Ann Arbor Comprehensive Stormwater Management Plan
Stormwater Advisory Group (SWAG) Meeting Minutes
Session 3 – June 11th, 2025

Attendees:

The following individuals attended the in-person meeting on June 11th:

Michelle Bennett
Don Carpenter
Vince Caruso
Dan Christian
Miekyn Cotton
Erin Donnelly
Gretchen Driskell
Omar Gates
Jerry Hancock
Jillian Hesler
Craig Hupy
Jasmine Isaac
Larissa Larsen
Jennifer Lawson
Melissa Menerey
Sara Nedrich
Richard Norton
Andrea Paine
Peter Stephens
Skye Stewart
Dana Wilkinson
Dean Wozniak

Meeting Agenda:

The meeting consisted of the following components:

1. Welcome and Introductions
2. Stormwater Terminology Sheet
3. Vision Statement
4. Technical Memo #2 – Policy Evaluation
5. Technical Memo #3 – Water Quality
6. Engagement and Feedback Updates
7. Upcoming Events and Planned Activities
8. Next Steps
9. Closing and Adjournment

The PowerPoint slides presented to the SWAG have been attached. A summary of current and upcoming action items for SWAG members is available at the end of the meeting minutes section below.

Meeting Minutes:

1. Welcome and Introductions

Don Carpenter began the meeting with a round of quick introductions, where everyone in attendance provided their name and affiliation. A motion was passed to approve the minutes associated with the previous April 2nd meeting.

2. Stormwater Terminology Sheet

The three most suitable terms, as identified in the prior session's terminology exercise, were presented to the group:

- Nature-Based Solutions (NBS)
    - Physical methods that mimic natural processes to solve stormwater problems.
- Sustainable Drainage System (SuDS)
    - The structural ways stormwater is managed in a system that prioritizes environmental benefits and mimics natural processes.
- Stormwater Management Practice (SMP)
    - A practice used to handle rainwater in any capacity (flood reduction, pollution reduction, improved infiltration, etc.). This includes structural and nonstructural practices.

3. Vision Statement

The expanded vision statement was distributed as a handout. Participants spent 5 minutes reviewing the vision statement independently and 10 minutes discussing as a group at each table before the entire group discussed general findings and revisions. As a part of the group discussion, reactions to each section of the vision statement (purpose, goal, and strategy) were discussed. The notes taken on the printed vision statement documents were collected to inform the revision process and finalization of the expanded vision statement.

4. Technical Memo #2 – Policy Evaluation

Dan Christian led the discussion of Technical Memo #2, which focuses on evaluating the relevant policies associated with stormwater and its management. Eight key overarching policy themes were presented:

1. Stormwater Infrastructure & Urban Drainage
2. Flood Risk Management
3. Water Quality & Watershed Protection
4. Climate Adaptation & Resilience
5. Sustainable Funding, Prioritization & Governance
6. Sustainable Land Use & Development Practices
7. Equity, Engagement & Interagency Coordination
8. Innovation, Data & Best Practices (optional/overarching)

Each theme gets a mission statement and associated policies. The group was encouraged to consider if any themes are missing, or if there is anything that should be excluded or reorganized. Hard copies of two documents were distributed, one describing the eight policy themes and the other describing the third theme, water quality, in greater detail. After reviewing individually and at each table, each table reported their findings to the group.

Feedback from the group is summarized here:

- For the sustainable land use and development theme, we should be careful to emphasize and consider the regional perspective, watershed/water quality needs to be considered contextually with the acknowledgment that population density is variable and changing and the solution is not as simple as just capping the growth of Ann Arbor
- Regarding the water quality mission statement:
    - 'Safeguard' could imply a preservation of current conditions, so the desire to improve water quality from current conditions should be included explicitly in the first sentence
    - Monitoring should be added as a consideration in second sentence
    - Emphasize the broader environmental value, "nature for nature's sake"
    - The word 'remain' implies water quality is already good as it is, this should be shifted to reflect that some water quality needs to be improved
    - The word 'vibrant' is not a definable term in this context and could be replaced with a word that has more pertinent meaning in the stormwater context
- Regarding water quality policy statements
    - 3.4 runs into a regulatory authority issue – 3.3 could be expanded to include groundwater considerations
    - Organizationally, policy statements currently lead with the MS4 permit, it would be good to swap 3.2 and 3.1 and lead with broader watershed consideration.
    - Collaboration should be emphasized in 3.2.
- Terminology in these documents and the associated technical memos will be updated to be consistent with the identified terms

5. Technical Memo #3 – Water Quality

Don Carpenter walked through the third technical memo with the group. Relative to the level of detail in the previous exercise, the group was encouraged to take a step back and review this at a higher level. Once again, participants were asked to consider if any topics were missing.

