



**Title:** Authorization to Contract for Hydrologic Analysis of Upzoning

**Resolution number:** 20-055

**Prepared by:** Name: Grace Barlow  
Phone: (952) 641-4518  
gbarlow @minnehahacreek.org

**Reviewed by:** Name/Title: James Wisker, District Administrator

**Recommended action:** Board approval of contract authorization to work with Maxfield Research and Consulting and Wenck Engineering. Both consultants will produce research and analysis relevant to how increased density within the City of Minneapolis may impact stormwater and downstream waterbodies. Maxfield Research will produce a market analysis of where and when density increases within Minneapolis can be expected. Wenck Engineering will produce a stormwater quantity and quality analysis based on Maxfield's findings.

**Schedule:** August: Preliminary results will be generated and reviewed with the Board  
September: Final results will be generated and reviewed with the Board

**Budget considerations:** Fund name and code: Minnehaha Creek Subwatershed Planning – 2002  
Fund budget: \$125,000  
Expenditures to date: \$13,389  
Requested amount of funding: \$21,500

**Past Board action:**

**Summary:**

On October 15<sup>th</sup>, 2019 the Minneapolis City Council adopted a resolution to approve the City of Minneapolis's 2040 Comprehensive Plan (2040 Plan). Of the many goals within the 2040 plan, increasing access to affordable housing is listed as a major priority for the City. In order to achieve this goal, the City is proposing a number of up-zoning policies to increase housing choice and housing supply.

These policies are intended to accomplish three main housing goals; increase the construction of large, multi-family housing around city transit corridors, increase construction in neighborhoods closest to downtown to provide a wider range of housing choices in these areas, and finally to allow for the construction of three-dwelling, 'microapartment' units. These microapartments are intended to be constructed on a single lot in order to provide small increases in density throughout any of the City's neighborhoods.

Overall, these policies are anticipated to increase the construction of multi-family units in areas that are traditionally dominated by single-family homes or commercial buildings. With the focus on increasing density through the construction of different types of multi-family buildings, this change in land use policy may result in an increase in hardcover on City of Minneapolis lots that fall within District boundaries.

Currently, MCWD's Stormwater Management Rule does not require a specific scope of stormwater treatment for sites that are under an acre in size. A majority of lots within the City of Minneapolis are below this acre size threshold. Therefore, as new buildings continue to be constructed to accommodate higher density within the City, increases in hardcover may occur on sites that currently require a minimal level of stormwater treatment.

As a result, the MCWD Board of Managers directed staff to analyze the potential water quality impacts of these land use policy changes.

In response, Staff have developed a scope of services that will:

1. Evaluate the projected changes in land use and hardcover over space and time in order to better understand how density may increase within different areas of MCWD's boundaries.
2. Model the water quality and quantity effects of those projected changes in order to better understand how an increase in density may impact stormwater within MCWD's boundaries and if the current Stormwater Management Rule can effectively manage the increase.

Land use projection work will be completed by Maxfield Research and Consulting and will entail:

- Identifying dwelling unit baselines in order to understand the average hardcover that is associated with new multifamily buildings being built within the City of Minneapolis.
- Identifying areas within MCWD boundaries that are projected to undergo lot turnover and the likelihood that different scenarios of turnover and density increase will occur.
- Identifying likely timelines at which these different turnover and density increase scenarios may occur.

The full scope of work can be found in Attachment A.

Hydrologic and pollutant load modeling will be completed by Wenck and will entail:

- Processing Maxfield's outputs into GIS to cross-reference their findings with Minneapolis soil, flood zone, watershed, and land use data.
- Analyzing rate and volume scenarios for the areas in which Maxfield projects density changes.
- Reviewing the effectiveness of MCWD's current Stormwater Management Rule to manage potential increased density.

The full scope of work can be found in Attachment B.

Staff is requesting authorization to execute contracts to complete this work in an amount not to exceed \$21,500.

