



WILDWOOD

City of Wildwood

Watershed Erosion Task Force

Agenda for the Thursday, July 11, 2019 Meeting

6:30 p.m. to 8:30 p.m.

City Hall Council Chambers

16860 Main Street – 63040

This meeting will be “Livestreamed” by the City of Wildwood

Meeting #1 – Introductions, Opening Remarks, and Description of Roles, Duties, and Outcomes

- I. Welcome And Opening Remarks By Mayor Bowlin/Council Member Remy
- II. Introductions Of Members And Brief Statements Regarding Backgrounds
- III. Election Of Chair Or Co-Chairs By Task Force Members
- IV. Distribution Of Meeting Materials, Including Explanations Of The Items By Department Of Planning
- V. Questions/Comments From Task Force Members On Distributed Materials
- VI. Overview/Explanation Of Roles, Duties, And Outcomes Of Planned Meeting Processes
- VII. Overview Of The City's Nine (9) Watersheds Of The City Of Wildwood

Documents:

[WATERSHED OVERVIEW WITH DESCRIPTIONS.PDF](#)

- VIII. Public Comments
- IX. Next Meeting Date – To Be Determined
- X. Closing Remarks And Adjournment

Note on Agenda: *The Watershed Erosion Task Force (WETF) will consider and act upon these matters listed above and any such others as may be presented at the meeting and determined appropriate for discussion at that time.*

Accessibility and Accommodations for All Groups: *The City of Wildwood will provide reasonable accommodations for persons attending Erosion Task Force meetings. Requests for reasonable accommodations should be directed to Jessica Stirmlinger, Deputy City Clerk, at 636-458-0440, or via email at jessica@cityofwildwood.com, at least 48 hours prior to the start of the meeting.*



WILDWOOD

Watershed Erosion Task Force City of Wildwood, Missouri

Descriptions and Work Sheets for the City's Nine (9) Watersheds

July 11, 2019 Draft Date

By the Department of Planning

The task force has been charged with creating recommendations for each of the City's nine (9) watersheds to address problems relative to their collective health, along with their individual environments, or ensure they do not degrade in the future due to decisions about land use, infrastructure, or other City-approved or authorized projects. The nine (9) watersheds are very distinctive and do not fit one (1) single representation or description. These watersheds, when calculated by size, encompass all of the City of Wildwood and some additional areas along its boundaries.

In a hierarchy of order, there exists two (2) main watersheds in the City of Wildwood. Those properties, regardless of size, that drain into the Missouri River and all of the remaining parcels of ground that drain into the Meramec River. The dividing line of these two (2) main watersheds is Manchester Road (Old). This divide reflects the historical role Manchester Road, being the only major cross-state connection that does not span over a major river or stream, thereby the single emergency route that would be available in the event of any natural disasters.

Within the two (2) major river watersheds, the nine (9) watersheds exist. The watersheds that are located in the Missouri River Watershed include the following:

1. Bonhomme Creek (7,650 acres)
2. Caulks Creek (12,420 acres)
3. Wild Horse Creek and Missouri River (7,200 acres)

Those watersheds located in the Meramec River Watershed include the following:

1. August Tavern Creek (1,840 acres)
2. Forby Creek (3,730 acres)
3. Fox Creek (8,400 acres)
4. Hamilton-Carr Creek (10,450 acres)
5. Kiefer Creek (4,190 acres)
6. **Meramec River** (certain properties drain directly into the river – 26,620 acres [part])

The differences in these watersheds are functions of natural processes that formed their individual landscapes and the land use decisions made by their inhabitants and the developments that followed. As in almost all cases, some of these decisions were appropriate, while others created unintended consequences that still require attention today.

To understand the watersheds, the Department of Planning is providing a brief description of each. These descriptions will be supplemented with more information, as the task force completes their study of them. The descriptions are as follows:

MISSOURI RIVER WATERSHED

BONHOMME CREEK WATERSHED (7,650 acres) >>> The Bonhomme Creek Watershed is the second most developed in the City of Wildwood. It is necessary to note this watershed does not have the level of development as Caulks Creek. This lesser level of development is reflected by a low-density, residential pattern featuring three (3) acre density for residential uses as its primary land use pattern. Much of the development that has occurred are located near the headwaters of Bonhomme Creek, the namesake of the watershed. The headwaters of this creek and the start of the watershed is located south of Manchester Road and near the campus of St. Louis Community

College – Wildwood Campus. This headwater area has been developed during the last twenty (20) years, which was completed under the regulations of the City, as well as, utilizing, in some instances, new guidelines relating to Leadership in Environmental and Engineering Design (LEED). This program addresses both building and site designs to promote better construction and sourcing practices that are more environmentally appropriate and ecologically sustainable.

Also located in this watershed’s headwater area is the City’s Community Park property, which provides a level of protection for the creek through its passive use of the majority of the sixty-six (66) acre site. Included in the watershed are parts of State Route 100, other roadways, and several institutional uses. Many of these uses were developed before the high standards for stormwater management were in place, which means they lack even the basic functioning facilities to manage and address runoff from storm events that occur. These partially regulated, or unregulated, facilities are on-going risks to the watershed, given runoff from them is unabated in many instances.

