



**ADMINISTRATIVE OFFICE:** 3235 Fernbrook Lane N • Plymouth, MN 55447  
 763.553.1144 • Fax: 763.553.9326 • Email: judie@jass.biz  
**TECHNICAL OFFICE:** 3601 Thurston Avenue • Anoka, MN 55303  
 Phone: 763-427-5860 • Fax: 763-427-0520 •  
 Email: andrewv@haa-inc.com

**2020 Ardmore Avenue – Culvert Replacement**  
**Medina, Project #2020-003**

**Project Overview:** The City of Medina is proposing to the culvert underneath Ardmore Avenue. The existing CMP culverts would be replaced with a polypropylene pipe. The Commission’s stormwater management plan requires compliance for Stormwater Management (Rule D) and Erosion Control (Rule E).

**Applicant:** City of Medina, Attention Jim Stremel, 2052 County Road 24 Hamel, MN 55340. Phone: 612-419-1549. Email; jstremel@wsbeng.com

**Agent/Engineer:** Heather Nelson, WSB 701 Xenia Avenue S Suite 300 Golden Valley, MN 55416 Phone: 763-231-4840. Email; hnelson@wsbeng.com

**Exhibits:**

- 1) PSCWMC Request for Plan Review received April 3, 2020.
- 2) Project review fees for drainage alterations, \$150.00.
- 3) Ardmore Avenue Culvert Replacement Plan, dated April 3, 2020

**Findings:**

- 1) A complete application was received April 3, 2020. The initial 60-day decision period expires on June 3, 2020.
- 2) The applicant proposes to replace existing roadway culverts with new culverts having similar hydraulic properties.
- 3) The City of Medina is the LGU in charge of administering the 1991 Wetland Conservation Act on this site.
  - o No wetlands are proposed to be impacted from this project.

**Stormwater Management (Rule D)**

- 4) The city of Medina has identified that the culvert located between Ardmore and Lake Independence is in need of replacement. The existing culvert as a CMP pipe which is proposed to be replaced with a like size polypropylene pipe. Due to the polypropylene pipe having a much smoother interior the slope of the pipe is decreased slightly to match the existing hydraulic conditions.

<b>Mannings</b>	<b>Size</b>	<b>Material</b>	<b>Slope</b>	<b>Capacity (CFS)</b>
Existing	48”	CMP	0.13%	19.20
Proposed	48”	ADS HP	0.02%	19.2

2020 Cold Inplace Recycling Full Depth Reclamation – Culvert Replacements  
PSC202 – CSAH 15  
March 2, 2020

**Erosion and Sediment Controls (Rule E):**

- 5) Adequate erosion and sediment control have been provided for the disturbed areas.

**Recommendation:** Recommend Approval

Advisor to the Commission



Andrew Vistad, PE

April 13, 2020  
Date







## Goal Area F. Commission Operations and Programming

Goal F.6. Serve as a technical resource for member cities.

Operations and Programming Actions:

- a. Annually review the budget and Capital Improvement Program and convene a professional Technical Advisory Committee to identify and prioritize projects.
- b. Convene Citizen Advisory Committees as necessary to advise the Commission and to assist in program development and implementation.
- c. Prepare and implement an annual monitoring plan and provide annual reporting.
- d. According to the schedules set forth in TMDL Implementation Plans and WRAPS studies, every five years evaluate progress toward meeting those water quality goals, and adjust the Implementation Plans as necessary to achieve progress.
- e. Periodically review the development rules and standards for adequacy and make revisions as necessary.
- f. Coordinate water resources management between the Commission, Three Rivers Park District, [Hennepin County](#), and the member cities.

