

STARKWEATHER



ACTION PROGRAM
1987 - 1991

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1987-1991**

March, 1987

Prepared by
Dane County Regional Planning Commission
Room 523, City-County Building
Madison, Wisconsin 53709

Cover Illustration: A segment of Starkweather Creek between Milwaukee Street and East Washington Avenue following improvement work

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**STARKWEATHER IMPROVEMENT PLAN
AND
5-YEAR ACTION PROGRAM**

Starkweather Creek, located on Madison's northeast side, is the city's largest urban watershed. Much of the watershed has been shaped and created by man during the settlement, conversion and urbanization of the Madison Metropolitan area. Largely due to this development, the stream has a history of poor water quality, unsightly conditions, and odors which has made it a source of aggravation for area residents. To address these problems, a planned improvement program for Starkweather Creek was developed by the Dane County Regional Planning Commission, City of Madison and other local units of government.

The following report summarizes the overall, long-range plan for Starkweather Creek, but places particular emphasis on the 5 year, short-term action program that has been devised. Stream improvements, land acquisition, bikeway construction and landscape amendments in this program are described which will enhance the quality of Starkweather Creek and its watershed. A timetable for the accomplishment of these improvement projects is provided along with cost estimates.

SUMMARY OF THE LONG-RANGE PLAN

The recommended long-range plan for Starkweather Creek can be classified into three categories:

1. Measures to control sources of pollution;
2. Measures to protect the stream corridor; and
3. In-stream water quality improvement and management measures.

Pollution source control measures seek to improve the quality of stormwater runoff by reducing erosion, limiting stormwater flows, and keeping pollutants out of storm sewers. Practices include limiting erosion and runoff from new development, building stormwater detention basins, street sweeping, leaf collection and improved inspection for illegal connections to storm sewers.

Protection and improvement of the stream corridor are also important. Protection of stream corridor lands provides water quality benefits, improves the scenic beauty of the streambanks and adjacent lands, and protects resources critical to the stream such as wetlands, floodplains and groundwater discharge areas. As part of a multi-purpose approach, stream corridor protection measures will also allow greater recreational use of parks and other streamside public lands.

The adopted recommendations for Starkweather Creek can be found in their entirety in the detailed watershed plan, available at the Regional Planning Commission office, or through public libraries in Dane County. The following is a general summary of those recommendations.

WATERSHED SOURCE CONTROL MEASURES

Stormwater Detention Areas. Stormwater detention basins are proposed to address excessive storm runoff from existing and new development, poor water quality, and declining groundwater recharge.

In the detailed watershed plan, the recommended plan map for Starkweather Creek indicates general locations where conditions appear to be favorable for development of cost-effective stormwater detention areas. Extensive engineering studies are needed to determine the exact location, size and detailed design of the detention facilities.

The plan encourages the construction of multi-purpose detention basins designed to improve water quality by settling out pollutants, as well as controlling storm runoff flow rates. In addition, detention basins and adjacent lands can often be used for recreation where desired, particularly where stormwater detention areas are in or near environmental corridors.

Erosion Control Measures. The control of erosion from developing and agricultural areas is another important element in the watershed source control program. The plan contains two specific recommendations in this regard.

The City of Madison administers a comprehensive construction site erosion and storm runoff control program for all land development activity within the city. Drainage and erosion control plans must also be prepared and approved for all residential subdivisions in unincorporated areas in the watershed. The watershed plan, though, recommends that erosion and runoff control be extended to cover all types of construction activity in unincorporated areas.

Erosion and runoff from agricultural lands is an additional source of sediment and nutrients to Starkweather Creek. The watershed plan recommends that an accelerated program of agricultural soil conservation assistance be undertaken by the Dane County Land Conservation Committee and the Town of Burke.

Agricultural conservation practices particularly suited to Starkweather Creek include expanded use of conservation tillage and establishment of stable drainageways through grassed waterways and vegetated buffer strips.

Street Sweeping and Leaf Collection. Frequent street sweeping, especially in the spring and fall, can keep large quantities of sediment, debris and pollutants out of the storm sewers which drain to Starkweather Creek. Leaf collection is also important, as leaves are a major source of nutrients in urban stormwater runoff.