Stormwater Quality Management Strategies

No major stormwater quality management strategies were identified as missing.

Stormwater Quality Trends and Challenges

Identified stormwater quality trends and challenges included issues associated with climate change, emerging contaminants, and groundwater considerations.

Feedback from the group on this topic is summarized below:

- Development should be included
    - Could fall under climate change (from a climate migration perspective)
- Chloride and salts should be considered
    - Beet juice deicing is an emerging trend
- Community collaboration could be included
- Emphasize the interconnection between quantity and quality
- Algae blooms are another concern
- Chlorinated substances (including drycleaning as a source) should be included
- Dioxane can infiltrate basements in the area
- Geothermal energy trends impact groundwater considerations

Stormwater Quality Program Goals

The group provided the following feedback:

- Ensure total maximum daily loads (TMDLs) are considered
- Statewide chloride and PFAs limits may be coming; there is a need to prepare proactively
- Organizationally – public education should not be in the middle of the other two
- A potential new goal could be ensuring coordination and alignment with water quantity considerations and other environmental goals
- Add detail on the public education component; improved awareness and understanding of stormwater practices and systems should be a listed goal

Additional notes included considering a water quality incentive model. The current incentives are periodically assessed on a 5-to-7-year basis.

6. Engagement and Feedback Updates and 7. Upcoming Events and Planned Activities

Jasmine Isaac: The City is getting ready for the public outreach portion of the planning effort. We will have a table at the Ann Arbor farmer's market on the fourth Wednesday of each month. Please reach out if you have an event where you would like tabling.

Jen Lawson: An updated MS4 draft permit is ready for public notice, and there is a 30 day comment period. If you are interested, please submit public notice and comments.

8. Next Steps and 9. Closing and Adjournment

The next SWAG will take place on Wednesday August 13th, 2025, at the same time and location. Materials will be distributed at least one week prior for review.

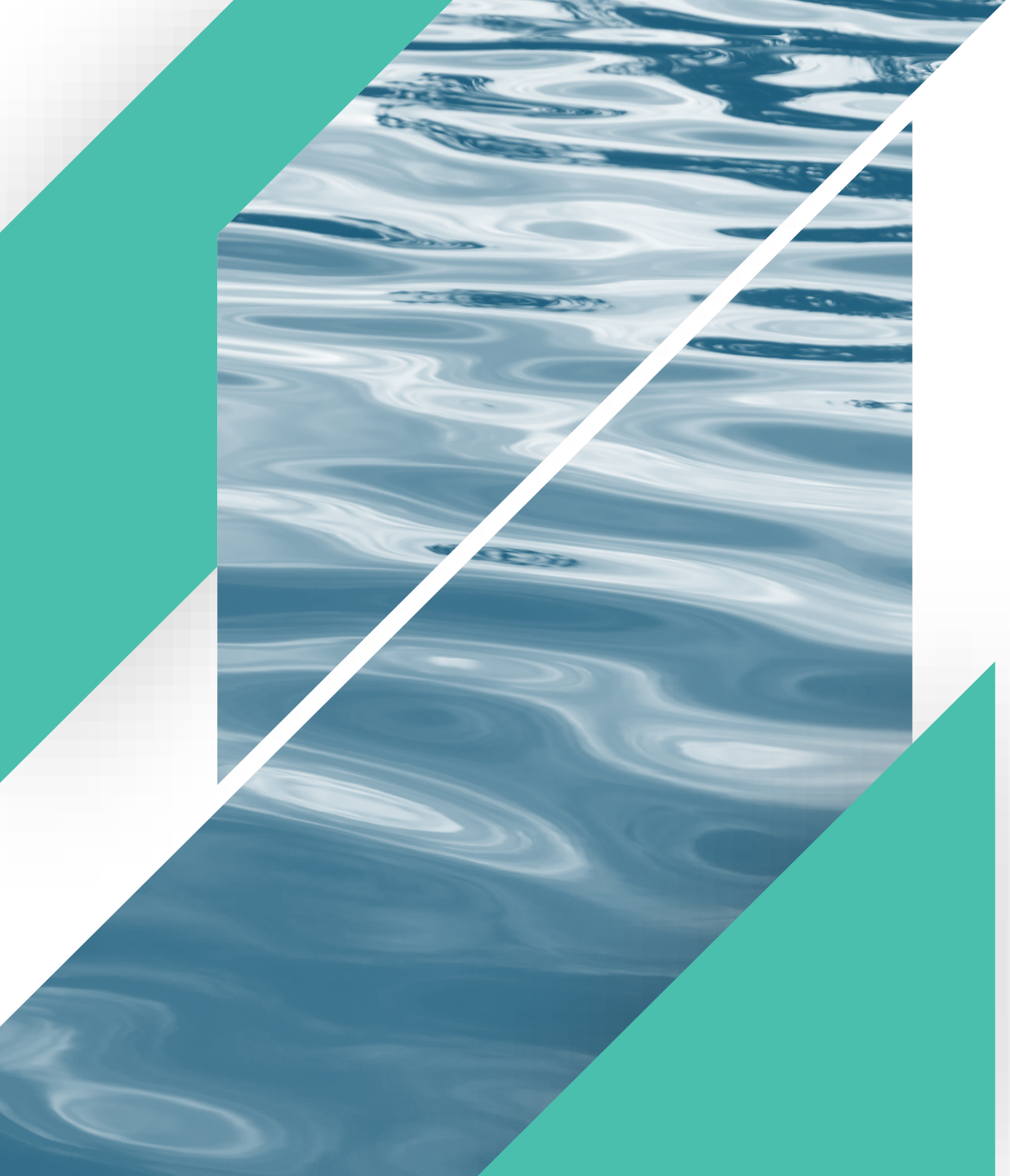
Action Items:

Current action items include the following:

- Please reach out to the project team if you have an event where you would like tabling
- Please provide feedback on the updated MS4 draft permit if you are interested

Upcoming action items include:

- The next SWAG meeting will be held on Wed 8/13/2025, relevant materials will be distributed at least one week prior for your review.



Stormwater
ANN ARBOR WATER

Stormwater Advisory Group
Session 3

Wednesday, June 11th, 2025

TETRA TECH

DRUMMOND CARPENTER
engineering + research

Agenda

- Welcome and Introductions
- Stormwater Terminology Sheet
- Vision Statement
- Technical Memo #2 – Policy Evaluation
- Technical Memo #3 – Water Quality
- Engagement and Feedback Updates
- Next Steps
- Closing and Adjournment

Stormwater Terminology

Ann Arbor Stormwater Terminology

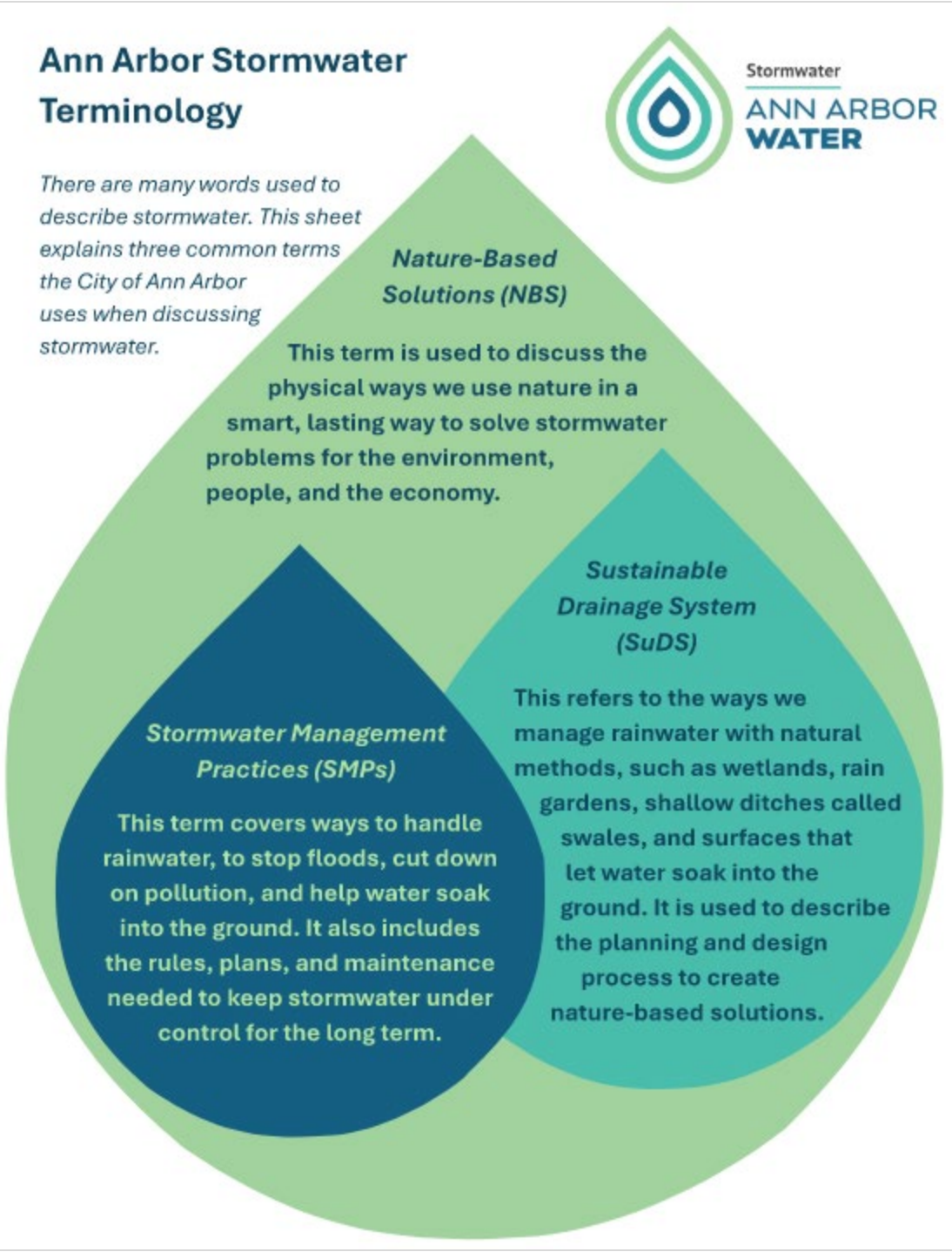
There are many words used to describe stormwater management. This sheet explains three common terms the City of Ann Arbor uses when discussing stormwater.