### **4.3 THIRD GENERATION IMPLEMENTATION PLAN AND CAPITAL IMPROVEMENT PROGRAM**

---

To achieve the goals set forth above the Commission will operate a regulatory program, implement monitoring and education and outreach programs, and undertake capital improvement projects. The following sections summarize these programs, which are described in more detail in attached appendices. Following the descriptions, Table 4.3 describes how the programs and projects in this Implementation Program address the Problems and Issues identified in the Gaps Analysis and subsequent public review and input and Table 4.4 details the Implementation Program and its estimated cost. The Capital Improvement Program (CIP) is set forth in Appendix F.

[The Pioneer-Sara Creek watershed is primarily residential and agricultural in land use, with a very limited commercial and industrial tax base. Its financial capacity is limited, but the Commission has been successful at obtaining grants to supplement local funding sources, and at building partnerships to leverage resources. In implementing this Plan, the Commission will continue to work on identifying opportunities, securing grant and other funding, and working jointly with member cities, Hennepin County, the Three Rivers Park District, and individual property owners to maximize the cost-effectiveness of implementation activities.](#)

#### **4.3.1 Rules and Standards and Project Reviews**

This Third Generation Watershed Management Plan adopted modifications to the standards for new development and redevelopment, codifying them in a Rules and Standards document. The modifications brought those standards closer to consistency with those of other jurisdictions and with state and other requirements TMDLs. The Rules and Standards are set forth in Appendix C.

*Project Review Size Thresholds.* All single-family residential projects that disturb more than one acre and all other non-single family residential land-disturbing projects regardless of size are required to submit erosion control plans for review. The threshold of project size for application of Commission water quality and quantity rules and standards is one acre, regardless of density or land use.

*Infiltration.* The infiltration-from-net-new-impervious-surface requirement is 1.1 inches of runoff infiltrated within 48 hours. This is consistent with the MPCA's Minimal Impact Design Standards (MIDS) and the NPDES General and Construction Permits requirements. Where infiltration is not feasible, the rules require that runoff be filtered before discharging off the site. The rules include several credits toward meeting that infiltration volume requirement, including disconnection of impervious surface; conservation of existing native vegetation; and the use of decompacted and amended soil as a BMP.

*Water Quality.* The water quality requirement is "the load reduction achieved by abstracting 1.1 inch from net new impervious or no net increase in TP or TSS, whichever is lower." From a practical standpoint, developers will need to calculate first, the loading from the pre-development condition, and second, the loading assuming the abstraction of 1.1 inch of impervious runoff from the post-development condition. The development must incorporate water quality BMPs to limit post-construction loading to the lesser of those two figures. Load reduction achieved by meeting the infiltration requirement can be applied toward meeting the water quality requirement.

*Buffers.* An average 25 foot, minimum 10 foot wide buffer adjacent to lakes, wetlands, PWI streams, and county ditches is required for any new development or redevelopment. This buffer requirement provides more flexibility in establishing the buffer while retaining the basic buffer functions.

#### **4.3.2 2021-2030 Monitoring Program**

The monitoring program was refined in the Third Generation Plan has two organizing principles: continuation of routine flow and water quality monitoring in Pioneer and Sarah Creeks and Sentinel Lakes, and volunteer monitoring of water quality in other lakes. Each year the Commission will evaluate the proposed program and make modifications as necessary based on the most current data needs. The monitoring objectives guiding the Pioneer-Sarah Creek monitoring program and the assessment of data are shown below. The program is set forth in more detail in Appendix D.

In general, the components of the monitoring program are:

- Continuation of routine flow and water quality monitoring on Pioneer Creek at Copeland Road and/or Pagenkopf Road and Sarah Creek at Highway 92.
- Periodic flow and water quality monitoring on Dance Hall Creek (DHC); Loretto Creek (LC); and Spurzem Creek (SC) on a rotating basis, or other streams or outfalls as desired.
- Annual monitoring of five "Sentinel Lakes:" Lake Independence, Lake Sarah, both basins of Whaletail Lake, and Little Long Lake. This monitoring has been completed by the Three Rivers Park District under contract to the Commission. This Plan assumes that Three Rivers will continue its annual monitoring on Lake Rebecca and other lakes as they require.

