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Memorandum

To: Bassett Creek Watershed Management Commission (BCWMC)
From: Barr Engineering Co. (Jim Herbert, PE; Gabby Campagnola)
Kennedy & Graven (David Anderson)
Subject: Item 5A: Variance Request - Graffiti Mill Redevelopment of Fruen Mill Site, Minneapolis, MN
BCWMC August 21, 2025 Meeting Agenda
Date: August 14, 2025
Project: 23270051.62 1020 2503

5A Graffiti Mill Redevelopment of Fruen Mill Site – Minneapolis, MN BCWMC 2025-03

Summary:

Proposed Work: Redevelopment of the Fruen Mill site
Project Proposer: Graffiti Mills, LLC
Project Schedule: Proposed construction date is contingent on many variables; applicant would expect construction to begin in 2026
Basis for Review at Commission Meeting: Consideration of pre-design variance request
Impervious Surface Area: NA
Recommendations for Commission Action: For discussion

The Commission Administrator and Engineer received an application from Graffiti Mills, LLC (applicant) requesting variances from the following BCWMC floodplain requirements:

- **Section 4.0.1 (Policy 29)**
  Minimum building elevations (lowest floor) of new and redeveloped structures, including parking garages/ramps, must be at least 2.0 feet above the 100-year flood level.

- **Section 4.0.3 (Policy 34)**
  The BCWMC will allow only those land uses in the BCWMC-established floodplain that will not be damaged by floodwaters and will not increase flooding.

- **Section 4.0.4 (Policy 34)**
  Allowable types of land use that are consistent with the floodplain include recreation areas, playgrounds, surface parking lots, temporary excavation and storage areas, public utility lines, agriculture, and other open spaces.

A copy of the July 25, 2025 floodplain variance request from the applicant is attached. Although the application also mentions potential consideration of a variance from Section 4.0.8 in the future, that request is not included as part of this variance request.

Given the unique nature of the site and the buildings located thereon (details below), the developer is only requesting that the BCWMC consider the above-described variances at this time, which relate directly to its desired redevelopment and use of the existing structures, particularly the basements. The variances relate directly to whether the developer can redevelop and use the existing basements for commercial purposes, and so the application was submitted to determine whether the desired redevelopment is viable. If the variances are approved, the developer intends to proceed with significant design work and an additional development application would eventually be reviewed by the BCWMC. Accordingly, the

only present consideration for the Commission is whether to grant the variances requested in the application.

General Project Information

Fruen Mill is an old industrial site located at 303 Thomas Ave N, Minneapolis, MN 55405. The original mill building and workshop were constructed in the 1870's next to Bassett Creek to take advantage of the creek for waterpower. The buildings were mostly rebuilt after 1920 following a fire that destroyed the original buildings. These structures are present on the site today. Fruen Mill was discontinued as a mill around 1972 and continued as a warehouse for some period after that. While the site has historical significance, it is not currently listed on the National Register of Historic Places. The project site has been vacant for several years. Several developers have reviewed the site for potential projects during the last few decades. Graffiti Mills, LLC has demonstrated a more serious interest in the site compared to previous parties that have engaged the BCWMC in development discussions.

The developer is proposing to redevelop the site by capitalizing on the unique buildings and site. Although there is no formal plan for the site at this point in time, the developer has described a mixed-use building space focusing on hospitality that may include a bar, restaurant, spa, and hotel. The basement redevelopment, which is most relevant for this discussion, is proposed to be used for commercial purposes, such as a spa or other form of commercial use that would not be residential.

Preliminary Coordination

Staff has been coordinating with the applicant and its consultant regarding preliminary issues since 2024 and more regularly during the last several weeks:

- At the March 20, 2025 BCWMC meeting, the Commission approved a reimbursement agreement with the Fruen Mill owner that allowed Commission staff to perform preliminary review of documents and provide feedback (prior to the formal application submittal), and that the Mill owner would pay for the incurred expenses resulting from the Commission Engineer's and Attorney's time.
- Since the March 20, 2025 BCWMC meeting, the Commission Engineer has attended multiple meetings with the owner and its consultant, and reviewed and provided comments on preliminary documents including draft variance request documents, as well as DNR General Appropriation Permit Application No. 2025-1746 related to the proposed groundwater pumping at the site to protect the building from groundwater flooding.
- At the June 19, 2025 BCWMC meeting, the applicant and its consultant provided an informational summary of its plan and vision for the site to the Commission. The presentation was informal with questions and general discussion about the proposed redevelopment, and no formal action was necessary or taken.
- On July 25, 2025, the applicant and its consultant submitted the present application for floodplain variances, as summarized herein, which also includes the following:
    - BCWMC application signed by City of Minneapolis, project owner, and project agent
    - Cover letter for Fruen Mill Floodplain Variance Request
    - Technical memo regarding "Floodplain Analysis in Support of BCWMC Floodplain Variance Request"

Building Summaries

Fruen Mill is comprised of two existing structures, the East and West Mill buildings. The lowest floor (basement) of each building is below the BCWMC 100-year floodplain elevation—9.42 feet below at the East Mill building and 8.35 feet below at the West Mill building. The low floor of both mill buildings is up to

5 feet below the surveyed creek elevation. Table 2 below was provided by the applicant's consultant and summarizes the relevant elevations to the project such as the low floor (basement) and low opening, groundwater level, creek level, and the BCWMC 100-year floodplain.

Table 2. Lowest floor and lowest opening elevations for buildings and water elevation information.