The plan recommends that the frequency of street sweeping in the watershed remain at least at current levels, with emphasis placed upon sweeping the older, densely developed areas and the major roadway and commercial corridors.

Other Important Watershed Source Control Measures. Other measures recommended in the plan to control sources of pollution include:

- Frequent sweeping of large parking lots.
- More use of practices to increase groundwater infiltration of stormwater runoff.
- Better inspection for contaminated and illegal discharges to the storm sewer system.
- Continued efforts to minimize spills and runoff of aircraft fuel and runway deicers from the Dane County airport to Starkweather Creek.
- Continued water conservation efforts by the Madison Water Utility and consideration of impacts of new wells and increased pumping on shallow groundwater levels.

STREAM CORRIDOR PROTECTION MEASURES

Environmental Corridor Protection. The environmental corridor includes continuous, inter-connected natural resource features and sensitive lands which cluster along Starkweather Creek.

The watershed plan recommends that local governments protect environmental corridors through zoning and regulation, and acquiring land where public access and recreational use are desired. The large majority of lands in the environmental corridor are already included in city and county floodplain zoning.

Protection of environmental corridors is important: to reduce sediment and stabilize streambanks; to protect floodplains, wetlands and areas of very poor soils from incompatible development; to protect public health and safety and reduce property damage from flooding; to maintain groundwater discharge to the stream; to protect valuable wildlife habitat; to preserve stormwater management and drainage options; to enhance recreation and open space opportunities; and to improve scenic beauty. The detailed watershed plan discusses the type of protection recommended for each part of the environmental corridor.

Wetland Zoning. The wetlands located within and outside the Starkweather Creek environmental corridor are remnants of the extensive wetland complex which once existed. These wetlands are especially important resources since they fulfill functions of dry-weather flow maintenance, peak flow reduction, sediment reduction and wildlife habitat protection. Dane County and the City of Madison have enacted wetland zoning measures (an original recommendation of the plan) to help protect these lands.

Stream Corridor Landscaping, Design and Recreational Improvement. The plan seeks to improve the scenic beauty of the environmental corridors, and describes the recreational opportunities and facilities which ought to be provided in the streamside zone.

Madison should prepare landscape and urban design plans for areas of high public use to provide a guide for future visual improvements along the Starkweather Creek corridor. Plans for visual improvement should be incorporated into neighborhood plans and development proposals.

Recreational development along the creek in Madison should generally consist of trails and low-cost facilities (such as picnic tables and small shelters) which aid enjoyment of the stream and take advantage of the continuous nature of the corridors. Trails along the stream corridor should strengthen the existing bike and pathway network and link existing public lands.

Creek Maintenance. Trash and debris regularly found in and along Starkweather Creek indicates a need for a regular maintenance program. This maintenance effort should be the responsibility of the city, and the city should encourage community involvement by providing support for neighborhood cleanup efforts.

Areas of Special Interest. In the detailed plan, several land areas are indicated which should be considered for public acquisition by Dane County (Airport Commission) and the City of Madison.

Special consideration is recommended for a large area of wetland and floodplain adjoining the East Branch of Starkweather Creek north of Milwaukee Street, south of Highway 30 and west of Highway 51. Madison should consider designation of this major resource area as future park and open space land, and consider a phased acquisition program after conducting feasibility studies. The eastern half of the site is most immediately threatened by development.

If firm development proposals for the area are presented to Madison, the city should seek dedication of lands which are unsuitable for development.

IN-STREAM WATER QUALITY MANAGEMENT MEASURES:

The plan investigated ways to increase dry-weather streamflow, the construction of a breakwater at the outlet of the creek (which the city is currently proposing), in-stream aeration to improve oxygen levels, and dredging to improve channel capacity. These proposals are costly and have some important side-effects. Further study is needed for some measures, while other plan recommendations are being carried out.

SHORT-TERM ACTION PROGRAM

The short-term action program for Starkweather Creek runs from 1987-1991. Initially, the program concentrates on stream improvement work and land acquisition for public access. Bikeway construction will then begin, followed by landscape amendments.