### **MONITORING PROGRAM GOALS**

1. To quantify the current status of streams and lakes throughout the watershed in comparison to state water quality standards.
2. To quantify changes over time, or trends, in stream and lake water quality in the watersheds.
3. To enhance the value of previous monitoring data by extending the period of record.
4. To track and quantify the effectiveness of implemented BMPs throughout the watersheds for the protection of water quality.
5. To evaluate progress toward meeting TMDL load reduction and other goals.

- Continuation of the partnership with Hennepin County Environment and Energy to obtain macroinvertebrate collections by student volunteers each year through the RiverWatch program and by cities to evaluate wetlands through the Wetland Health Evaluation Program. (WHEP).
- Continuation of the partnership with the Metropolitan Council to conduct lake surface water quality monitoring by volunteers every two to three years through the Citizen Assisted Monitoring Program (CAMP).
- Each year Three Rivers Park District prepares a report on current water quality and trends, and reports water quality monitoring data to the state's EQUIS database.

#### **4.3.3 2021-2030 Education and Outreach Program**

Education and Public Outreach is a core function of the Pioneer-Sarah Creek Watershed Management Organization. The Commission has conducted some education and outreach activities and has also collaborated with other organizations in Hennepin County as part of the West Metro Water Alliance (WMWA) and participated in Metro-wide education and outreach initiatives such as Blue Thumb, Watershed Partners and Northland NEMO.

This Fourth Generation Education and Public Outreach Program builds on the Commission's education and outreach activities. The program is set forth in more detail in Appendix E. The following sections set forth the program goals and strategies.

### **WATERSHED EDUCATION AND PUBLIC OUTREACH PROGRAM GOALS**

The goal of the Pioneer-Sarah Creek Watershed Management Commission's Education & Outreach Program is to engage people in the community in the protection and improvement of lakes, rivers, streams and wetlands through education, increased water awareness and community participation. This Program establishes individual stakeholder goals to better target implementation strategies.



*Implementation Strategies.* Each year the Commission will evaluate the proposed Education and Outreach program and establish education and outreach activities for the coming year. The Commission will rely on the following and other strategies to implement the program and achieve the Plan's education and outreach goals:

- Expand education and outreach opportunities by coordinating with other entities such as Hennepin County.
- Convene Citizen Advisory Committees as needed to advise the Commission and to assist in program development and implementation.
- Participate with collaborative groups to pool resources to undertake activities in a cost-effective manner, promote interagency cooperation and collaboration, and promote consistency of messages.
- Use the Commission's, member cities', and educational partners' websites and newsletters, social media, co-ops, local newspapers and cable TV to share useful information to stakeholders on ways to improve water quality.
- Prominently display the Commission's logo on information and outreach items, project and interpretive signs, and other locations to increase visibility.
- Provide opportunities for the public to learn about and participate in water quality activities.
- Provide education opportunities for elected and appointed officials and other decision makers.
- Enhance education opportunities for youth.
- Provide opportunities for bridge-building between stakeholders with sometimes competing ideas and interests, such as lakeshore owners and agricultural operators.
- [Collaborate with Hennepin County to undertake targeted education and outreach to agricultural and other landowners in the watershed.](#)

#### **4.3.4 TMDL Implementation**

*Commission Actions.* [In general, the Commission in the TMDL Implementation Plans and WRAPS has taken on responsibility for undertaking subwatershed assessments to identify potential BMP locations, and for continuing ongoing water quality monitoring to assess progress. Additional potential activities include targeted education and outreach to property owners, exploration of strategies such as combined manure hauling or regional treatment facilities, and in-lake nutrient management such as alum treatments, curly-leaf pondweed and carp management.](#)

*City Actions.* The member cities have taken on responsibility in the TMDL Implementation Plans for undertaking capital projects and activities to reduce pollutant loading. Many of those actions are not reflected in this Plan. Projects and programs for which the member cities seek Commission cost-share funding are included in the Implementation Plan shown on Table 4.4. The Local Plan Content requirements set forth in Section 4.4 of this Plan require the member cities to "Show how the city will take action to achieve the load reductions and other actions identified in and agreed to in the TMDL Implementation Plan."

