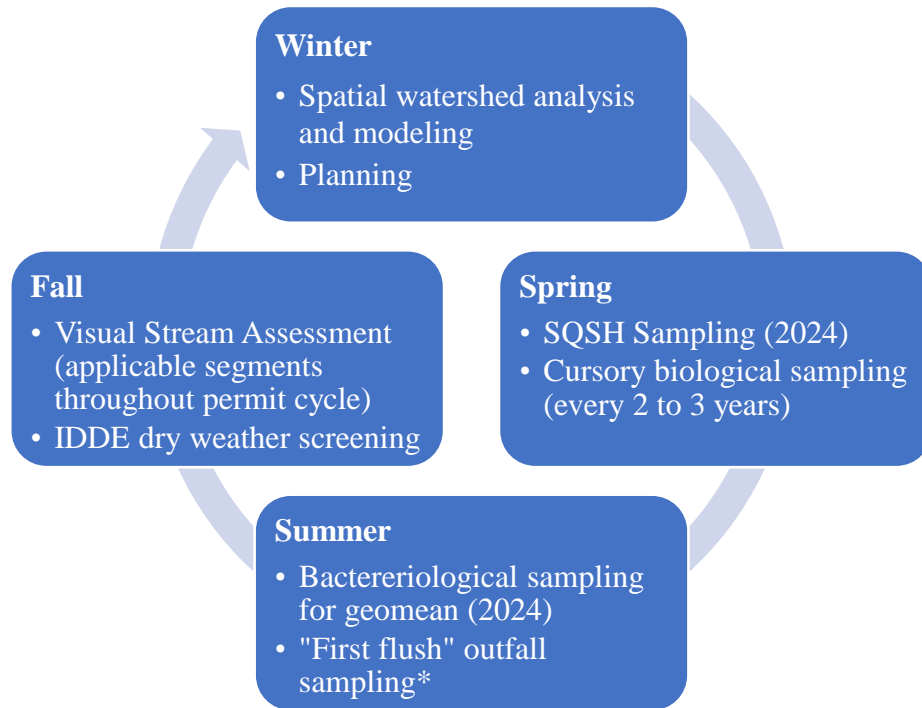


4.6 Monitoring Plan Overview:

The City of Murfreesboro plans to comply with option 1 of the NPDES permit but uses additional elements (below chart) to gauge effectiveness of program. Monitoring activities follow a watershed cycle to help staff document changes over time. Not all activities are annual.



Murfreesboro monitoring and analysis cycle

Streams subject to option 1 analytical monitoring and proposed schedule (continued page 2)

Stream	Permit Bacteriological Sampling – Summer 2024 (1 per 5years)	Permit SQSH Sampling – Spring 2024 (1 per 5 years)
Lytle Creek TN05130203022_100	✓	✓
Bear Branch TN05130203023_0310	✓	✓
Garrison Creek TN05130203023_210		✓
Lees Spring Branch TN05130203022_0200	✓	
Town Creek TN05130203022_0100	✓	

West Fork Stones River <i>TN05130203018_2000</i>		✓
Sinking Creek <i>TN05130203018_0100</i>	✓	
Spence Creek <i>TN05130203018_0600</i>		✓

Sampling activity and metrics

Activity	Goal
Permit biological stream sampling (SQSH and Habitat Assessment) <i>*Professional biologist to follow S.O.P. and e-reporting</i>	<ul style="list-style-type: none"> • Compliance with permit option 1 • Habitat conditions • Tennessee macro invertebrate score (TMI) assessed for water quality.
Permit bacteriological stream sampling <i>*Sampling to follow TDEC S.O.P.</i>	<ul style="list-style-type: none"> • Compliance with permit option 1 • Pollutant source tracking • Storm versus baseflow analysis
Visual Stream Assessment (VSA) <i>*To use derivative of Maryland Protocol – see SWMP, monitoring S.O.P.</i>	<ul style="list-style-type: none"> • Compliance with option 1 • Gage stream health over time • List corrective action opportunities • Check status of erosion and buffers
Cursory biological sampling <i>*In-house sampling staff collection – professional lab analysis</i>	<ul style="list-style-type: none"> • TMI scores to maintain water quality baseline
Outfall sampling <i>*E. coli samples taken at onset of rain after dry period to analyze “first flush”</i>	<ul style="list-style-type: none"> • To locate priority catchments
IDDE: Dry Weather Screening <i>*Outfalls screened using mobile mapping</i>	<ul style="list-style-type: none"> • Find illicit flows • Assess erosion at outfall

References:

- Quality System Standard Operating Procedure for Chemical and Bacteriological Sampling of Surface Water (use current version)
- Quality System Standard Operating Procedure for Macroinvertebrate Stream Survey (use current version)