Structure	Low Floor Elevation (ft)	Observed Groundwater Elev. Range (ft)*	Approx. Creek Elev. (ft)**	Critical Low Opening Elev. (ft)***	100-yr Floodplain Elev. (ft) (North to South)	100-yr Floodplain Elev. +2' (ft) (North to South)
East Mill	811.69	815.51 - 811.58	816.7	822.95	821.11 – 819.80	823.11 - 820.20
West Mill	812.84	815.51 - 811.58	816.7	824.01	821.19 - 820.10	823.19 - 822.10

**Observed elevations from on-site monitoring wells before dewatering and during building dewatering (summer, 2024).*
***Surveyed creek elevation on 7/17/2025 at the staff gauge; note that just under 1" of rain was observed at nearby rain gauges on 6/16/2025, so creek level was likely higher than average.*
****Since the floodplain slopes across the site (decreasing elevation from north to south), values for the 100-yr BCWMC floodplain elevation needed to be used at the opening locations. The 100-yr floodplain elevations at the critical low opening locations are 820.53 ft for the East Mill and 821.09 ft for the West Mill.*

Table 3 below was provided by the applicant's consultant and demonstrates the freeboard between the first floor and the BCWMC 100-year floodplain.

Table 3. First/Entrance floor elevations for buildings and water elevation information.

Structure	First Floor/Entrance Elevation (ft)*	100-yr Floodplain Elev. (ft)**	100-yr Floodplain Elev. +2' (ft)	Clearance Above/Below Freeboard (ft)
East Mill	822.95	821.11	823.11	-0.16
West Mill	824.01	821.19	823.19	0.82

**First floor above the basement level*
***Highest BCWMC 100-yr floodplain level in contact with the structure; lower elevations to the south.*

Variance Request Discussion

As noted, the applicant is requesting variances from the following BCWMC floodplain requirements and policies:

- Section 4.01 (Policy 29): Minimum building elevations (lowest floor) of new and redeveloped structures, including parking garages/ramps, must be at least 2.0 feet above the 100-year flood level.
- Section 4.03 (Policy 34): The BCWMC will allow only those land uses in the BCWMC-established floodplain that will not be damaged by floodwaters and will not increase flooding.
- Section 4.04 (Policy 34): Allowable types of land use that are consistent with the floodplain include recreation areas, playgrounds, surface parking lots, temporary excavation and storage areas, public utility lines, agriculture, and other open spaces.

Section 3.3 of the BCWMC Requirements for Improvements and Development Proposals (Requirements Document) provides the process for considering variance requests. In reviewing a variance application, the BCWMC is to take into consideration the criteria, standards, and goals for floodplain management, flood reduction, and maintaining and improving the quality of the watershed's water resources. To

address the applicant's hardship or special situation, the BCWMC may grant variances, contingent upon conditions specified. Alternatively, the BCWMC may deny the request and state reasons for the denial in writing. If approving a variance, the Commission shall make a finding showing that the following five conditions (a-e below) exist. A memo from the applicant's consultant addresses these conditions in detail, and those details are summarized below with additional commentary related to each condition.

a. There are special circumstances or conditions affecting the property such that the strict application of the provisions of these standards and criteria would deprive the applicant of the reasonable use of the applicant's land.

> *The applicant indicates the East and West Mill buildings cannot meet the BCWMC freeboard requirements due to existing circumstances, including the vast size and locations of the structures. In other words, the East and West Mill buildings are multi-story industrial buildings that cannot be relocated or moved, and the desired redevelopment seeks to utilize the uniqueness of these buildings in their existing state.*
>
> *Although Commission staff discussed the possibility of retrofitting the buildings to adhere to the BCWMC's freeboard requirements, i.e. filling in the basement, the applicant indicates that its use of building basements are key to its redevelopment and states "excluding the use of the basement would deprive the owner of the opportunity to utilize the unique spaces to an extent as to render the entire project non-viable."*
>
> *It seems clear that there are special circumstances and conditions associated with the property and the two existing buildings, not only given the buildings' age and unique characteristics, but also due to their proximity to Bassett Creek. That said, whether denying the ability to redevelop the basements of the two structures for commercial uses would deprive the applicant of the reasonable use of the applicant's land is a decision that lies within the Commission's discretion. Ultimately, if the Commission determines that the applicant has demonstrated that its desired use of the basements is reasonable in light of the unique characteristics of the property, it could deem this condition satisfied.*

b. The variance is necessary for the preservation and enjoyment of a substantial property right of the applicant.

> *The applicant indicates that the two basements "carry significant value due to the available space they provide for commercial opportunities, as well as historical context and placemaking." The applicant notes the inability to use the basement areas would render the project non-viable.*
>
> *Like the first condition, the Commission is afforded discretion as to whether granting the requested variances is necessary for the preservation and enjoyment of the applicant's substantial property right. The term "substantial property right" is not defined in the BCWMC's standards, and so ultimately the Commission should take into account the inherent characteristics of the property and existing structures and whether alternative proposals that do not rely on use of the basements are possible. As pointed out by the applicant, history has proven that redeveloping the site is extremely difficult, and it could certainly be argued that allowing the redevelopment of the existing basements notwithstanding the Commission's flood-related regulations would address some of those difficulties and provide the applicant the preservation and enjoyment of the property that is otherwise not possible.*

c. The granting of the variance will not be detrimental to the public welfare or injurious to the other property in the territory in which the property is situated.