#### 4.3.5 Capital Improvement ~~Projects~~-Program

The primary focus of the Commission's Capital Improvement Program (CIP) is to systematically make progress toward meeting TMDLs focusing resources on one or two lakes at a time, by periodically reviewing progress and updating realistic five to ten year working plans. The Commission will convene a quarterly TAC/Working group to coordinate work and jointly assess progress and set priorities. The Commission contributes to a capital projects fund and shares in the cost of implementation projects. In addition, the Commission will continue to seek out grant and other funding to undertake larger cost-effective projects as opportunities arise.

TMDL Reviews. The Lake Independence TMDL was completed in 2007 and the Lake Sarah TMDL in 2011. Stakeholders have completed several implementation actions since that time. Additional monitoring data such as sediment core release rate analysis and lake inflow have since been collected. Priority implementation actions in this Plan are progress reviews for each of these TMDLs including lakeshed and lake response model and TMDL load reduction target updates. These progress reviews will also update the TMDL implementation plans.

*Subwatershed Assessments and Studies.* The Commission budgets \$20,000 annually for special studies and for cost sharing capital projects. Annually, the Commission will consider completing subwatershed assessments and special studies such as feasibility studies and special monitoring that will identify the most cost-effective practices and projects. It is currently the Commission's priority to focus on identifying and implementing load reducing projects that make progress toward achieving TMDL goals. One subwatershed that is a priority for assessment is the area tributary to Spurzem Lake, which itself is tributary to Lake Independence.

*Capital Projects.* The Commission's Joint Powers Agreement authorizes the Commission to undertake capital improvement projects as set forth in Minn. Stat. 103B.251. That statute allows watershed organizations to fund projects on their Capital Improvement Program (CIP) by certifying for payment by the county all or any part of the cost of a capital improvement. In 2011 the Commission adopted a major plan amendment to its Second Generation Plan that added a cost-share policy and revised the CIP to show a ten percent cost share from the Commission, funded by a dedicated portion of the annual member dues. That policy was continued in the Third Generation Plan and is incorporated into this Plan as well.

For 2021-2030 the Commission will focus on completing or participating in subwatershed assessments and other studies and will prioritize cost-share in TMDL/WRAPS implementation projects, **starting with Lake Independence and Lake Sarah**. The Commission will annually solicit capital projects and cost-share activities from the member cities and will budget for and convene a Technical Advisory Committee (TAC) of staff and professional engineers to identify potential capital projects and to evaluate and prioritize city submittals for Commission funding. That TAC will continue in future years to provide advice and assistance to the Commission. The Commission may also consider a policy to supplement Hennepin County incentives for cost-share practices in priority areas.

### 4.3.6 Commission Self-Assessment

A periodic robust and frank self-assessment is necessary to ensure that organizations stay on track to achieve goals. During this Fourth Generation Plan, the Commission will annually review progress towards goals. This self-assessment will use a matrix such as Table 4.2 below to systematically review and evaluate progress towards goals. This matrix will also be used to set each year’s work plan as well as provide a “heads up” to member cities about future years’ needs. This self-assessment will become part of the Commission’s Annual Report.

**Table 4.2. Conceptual self-assessment matrix.**

Goal	Actions Taken this Past Year	Actions Taken to Date	Additional Actions to Achieve Goal	Schedule, Responsible Party(ies), Cost and Funding
Goal 1	<i>To be completed annually</i>	<i>To be completed annually</i>	<i>To be completed annually</i>	<i>To be completed annually</i>
Goal 2	<i>To be completed annually</i>	<i>To be completed annually</i>	<i>To be completed annually</i>	<i>To be completed annually</i>
...	...	...	...	...

