

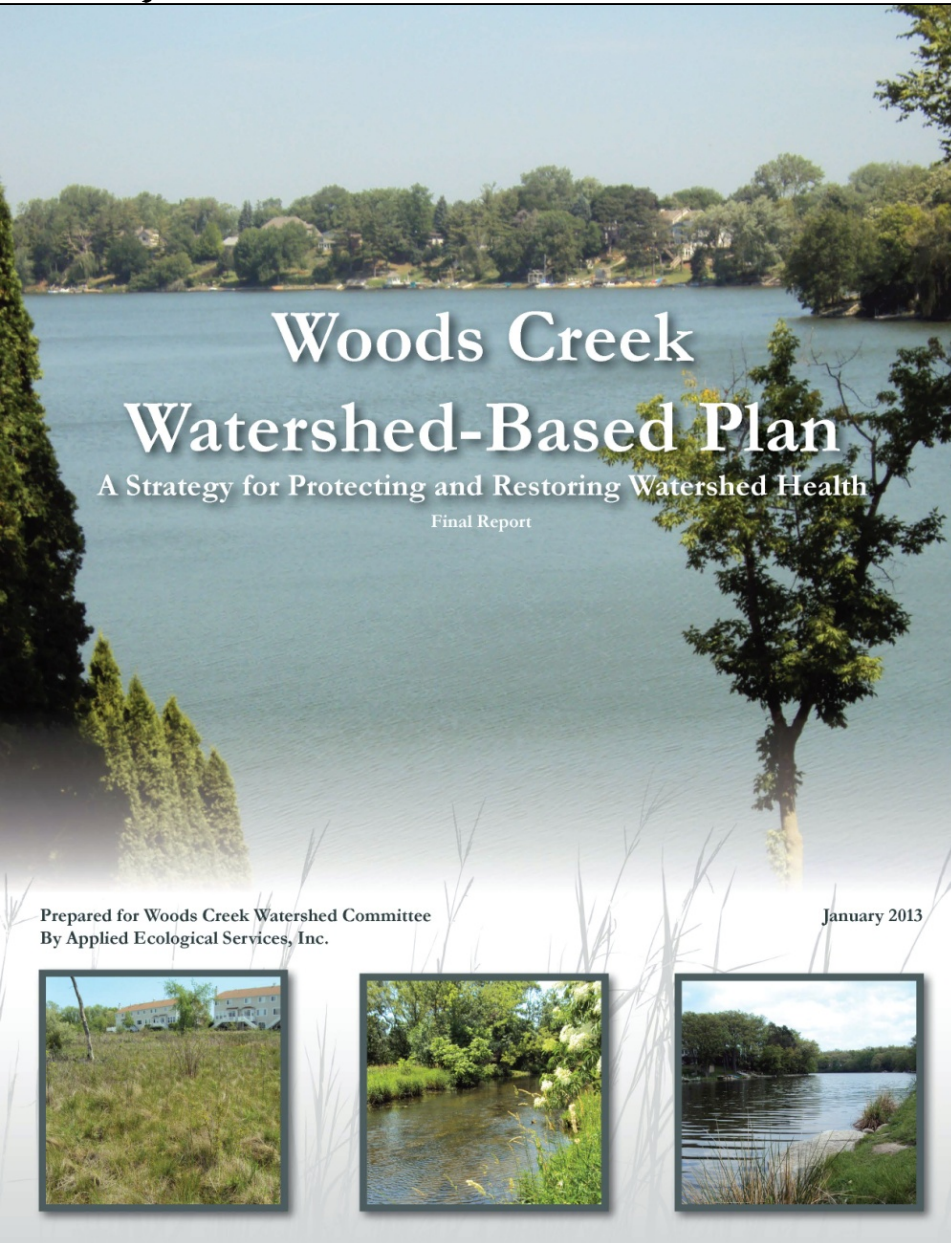


Woods Creek Restoration Project Summary



APPLIED
ECOLOGICAL
SERVICES

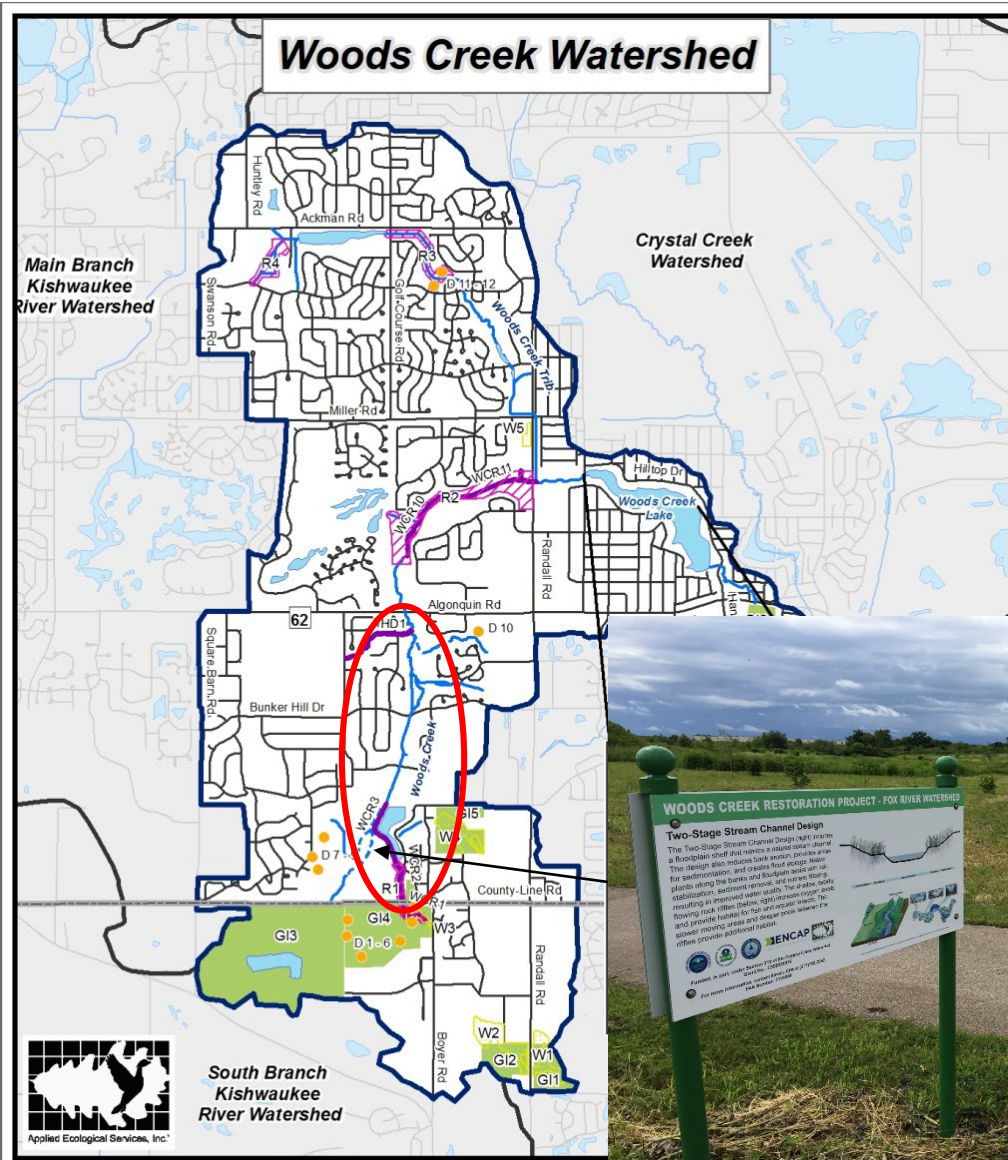
Importance of the Woods Creek Watershed Plan



Planning effort between Crystal Lake Park District, Algonquin, Lake in the Hills, and Crystal Lake to evaluate the ecological health of Woods Creek Watershed and ID potential restoration projects.

Village of Algonquin Restoration

The Village of Algonquin has invested over \$2M over past 15 years restoring & managing the ecological health of Woods Creek Corridor



DATA SOURCES Villages of Algonquin, Lake-in-the-Hills, and Crystal Lake
U.S. Census Bureau
U.S. Geological Survey

