N

0 20 40 80

1"=40'
Horizontal Scale
in Feet

EXISTING CREEK CHANNEL

EXISTING CULVERT

PHASE I PROJECT LIMITS

ACQUIRED PROPERTIES

Northeast Ohio Regional Sewer District

REGIONAL STORMWATER MANAGEMENT

Hemlock Creek Stream Restoration,
Existing Conditions

N

0 20 40 80

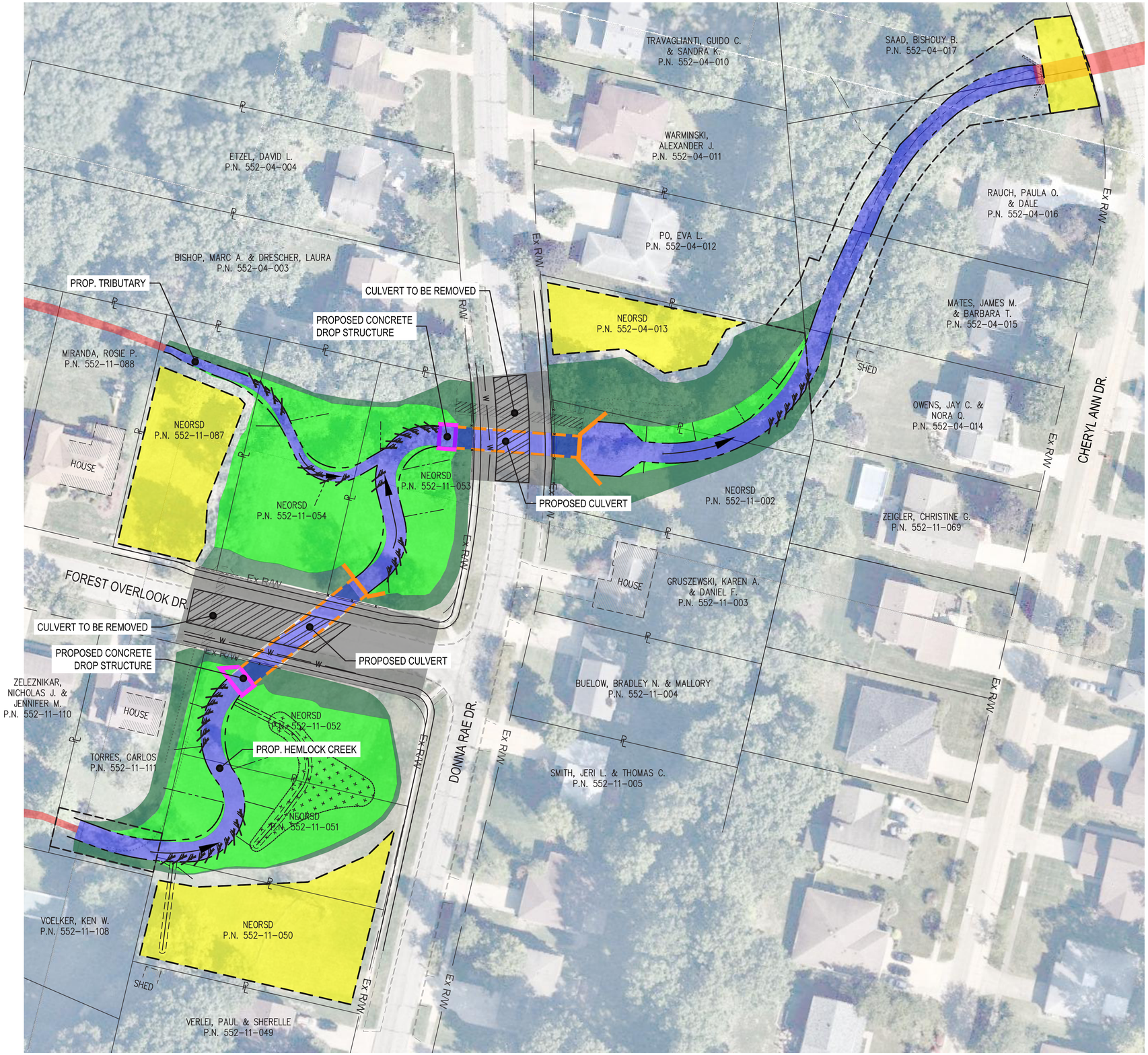
1"=40'
Horizontal Scale
in Feet

- PROPOSED CULVERT
- PROPOSED DECIDUOUS SHADE TREE
- PROPOSED DECIDUOUS UNDERSTORY TREE
- PROPOSED EVERGREEN TREE
- PROPOSED DECIDUOUS SHRUB
- PROPOSED EVERGREEN SHRUB
- PROPOSED NATIVE SEED AREA
- PROPOSED LAWN SEED AREA

Northeast Ohio Regional Sewer District

REGIONAL STORMWATER MANAGEMENT

Hemlock Creek Stream Restoration,
Landscape Plan



N

0 20 40 80

1"=40'
Horizontal Scale
in Feet

- EXISTING CREEK CHANNEL
- PROPOSED CREEK CHANNEL
- PROPOSED FLOODPLAIN LIMITS
- PROPOSED GRADING LIMITS
- PROPOSED STAGING AREA
- PROPOSED PAVEMENT AND WALK REPLACEMENT LIMITS
- PROPOSED CULVERT / HEADWALL / WINGWALL
- PROPOSED CONCRETE DROP STRUCTURE
- EASEMENT LIMITS

Northeast Ohio Regional Sewer District

REGIONAL STORMWATER MANAGEMENT

Hemlock Creek Stream Restoration,
Proposed Conditions

Common Stream Restoration Elements


Fabric Encapsulated Soil Lift (FESL)


Woody Habitat


Log Riffle

Fabric Encapsulated Soil Lift (FESL)
Slope is excavated according to plans. Rock is placed at the toe of bank. Biodegradable fabric lifts are installed at overlapping levels perpendicular to the channel, then backfilled with soil and native material. Fabric is secured with dead stakes. Brush layers/living stakes are installed between lifts and at top of bank. Benefit: Bank stabilization by natural material methods, improved water quality-natural filter, vegetation provides habitat.