**Supporting documents (list attachments):**

- Attachment A: Maxfield Research and Consulting Scope
- Attachment B: Wenck Engineering Scope



**RESOLUTION**

---

**Resolution number:** 20-055

**Title:** Authorization to Contract for Hydrologic Analysis of Upzoning

WHEREAS the City of Minneapolis has made changes to zoning policies intended to increase housing stock and density; and

WHEREAS changes in land use drive changes in stormwater hydrology and pollutant loading; and

WHEREAS it is important for the MCWD to anticipate how projected land use changes will may drive the impact amount and quality of water across within the system, to inform policy, capital project and partnership development;

WHEREAS the Board of Managers directed staff to conduct an analysis of the potential changes in stormwater hydrology and pollutant loading associated with the projected changes in land use due to Minneapolis policy; and

WHEREAS staff has developed scopes of service to project changes in land use with a housing market analyst (Maxfield Research Consulting), and to assess impacts on stormwater runoff and pollutant load with a civil engineer (Wenck).

NOW, THEREFORE, BE IT RESOLVED that the Minnehaha Creek Watershed District Board of Managers hereby authorizes the District Administrator to prepare and execute contracts on advice of counsel Maxfield Research and Wenck Associates in amounts not to exceed \$10,000 and \$11,500, respectively, to evaluate potential stormwater quantity and quality impacts within the District associated with projected redevelopment activity following from changes in zoning policy enacted by the City of Minneapolis.

Resolution Number 20- 055 was moved by Manager \_\_\_\_\_, seconded by Manager \_\_\_\_\_. Motion to adopt the resolution \_\_\_ ayes, \_\_\_ nays, \_\_\_ abstentions. Date: 7/9/2020

\_\_\_\_\_  
 Secretary Date: \_\_\_\_\_

June 18, 2020

Ms. Grace Barlow  
Permitting Technician  
Minnehaha Creek Watershed District  
15320 Minnetonka Boulevard  
Minnetonka, MN 55345

### **PROPOSAL FOR PROFESSIONAL SERVICES**

Maxfield Research and Consulting LLC has compiled a work program and associated costs to complete a trend and forecast research analysis related to a recent upzoning policy implemented by the City of Minneapolis in its 2040 Comprehensive Plan. The upzoning policy was a response to goals and objectives outlined in the 2040 Plan which would result in increasing access to housing and specifically affordable housing. To achieve this, the upzoning is anticipated to drive:

- The construction of multifamily housing around transit corridors;
- Increase construction of single-family homes and apartment buildings in neighborhoods close to Downtown Minneapolis;
- Increase the construction of three-unit, “micro-apartment” developments on single lots within neighborhood interiors farthest from Downtown.

Maxfield Research would provide market research and data analysis services to the Minnehaha Creek Watershed District (MCWD) to analyze and assess the potential increase in densities in the areas that are under The District’s jurisdiction to determine the impacts to water quality and water quality issues due to this increase in densities.

The intent is to project the level to which upzoning may become reality and the number of additional structures and dwelling units that may be added to the City in various geographies to 2040.

The proposed Scope of Services is intended to provide data and analysis to respond to the following questions:

- Projected lot turnover for lots under one acre in size within the areas defined by the 2040 plan that correspond to the focus areas for the MCWD;
- Estimated lot turnover to multifamily in increments of 25%, 50%, 75% within the focus areas for the MCWD;

- Estimated timeframes for these different redevelopment scenarios;
- Projected average build-out for lots converting over to multifamily (i.e. redevelopment density – i.e. number of units per acre)
- Compare historic single-family lot use or overall densities within the focus areas to new densities with an increase in multifamily use;
- Identify the average lot coverage of single-family home versus multifamily buildings (i.e. two-story versus multi-story);
- Has the City of Minneapolis implemented or are they planning to implement any changes in ordinances related to the increased lot coverage and increased densities?
- Identify watershed boundaries and lakes and creeks and overlay these locations with areas that are experiencing or are projected to experience substantial increased densities.
- How will vehicle parking be affected with increased densities? Will this affect runoff if on-street vehicle parking is increased due to reduced off-street parking with redevelopment? How would this change over time?