Critical Area Projects & EPA 319 Grants

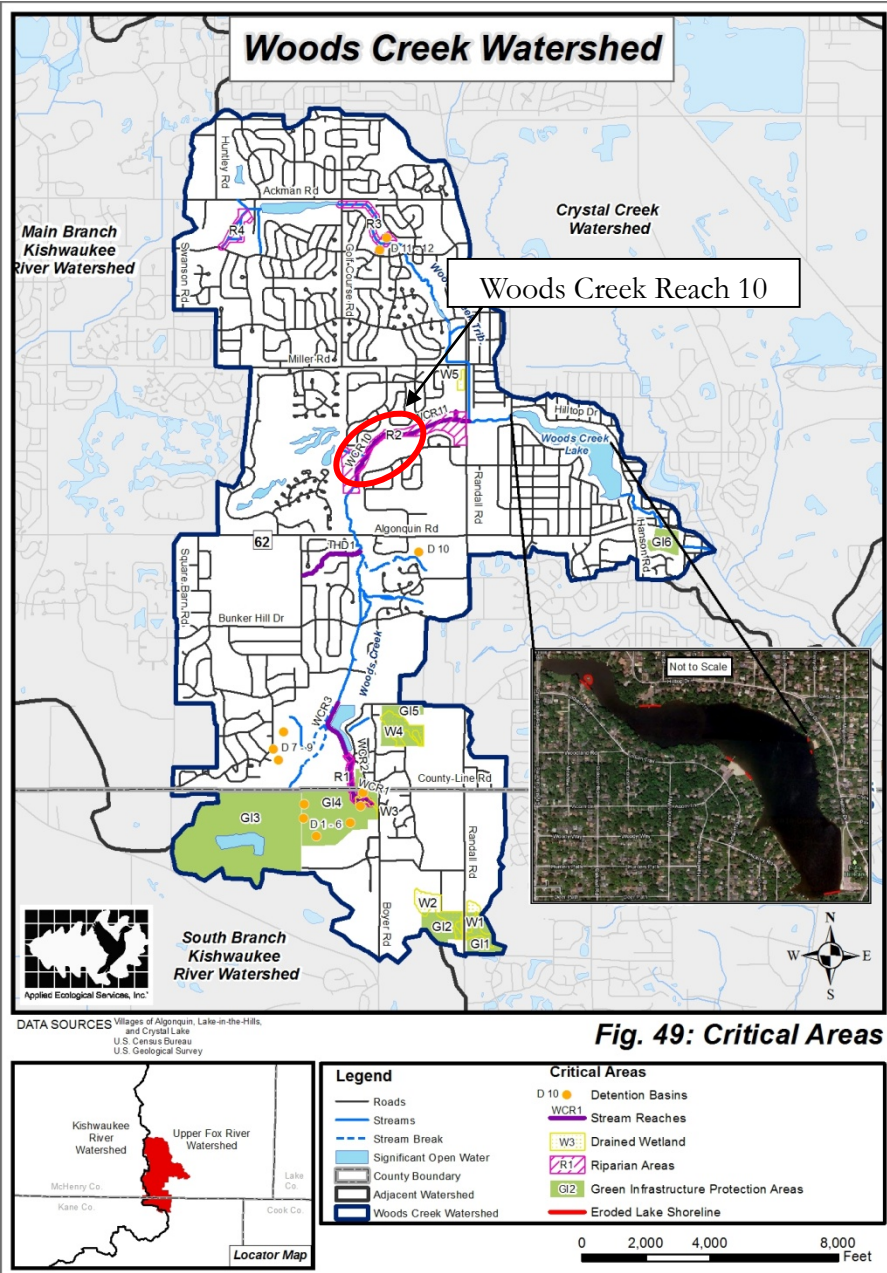
EPA awards grants based on:
Is the project identified as a
Critical Area?

