Background
The Frank and Poet drain is part of the Combined Downriver watershed. Like most streams, the Frank and Poet’s watershed is undergoing change due to development and upstream land use change. The Frank and Poet suffers from high flow variability, sediment and stormwater pollution. Land use changes particularly from residential development replacing open land upstream have increased the amount of impervious surfaces, reducing the land’s ability to absorb and filter stormwater, causing unstable flows. Increases in impervious surfaces can be directly linked to a decline in the biological integrity of streams, according to the Center for Watershed Protection. The huge surges in flow that follow rain and snow melts cause streambanks to erode and sediment to be deposited in the river and downstream. As stormwater pollution warms the water, reduces clarity and erodes away the vegetation that shades the river, the Frank and Poet’s water quality is degrading.

Project Overview
Southland Mall in the city of Taylor abuts about a mile of the Frank and Poet drain. It is a regional shopping center with a large parking area. Much of the area adjacent to the drain is mowed, providing little buffer zone for the drain. The streambanks where the lawn is mowed up to the waters edge are eroding.

Wayne County Department of Environment (WCDOE), in conjunction with the City of Taylor, were awarded a grant from the Great Lakes Commission to create a buffer zone of native plants, 10 feet wide, along with stabilizing 60 feet of streambank. Soft bioengineering techniques were used to stabilize the bank.

The Lake Erie Watersheds Riparian Corridor Management Sub-Committee provided technical advice for the project. WCDOE, Southland Mall and the City of Taylor prepared the site by re-grading the bank, removing turf grass and delivering compost/topsoil. On May 7th 2004, a Riparian Corridor Management Hands-on Technique Training Workshop and Demonstration Project was held for high school, middle school and elementary school student volunteers at the site. This event included a session where participants received information on hands-on stream bank stabilization techniques. The student volunteers, members of the local environmental group, the Stream Team, completed the demonstration project. Over 70 participants stabilized the eroding streambank by installing 30 linear feet of Live Fascines and 30 linear feet of Brushmattress (Both are soil bioengineering stabilization techniques.) The toe of the slope was stabilized with coir logs. The top of each slope was planted with grasses and native plants to create a new buffer area.

This project will improve the health of the stream at a minimal cost by creating a buffer zone and stabilizing the bank using natural materials that also provide wildlife habitat. Using volunteer labor and installing interpretive signs help to educate local residents about good riparian practices. The cooperation of a municipality, and local volunteers is an effective strategy at improving the health of the river while simultaneously creating better river stewards.

The streambank is stabilized with installed live fascines and brushmattress (J. Nasarzewski)
Methods Used
Soft Bioengineering (Live Fascines and Brushmattress)
Riparian Buffers

Materials Used
Buffer: native plants, topsoil, shovels, trowels, rakes, wheelbarrows, signs and sign posts
Bioengineering: red osier dogwood and willow cuttings, coir (coconut) logs, stakes, hammer, shovels, wheelbarrows, topsoil, mulch blankets, front-end loader to re-grade, sledgehammer
Other: Refreshments

Cost
The total cost of the project materials was $3,016.20, matched with volunteer labor and City support. A grant from the Great Lakes Basin Program for Soil Erosion and Sediment Control covered the costs. The costs fall well below the industry average for this type of project due to the volunteer labor and support.

Partners
City of Taylor, The Stream Team, Southland Mall (The Rouse Company,) Lake Erie Watersheds Riparian Corridor Management sub-committee, Dietrich, Bailey and Associates P.C., Wayne County Department of Environment and the Great Lakes Commission

Project Profile:
Frank and Poet Streambank Stabilization Project

Text and photographs supplied by Matthew R. Best (WCDOE) and John Nasarzewski (Stream Team.) For more information on this project, please contact Wayne County Department of Environment at (734) 326-3936, 3600 Commerce Court, Building E, Wayne, Michigan 48184

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