The applicant notes that the proposed project will not be detrimental to the public welfare or other properties nearby. Regarding public welfare, the vacant buildings are "in disrepair and pose health risks for those trespassing… This safety concern would be addressed and eliminated with the proposed redevelopment." For adjacent properties, the applicant indicates the "appropriate measures will be taken to floodproof the structures and to maintain the existing floodplain to ensure that groundwater seepage or flooding in the area and will not pose a risk to the onsite structures, public welfare, or neighboring properties. Appropriate measures will be taken to floodproof the structures and to maintain the capacity of the existing floodplain to ensure that groundwater seepage or flooding in the area and will not pose a risk to the onsite structures, public welfare, or neighboring properties."

This condition is intended to address the overall impact of the requested variance on public health, safety, and welfare, including whether surrounding properties would be adversely impacted if the variance were approved. If granting the request would not be detrimental to public health or injurious to surrounding properties, this condition can be satisfied.

The Commission Engineer has reviewed the applicant's proposed flood protection measures and the impacts to the 100-year flood elevation caused by operation of the dewatering system during a 100-year storm and found the increased flood elevation to be negligible. However, if the project moves forward, the final development plans, review application and supporting documentation must demonstrate no increase in flood level at any point along the trunk system (managed to at least a precision of 0.00 feet). It's also worth noting that the applicant's statements about the buildings' current condition and susceptibility to trespass are generally outside the scope of Commission review and irrelevant to the impacts of the requested variance.

d. In applications relating to a use in the 1% (100-year flood) floodplain set forth in Table 2-9 of the [Watershed] Plan, the variance shall not allow a lower degree of flood protection than the current flood protection.

The applicant indicates the flood protection for the buildings will not decrease because "the proposed plan does not change the existing building footprint, floors, nor envelope...". In addition, the proposed development will include structurally dry floodproofing to state building code. Floodproofing will occur in two stages. Stage one is proposed to include: removing all existing abandoned pipes and filling with concrete; filling all existing pits, openings, and cracks; and installing at least one sump to collect any leakages or spills. The proposed sumps would pump water to underground pipes and return water to Bassett Creek below the dam. The second floodproof stage would include installing a dewatering system by including drainage pipes below the concrete floors to capture inflows of water. The "Building Summary" section of this [the applicant's] memorandum and the July 25, 2025 Floodplain Variance Request further describes the building use.

Although the applicant's variance request includes providing less than required freeboard at the Fruen Mill site, this condition can be met if the final development plans, review application, and supporting documentation demonstrate no increase in flood level at any point along the trunk system (managed to at least a precision of 0.00 feet) to demonstrate adjacent properties are not impacted by the development. The Commission Engineer has some concerns regarding the two-stage dewatering system, as it was not part of our preliminary discussions with the applicant and appears somewhat inconsistent with the dewatering plan described in the June 9, 2025 DNR correspondence for DNR General Appropriation Permit Application 2025-1746. Such concerns can be alleviated, however, if the final development plans, review application, and supporting documentation (i) provides more detail about the proposed dewatering system, and (ii) demonstrates that there will be no increase in flood level at any point along the trunk system. Such requirements are expressly provided in the potential approval conditions below.

e. The granting of the variance will not be contrary to the intent of taking all reasonable and practical steps to improve water quality within the watershed.

The applicant provided water quality documentation and data which has been reviewed by the Commission Engineer and is further being reviewed by the DNR as part of its review of DNR General Appropriation Permit Application 2025-1746. Note the following comments provided by the applicant*:*

- *The site has a large amount of existing imperviousness and unmaintained areas. The proposed redevelopment will improve the runoff characteristics in several ways. The redevelopment vision is to remove a significant portion of the impervious area and add green space and incorporate large amounts of landscaping in the outdoor areas. There are currently no stormwater BMPs onsite. For the remaining hardscapes, new green infrastructure (GI) practices will be used to treat and remove surface runoff, thus significantly improving the runoff conditions of the site over existing conditions.*

- *The groundwater currently present in the flooded basement will have no adverse impacts when discharged to Bassett Creek. Water samples were collected from the basement of the Fruen Mill east building on May 5, 2025. The water is representative of groundwater that would be pumped from the sumps. Laboratory analytical results are summarized in Table 4 and included in Attachment B [of the applicant's documentation]. The results show that the discharged water will meet all applicable water quality standards.*

- *Any subsurface water being pumped and discharged to Bassett Creek is groundwater that is coming from the creek and surrounding area and has been naturally filtered through the ground. Recent testing of the water that seeps into the building showed that the water quality meets all regulations for discharge to Bassett Creek, including Minnesota DNR Class 2b water quality standards, so will not pose a water quality threat to the creek. Groundwater quality and dewatering is discussed in greater detail in Section 4 [of the applicant's documentation].*

The Commission Engineer's review of the water quality information and data suggests that reasonable and practical steps are being taken to address water quality in a manner consistent with the BCWMC's goal of improving water quality. That said, and as stated above, the applicant provided its water quality information as part of its July 29, 2025 Water Appropriations Permit Application to the DNR – Response to Comments. BCWMC staff requested specifically that the DNR address issues related to "not negatively impacting water quality, temperature, or aquatic life functionality within Bassett Creek." For that reason, should the Commission approve the requested variance, such approval should also be conditioned on adherence to any DNR-imposed conditions, including those related to water quality, and a development that is otherwise consistent with all representations related to water quality made by the applicant as part of this variance application.