Nature-Based Solutions (NBS)	This term is used to discuss the physical ways we use nature in a smart, lasting way to solve stormwater problems for the environment, people, and the economy.
Sustainable Drainage System (SuDS)	This refers to the ways we manage rainwater with natural methods, such as wetlands, rain gardens, shallow ditches called swales, and surfaces that let water soak into the ground. It is used to describe the planning and design process to create nature-based solutions.
Stormwater Management Practices (SMPs)	This term covers ways to handle rainwater, to stop floods, cut down on pollution, and help water soak into the ground. It also includes the rules, plans, and maintenance needed to keep stormwater under control for the long term.

Ann Arbor Stormwater Terminology

Stormwater ANN ARBOR WATER

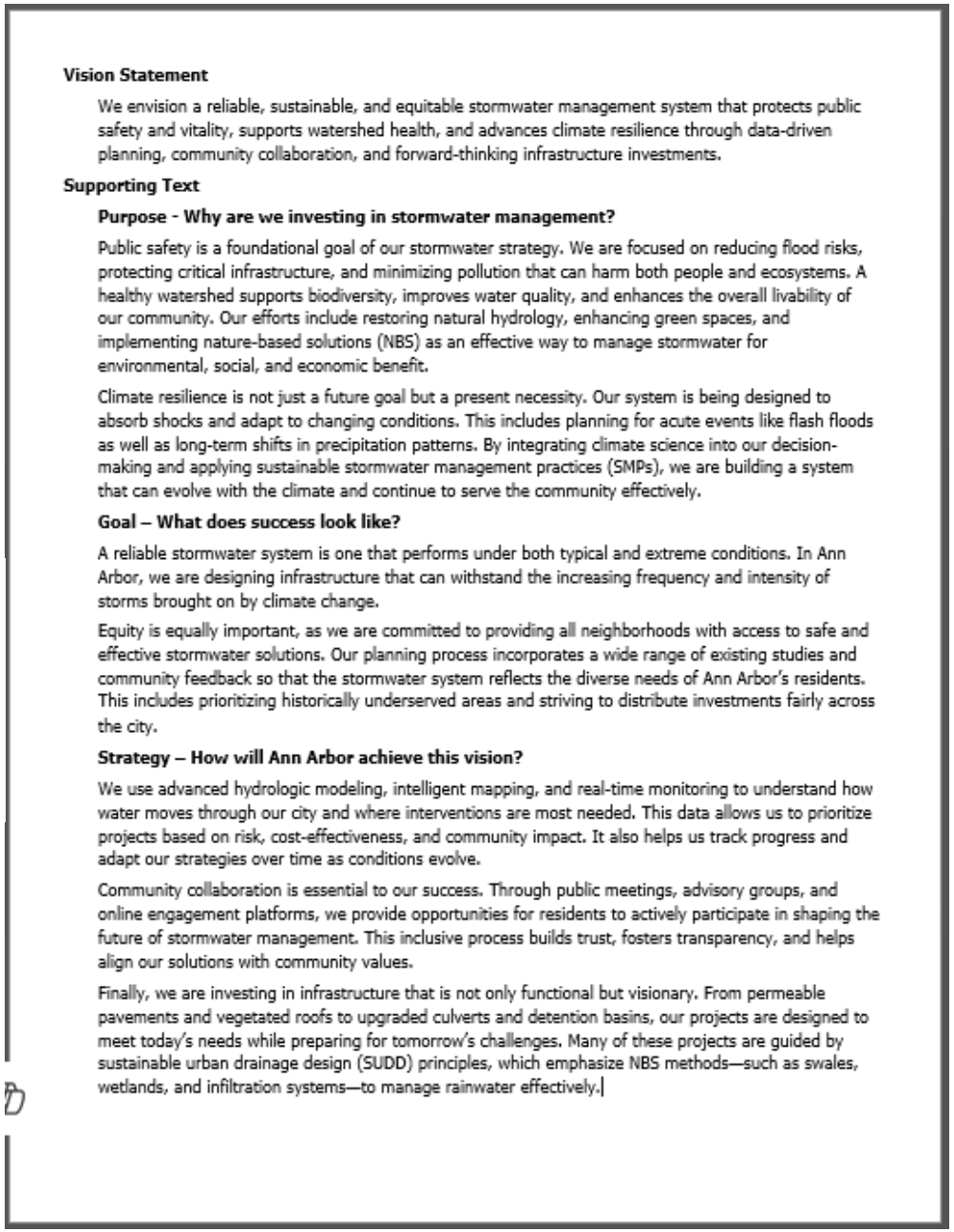
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Vision Statement

Vision Statement

Table Exercise:
At your table revise the expanded vision statement and summarize what you think should be included.



Vision Statement

We envision a reliable, sustainable, and equitable stormwater management system that protects public safety and vitality, supports watershed health, and advances climate resilience through data-driven planning, community collaboration, and forward-thinking infrastructure investments.

Supporting Text

Purpose - Why are we investing in stormwater management?

Public safety is a foundational goal of our stormwater strategy. We are focused on reducing flood risks, protecting critical infrastructure, and minimizing pollution that can harm both people and ecosystems. A healthy watershed supports biodiversity, improves water quality, and enhances the overall livability of our community. Our efforts include restoring natural hydrology, enhancing green spaces, and implementing nature-based solutions (NBS) as an effective way to manage stormwater for environmental, social, and economic benefit.