A listing of the improvement projects to be done in the short-term action program is provided in the table on page 8. Estimated costs and the year the projects are to be undertaken are also shown. Funding for the improvement projects is being provided primarily by the City of Madison. Project locations are displayed on the air photograph map of the watershed.

Major work efforts in the 5 year program consist of stream dredging and bank stabilization to be conducted between Darbo and Milwaukee Streets, northwest of Olbrich Park. This section of Starkweather Creek has the greatest need for streambank improvement. Bank stabilization will be accomplished by sheet pile, vegetation or riprap. A breakwater also is being proposed at Starkweather's outlet to Lake Monona. This will help to prevent algae and weeds being driven up into the lower part of the creek by prevailing winds. Land will be acquired near the stream for public right-of-way to ultimately allow public access from Olbrich Park to the new MATC campus. Bikeway construction will then provide a continuous link between these two sites. The bike route will also connect with the city's Isthmus and Olbrich railroad corridor bikeways. Finally, landscaping will focus on selective brush and tree cutting, along with planting improvements near the stream. This will increase the attractiveness of the stream corridor.

By accomplishing the projects in the short-term action program, public access, recreational opportunities, water quality and scenic beauty will be enhanced, thereby improving the public use potential and aesthetic quality of the Starkweather Creek watershed. Continued public and political support, however, is necessary to ensure these improvements are made and to provide an impetus for carrying out further watershed projects in the long-range plan.

STARKWEATHER CREEK FOLLOWING IMPROVEMENT WORK



West Branch between Fair Oaks Ave. & Milwaukee St.



West Branch between Milwaukee St. & E. Washington Ave.

Table 1

STARKWEATHER CREEK 5-YEAR ACTION PROGRAM*
1987-1991

A.	<u>STREAM IMPROVEMENT</u>	YEAR					<u>EST. COST.</u>
		<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	
<u>Construction:</u>							
1.	Bank stabilization by sheet pile between Darbo and Hauk Street (Work Is Done)	x					\$ 35,000**
2.	Bank stabilization by vegetation, riprap and/or sheet pile between Hauk and Milwaukee Street	x	x	x			\$115,000
3.	Selective dredging between Darbo and Milwaukee Street	x	x				\$ 20,000
4.	Concrete wall replacement north of East Washington Avenue and remaining streambank repairs				x		\$ 44,000
<u>B. LAND ACQUISITION FOR GREENWAY AND PUBLIC ACCESS</u>							
5.	Magael property between Fair Oaks Avenue and Thorp Street	x					\$ 11,000**
6.	Behnke and Brigham property north of Aberg Avenue	x					\$ 5,000
7.	Wing property between East Washington Avenue and Hoard Street	x					\$ 14,000
8.	Gallina and Beck and W.R.M. property between Hoard Street and Commercial Avenue (Completes land acquisition from Lake Monona to MATC)		x				\$ 17,000
<u>C. BIKEWAY CONSTRUCTION</u>							
9.	Olbrich Park to Milwaukee Street			x			\$ 30,000
10.	Shopko to MATC Campus		x				\$ 55,000
11.	East Washington Avenue to Shopko				x	x	\$ 20,000
12.	Bike Overpass at Aberg Avenue					x	\$250,000
<u>D. LANDSCAPING</u>							
13.	Starkweather Drive to Milwaukee Street			x			\$ 20,000
14.	East Washington Avenue to Shopko and Aberg Avenue to MATC Campus				x		\$ 40,000
<u>E. WATER QUALITY IMPROVEMENT</u>							
15.	Breakwater Structure	x					\$105,000***
<u>TOTAL</u>							<u>\$781,000</u>

*Locations of Improvement projects are shown on map.

**Funding from 1986 budget.

***Partial funding (\$58,000) from the Department of Natural Resources.

4-10-86

T8-R10-83-21

LSY-00572

City of Madison
Engineering Dept.

Dane County Regional Airport

M.A.T.C.
Campus

Anderson Street

West Branch
Starkweather Creek

Proposed MATC Bikeway

Shopko

Aberg Ave

151

30

East Branch Starkweather

Harboe St

Union St

Olbrich Rd

Weatherway