BCWMC Action: Discussion and Action on the Variance Application

Of course, the Commission Engineer prefers that the project site be developed in a way to comply with the BCWMC's existing requirements by filling the basement and raising the low floor opening to meet the BCWMC's required two-foot freeboard so that a continuously operated dewatering system would not be required. However, the Commission Engineer recognizes that this is a facility that pre-dates the BCWMC requirements by several decades. In addition, Section 4.0, Paragraph 9 of the Requirements Document states:

9. *The BCWMC prohibits expansion of existing non-conforming land uses within the floodplain unless they are fully flood-proofed in accordance with codes and regulations. (Policy 38)*

Although the intent of Policy 38 may not have anticipated floodproofing 5 feet below the water surface of the adjacent creek, the policy tends to support fully floodproofing as a means for redeveloping existing non-conforming uses and/or structures.

The variance request application indicates "Strict application of the standards and excluding the use of the basements would deprive the owner of the opportunity to utilize the unique spaces to an extent as to render the entire project non-viable." The dewatering system will essentially be a continuously operated system that intercepts ground water seeping from the creek at the mill building and then pumps the water back to the creek. It is the Commission Engineers' opinion that a well-designed floodproofing and dewatering system that addresses redundancy for power failures or pump outages, designed by a professional engineer registered in MN, can keep the basement area dry.

If the Commission supports the variance request and concurs with the applicant's approach to addressing Section 3.3 of the Requirements Document, we recommend a motion authorizing staff to prepare a letter conditionally approving the variance request. The letter should include the conditions listed below, along with any additional conditions provided during the meeting or by the Commission or its staff. Alternatively, if the Commission does not support the variance request, it should articulate the reasons why and make a motion for staff to provide a denial letter to the applicant outlining those reasons.

Draft Verbiage if the Commission Supports the Variance Request

The BCWMC conditionally approves a variance to the following BCWMC floodplain requirements, as defined in the following statement: The request is to redevelop the existing basement floors of both buildings for non-residential uses at their current elevations, up to 11.42 feet below the BCWMC freeboard requirements (100-year floodplain + 2.0 ft.), as shown in Tables 2 and 3, by using a dewatering system. In addition, the BCWMC conditionally approves a request for a deviation from the BCWMC flood

level standards on the east building main floor to remain at its current elevation, with slightly less freeboard than the BCWMC standards, as shown in Tables 2 and 3. More specifically, this conditional approval relates only to the following three standards:

- Section 4.0.1 (Policy 29): Minimum building elevations (lowest floor) of new and redeveloped structures, including parking garages/ramps, must be at least 2.0 feet above the 100-year flood level.
- Section 4.0.3 (Policy 34): The BCWMC will allow only those land uses in the BCWMC-established floodplain that will not be damaged by floodwaters and will not increase flooding.
- Section 4.0.4 (Policy 34): Allowable types of land use that are consistent with the floodplain include recreation areas, playgrounds, surface parking lots, temporary excavation and storage areas, public utility lines, agriculture, and other open spaces.

The approval of the variances articulated above (Sections 4.0.1, 4.0.3, and 4.0.4) are conditioned on the following:

1. The applicant must satisfy all other BCWMC development standards and submit any required application, signed by the City of Minneapolis, in accordance with Sections 2.0 and 3.0 of the BCWMC Requirements for Improvements and Development Proposals (Requirements Document). All required project plans and other sufficient information must be provided to evaluate the effect that the proposed project may have on the water resources of the watershed within the guidelines presented in the Requirements Document. Specific BCWMC requirements, general submittal guidelines and application requirements are provided in the Requirements Document. This document and the application form may be downloaded from the BCWMC's website at: https://bassettcreekwmo.org/developer/standards-requirements.
2. This approval does not allow a variance to Section 4.0.8 (Policy 38), and so in addition to all other requirements, the project must meet the following criteria as contained in the Requirements Document:
    - Projects within the floodplain must maintain no net loss in floodplain storage
    - Projects within the floodplain must maintain no increase in flood level at any point along the trunk system (managed to at least a precision of 0.00 feet).

    The Bassett Creek XPSWWM model was previously provided to the applicant's consultant to demonstrate compliance.
3. The proposed floodproofing plan for the East and West Mill buildings must be designed by a professional engineer certified in the state of Minnesota and must be fully flood-proofed in accordance with all applicable codes and regulations (policy 38) and may consider crack sealing, floodproofing membranes, drain tile, pumps, sumps, pipes and redundancy for power failures or pump outages.
4. The approval herein is conditioned on adherence to the representation made by the applicant in its variance application that the basement levels of the East and West Mill buildings will be used only for commercial purposes and not residential/living or lodging space.
5. As part of its application, the applicant submitted Table 2 and Table 3 as documentation of the low floor and critical low opening elevations for the West and East Mill building. The final development plans, review application, and supporting documentation must not provide a lower level of surface water flood protection than those shown in such submittals, i.e., must not reduce the current freeboard.

6. In furtherance of the BCWMC's goals related to water quality of Bassett Creek, the applicant shall redevelop the site in a manner that is consistent with all representations related to water quality made by the applicant as part of its variance application, and the applicant shall further adhere to any DNR-imposed conditions related to water quality. Additionally, all DNR General Appropriation Permit Application 2025-1746 comments must be addressed to the satisfaction of the Commission Engineer.