Climate resilience is not just a future goal but a present necessity. Our system is being designed to absorb shocks and adapt to changing conditions. This includes planning for acute events like flash floods as well as long-term shifts in precipitation patterns. By integrating climate science into our decision-making and applying sustainable stormwater management practices (SMPs), we are building a system that can evolve with the climate and continue to serve the community effectively.

Goal – What does success look like?

A reliable stormwater system is one that performs under both typical and extreme conditions. In Ann Arbor, we are designing infrastructure that can withstand the increasing frequency and intensity of storms brought on by climate change.

Equity is equally important, as we are committed to providing all neighborhoods with access to safe and effective stormwater solutions. Our planning process incorporates a wide range of existing studies and community feedback so that the stormwater system reflects the diverse needs of Ann Arbor's residents. This includes prioritizing historically underserved areas and striving to distribute investments fairly across the city.

Strategy – How will Ann Arbor achieve this vision?

We use advanced hydrologic modeling, intelligent mapping, and real-time monitoring to understand how water moves through our city and where interventions are most needed. This data allows us to prioritize projects based on risk, cost-effectiveness, and community impact. It also helps us track progress and adapt our strategies over time as conditions evolve.

Community collaboration is essential to our success. Through public meetings, advisory groups, and online engagement platforms, we provide opportunities for residents to actively participate in shaping the future of stormwater management. This inclusive process builds trust, fosters transparency, and helps align our solutions with community values.

Finally, we are investing in infrastructure that is not only functional but visionary. From permeable pavements and vegetated roofs to upgraded culverts and detention basins, our projects are designed to meet today's needs while preparing for tomorrow's challenges. Many of these projects are guided by sustainable urban drainage design (SUDD) principles, which emphasize NBS methods—such as swales, wetlands, and infiltration systems—to manage rainwater effectively.

