PROJECT EXPERIENCE

West Fork Natural Streambank Repair

Bath Township, OH

Approximately 125 linear feet of the streambank of West Fork, a tributary to Yellow Creek and the Cuyahoga River, was severely eroded and the failure of the bank was threatening an adjacent stormwater management basin. A narrow causeway existed between the stream and the basin that was near the point of collapse. The loss of the causeway would have caused the basin to fail in structure and function and would have contributed significantly to water quality degradation within West Fork. Davey Resource Group (DRG) was retained by Summit County Engineer as the design-build contractor for this streambank repair project.

In March of 2020 the streambank was stabilized utilizing bioengineering methods including regrading of the bank and installation of bendway weirs, a riffle grade control structure, toe stone protection, and plantings. The streambank was built back up with material harvested from the adjacent gravel bar and graded to a stable angle of repose. Live stakes, native riparian seed, and native shrubs were planted within the project area to enhance riparian habitat and increase the longevity of the project. Tracked machinery was used in this project to reduce impacts to this sensitive aquatic ecosystem.

DRG provided project management, water resource assessments, permitting and coordination with regulatory agencies, design development, construction oversight, and planting and seeding. Marks Construction performed all construction work.

The bioengineering methods used to stabilize the bank have provided in-stream habitat and will prevent future erosion and sedimentation in this reach of stream as well as alleviating the threat to the adjacent stormwater basin.

Project Details:

Project Completion: April 2020

Project Owner: Summit County Engineer Office

Reference: David L. Koontz, PE, SI, Engineer Project Manager, 330-643-8537 or dkoontz@summitengineer.net

Summit County Engineer, 538 E. South St. Akron, OH 44311-1843

PROJECT DETAILS

Project Structure Statistics

Feet of bank stabilized	~125 linear feet
Increased width of the causeway	~12 - 20 feet throughout the stream reach was gained
Tons of stone	~140 tons

Species Lists

Live Stakes	Quantity: 50
Scientific Name	**Common Name**
Cornus sericea	Red-Osier Dogwood
Salix discolor	Pussy willow
Salix sericea	Silky willow
Cornus amomum	Silky dogwood

Riparian Buffer Mix Seed	Quantity: 6 pounds + Cover Crop
Botanical Name	**Common Name**
Panicum clandestinum, Tioga	Deertongue, Tioga
Elymus virginicus, PA Ecotype	Virginia Wildrye, PA Ecotype
Andropogon gerardii, 'Niagra'	Big Bluestem, 'Niagara'
Sorghastrum nutans, 'Tomahawk'	Indiangrass, 'Tomahawk'
Chamaecrista fasciculata, PA Ecotype	Partridge Pea, PA Ecotype
Verbena hastata, PA Ecotype	Blue Vervain, PA Ecotype
Juncus effusus	Soft Rush
Rudbeckia hirta, Coastal Plain NC Ecotype	Blackeyed Susan, Coastal Plain NC Ecotype
Heliopsis helianthoides, PA Ecotype	Oxeye Sunflower, PA Ecotype
Asclepias incarnata, PA Ecotype	Swamp Milkweed, PA Ecotype
Aster umbellatus, PA Ecotype	Flat Topped White Aster, PA Ecotype
Aster lateriflorus	Calico Aster
Eupatorium perfoliatum, PA Ecotype	Boneset, PA Ecotype
Helenium autumnale, PA Ecotype	Common Sneezeweed, PA Ecotype
Monarda fistulosa, Fort Indiantown Gap-PA Ecotype	Wild Bergamot, Fort Indiantown Gap-PA Ecotype
Vernonia noveboracensis, PA Ecotype	New York Ironweed, PA Ecotype
Solidago patula, PA Ecotype	Roughleaf Goldenrod, PA Ecotype
Lobelia siphilitica, PA Ecotype	Great Blue Lobelia, PA Ecotype

3-gallon Container Shrubs	Quantity: 30
Scientific Name	**Common Name**
Sambucus canadensis	common elderberry
Ilex verticillata	winterberry
Rosa palustris	swamp rose
Cephalantus occidentalis	buttonbush
Physiocarpus opulifolious	ninebark
Cornus racemosa	gray dogwood

Partially Shaded Area Roadside Mix	Quantity: 4 pounds + Cover Crop
Botanical Name	**Common Name**
Schizachyrium scoparium, 'Camper'	Little Bluestem, 'Camper'
Elymus virginicus, PA Ecotype	Virginia Wildrye, PA Ecotype
Elymus hystrix, PA Ecotype	Bottlebrush Grass, PA Ecotype
Echinacea purpurea	Purple Coneflower
Chamaecrista fasciculata	Partridge Pea
Rudbeckia hirta, Coastal Plain NC Ecotype	Blackeyed Susan, Coastal Plain NC Ecotype
Heliopsis helianthoides, PA Ecotype	Oxeye Sunflower, PA Ecotype
Liatris spicata	Marsh Blazing Star
Tradescantia ohiensis, PA Ecotype	Ohio Spiderwort, PA Ecotype
Zizia aurea, PA Ecotype	Golden Alexanders, PA Ecotype
Penstemon digitalis, PA Ecotype	Tall White Beardtongue, PA Ecotype
Aster macrophyllus, PA Ecotype	Bigleaf Aster, PA Ecotype
Aster prenanthoides, PA Ecotype	Zigzag Aster, PA Ecotype
Anemone virginiana, PA Ecotype	Thimbleweed, PA Ecotype
Asclepias tuberosa	Butterfly Milkweed
Baptisia australis, Southern WV Ecotype	Blue False Indigo, Southern WV Ecotype
Geum canadense, PA Ecotype	White Avens, PA Ecotype
Pycnanthemum tenuifolium	Narrowleaf Mountainmint
Monarda fistulosa, Fort Indiantown Gap-PA Ecotype	Wild Bergamot, Fort Indiantown Gap-PA Ecotype
Agrostis perennans, Albany Pine Bush-NY Ecotype	Autumn Bentgrass, Albany Pine Bush-NY Ecotype
Eupatorium rugosum, PA Ecotype	White Snakeroot, PA Ecotype
Solidago nemoralis, PA Ecotype	Gray Goldenrod, PA Ecotype
Asclepias syriaca	Common Milkweed
Penstemon hirsutus	Hairy Beardtongue
Solidago juncea, PA Ecotype	Early Goldenrod, PA Ecotype
Solidago odora, PA Ecotype	Licorice Scented Goldenrod, PA Ecotype
Veronicastrum virginicum, PA Ecotype	Culver's Root, PA Ecotype