July 25, 2025

Bassett Creek Watershed Management Commission
Attn: Laura Jester, Administrator | Jim Herbert, P.E.
4300 MarketPointe Drive, Suite 200, Minneapolis, MN 55435-5422

Subject: Fruen Mill, aka Graffiti Mill, Floodplain Variance Request

Laura Jester and Jim Herbert:

The attached technical memo contains a request for a variance and an evaluation of the Fruen Mill redevelopment project (303 Thomas Ave N, Minneapolis, MN 55405) regarding evaluation of the floodplain issues and relative risks. The memo outlines the measures proposed to protect the building and site in order to request a variance from floodplain requirements for Bassett Creek Watershed Management Commission (BCWMC). Also included is a supporting document, Groundwater Discharge Memo, addressing subsurface water issues. As required for a Bassett Creek application, the City of Minneapolis has reviewed and signed off on the variance application. Variances are requested for the following BCWMC floodplain requirements:

> **Section 4.0.1 (Policy 29)**
> *Minimum building elevations (lowest floor) of new and redeveloped structures, including parking garages/ramps, must be at least 2.0 feet above the 100-year flood level.*
>
> **Section 4.0.3 (Policy 34)**
> *The BCWMC will allow only those land uses in the BCWMC-established floodplain that will not be damaged by floodwaters and will not increase flooding.*
>
> **Section 4.0.4 (Policy 34)**
> *Allowable types of land use that are consistent with the floodplain include recreation areas, playgrounds, surface parking lots, temporary excavation and storage areas, public utility lines, agriculture, and other open spaces.*

In addition, Section 4.0 Floodplain Requirements (Policy 38) may also be a consideration, although changes specific to that are not currently being proposed. According to BCWMC Requirements Section 3.3.3, a variance must meet the conditions stated in Subsections **a-e** for a variance to be granted, noting that the variance shall be filed with the City of Minneapolis and the City must support the variance application. A summary for each condition and how the applicant's plan meets these conditions is discussed in detail in the attached Technical Memo. The information is also being shared with the City of Minneapolis, per BCWMC's variance procedures.

If there are any major concerns or barriers foreseen for proceeding with a floodplain variance to the Board, please let us know so we can address those. Please let us know the timeline and the next steps we should anticipate.

Sincerely,

Brett H. Emmons, PE, ENV SP
Principal & CEO

CC: Greg Koch, Winston Wildebush | Graffiti Mill LLC

technical memo

Project Name |	Fruen Mill, aka Graffiti Mill, Redevelopment	**Date** |	25 July 2025
To / Contact info |	Laura Jester, BCWMC Administrator, Jim Herbert, BCWMC Engr./Barr,		
Cc / Contact info |	Jeremy Strehlo, Tim Sexton, Angie Craft, Chris Vrchota, Eric Hansen, Steve Poor, Meg McMahan, Andrew Liska / City of Minneapolis Winston Wildebush, Greg Koch / Graffiti Mill LLC		
From / Contact info |	Brett H. Emmons, PE; Stu Grubb, PG; Steve Gaffield, PE; Alec Olson, EIT / EOR		
Regarding |	Floodplain Analysis in Support of BCWMC Floodplain Variance Request		

1 Purpose

The purpose of this memo is to request a Variance from the Bassett Creek Watershed Management Commission (BCWMC) to the floodplain rules, specifically regarding the lowest floor requirements. The BCWMC requirements that apply in this Variance request include:

- Section 4.0.1 Floodplain Requirements (policy 29)
- Section 4.0.3 Floodplain Requirements (policy 34)
- Section 4.0.4 Floodplain Requirements (policy 34)

Another that may be a consideration for BCWMC purposes include:

1. Section 4.0.8 Floodplain Requirements (policy 38)

The request is to continue use of the basement floors of both buildings for non-residential uses at their current elevations, well below the BCWMC flood level standards, by using a dewatering system. In addition, there is a request for a small deviation from the BCWMC flood level standards on the east building main floor to remain at its current elevation, with slightly less freeboard than the BCWMC standards. The memo serves to provide the watershed with the rationale for granting a variance, the technical information about the site and floodplain, and what measures are proposed.

2 Project Background

This report contains an evaluation of the Fruen Mill redevelopment project regarding floodplain requirements. Fruen Mill is an old industrial site located at 303 Thomas Ave N, Minneapolis, MN 55405. The original mill building and workshop were constructed in the 1870's next to the creek for waterpower and were rebuilt in the early-to-mid 1900's following a fire that destroyed the original buildings. These structures are present on the site today. It should be noted that while the site has historical significance, it is not currently listed on the National Register of Historic Places.

The project is subject to floodplain requirements from the City of Minneapolis and Bassett Creek Watershed Management Commission (BCWMC). BCWMC has 100-year flood elevations for various locations along Bassett Creek that it uses to assess compliance with floodplain regulations. The City of Minneapolis uses the FEMA floodplain mapping for assessing compliance, which in this case is lower than the BCWMC's elevations. As such, both the BCWMC and FEMA floodplain elevations were used to evaluate floodplain compliance. The conditions for which the project must meet for a variance to be granted by BCWMC are discussed first in Section 3.1, with a more thorough and technical discussion following that in Sections 3.2 – 5.

3 Applicable Floodplain Requirements

The requirements that apply here are primarily those of the BCWMC. The existing structures along with the plans for redevelopment do not fully comply with the BCWMC requirements, specifically the requirements listed below. The proposal here is to show that steps are being taken to protect the lowest floor and meet the intent of the regulations by using a variance approach and avoiding residential uses. The city has been kept fully informed and involved in the redevelopment plans, and is overall very supportive of this proposed repurposing of this iconic structure in this location. Variances are requested for the following BCWMC floodplain requirements:

Section 4.0.1 (Policy 29)

Minimum building elevations (lowest floor) of new and redeveloped structures, including parking garages/ramps, must be at least 2.0 feet above the 100-year flood level.