Technical Memo #3 – Policy Evaluation



Policy Framework Themes

1. Stormwater Infrastructure & Urban Drainage
2. Flood Risk Management
3. Water Quality & Watershed Protection
4. Climate Adaptation & Resilience
5. Sustainable Funding, Prioritization & Governance
6. Sustainable Land Use & Development Practices
7. Equity, Engagement & Interagency Coordination
8. Innovation, Data & Best Practices (optional/overarching)

Policy Framework Themes

No.	Policy Themes	Description
1	**Stormwater Infrastructure & Urban Drainage**	Covers the design, maintenance, and performance of Ann Arbor's stormwater collection system. Emphasizes conveyance infrastructure, pluvial (urban) flooding management, stormwater design standards, and integration with roads and utilities.
2	**Flood Risk Management**	Addresses floodplain protection, fluvial flooding mitigation, hazard preparedness, and natural river corridor restoration. Supports a balance of structural solutions (e.g., detention, dams) and non-structural strategies (e.g., land use controls, public education).
3	**Water Quality & Watershed Protection**	Focuses on compliance with MS4 requirements, reducing stormwater pollution, and protecting watershed and groundwater resources. Includes BMPs, green infrastructure, LID techniques, and infiltration strategies.
4	**Climate Adaptation & Resilience**	Promotes a risk-based approach to stormwater planning in response to increasing rainfall intensity and hydrologic shifts. Includes design adaptation, impervious surface management, tree canopy over streams, and resilience co-benefits like urban cooling.

Policy Framework Themes

No.	Policy Themes	Description
5	**Sustainable Funding, Prioritization & Governance**	Supports a financially sustainable and accountable stormwater program. Focuses on equitable utility rate structures, lifecycle-based capital planning, grant funding, and aligning priorities with risk and resilience outcomes.
6	**Sustainable Land Use & Development Practices**	Guides integration of stormwater into development practices. Includes stormwater-conscious zoning, low-impact site design, incentives for GI/LID, and regulatory updates to promote watershed-sensitive growth.
7.	**Equity, Engagement & Interagency Coordination**	Elevates environmental justice and ensures meaningful public participation. Promotes inclusive planning, transparency, and coordinated governance among local, regional, and state agencies.
8.	**Innovation, Data & Best Practices** (optional/overarching)	Encourages continual improvement through hydraulic modeling, performance monitoring, pilot projects, and smart technologies. Fosters a culture of learning and leadership in stormwater innovation.

Policy Theme 3
Water Quality & Watershed Protection

Mission Statement

- We will safeguard water quality and watershed health by integrating pollution prevention, SuDS ~~green infrastructure~~, and watershed-based planning into stormwater management. Through best practices, public engagement and education, and regulatory compliance, we will ensure that Ann Arbor's rivers, streams, and groundwater resources remain clean, resilient, and vibrant for future generations.

3. Water Quality & Watershed Protection

Policy Statements

No	Category	Policy Statement
3.1	Stormwater Pollution Control & Water Quality Compliance	The City will implement best management practices (BMPs) and comply with all applicable water quality regulations, including the MS4 permit, to reduce pollutant loading from stormwater runoff.
3.2	Watershed-Based Planning & Protection	The City will apply a watershed-based approach to stormwater and land use planning to protect ecological function, address cumulative impacts, and improve hydrologic resilience.
3.3	Green Stormwater Infrastructure (GSI) & Low-Impact Development (LID)	The City will promote and implement GSI and LID strategies, such as rain gardens, bioswales, infiltration practices, urban forest management, and permeable pavement, to reduce runoff volume and improve water quality.
3.4	Groundwater Recharge & Protection	The City will prioritize infiltration-based stormwater practices that support groundwater recharge and protect aquifers from contamination.
3.5	Public Engagement & Education for Water Quality Protection	The City will support public education and community engagement to raise awareness of stormwater pollution prevention and encourage watershed stewardship.

