

OLD FORT PARK WATER QUALITY FEATURES MAP



Water quality features found at Old Fort Park exemplify low impact design standards and stormwater control guidelines recommended by the City of Murfreesboro.

1. Designed Access to Creek
2. Grass Filter*
3. Bioretention*
4. Enhanced Swale*
5. Porous Pavers*
6. Infiltration Trench*
7. Creek Crossing
8. Creek Protection Zone (no disturbance)
9. Restored Meadow (native grass and wildflowers)
10. Sediment Forbay (bioretention)

*These particular water quality map features correlate to design tools that can be found in the City of Murfreesboro Stormwater Controls Manual, and have been identified with field markers.

Plants used for Bioretention and Infiltration at Old Fort Park include:

Trees:

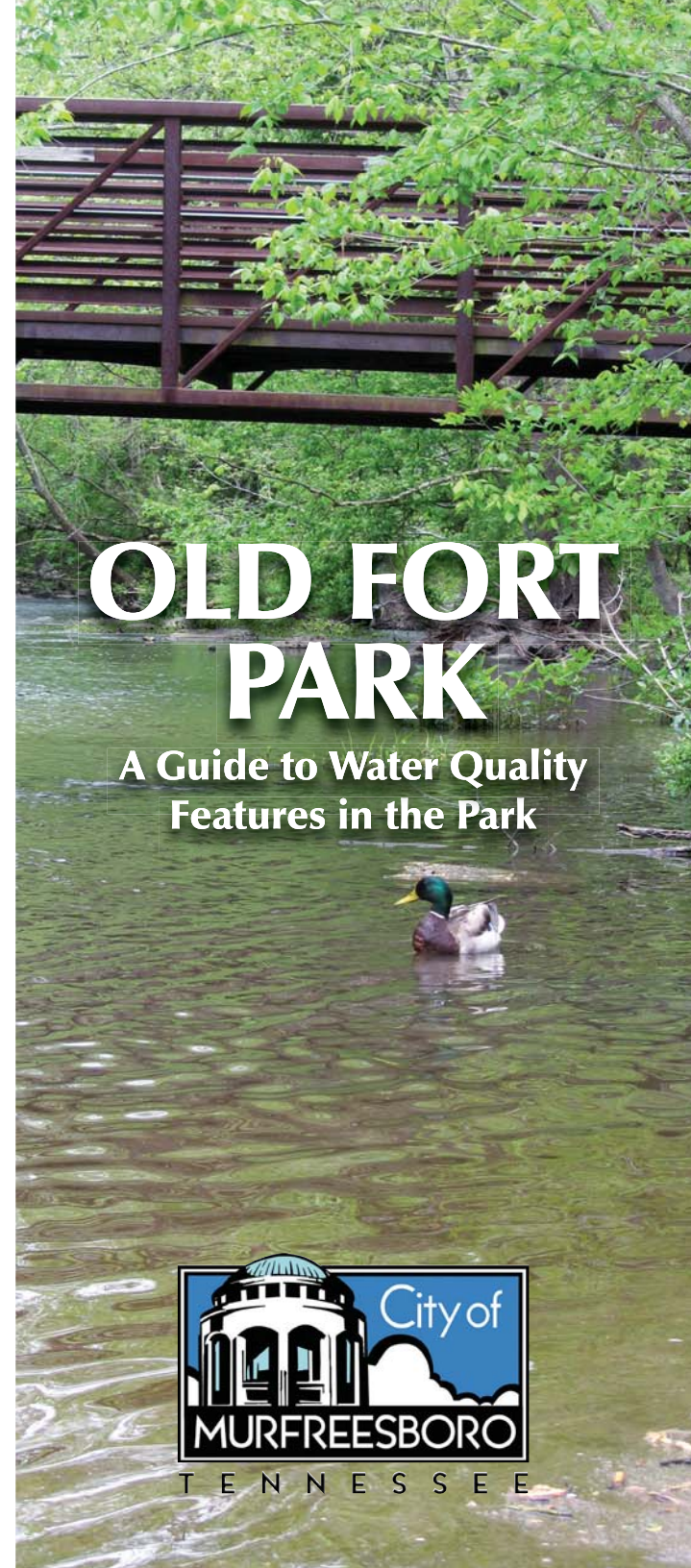
Acer Rubrum – Red Maple
Cornus amomum – Silky Dogwood
Ilex verticillata ‘Sparkleberry’ – Winterberry
Taxodium distichum – Bald Cypress