LITH applied for Grant in
2017 & was awarded grant in

2018

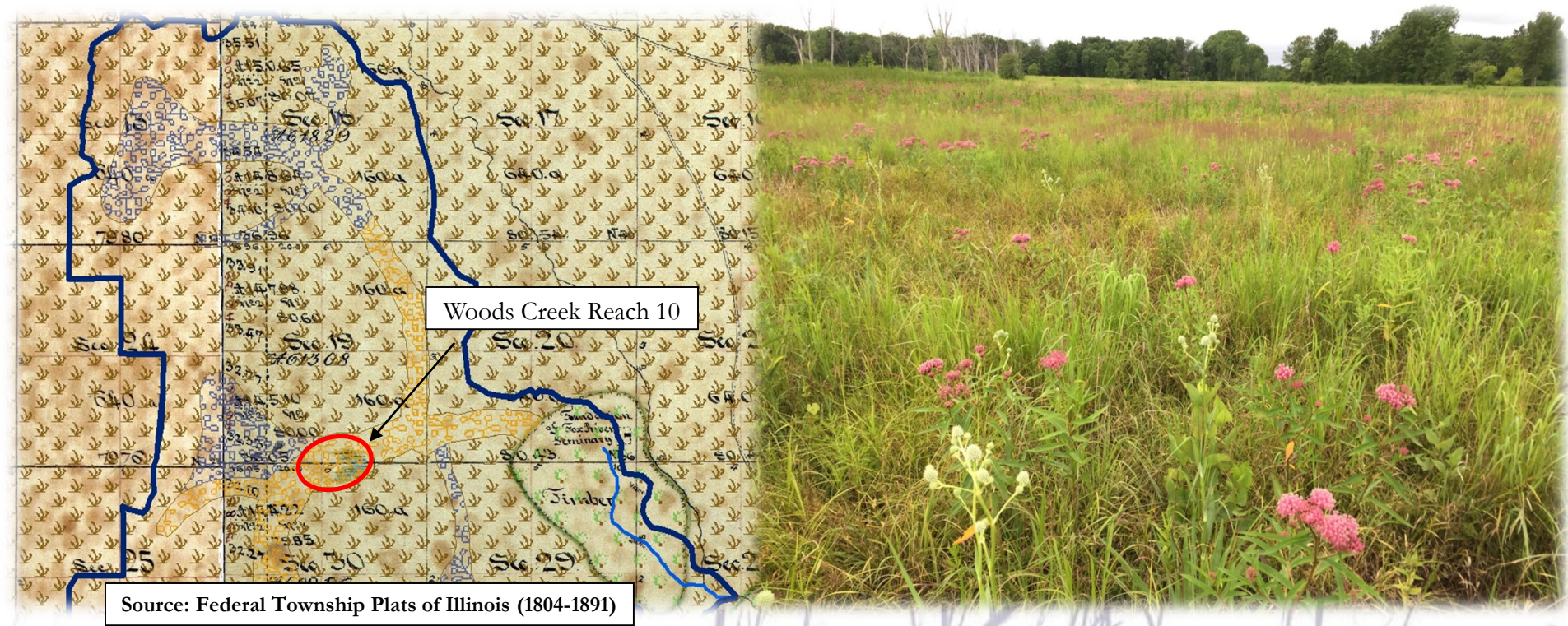
LITH = 40% of cost

EPA = 60% of cost



DATA SOURCES: Villages of Algonquin, Lake-in-the-Hills, and Crystal Lake
U.S. Census Bureau
U.S. Geological Survey

Woods Creek Prior to European Settlement (1830's)



Source: Federal Township Plats of Illinois (1804-1891)

The land was described as primarily “Wet Prairie & Marsh”

Woods Creek 80 Year Ago



Project Area

Woods Creek Lake

Note that almost no trees are located within the project area just 80 year ago.

