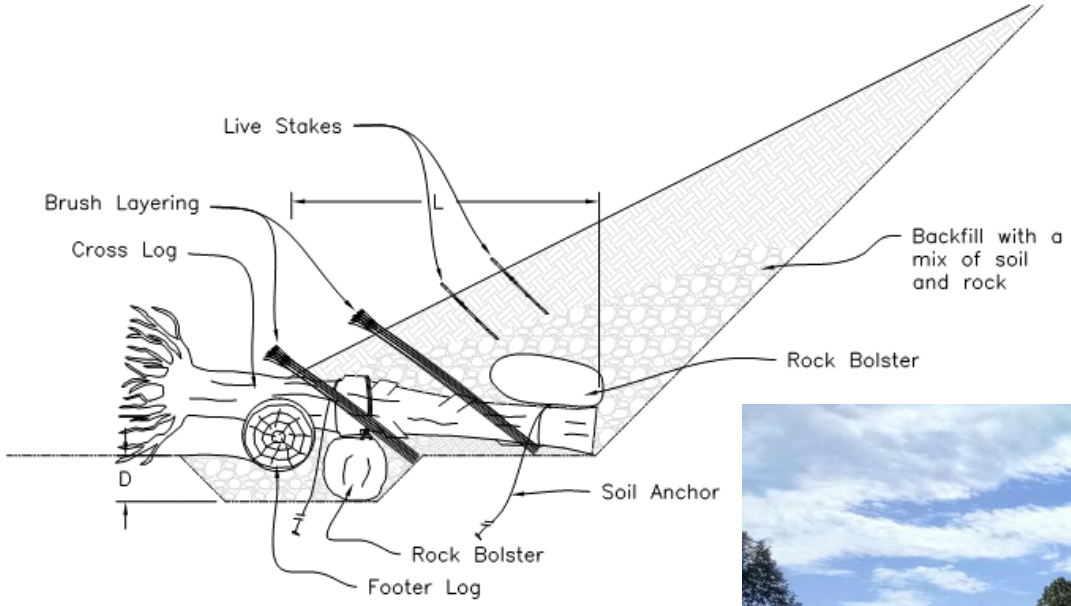
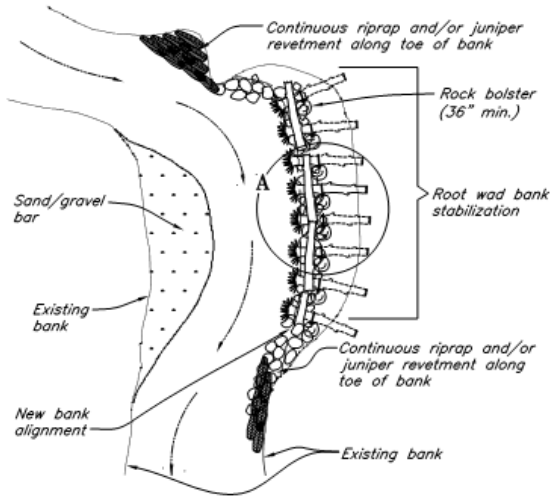


Image Source: 2015 National Oceanic and Atmospheric Administration (NOAA) Guidance for Considering the Use of Living Shorelines