### 4.3.7 Addressing Identified Problems and Issues

As noted above, this planning process revealed several problems and issues to be considered in this Third Generation Watershed Management Plan. Table 4.3 below repeats the problems and issues set forth in Table 4.1 at the beginning of this report section, and describes how each were addressed in this Implementation Plan.

**Table 4.3. Actions in this Plan addressing the identified problems and issues.**

#	Problem or Issue	Actions in the 4 <sup>th</sup> Generation Plan
<b><i>Impaired Waters Implementation</i></b>		
1.1	Have not yet completed a review of progress toward meeting the Lake Independence and Sarah TMDLs	<a href="#">Both TMDLs are programmed for review and update in the Implementation Plan.</a>
1.2	Some of the lakes may be good candidates for alum treatments	<a href="#">The CIP includes an alum treatment on South Whaletail Lake and a potential additional alum treatment on Lake Rebecca if necessary. Alum treatments may be considered for lake Independence and Lake Sarah based on the results of the TMDL progress review.</a>
1.3	The stream TMDLs suggest that manure management practices and SSTS issues may be contributing to the bacteria impairments on the streams	<a href="#">The CIP includes fund for opportunistic manure management and other cost-share practices throughout the watershed.</a>
1.4	Have not identified a process for evaluating progress toward the other lake and stream TMDLs	<a href="#">This process will be developed based on the Commission’s experience reviewing the Independence and Sarah TMDLs.</a>

#	Problem or Issue	Actions in the 4 <sup>th</sup> Generation Plan
1.5	Lack of a directed framework to guide progress – no commonality of goals, approach, or sense of team effort between the stakeholders	<a href="#">The Commission will convene a periodic TAC meeting to share information and develop shared goals and strategies.</a>
1.6	BMP implementation is highly reliant on partnering with willing landowners	<a href="#">Hennepin County intends to actively reach out to property owners and can bring cost-share funding to reduce costs. The Commission will consider a policy to supplement those cost-share funds.</a>
1.7		
1.8		
<b>General Education and Outreach</b>		
2.1	There is a need for significant nutrient and bacterial load reductions in the agricultural areas of the watershed, but there are limited specific projects or strategies identified.	<a href="#">Subwatershed assessments include nutrient loading modeling to identify potential high loading areas for prioritization and potential BMPs. Hennepin County is actively reaching out to property owners to determine interest.</a>
2.2	There is an opportunity to work more in partnership with Hennepin County to prioritize and incentivize conservation projects.	<a href="#">See 1.6 above.</a>
2.3		
2.4		
<b>General Education and Outreach</b>		
3.1	There is limited education and outreach. The Commission's 3rd Generation Plan set forth education and outreach goals and strategies for elected officials, cities, citizens, etc., but little has been accomplished.	<a href="#">The Commission will continue to work in partnership with Watershed Partners, Project NEMO, and Hennepin County to reach out to various stakeholders.</a>
3.2	Need for ongoing commissioners and council member education so they can pass along that knowledge to the public.	<a href="#">Hennepin County staff have developed a program of ongoing Commissioner education. The Commission will continue to participate in Project NEMO training as available.</a>
3.3	Little private landowner outreach and engagement except for the lake associations.	<a href="#">Hennepin County is actively reaching out to property owners to determine education and outreach needs.</a>
3.4		
3.5		
<b>Effective Operations</b>		
4.1	Operating budget constraints affect the outreach and engagement staff can perform.	<a href="#">The Commission will continue to work in partnership with Watershed Partners, Project NEMO, and Hennepin County to reach out to various stakeholders in a cost-effective way.</a>

#	Problem or Issue	Actions in the 4 <sup>th</sup> Generation Plan
4.2	There is a need for ongoing, continuous Commissioner education and development so they can effectively serve as Commissioners.	<a href="#">Hennepin County staff have developed a program of ongoing Commissioner education. The Commission will continue to participate in Project NEMO training as available.</a>
4.3		

DRAFT