Section 4.0.3 (Policy 34)

The BCWMC will allow only those land uses in the BCWMC-established floodplain that will not be damaged by floodwaters and will not increase flooding.

Section 4.0.4 (Policy 34)

Allowable types of land use that are consistent with the floodplain include recreation areas, playgrounds, surface parking lots, temporary excavation and storage areas, public utility lines, agriculture, and other open spaces.

Section 4.0.8 (Policy 38)

The BCWMC requires that projects within the floodplain maintain no net loss in floodplain storage and no increase in flood level at any point along the trunk system. No increase in flood level will be managed to at least a precision of 0.00 feet.

The City's standards are based on the FEMA floodplain elevations, which are lower than the BCWMC elevations. The buildings are located outside the FEMA floodway and floodplain and therefore the City is not the primary jurisdiction for floodplain issues. Details of the FEMA floodway/floodplain clarifications can be found in the FEMA Floodplain Analysis document provided separately to this memo. According to BCWMC variance requirements, a formal Bassett Creek application, signed by the City of Minneapolis, must be submitted as part of the variance application and the City's agreement to move forward with the variance review has been obtained.

3.1 BCWMC Requirements Section 3.3. Variance Procedure

According to BCWMC Requirements Section 3.3.3 regarding variances, a variance must meet the conditions stated in Section 3.3.3, Subsections **a-e** for a variance to be granted. Each of these conditions is discussed below:

3.1.1 BCWMC Requirements Section 3.3.3a.

"There are special circumstances or conditions affecting the property such that the strict application of the provisions of these standards and criteria would deprive the applicant of the reasonable use of the applicant's land."

Fruen Mill is comprised of two existing structures, the East and West Mill buildings, that were constructed in the early-to-mid 1900's. The lowest floors of each building (the basement level) are at different levels and are below the BCWMC 100-yr flood level. The eastern building's basement floors are at different levels and to some extent are below the groundwater elevations recently observed. These elevations are listed in Table 2. Because the structures are existing, it is not possible to meet BCWMC Requirement 4.0.1 (Policy 29), which states that the lowest floor of new and redeveloped structures must be at least two (2) feet above the 100-yr flood level. The buildings are large, multi-story industrial structures that are impossible to relocate or move. The purpose of the redevelopment is to capitalize on the unique and iconic existing buildings and site.

The basement levels can be utilized for commercial purposes, such as spa space. This does not contemplate residential/living spaces, which avoids a common restriction for floodplain uses. Strict application of the standards and excluding the use of the basements would deprive the owner of the opportunity to utilize the unique spaces to an extent as to render the entire project non-viable.

Additionally, we note that the basement was historically utilized by the owner(s) of the Fruen Mill as part of the daily use of the Mill. Photographic evidence shows lockers for workers and milling equipment in the basement levels. Therefore, it is reasonable for the applicant to believe that the basement levels can continue to be used as part of the redevelopment of the land.

We would also ask that the BCWMC note that examples exist of structures not meeting the lowest floor standard in the watershed, as well as in adjacent communities. While we are not aware of watershed permits issued or variances granted, there are examples in the watershed of existing structures with low floors below the BCWMC flood levels. There are adjacent businesses to the south in this situation, such as Utepils Brewery, that are functioning well, as shown in Figure 1. These may not have had BCWMC approvals required in recent years but are thriving businesses in this setting. While not permitted as new developments, examples exist in areas of watershed flood mitigation projects where some homes that do not meet these standards still remain.

In section 3.3.3a it mentions "…special circumstances or conditions affecting the property such that the strict application of the provisions…" The BCWMC has some of the more restrictive standards in the adjacent jurisdictions, and other jurisdictions allow more flexibility in the use of protected building spaces below the flood level. For example, in adjacent jurisdictions there are methods provided for use non-residential spaces that are below flood levels. This serves as one form of precedence that reasonable usage of these spaces is feasible and some flexibility and sensitivity to the site's special circumstances and context such as this older, fully developed areas. The redevelopment plan takes preventative measures to protect against internal flooding, as allowed in other jurisdictions, for the use of the basements.

3.1.2 BCWMC Requirements Section 3.3.3b.

"The variance is necessary for the preservation and enjoyment of a substantial property right of the applicant."

The basements are envisioned as a critical element of the unique redevelopment vision for the site. They carry significant value due to the available space they provide for commercial opportunities, as well as historical context and placemaking. Inability to utilize these areas would render the entire project as non-viable. Prevention of a successful redevelopment here is also detrimental for the surrounding community. The buildings are iconic in this area and are of historic nature, in that the original mill next to the creek dates back to the 1870's, and were rebuilt in the early-to-mid 1900's.

There are adjacent buildings and businesses with low floors in the floodplain that would not meet the BCWMC standards, that are vibrant and thriving businesses and commercial assets for the community and the neighborhood, such as the Utepils Brewery. If those businesses can function well in their commercial role, it reasons that the Fruen Mill site can also be part of the thriving commercial zone with the variance requested.

3.1.3 BCWMC Requirements Section 3.3.3c.

"The granting of the variance will not be detrimental to the public welfare or injurious to the other property in the territory in which the property is situated."