Source: Illinois Clearing House Historical Images (1939)

Present Day Woods Creek



Development now surrounds the area and low quality “second growth/invasive” shrubs & trees are taking over the open prairie and wetlands

Degraded Riparian Conditions



Reed Canary Grass Wetland



Common Reed



Box Elder Trees

Degraded Stream Conditions



Debris Jam



Degraded Stream Channel



Human Encroachment

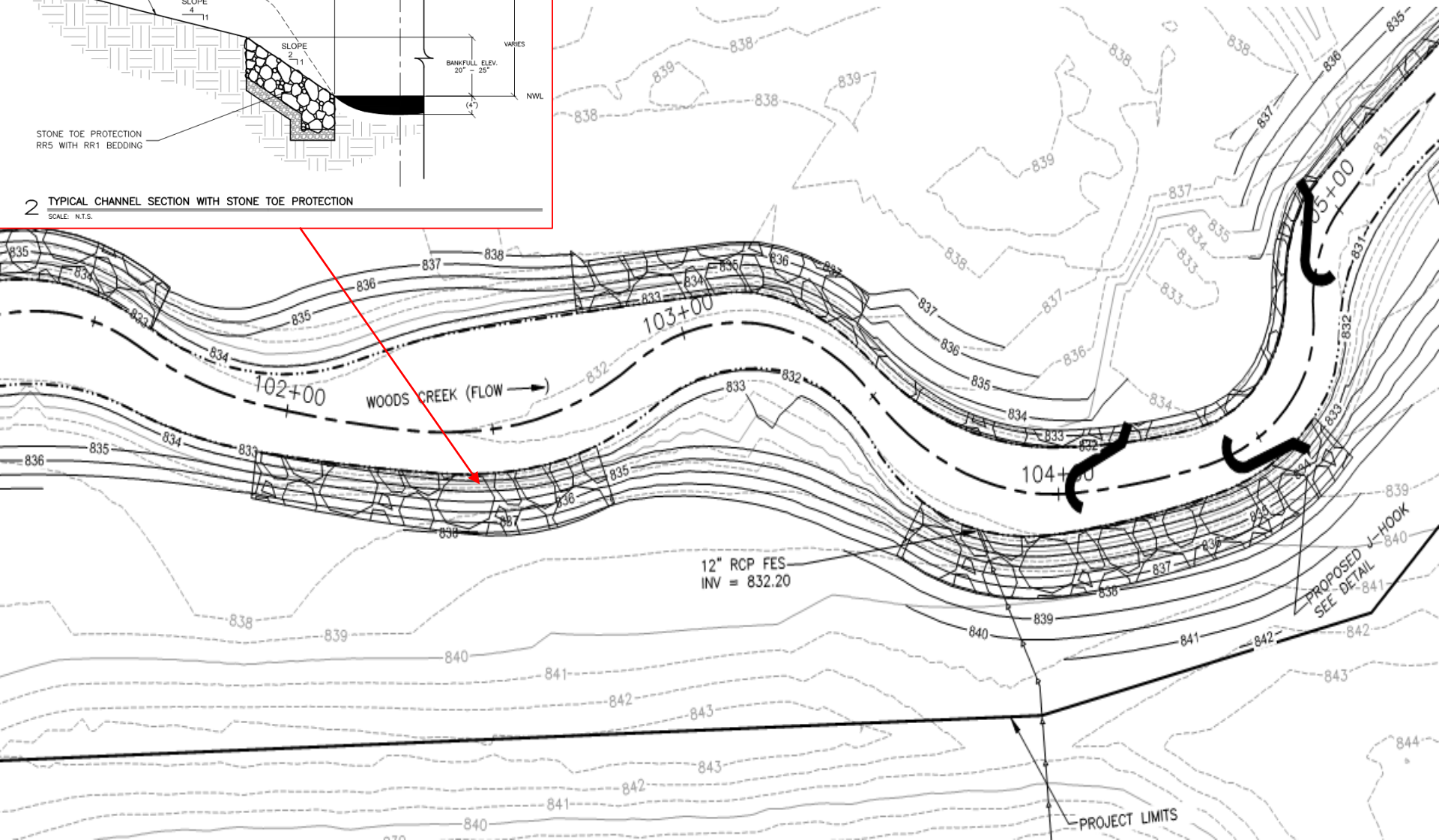
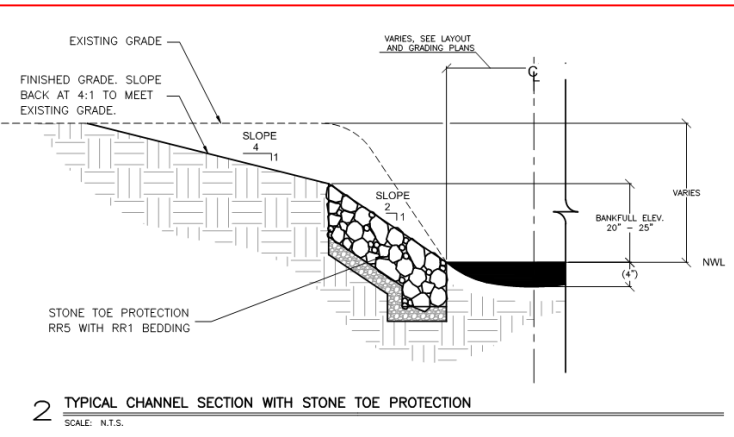