The watershed is similar to many others in the City in that its bedrock and soil structure that have existed there for many ions of time. The limestone bedrock of this area leads to the cherty and clayey soils that are very susceptible to erosion and other damage caused by weather and development activities. This combination of rock type and soil creates a karst type of geomorphology that is characterized by sinkholes, losing streams, and rock-laden stream and creek beds. Despite the drainage characteristics of shallow soils and their rocky nature, woodlands have thrived within the watershed and are predominately oak/hickory trees, along with native eastern red cedars. South facing slopes of hill sides have very shallow soil layers. These characteristics are why development activities in this watershed have always needed special attention.

The flow of the creek is to the north of Manchester Road and into the Missouri River.

CURRENT HEALTH: Excellent, Good, Fair, or Poor (choose one (1))

MAJOR PROBLEM AREAS:

MITIGATION STEPS:

FUNDING SOURCES:

OUTSIDE APPROVALS BY OTHER AGENCIES:

OTHER:

CAULKS CREEK WATERSHED (12,420 acres) >>> The Caulks Creek Watershed is the most developed of the nine (9) watersheds that are located within the City of Wildwood. Development is defined by the amount or area of impervious surfaces that have been constructed to the benefit of new residential development, roads and bridges, institutional activities, storm water management improvements, and other associated infrastructure to create the network of upgrades to support the increased use of the land area that forms the watershed. This amount of development activity required the disturbance of the natural environment of the watershed area, which has certain known impacts that have been exacerbated in the last twenty (20) years by the changes to local climate and storm intensities. These impacts have resulted in a highly-altered creek bed and surrounding tributary system. The creek bed is full of rock and other debris swept into it from erosion of sidewall areas and deposits from multiple storm events in any given year. Sidewall areas are vertical and steep, reflecting the alteration of the natural character of the creek environment over time.

The watershed is similar to many others in the City in that its bedrock and soil structure that have existed there for many ions of time. The limestone bedrock of this area leads to the cherty and clayey soils that are very susceptible to erosion and other damage caused by weather and development activities. This combination of rock type and soil creates a karst type of geomorphology that is characterized by sinkholes, losing streams, and rock-laden stream and creek beds. Despite the drainage characteristics of shallow soils and their rocky nature, woodlands have thrived within the watershed and are predominately oak/hickory trees, along with native eastern red cedars. South facing slopes of hill sides have very shallow soil layers. These characteristics are why development activities in this watershed have always needed special attention.

St. Louis County did not necessarily treat this area, and the physical characteristics associated with it, in a manner consistent with its natural carrying capacity. The City of Wildwood recognized the need to address this approach and took several steps to better manage the physical layers that are located within the watershed. These steps included the following items:

1. Reduced allowable densities to no more than two (2) lots per acre, now no more than one (1) lot per acre, with no new commercial development allowed in it, except in Town Center Area.
2. Created the Tree Preservation and Restoration Code.
3. Created the Grading Code.
4. Created the Natural Resource Protection Standards.
5. Modified the overlay districts in the City’s Zoning Ordinance and other regulations contained therein to improve their application by more realistically reflecting site conditions.

Along with these legislative steps, the City also began and completed a number of infrastructure projects to eliminate problem areas in the floodway of the creek itself. These projects included bridge replacements and bank stabilization efforts. With these projects, many of which were completed within the City’s first ten (10) years of existence, highlighted the issues in this particular watershed. Despite these projects, and the aforementioned City efforts, issues of erosion remain along the main channel of the creek and many of its tributaries. However, many of the older residential, commercial, and institutional land uses have stormwater management facilities that were required and installed and, for all intents and purposes, are not functional today, given their standards created a limited range of storm events, which was too low, in many instances, and now non-functional in many regards, given the changing weather patterns of this area.

The flow of the creek is to the north of Manchester Road and into the Missouri River.

CURRENT HEALTH: Excellent, Good, Fair, or Poor (choose one (1))

MAJOR PROBLEM AREAS:

MITIGATION STEPS:

FUNDING SOURCES:

OUTSIDE APPROVALS BY OTHER AGENCIES:

OTHER:

WILD HORSE CREEK AND MISSOURI RIVER WATERSHED (7,200 acres) >>> The Wild Horse Creek Watershed identified in the past, as an area where the natural balance of the stream system has been retained and balanced and less impacted by the activities of development. Much of the creek itself is contained within Babler State Park, a 2,200 acre State-owned facility that provides a high level of protection to the watershed, given its approximately four (4) square mile size and the limited activities that occurred within its boundaries. Both upstream and downstream from the park location, development pressures have been minimal and lot sizes are generally greater than three (3) acres in area. Many lots are well beyond the three (3) acre minimum size required by the NU Non-Urban Residence District zoning designation. Many equestrian properties and farms exist in the watershed and offer protections to the creek and the surrounding floodplain areas through limited use and conservation practices.

Wild Horse Creek, for much of its path within the City of Wildwood, parallels Wild Horse Creek Road. The creek bed has water flow within it for most of the year and exhibits a healthy aquatic community as well. The floodplain associated with this creek is greater in extent than many of the other watershed areas named for the main channel of the creek system and, in this case, effects Wild Horse Creek Road by flooding it during certain storm events in any given year. The depth of the creek itself has not been unduly impacted by development and is not as deep, nor steep walled, as others in the City, particularly Caulks Creek.

The flow of the creek is north into the Missouri River.