EXAMPLE LIVING SHORELINE TECHNIQUES

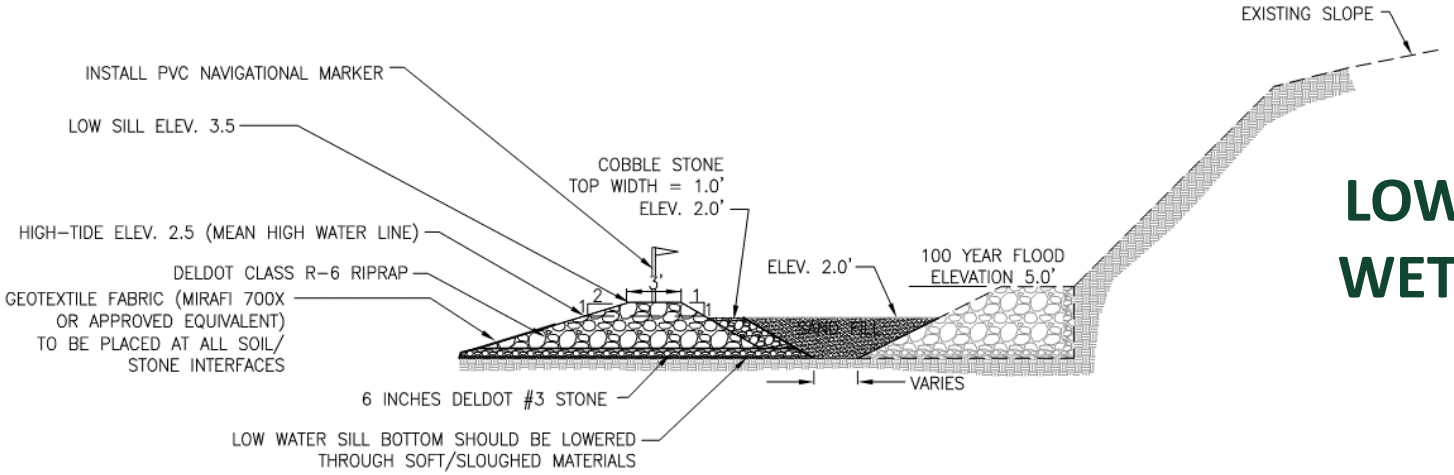




ROOT WAD REVETMENT OVER STONE
(PLAN)
N.T.S.