Woody Habitat
Toe wood, installed at outside meander. Benefit: Erosion protection, re-directing flows away from banks. Dissipate energy, reduce flow velocity. Provides habitat.

Log Riffle
Logs installed/partially buried to create grade control. Benefit: Dissipate energy, reduce flow velocity.

Live Stakes
Live willow stakes planted in the streambanks. Benefit: Establish and root to create erosion control.

Root Wad Installations
Tree trunks with root wads are installed into the streambank. Benefit: Dissipate energy and provide natural habitat and streambank erosion reduction.


Live Stakes


Root Wad Installations

Northeast Ohio Regional Sewer District

REGIONAL STORMWATER MANAGEMENT

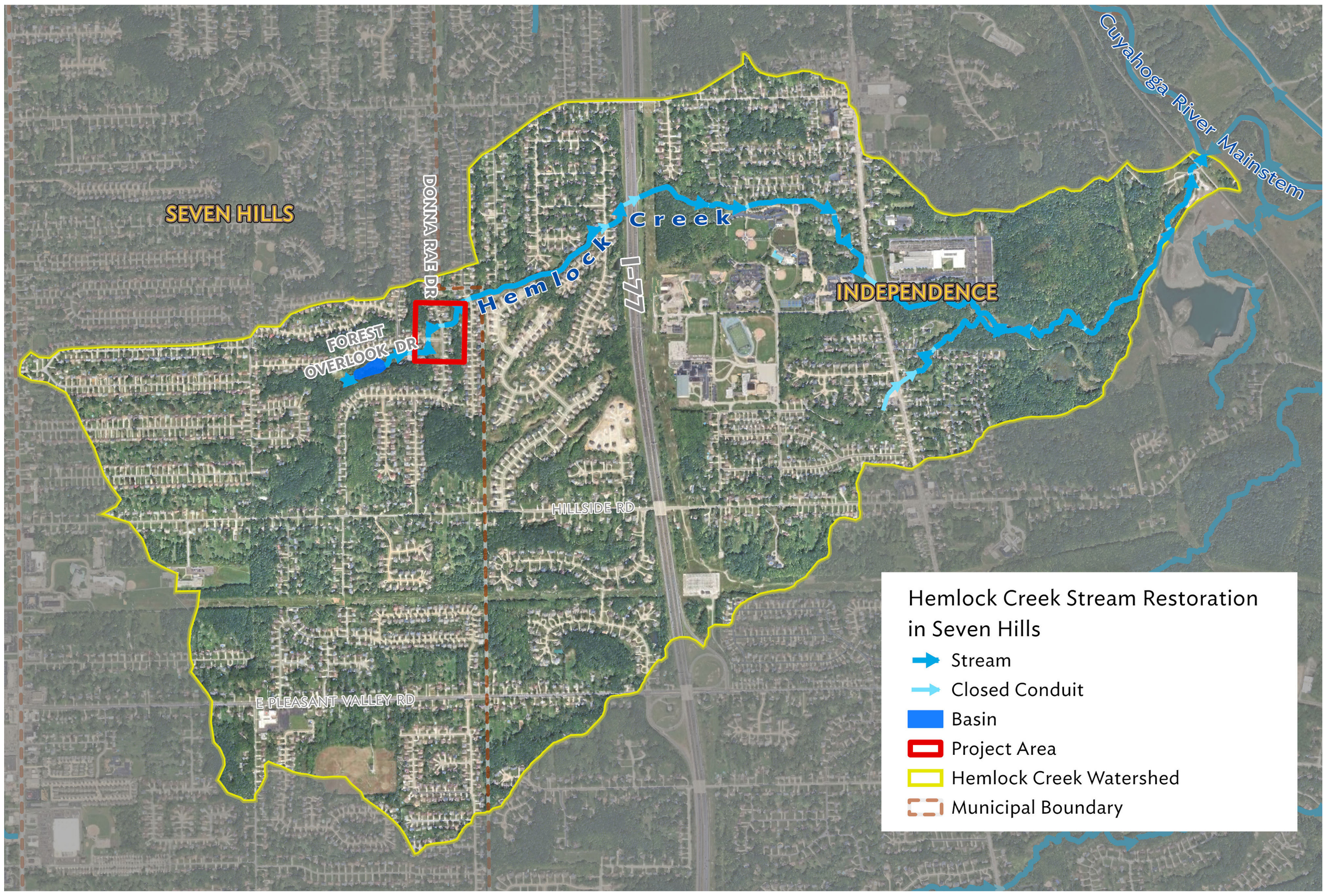
Hemlock Creek Stream Restoration

PROJECT GOALS

Acquire properties along the stream channel and expand floodplain.

Restore riparian habitat along Hemlock Creek.

Replace failing culverts at Forest Overlook and Donna Rae Drives.



ANTICIPATED PROJECT TIMELINE

PRE-DESIGN
SEPTEMBER 2021

FINAL DESIGN
MAY 2023

CONSTRUCTION
AUGUST 2023