Streambank Erosion

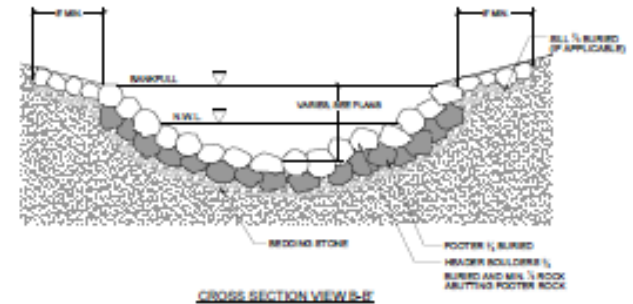
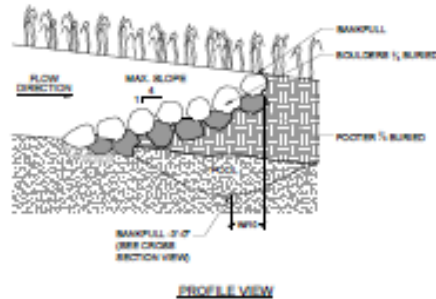
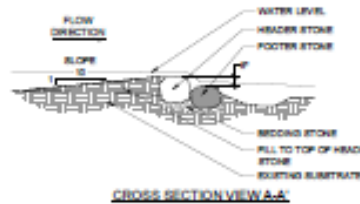
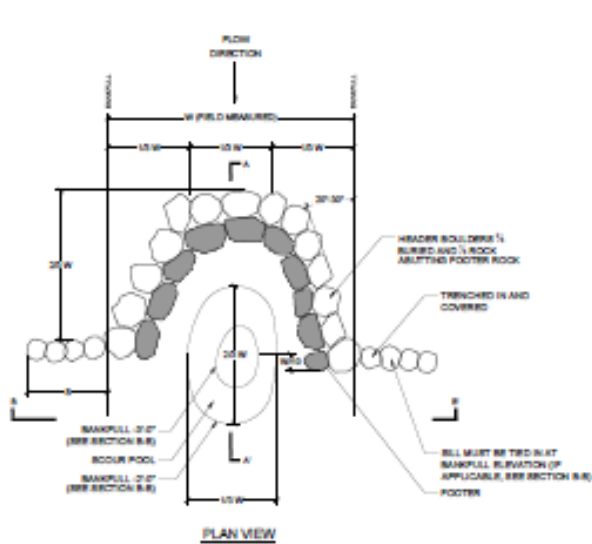
Woods Creek Restoration Goals

- * Reduce need for dredging of Woods Creek Lake
- * Improve green infrastructure
- * Improve wildlife and fish habitat
- * Introduce passive recreation
- * Improve water quality and groundwater