LOG TOE AND STREAM HABITAT PHOTOS

EXAMPLE LIVING SHORELINE TECHNIQUES



LOW WATER SILL WITH WETLAND WAVE WAKE BUFFER

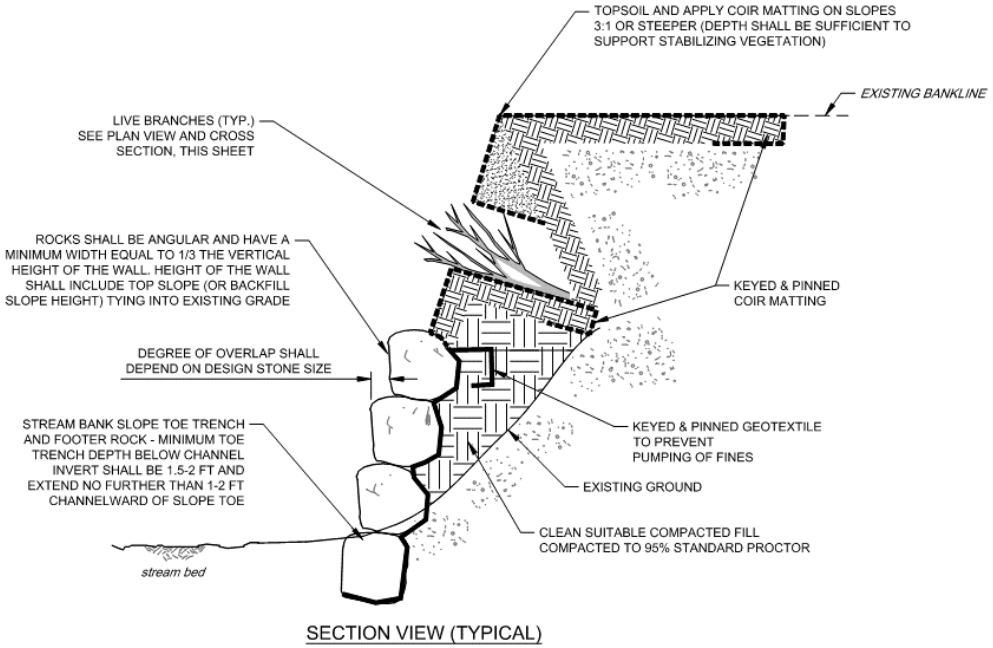
EXAMPLE LIVING SHORELINE TECHNIQUES

LOW WATER SILL WITH WETLAND WAVE WAKE BUFFER

Pennoni

EXAMPLE LIVING SHORELINE TECHNIQUES

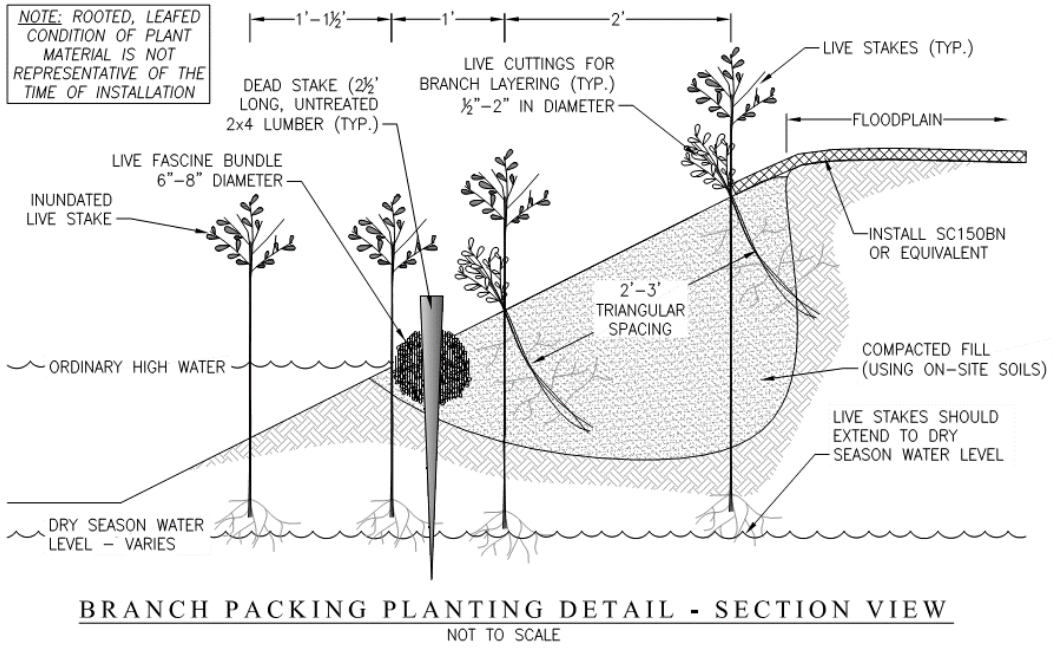
SIMPLIFIED SLOPE STREAMBANK STABILIZATION WITH BIOENGINEERING