The proposed project will not be detrimental to public welfare nor the surrounding properties, and in fact will be a significant improvement to the public welfare. The site, as it currently exists, is in disrepair and poses health risks for those trespassing to explore the unique space. This has been documented in numerous local press articles over the years. The site and buildings are interesting and iconic landmarks and remnants of the city's history, where waterpower was essential to supporting the local economy and community. It draws people to it due to its age and character. With the buildings attracting urban adventurers, this safety concern would be addressed and eliminated with the proposed redevelopment. Appropriate measures will be taken to floodproof the structures and to maintain the capacity of the existing floodplain to ensure that groundwater seepage or flooding in the area and will not pose a risk to the onsite structures, public welfare, or neighboring properties. These measures are discussed in the following two sections.

3.1.4 BCWMC Requirements Section 3.3.3d.

"In applications relating to a use in the 1% (base flood elevation, 100-year flood) floodplain set forth in Table 2-9 of the Watershed Management Plan, the variance shall not allow a lower degree of flood protection than the current flood protection."

The proposed plan does not change the existing building footprint, floors, nor envelope and thus does not lower the flood protection compared to current conditions. The existing lowest floor (i.e. the basement level) elevations for the East and West Mill buildings are below the BCWMC 100-yr floodplain elevation, but the existing lowest openings for the East and West Mill buildings are both greater than two feet above the estimated 100-yr BCWMC floodplain. The existing first-floor elevation (i.e. the first floor above the basement level) for the West Mill building is greater than two

feet above the highest adjacent BCWMC 100-yr floodplain elevation and the existing first-floor elevation for the East Mill building is just 1.9 inches (0.16 feet) less than two feet above the highest adjacent BCWMCM 100-yr floodplain elevation. No fill in the floodplain is shown or contemplated here. The applicant acknowledges the watershed standard for no increase in the flood elevation.

The basements of the East and West Mill buildings will be floodproofed, thereby preventing groundwater seepage into the basement. The intent and desire is to use pumped water for on-site water needs (water reuse – spa, water for cleaning, toilets, cooling towers, recreational water features) to the extent possible, as defined in future design phases. Since those are yet-to-be defined quantities, the balance or majority of dewatering discharge will go into Bassett Creek. The seepage is coming from the creek, as indicated in local monitoring wells, and thus any dewatering would simply be putting it back into the source. Elevations and flood prevention measures are discussed in greater detail in Section 4. Two stages of floodproofing are planned, ensuring the redeveloped structures would be protected from flooding, while also maintaining the capacity of the floodplain and ensuring no threats to public welfare or damage to neighboring properties.

3.1.5 BCWMC Requirements Section 3.3.3e.

"The granting of the variance will not be contrary to the intent of taking all reasonable and practical steps to improve water quality within the watershed."

The site has a large amount of existing imperviousness and unmaintained areas. The proposed redevelopment will improve the runoff characteristics in several ways. The redevelopment vision is to remove a significant portion of the impervious area and add green space and incorporate large amounts of landscaping in the outdoor areas. There are currently no stormwater BMPs onsite. For the remaining hardscapes, new green infrastructure (GI) practices will be used to treat and remove surface runoff, thus significantly improving the runoff conditions of the site over existing conditions. Any subsurface water being pumped and discharged to Bassett Creek is groundwater that is coming from the creek and surrounding area and has been naturally filtered through the ground. Recent testing of the water that seeps into the building showed that the water quality meets all regulations for discharge to Bassett Creek, including Minnesota DNR Class 2b water quality standards, so will not pose a water quality threat to the creek. Groundwater quality and dewatering is discussed in greater detail in Section 4.

3.2 Mapping of BCWMC Floodplain Extents

Bassett Creek Watershed Management Commission (BCWMC) has 100-year flood elevations for the creek in this area, which were used to create an approximate floodplain extent for the project area. The BCWMC 100-yr flood elevation of 821.8 feet is given for the northern portion of the Fruen Mill site, just south of Glenwood Ave. North. In the middle portion of the site, the flood elevation is 819.8 feet at the upstream side of the Fruen Mill dam, and 817.0 feet at the downstream side of Fruen Mill dam. The next downstream elevation is the CP RR Bridge, which is 815.9 feet at the upstream end and 815.8 feet at the downstream end. Documentation for these flood elevations has been submitted to FEMA by BCMWC, but federal flood insurance maps have not yet been changed.

To determine 100-year floodplain extent for BCWMC, flood elevations were interpolated along the center line of Basset Creek between the elevations provided in the BCWMC Watershed Management Plan (Glenwood Ave N at the upstream end down to CP RR Bridge at the downstream end). The interpolated floodplain elevations were then projected onto the topography of the site by comparing the interpolated floodplain elevations to the surface elevations from an elevation point survey from Loucks.

The approximated BCWMC 100-yr floodplain for the Fruen Mill site is shown in Figure 1. The figure shows that both the East and West Mill buildings are within the 100-yr floodplain, so BCWMC floodplain regulations apply to any alterations to those buildings and any development within the floodplain boundary.

