

Proposed Additional Revisions (see tracking notations) to the Proposed New Section on Starkweather Creek

Scott Taylor - Friends of Starkweather Creek 2/24/08

Starkweather Creek

Starkweather Creek is a unique resource, representing one of the few streams located almost entirely within the highly-developed Madison urban area. But since the time of first settlement, multiple factors associated with development have significantly altered the creek from its natural state. Over the years, degradation in both water quality and baseflow has occurred as the result activities such as stream rechannalization and dredging, draining and filling of supporting wetlands, contamination from industrial uses on adjoining lands, general urban and agricultural stormwater run-off, poor stream bank maintenance, and high-capacity well pumping.

There have always been concerned citizens interested in preserving and improving Starkweather Creek, but several major studies conducted in the 1980's and 1990's helped energize renewed efforts both to improve the water resource and enhance creekside amenities, such as bicycle paths, walking trails and adjacent parklands. The *1983 Starkweather Creek Water Quality Plan* provides an excellent summary of background information specific to the creek and its history, and includes goals and specific recommendations for stream improvement. Subsequent other studies and plans also provided additional information and analysis particularly relevant to Starkweather Creek and the Yahara-Monona watershed; and these were used during the preparation of an update to the Starkweather Creek plan in 2005.

The *Starkweather Creek Master Plan 2005 Update* was initiated by City of Madison alderpersons and citizen groups representing areas affected by the watershed. The purpose of this project was to revise the earlier plan's goals and proposed improvements to reflect current regulatory changes, and to add new goals and recommended improvements that would address environmental concerns and recreational opportunities within the watershed. The 2005 update was prepared by City Engineering and Parks Division staff, working with City and Dane County elected officials, the Wisconsin Department of Natural Resources, the Dane County Watershed Coordinator, Town government, the Friends of Starkweather Creek and other neighborhood and citizen groups. *Master Plan 2005* focuses on the area from the mouth of the creek at Lake Monona upsteam along both branches to their junction with Interstate 39-90-94. Reaches of the creek beyond the Interstate were to be addressed as part of the neighborhood planning process and through application of the mandatory stormwater management plans required by state law.

The Pumpkin Hollow neighborhood planning area comprises the northernmost portion of the watershed of the west branch of Starkweather Creek, and visible stream features are limited to a wetland area south of Hoepker Road and west of Portage Road, which extends west to the Interstate Highway, and two intermittent streams. One of the intermittent streams flows westward through a wooded gully from a hilly

area north of the American Center and under Portage Road to the Interstate. The other intermittent stream begins in the area north of Hoepker Road and east of Portage Road, and flows west under Portage and then south under Hoepker Road into the wetland area. This stream is considered navigable west of Portage Road, although it is dry most of the time. Two sets of culverts direct these streams under the Interstate Highway to a larger wetland, where Starkweather Creek surface water becomes a permanent feature.

These intermittent streams flow through steep, heavily wooded gullies, open ravines and natural swales in plowed agricultural fields. There is currently little trapping and removal of sediment and phosphorus washing off of farm fields in these drainage-ways. Nor is there any control of stormwater runoff which could scour and erode the creek channel downstream during heavy rains, adding even more sediment and phosphorus to the creek. Hence, in their current form these intermittent streams heavily influence the quality of water in downstream segments of Starkweather Creek and ultimately in Lake Monona---to which they are directly tied.

However, the recommended stream improvements, the wide buffers of natural vegetation, the stormwater management facilities built during neighborhood construction, and the enforcement of City and State erosion control and stormwater runoff regulations governing new development have potential to improve the quality of the water entering the creek over its current condition. Nonetheless, the intermittent streams will remain major conduits of pollutants to downstream waters. Pavement will replace cropland as the pollutant-loading land cover; heavy metals and hydrocarbons from automobiles could replace sediment and phosphorus from topsoil as major pollutants. Therefore the role of the intermittent streams in conveyance of pollutants to Starkweather Creek and Lake Monona must inform the thinking of all those engaged in planning and building the Pumpkin Hollow neighborhood.

Because Starkweather Creek is not a permanent surface water feature within the planning area, the recommendations in the Pumpkin Hollow Neighborhood Development Plan focus primarily on protection and improvement of the water quality of the creek water resources, rather than on development of creekside recreational amenities. However, a segment of the recommended pedestrian-bicycle path south of Hoepker Road is located adjacent to the wetland area, a short path is proposed across the navigable stream north of Hoepker Road, and other proposed paths are located within the planned open greenways designed as part of the stormwater management system.

Several approaches are recommended in the neighborhood plan to protect and improve Starkweather Creek water resources:

Stream Improvements. Both of the designated intermittent streams are currently heavily overgrown and shaded by large trees, and there is relatively little groundcover to help stabilize their banks and prevent erosion. It is recommended that the southern stream, and the navigable portion of the northern stream west of Portage Road, be

maintained in a relatively natural state; and that the banks of these streams be stabilized through selective tree pruning to increase sunlight, installation of appropriate native plants and grasses, and if indicated, limited use of natural boulders or similar materials. These improvements should occur at the time the adjacent land is developed or earlier.

Open Greenways. A major open stormwater greenway is recommended running north-south between Hoepker Road and Token Creek Park, generally following the current natural drainage course across agricultural fields. This greenway has a recommended minimum width of 150 feet, and will be wider where detention ponds are located. Another open greenway is recommended following the general alignment of the non-navigable segment of the northern intermittent stream located east of Portage Road and north of Hoepker Road. This greenway also may contain detention facilities, and is proposed to extend east to the proposed neighborhood park also illustrated on the Land Use and Street Plan (Map 6).

Detention Basins. Currently, dry detention basins are recommended to promote infiltration and collect sediment before stormwater is released to wet basins, wetlands, or streams. Preliminary locations for stormwater detention and retention basins are shown on the Land Use and Street Plan, but the ultimate locations may be different, as discussed in the Stormwater Management section of the plan.

Erosion Control during Construction Phase of Development. City and State regulations on erosion control have been greatly strengthened in recent years, and now include a system of best management practices and specific staff assigned to review, approve and inspect erosion control plans. It is recommended that special emphasis be placed on inspection of construction sites adjacent to the intermittent streams and wetlands that feed Starkweather Creek due to the more immediate impact that uncontrolled erosion would have from those locations.

As noted elsewhere in this plan, development in the Pumpkin Hollow neighborhood will also need to comply with all special regulations related to shoreland development adjacent to wetlands and waterways. These include development setback requirements and maximum building coverage restrictions.

~~Current stormwater drainage in the Starkweather Creek watershed takes place primarily via steep, heavily wooded gullies, open ravines and natural drainage courses across plowed agricultural fields, and there is little that prevent sediment and other contaminants from flowing toward the creek and its wetlands. The volume of stormwater runoff is also uncontrolled and contributes to erosion further downstream during heavy storm events. The recommended stream improvements, the stormwater management facilities that will be constructed as the Pumpkin Hollow neighborhood develops, and enforcement of City and State regulations that apply to new development, should improve the quality of the water entering the creek compared to its current condition.~~