ROCK BANK STABILIZATION WITH LIVE BRANCH LAYERING
NOT TO SCALE

EXAMPLE LIVING SHORELINE TECHNIQUES

SIMPLIFIED SLOPE STREAMBANK STABILIZATION WITH BIOENGINEERING

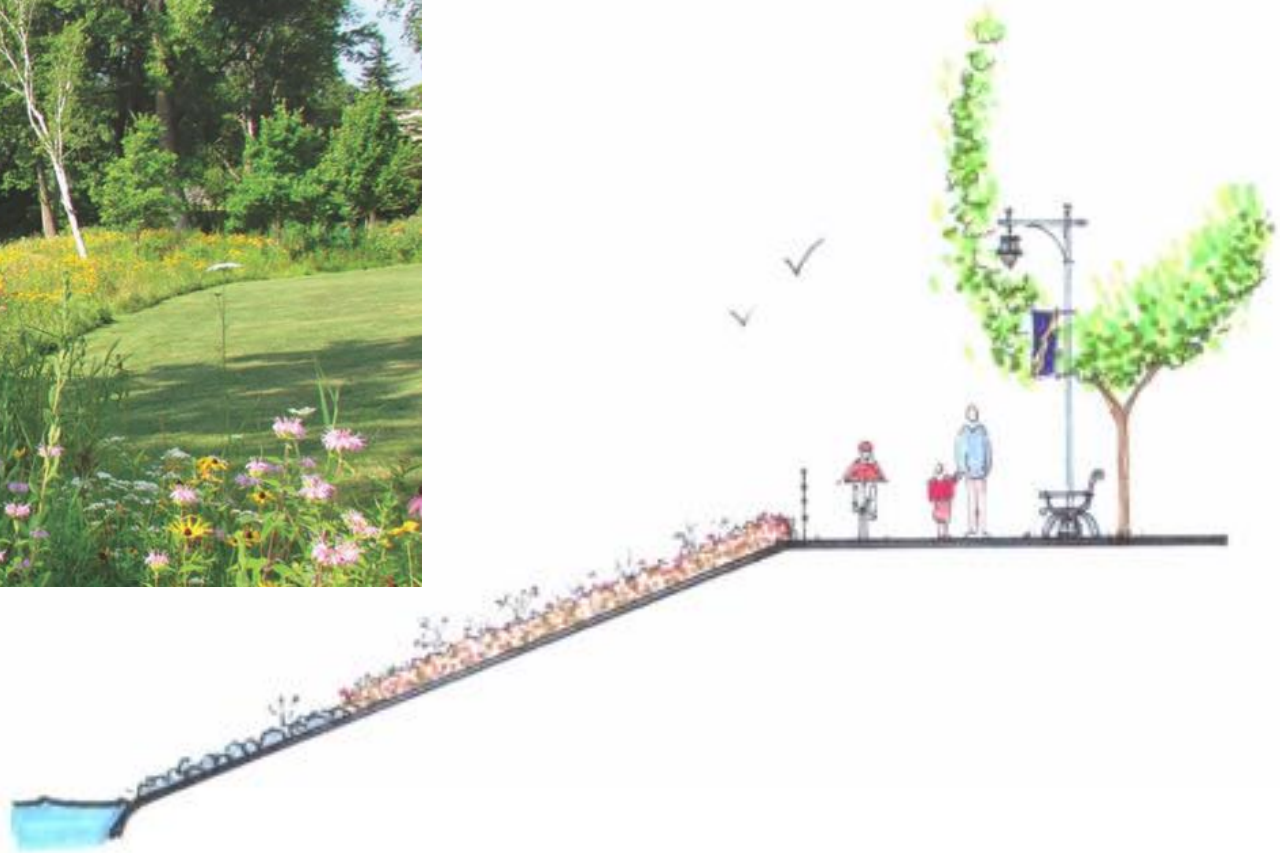


BRANCH PACKING PLANTING DETAIL - SECTION VIEW

NOT TO SCALE

EXAMPLE LIVING SHORELINE TECHNIQUES

MULTI-USE PATHWAY MEADOW BANK STABILIZATION



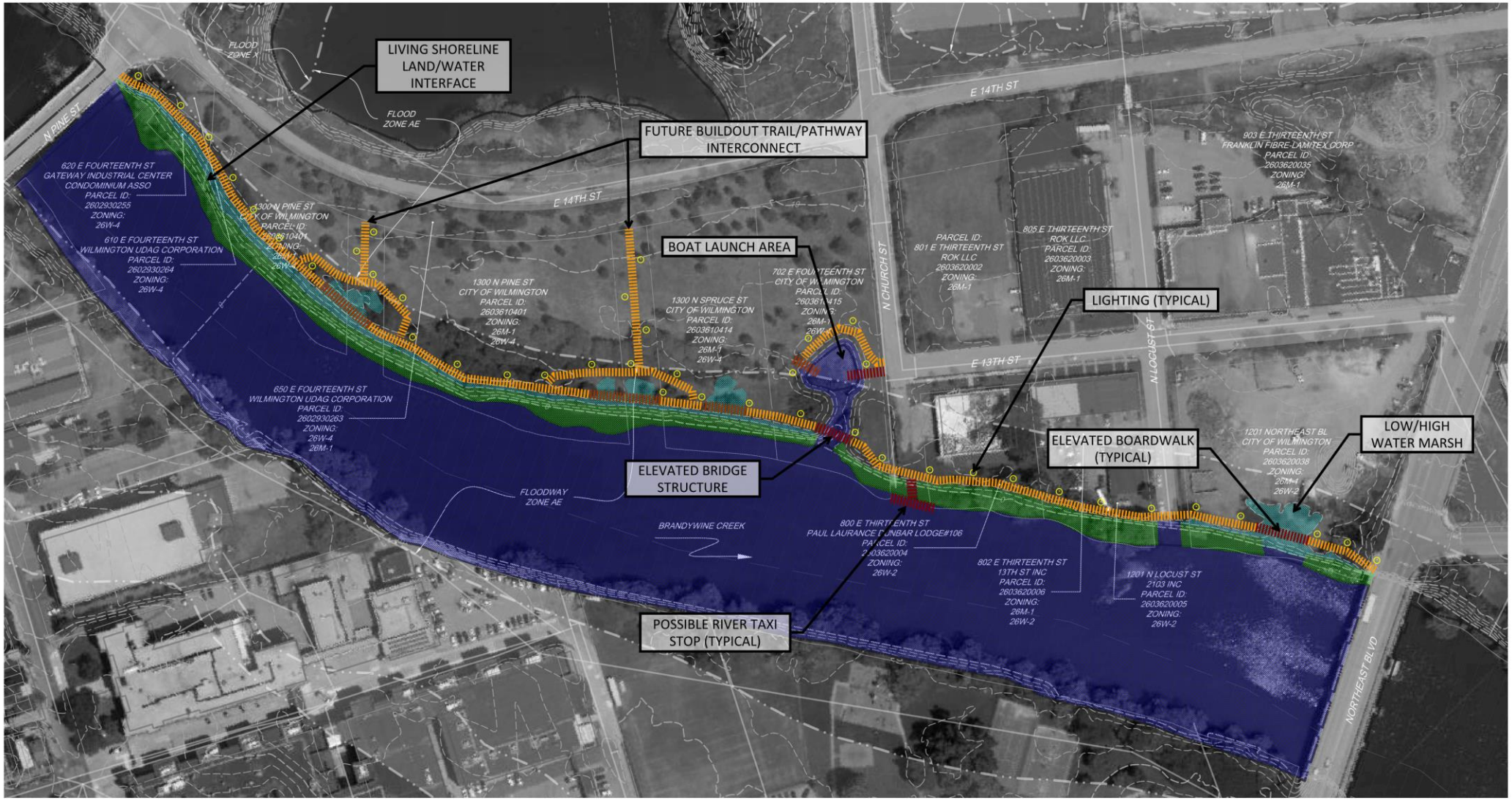
EXAMPLE LIVING SHORELINE TECHNIQUES

LOW WATER WETLAND AREAS WITH ROCK, OYSTER, AND COCNUT FIBER ROLL PROTECTION

Pennoni

EXAMPLE LIVING SHORELINE TECHNIQUES

NOAA LIVING SHORELINE EXAMPLE



PRELIMINARY DRAFT CONCEPT PLAN

CITY OF WILMINGTON, BRANDYWINE RIVERFRONT

NORTHEAST LIVING SHORELINE

Old Brandywine Village

PENNONI
Christiana Executive Campus
121 Continental Drive, Suite 207
Newark, DE 19713-4310
T 302.655.4451 F 302.654.2895