The following scope outlines our proposed work program for this assignment.

### **SCOPE OF SERVICES**

1. Definition of MCWD Boundaries and Analysis Areas
  - a. Identify and map watershed boundaries to be analyzed for increased residential density;
  - b. Identify focus areas or neighborhoods within watershed boundaries that will be analyzed for increased residential density; focus areas will be separated based on Maxfield's knowledge of redevelopment areas and City's focus on land use from the 2040 Plan.
2. Review of Minneapolis 2040 Plan
  - a. Review Minneapolis 2040 Plan to confirm areas for significant upzoning
3. Dwelling Unit Base Line
  - a. Provide a current dwelling unit base line by units in structure for the analysis areas;
  - b. Review Hennepin County database regarding average lot size coverage for the following:
    - i. SF
    - ii. Duplex

- iii. Tri-plx/Four-plx
    - iv. 5 units or more
  - c. Identify number of lots in analysis areas that are less than one acre in size
  - d. Identify number of lots in analysis areas less than one acre in size and with more than one dwelling unit
  - e. Provide a base line within each analysis area for the following:
    - i. Number of dwelling units;
    - ii. Average number of dwelling units per parcel
    - iii. Average parcel size
    - iv. Number of lots of 1 acre or less
    - v. Average lot coverage for lots of 1 acre or less
- 4. Redevelopment of Parcels
  - a. Within analysis areas, identify recent new construction sites for:
    - i. New single-family homes (tear-downs)
    - ii. New multifamily structures
  - b. Within analysis areas, identify pending redevelopment sites for:
    - i. New multifamily structures (higher density)
  - c. Analyze redevelopment parcels regarding:
    - i. Increase in number of dwelling units
    - ii. Anticipated increase in lot coverage
- 5. Ordinance Review
  - a. Identify recent or anticipated changes to Minneapolis ordinances to accommodate or change policies regarding increases in densities
  - b. Discuss potential changes with City of Minneapolis planning staff
- 6. Analysis of Focus Areas with Recent and Projected Density Changes
  - a. Identify parcels that have experienced recent changes (within past three years)
  - b. Identify parcels that are approved or planned to experience increased density changes (over next three to five years)
  - c. Map all changes by color (recent and projected) and by density increase range.
- 7. Analysis of Projected Density Increases
  - a. Analyze and highlight areas within the MCWD boundaries that identify projected changes in density levels to 2040 based on historic and projected shifts and upzoning policy changes.
- 8. Summary of Key Findings
  - a. Provide matrix of projected density shifts by Focus Areas
  - b. Map projected density shifts by Focus Areas (color coded)

**Total Cost for Staff Time:**

**\$10,000.00**

### **COST OF SERVICES**

The above Scope of Services will be completed for Ten Thousand Dollars (\$10,000.00), including all out-of-pocket expenses and one electronic copy of the report along with the identified mapping as per the outline. An executed copy of this agreement is required prior to commencement of work by Maxfield Research and Consulting, LLC.

Any meeting time or additional research requested by the Client beyond that outlined in the above Scope of Services will be billed in addition at our standard hourly rates for staff time which range from \$55.00 to \$160.00 per hour.

### **WORK PRODUCT**

The Scope of Services will be completed and submitted to the Client in memorandum format.

### **COMPLETION TIME**

The Scope of Services will be completed within 30 to 45 days of receipt of an executed contract in the offices of Maxfield Research and Consulting, LLC, unless delayed by unexpected emergencies, forces beyond the control of one or both parties or by written agreement of the parties.

### **PAYMENT**

All invoices are payable to Maxfield Research and Consulting, LLC within fifteen (15) days of receipt of an invoice showing the work completed and the direct costs for expenses. A finance charge of one and one-half percent (1.5%) per month will be added to the unpaid balance of each invoice not paid within thirty (30) days.