Restoration: Grading Plan

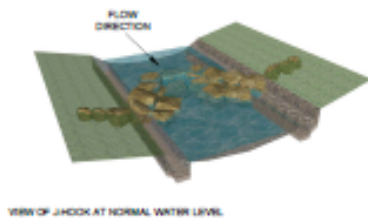


Restoration: Channel Improvements

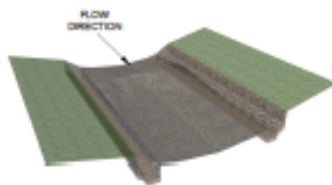


- NOTES:
1. STONE SHALL BE ANGULAR IN SHAPE AND NEITHER BROADER NOR THICKER OF A SINGLE STONE SHOULD BE LESS THAN ONE THIRD ITS LENGTH. STONE SHALL BE SLOTTED RATHER THAN ELONGATED. STONE SHALL HAVE SHARP, ANGULAR, CLEAN EDGES AT THE INTERSECTIONS OF RELATIVELY FLAT SURFACES AND SHOULD BE NESTED TOGETHER. ROUND OR FLAT STONES OR BOLLERS WILL NOT BE ACCEPTED.
 2. HEADER, FOOTER AND BOLLER STONES SHALL BE 20 CM.
 3. STONE HAS BEEN SIZED AS HAVING A UNIT WEIGHT OF 88 PCF. NO STONE SHALL BE LESS THAN 150 PCF AND ITS SIZES SHOULD BE INCREASED RELATIVE TO ITS UNIT WEIGHT.
 4. FOOTERS, HEADERS AND BOLLERS SHALL BE 1/2 BURIED AND HEADERS SHALL BE LAPPED AND ABUTTING THE FOOTERS BY MIN. 1/2 ROCK DEPTH. FOOTERS, HEADERS AND BOLLERS SHALL BE TIED INTO THE BANK SIDE SLOPES WITH MINIMAL DISRUPTION OF SOIL BENEATH.