SUMMARY OF PREVIOUS MEETINGS

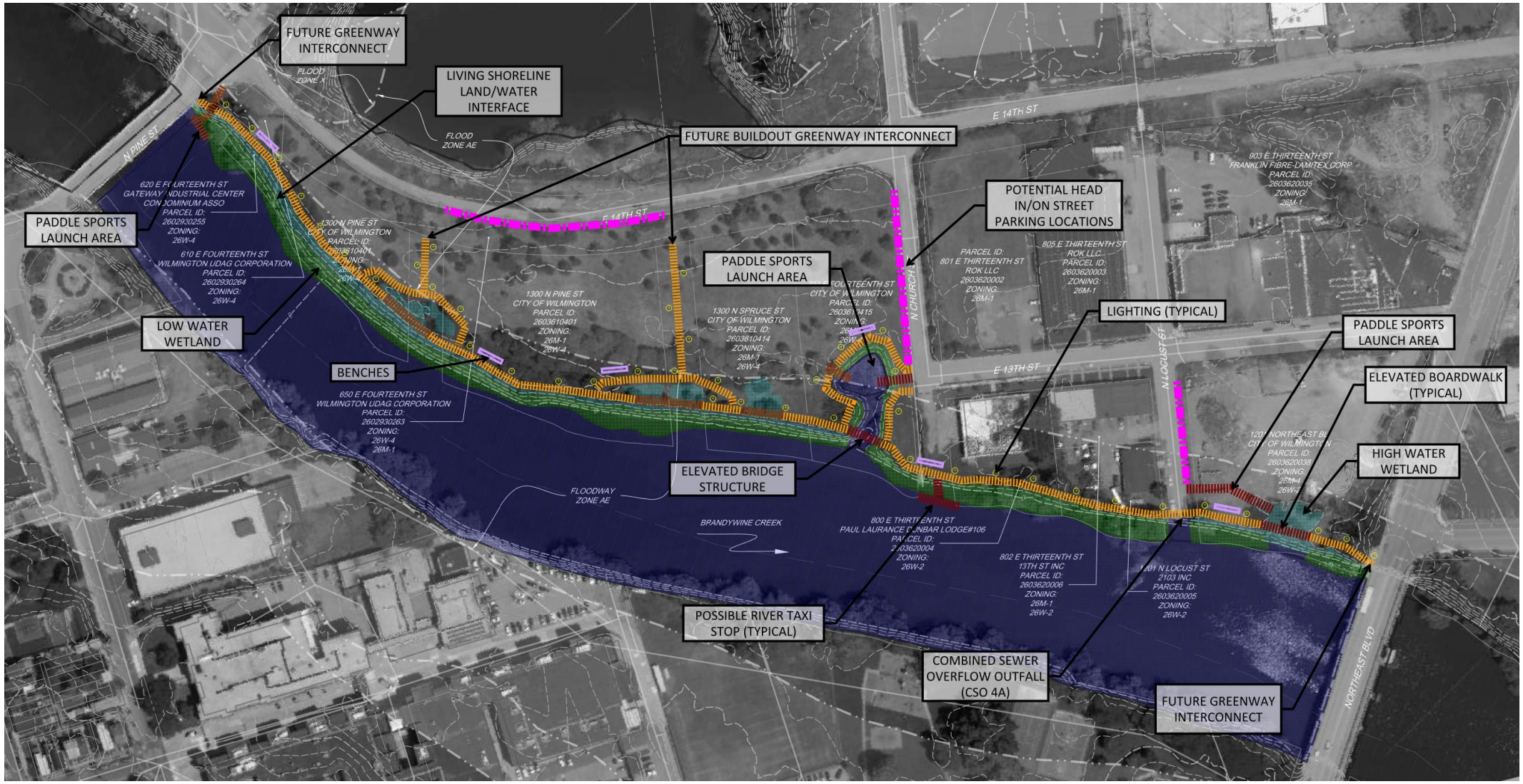
- Explain in more detail what the current existing conditions are like
- Provide paddle sport access upstream and downstream
- Show option of moving the river taxi stop upstream to separate paddle sport access locations
- Identify where the combined sewer overflow outfalls
- Confirm private property rights of access
- Incorporate living shoreline around the cove
- Connect trail around cove
- Identify potential parking areas
- Provide bike racks and paddle sport storage
- Provide benches
- Create a sense of place for exercise, education, the arts, gardening, farming
- Call out locations where this project will connect with future projects
- Identify a central location where project information can be viewed on the internet