Technical Memo #3 – Water Quality

Technical Memo #3 – Water Quality

- Relevant Regulatory Framework/Policy Summary Discussion
- Stormwater Quality Management Strategies
- Stormwater Quality Management Trends and Challenges
- Stormwater Quality Program Goals
- Key Conclusions and Recommendations

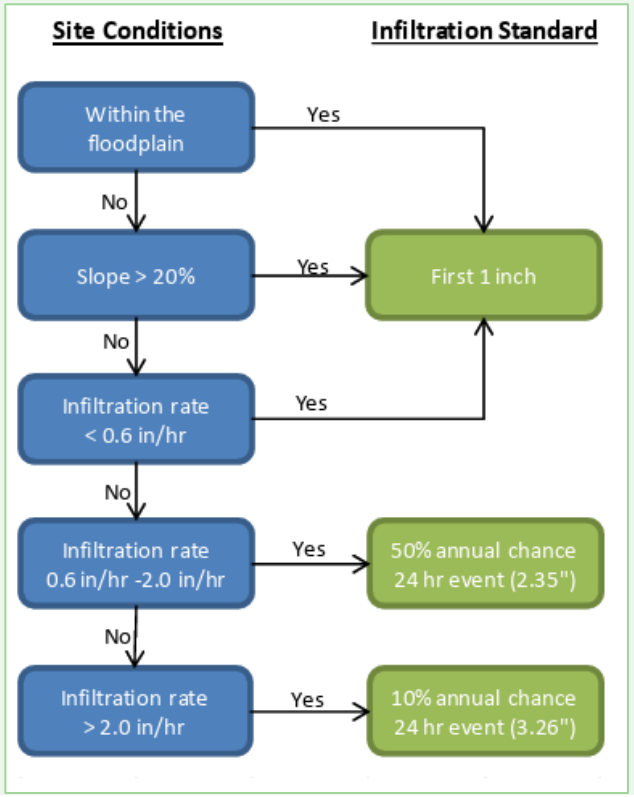
Relevant Regulatory Framework and Policy Summary Discussion

City of Ann Arbor's Code of Ordinances
2025

- Development and redevelopment responsible for 1st inch of rainfall
- Construction soil erosion and sediment control

Public Streets Stormwater Management Guidelines
2024

- Encourages green infrastructure



Washtenaw County Water Resources Commissioner's Rules and Guidelines
2023

- Considers downstream impacts, groundwater quality, green infrastructure
- Site-wide redevelopment water quality treatment requirements
- Pollutant hotspots require additional targeted water quality practices

Stormwater Quality Management Strategies

1. Nature Based Solutions and Sustainable Drainage Systems
2. Public Education and Participation
3. Illicit Discharge Detection and Elimination
4. Pollution Prevention and Good Housekeeping

Stormwater Quality Management Trends and Challenges

Climate Change

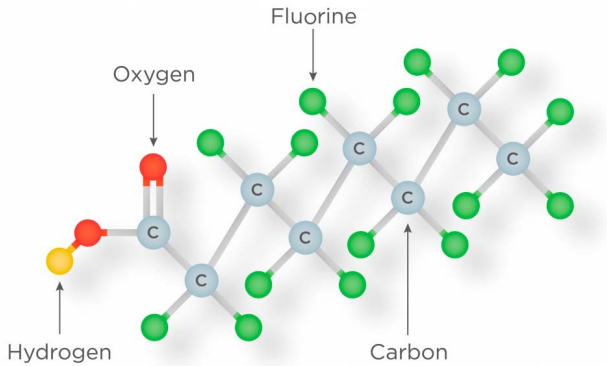
- Precipitation
- Temperature

Emerging Contaminants

- PFAS
- Microplastics

Groundwater Considerations

- Legacy contamination
- Gelman Plume



Credit: AWWA



Credit: UF/IFAS Photo by Tyler Jones

Stormwater Quality Program Goals

Reducing Pollutant Loading to Surface Waters

- Continue to meet or exceed MS4 requirements
- Reduce *E. coli*, TSS, and phosphorus loading

Enhancing Public Education and Community Involvement

- Encourage residential-scale water quality BMPs

Promoting Sustainable Stormwater Quality Management Practices

- Improve water quality using green infrastructure



Key Conclusions and Recommendations

- Water quality monitoring
- Develop and implement specific TMDL water quality reduction targets
- Emerging contaminants
- Update the A^2Zero plan to incorporate sustainable stormwater management
- Conduct stream and riparian restoration projects along biota impaired waterbodies
  - Swift Run Creek and Malletts Creek
- Update standards to reflect SEMCOG's recommended future rainfall approximations
- Encourage public participation in stormwater quality management
- Review associated supporting policies and actions

TM#3 Discussion

- Are there any further avenues of inquiry that we should pursue?
- Are there any relevant stormwater quality concerns or goals missed?