### **DISCLAIMER**

The objective of this research assignment is to gather and analyze as many market components as is reasonable within the time limits and projected staff hours set forth in this agreement. We assume no responsibility for matters legal in character.

The property/land is assumed to be free and clear of any indebtedness, liens or encumbrances; and good and marketable title and competent management are assumed, unless otherwise stated.

If building plans or site plans are included in the report, they are to be considered only approximate and are submitted to assist the reader in visualizing the property. We assume no responsibility for the accuracy of any building or site plans.

Certain information and statistics contained in the report, which are the basis for conclusions contained in the report, will be furnished by other independent sources. While we believe this information is reliable, it has not been independently verified by us and we assume no responsibility for its accuracy.

The conclusions in the report are based on our best judgments as market research consultants. Maxfield Research and Consulting, LLC disclaims any express or implied warranty of assurance of representation that the projections or conclusions will be realized as stated.

The result of the proposed project may be achieved, but also may vary due to changing market conditions characteristic of the real estate industry, changes in facts that were the basis of conclusions in this report, or other unforeseen circumstances.

This agreement will be construed according to the laws of the State of Minnesota.

#### **TERMINATION**

This agreement may be terminated upon written notification of either party to the other. In the event of termination, the Client will pay Maxfield Research and Consulting, LLC for staff hours performed at the firm's normal hourly rates, plus all expenses incurred through the date of termination.

The costs outlined in the Scope of Services shall remain in effect for a period of 90 days from the date listed at the top of this contract.

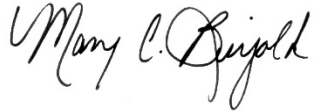
If this proposal meets with your approval, please sign and return one copy to the offices of Maxfield Research and Consulting, LLC.



Agreed to this \_\_\_\_\_ day of \_\_\_\_\_ 2020.

**MAXFIELD RESEARCH AND CONSULTING, LLC**

**MINNEHAHA CREEK WATERSHED DISTRICT**



---

---

(Signature)

Mary C. Bujold

By: \_\_\_\_\_  
(Print Name)

President

Its: \_\_\_\_\_  
(Print Title)



July 2, 2020

**Ms. Grace Barlow**

Minnehaha Creek Watershed District  
15320 Minnetonka Boulevard  
Minnetonka, MN 55345

RE: MCWD-MPLS Upzoning Stormwater Analysis

**Dear Ms. Barlow:**

As you requested, Wenck Associates, Inc. (Wenck) submits this scope of work to assist the Minnehaha Creek Watershed District (MCWD) in analyzing the impact of the City of Minneapolis's (City) 2040 Comprehensive Plan (2040 Plan) on water quality and quantity issues. Specifically, Wenck's analysis will look at the potential impact of increased density within the City on downstream water resources. Wenck's analysis will be the second phase of the analysis and will take outputs from the Maxfield Research & Consulting (Maxfield) analysis to quantify the water quality and quantity impact.

## **Work Plan**

---

Wenck will complete the following tasks and sub-tasks to accomplish the scope of work.

### **Task 1 – Review and Process Maxfield GIS Output and Results**

#### **Subtask 1a.** Kick-off Meeting

Wenck, MCWD, and Maxfield's Staff will have a kick-off meeting to review Maxfield's findings and discuss the how the results will be formatted for this second phase.

*Deliverable:*

- None

#### **Subtask 1b.** Processing Maxfield Output in GIS

Wenck will take the Maxfield results and input them into GIS and cross-reference their findings with Minneapolis soil, flood zone, watershed, and Land Use data to create existing and proposed scenarios for the stormwater analysis.

*Deliverables:*

- *Finalized Shapefiles for District use*

## **Task 2 – Stormwater Modeling for Rate and Volume Increases**

### **Subtask 2a. Water Quantity Impact Analysis**

Wenck will analyze up to 10 watersheds within Minneapolis where there is an existing flooding potential and where Maxfield projects Upzoning scenarios. For each watershed, Wenck will estimate rate and volume increases for the 1-, 10-, and 100-year, 24-hour storm event scenarios using hydroCAD. The rate and volume increases will be estimated for up to three scenarios (25%, 50%, & 75% lot turnover scenarios) within each watershed.