Pennoni

CONCEPT RENDERINGS

CONCEPT RENDERINGS

CONCEPT RENDERINGS



DRAFT CONCEPT PLAN

BASED ON COMMUNITY COMMENTS

Pennoni

Pennoni 50th

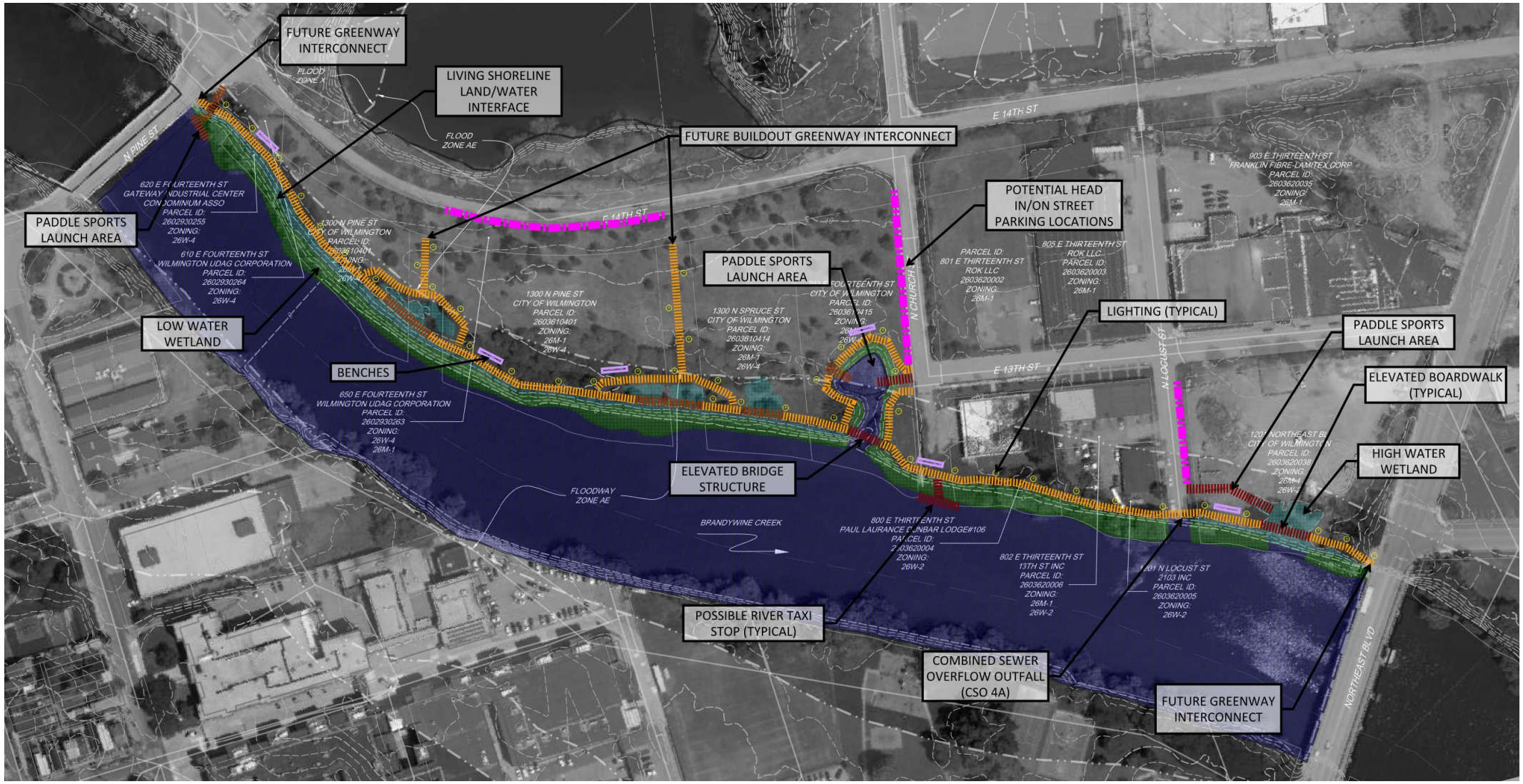
PENNONI
Christiana Executive Campus
121 Continental Drive, Suite 207
Newark, DE 19713-4310
T 302.655.4451 F 302.654.2895

Old Brandywine Village

PRESENTATION SOURCES & REFERENCES

- DNREC Site Investigation & Restoration Branch
- Terrain 360 (Brandywine Creek)
- Living Shorelines Academy
- Restore America's Estuaries (and member groups)
- Bing Maps
- Natural Resource Conservation Services (NRCS)
- National Oceanic and Atmospheric Administration (NOAA)
- Buffalo Niagara Riverkeeper New York Sea Grant
- Ausable River Association
- Various Pennoni projects
- Partnership for the Delaware Estuary
- City of Wilmington

Pennoni



DRAFT CONCEPT PLAN

BASED ON COMMUNITY COMMENTS

Pennoni

Pennoni 50th

PENNONI
Christiana Executive Campus
121 Continental Drive, Suite 207
Newark, DE 19713-4310
T 302.655.4451 F 302.654.2895

Old Brandywine Village

PARTNERS FOR WHAT'S POSSIBLE