Engagement and Feedback Updates

Engagement and Feedback Updates

- Past Events
- Upcoming Events
  - Wednesday Farmer's Markets (June 18, July 16, Aug 20, Sept 17)

Scheduled 2025 SWAG Group Meetings:

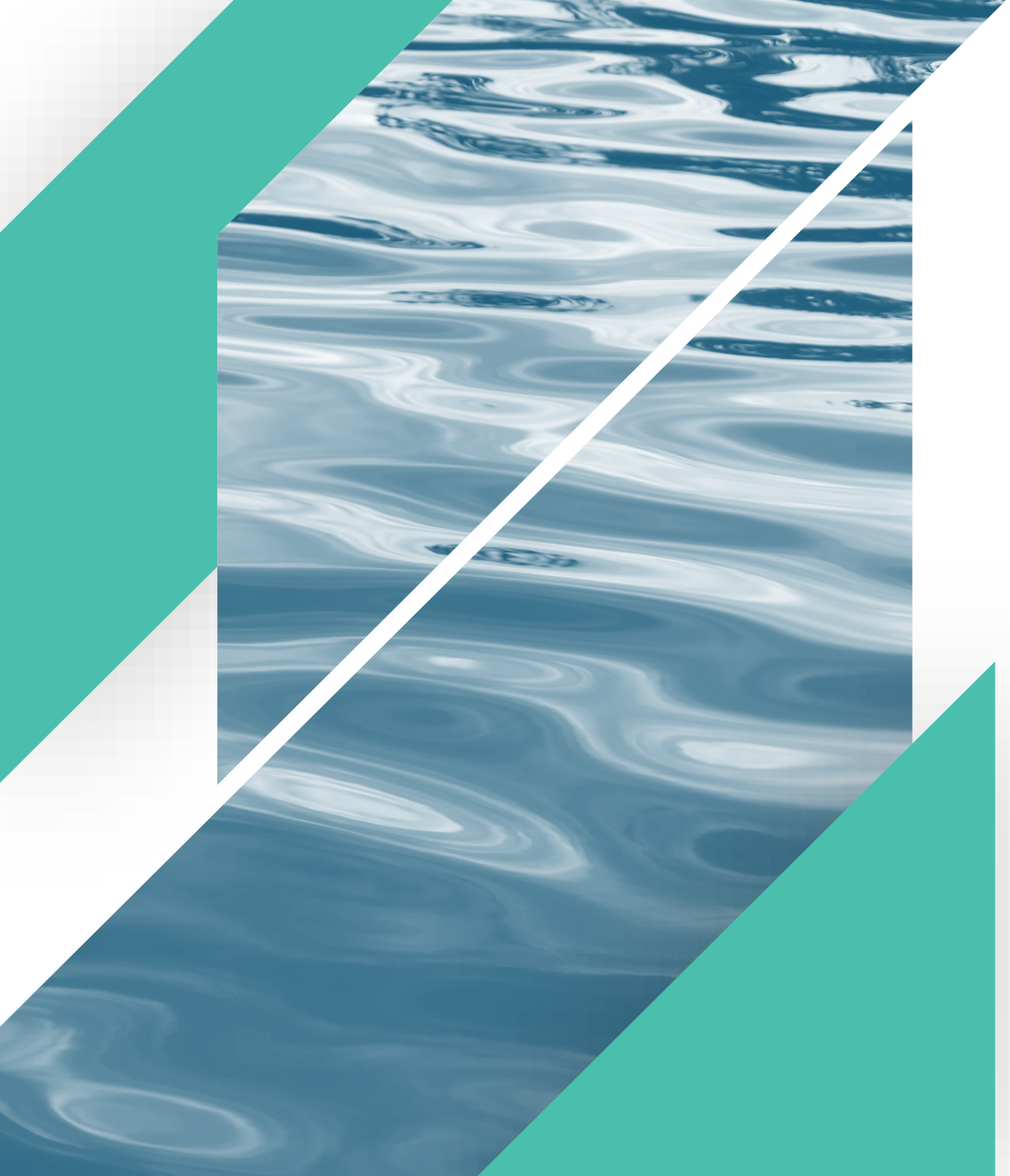
June 11, August 13, October 8, December 10

(2026 Meetings To Be Determined)

Next Steps

Next Steps

- Action items for next meeting
- Assignments for documents to review before the next session
- Next meeting:
  - Wednesday August 13th, 2025, 7:30 AM – 10 AM Cobblestone Farm



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Thank you!

TETRA TECH

DRUMMOND CARPENTER
engineering + research