Shrubs:

Cephalanthus occidentalis – Buttonbush
Clethra alnifolia ‘Hummingbird’ – Summersweet
Ilex glabra ‘Compacta’ – Compact Inkberry Holly
Physocarpus opulifolius ‘Summer Wine’ – Ninebark

Perennials:

Carex Muskingumensis – Palm Sedge
Hemorocalis ‘Pardon Me’ – Daylilly
Hibiscus moscheutos – Swamp Hibiscus
Panicum virgatum – Switch Grass



OLD FORT PARK

A Guide to Water Quality Features in the Park

**MIDDLE
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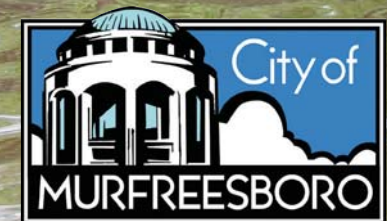
MTSU Stormwater Program
www.mtsu.edu/stormwater
615-494-8708



Murfreesboro Parks and Recreation
615-890-5333

MURFREESBORO
STORMWATER
PROGRAM
improving the quality of local streams

Water and Sewer Department
www.murfreesborotn.gov/
615-848-3200





Protecting Murfreesboro Streams

Old Fort Park is home to a small stream called Spring Branch which is fed year round by springs that seep from the ground near the park entrance off Old Fort Parkway. Spring Branch empties into nearby Lytle Creek, which eventually flows into the Stones River.

The City of Murfreesboro established a project to protect the Stones River Watershed by implementing several stormwater quality treatment structures within Old Fort Park and featured in this brochure.

The water quality structures capture sediment and pollutants that are picked up as rain washes over paved areas and grounds at the park. These structures create a protection zone around Spring Branch to restore the stream's health and create a natural environment that benefits both the water quality in the stream, and the plants and animals that live in the habitat surrounding it.

A circular pathway and two stream crossings have been developed to encourage park visitors to enjoy the natural beauty and recreational value of this enhanced ecosystem.

Funding for this water quality project was provided through the City of Murfreesboro's stormwater user fee.

Grass Filter Strip

Grass acts as a filter. Concrete strips act as small dams to help spread out



the water flow. As water slows down, sediment is collected in the grass. Grass filter strips are typically the first part of a series of water quality control measures.

Bioretention

Bioretention consists of a basin that has been excavated and filled with a sandy soil mix that encourages filtration.



Water temporarily ponds in the depression and soaks

into the surrounding soil, mulch and plant material. Rock mulch helps to slow the water down and protect from soil erosion.

Enhanced Swale

Enhanced swales are channels designed to slow water down and filter it into a prepared bed of sandy soil mix. Plants and check dams help clean sediment and pollutants from the water before it passes downstream.



Porous Pavers

Porous pavers allow water to be captured in between the paver joints and collect in a gravel bed beneath the



parking lot surface. Water that is collected in the gravel bed slowly filters into the soil cleaning out sediment and pollutants.

Creek Protection Zone

(no disturbance)

Living and organic material in the stream protection zone helps filter the water through the soil before entering the stream. A pathway borders the protection zone at Old Fort Park and helps

define the edges of mowed grass from native plants and undisturbed wildlife habitat.



Infiltration Trench

Infiltration trenches are excavated and filled with stone aggregate or sandy soil mix to capture water and allow infiltration into the bottom and sides of the trench. Plants help clean water by filtering and removing pollutants.