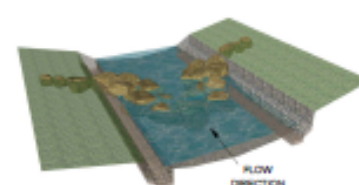
1 CROSS VANE



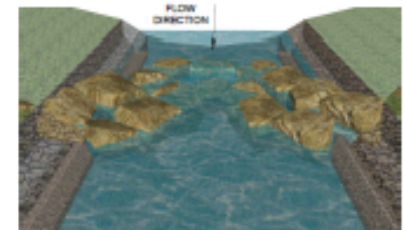
VIEW OF J-HOOK AT NORMAL WATER LEVEL



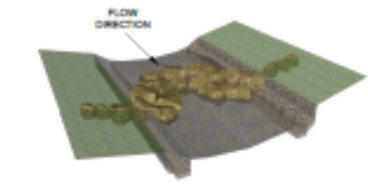
VIEW OF J-HOOK WITHOUT WATER OR BOLLERS



VIEW OF J-HOOK AT NORMAL WATER LEVEL



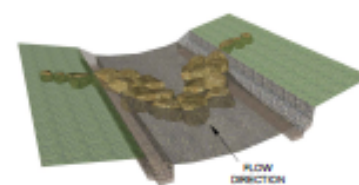
VIEW OF J-HOOK AT NORMAL WATER LEVEL



VIEW OF J-HOOK WITHOUT WATER

2 CROSS VANE AXONOMETRIC VIEW 1

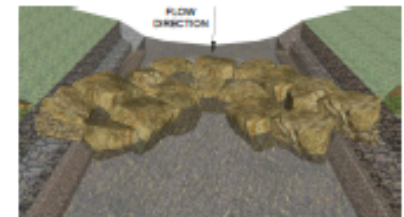
1/2



VIEW OF J-HOOK WITHOUT WATER

3 CROSS VANE AXONOMETRIC VIEW 2

1/2



VIEW OF J-HOOK WITHOUT WATER

4 CROSS VANE AXONOMETRIC VIEW 3

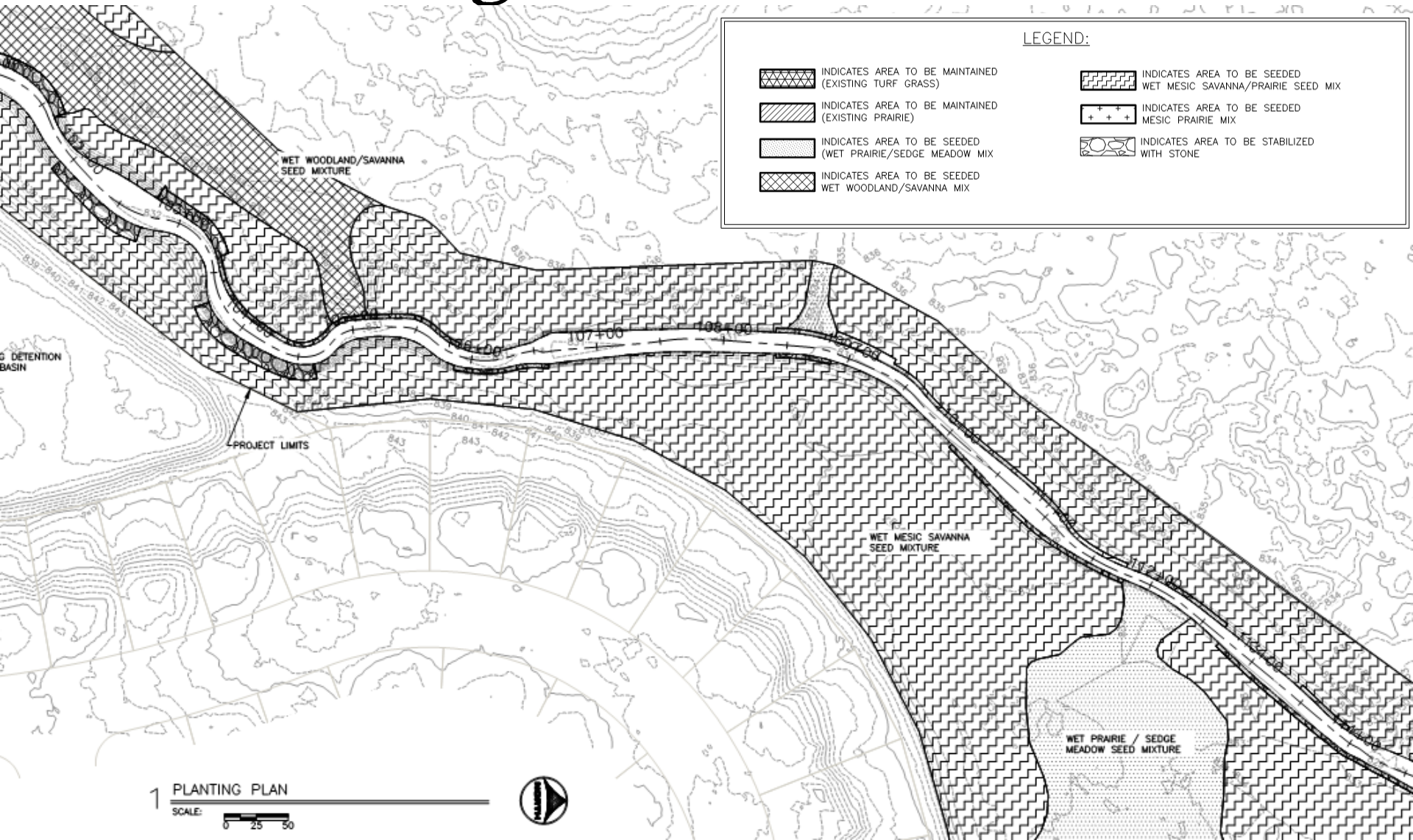
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Channel Improvements










Indian Creek-Buffalo Grove

Native Vegetation Restoration Plan



LEGEND:

	INDICATES AREA TO BE MAINTAINED (EXISTING TURF GRASS)		INDICATES AREA TO BE SEEDED WET MESIC SAVANNA/PRAIRIE SEED MIX
	INDICATES AREA TO BE MAINTAINED (EXISTING PRAIRIE)		INDICATES AREA TO BE SEEDED MESIC PRAIRIE MIX
	INDICATES AREA TO BE SEEDED (WET PRAIRIE/SEDE MEADOW MIX		INDICATES AREA TO BE STABILIZED WITH STONE
	INDICATES AREA TO BE SEEDED WET WOODLAND/SAVANNA MIX		

1 PLANTING PLAN
 SCALE: 0 25 50



Savanna Restoration



Crystal Creek-Algonquin



Dundee Resident

Educational Signage



TALLGRASS PRAIRIE

A Diverse Place Where Plants and Wildlife Thrive

Viceroy
Limenitis archippus



Painted Lady
Vanessa cardui



Eastern Tiger Swallowtail
Papilio glaucus



WHAT IS A PRAIRIE?

A prairie is a type of grassland found only in North America. Prairie lands were once vast, but today prairies are North America's rarest landscape. At the time of settlement, Iowa was composed of 85% prairie. Now only small, scattered patches of prairie remain. Today, there is less than one-tenth of one percent of Iowa prairie, making it an endangered habitat.



Big Bluestem

Andropogon gerardii
This native prairie grass towers above most other plants, reaching 4-8 feet high. It is also called "Turkey Foot" because its seed spikes often branch to resemble a bird's foot.



www.cityofpaulding.org/news/press/parks



A prairie may look wide-open, but when you look closely, it is a crowded place. On a single acre there may be as many as 300 species of grass and forbs (plants with broad leaves like wildflowers). This diverse community of plants provides food and shelter for birds, insects, spiders, small mammals, rodents and snakes.

FIRE ON THE PRAIRIE

In order to preserve the rich diversity of native plants, prairies need to have an annual controlled burn in early spring. By burning the old grass remnants from the previous year, we are able to reduce invasive weeds, and return vital nutrients to the soil.



Common Milkweed
Asclepias syriaca



Rattlesnake Master
Dryas pumila



PRAIRIE LIVING AT A GLANCE

Prairie grasses including Big Blue Stem and Indian Grass grow to heights of 6 feet or above (giving this prairie the description of tallgrass). But other grasses and wildflowers grow amid the shade and protection they offer. Growing at different heights allows the plants to live closely together without competing directly for sunlight, food, and water.