Additionally, Wenck will estimate the impact the 100-year storm volumes would have on local flooding areas, based on increases in runoff volume.

#### *Deliverables:*

- *Summary Table estimating average Water Quantity Impacts for various storm events and lot turnover scenarios.*
- *Local Flood Area Impacts*

## **Task 3 – Water Quality Impact Analysis**

### **Subtask 3a. MIDs Water Quality Modeling**

Wenck will analyze up to 10 watersheds and quantify the water quality impacts on downstream waterbodies. Wenck will use the MIDs calculator to estimate Total Phosphorus (TP) and Total Suspended Solids (TSS) increases for up to three scenarios (25%, 50%, & 75% lot turnover scenarios) in each watershed.

#### *Deliverable:*

- *Summary Table estimating average Water Quality (TP & TSS) Impacts for various storm events and lot turnover scenarios.*

### **Subtask 3b. Effectiveness of Volume Abstraction BMPs**

Wenck will use MIDs to estimate the effectiveness of abstracting 1" of runoff from the projected increases in impervious surface on TP and TSS Loads.

#### *Deliverable:*

- *Summary Table estimating the effectiveness of abstraction BMPs on the Upzoning Scenarios*

### **Subtask 3c. Review of the MCWD Stormwater Management Rule Effectiveness**

Wenck will review the projected upzoning scenarios from Maxfield and how the current MCWD Stormwater Rules would impact the estimated water quantity and quality impacts.

#### *Deliverable:*

- *Stormwater Rule review will be summarized in Task 4.*

Ms. Grace Barlow  
MCWD  
July 2, 2020

### Subtask 3d. 90% Progress Meeting

Wenck and MCWD Staff will have a 90% Progress meeting to review the results from Subtasks 3a and 3b.

*Deliverable:*

- None

### Task 4 – Summary Technical Memorandum

Wenck will provide MCWD with a summary of the inputs and results from Tasks 2 & 3 and maps for the modeled watersheds that MCWD can use in their overall summary of Phase 1 and Phase 2.

*Deliverables:*

- Summary Technical Memorandum
- Watershed Maps

## Budget Summary

---

Wenck will perform the tasks outlined above on a time and materials basis for a total estimated cost of \$11,500. Wenck will not exceed this amount without authorization from MCWD. If follow-up or out of scope items are identified or requested by the MCWD, Wenck will work with MCWD to develop a scope and budget for the additional task(s) and will not proceed with identified task(s) without authorization from the MCWD. Table 1 below provides a detailed breakdown of our cost estimate to complete the tasks described above.

**Table 1: Tasks and estimated costs.**

Task	Subtask	Total Cost
1	a. Kick-off/Review Meeting	\$350
	b. GIS Processing with Maxfield Results	\$1,650
2	a. Water Quantity Load Impacts	\$1,700
3	a. Water Quality Load Impacts	\$1,700
	b. Effectiveness of Infiltration and Filtration BMPs	\$1,500
	c. MCWD Stormwater Rule Review	\$1,100
	d. 90% Progress Meeting	\$500
4	a. Summary Technical Memorandum	\$3,000
		<b>\$11,500</b>

## Summary

---

On behalf of the 275+ employee-owners of Wenck, thank you for this opportunity to work with the SWCD. Should you have any questions or need clarification of anything presented in this scope of work, please do not hesitate to contact Chris Meehan at 612-210-2111.

Sincerely,

**Wenck Associates, Inc.**

**Ms. Grace Barlow**  
MCWD  
July 2, 2020

Chris Meehan PE, CFM  
District Engineer

Erik Megow, PE  
Associate Engineer

Authorization to Proceed:

---

Signature

---

Title

---

Date