New England Aster
Symphoricarpos nemoralis



Yellow Coneflower
Ratibida pinnata



Cardinal Flower
Loelia cardinalis



Wild Bergamont
Monarda fistulosa



Rosinweed
Siphium integrifolium



Purple Coneflower
Echinacea purpurea



Red-legged Locust
Melanoplus femurrubrum

CURIOSLY CAMOUFLAGED

When Iowa's state bird shows up at your feeder, it is hard to imagine that they are camouflaged. But, during late summer and early autumn, the Goldfinch's native prairie habitat is a sea of yellow flowers. Their bright yellow feathers hide them perfectly as they eat the seeds of Prairie Coneflowers, and Brown-eyed Susans. In late spring, they also gather thistle down to line their nest for their late summer hatchlings.

American Goldfinch
Carduelis tristis



Brown-eyed Susan
Rudbeckia triloba

Allanthes Webworm Moth
Atractia punctella

Example Project

(Lawndale Creek-Algonquin)



Before



After

Example Project

(Surrey Lane-Algonquin)



Before



After

Example Project

(Ratt Creek-Algonquin)



Before



After



After

Example Project

(Dixie Briggs Fromm Nature Preserve-Algonquin)



Source: Dundee Township

Before



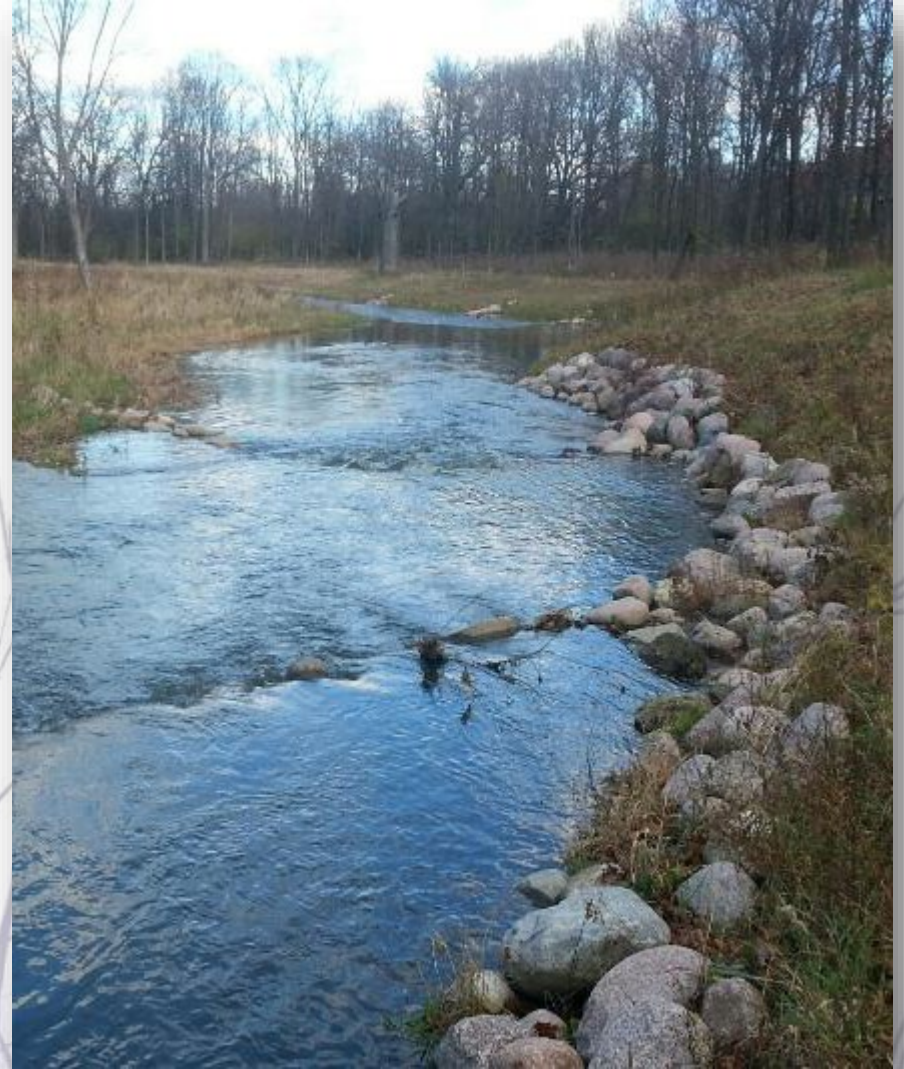
After

Example Project

(Indian Creek-Buffalo Grove)



Before



After

Example Project

(Flint Creek-Barrington)



Before



After

Project Schedule

Invasive Tree/Shrub Removal – August/September 2019

Stream Restoration – September-November 2019

Native Seeding – Fall/Winter 2019

Site Management – Ongoing for 3 Years (2020-2022)