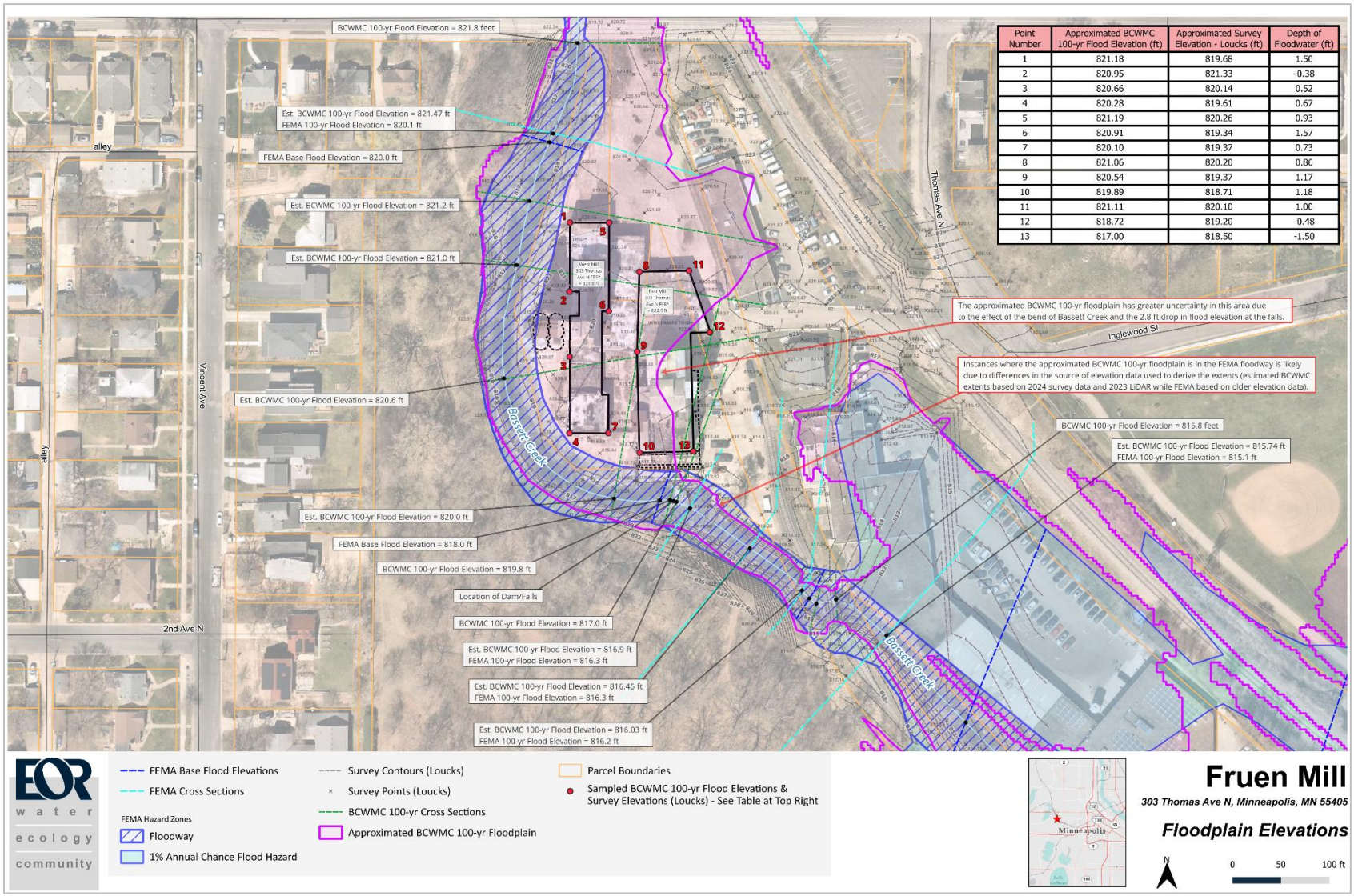


Figure 1. Approximated floodplain extents - using Bassett Creek Watershed Management Commission (BCWMC) Plan for BCWMC flood elevations

3.3 Building Regulations and Floodplain Requirements

The City of Minneapolis and BCWMC both have jurisdiction over flooding issues along the main stem of Bassett Creek. Regulations as they relate to the Fruen Mill site for each entity are discussed below.

3.3.1 BCWMC Regulations

BCWMC requires the lowest floor (the basement in this case) to be two feet above the 100-yr floodplain elevation. Both buildings have basements with floor elevations that are below the 100-yr floodplain elevation and are below typical groundwater table elevation as well (geologic cross-section shown in Figure 2). As such, a variance will be required with BCWMC to be able to utilize the existing lower floors of the buildings.

The proposed site design includes measures to avoid damage from flooding and ensures that the redevelopment will not be detrimental to public welfare or other properties in the area. Both the East and West Mill building basements will be floodproofed in accordance with the structurally dry floodproofing classifications in the state building code to ensure the basements remain dry. The lowest opening for the buildings will be at least two feet above the 100-year floodplain elevation, ensuring no water will enter through openings into the building during a flooding event.

Flood proofing will occur in two stages (if necessary). First, all existing abandoned pipes will be removed and filled with concrete or other waterproofing sealant. Similarly, any existing pits, openings, and cracks in the walls will be filled and sealed. One or more sumps will be dug in to collect any leakage or spills. The sumps will pump water to underground pipes that will discharge to Bassett Creek below the dam. If these waterproofing measures are not adequate to keep the basements dry, the second stage of waterproofing will be implemented. Basement floors will be replaced with the installation of a dewatering system. The dewatering system will include drainage pipes below the concrete floors to capture inflows of water. Any basement floor areas that are not replaced will have cracks filled and sealed. Floodproofing plans are described in greater detail in Section 4 of this report, including relevant elevations for lowest floor, lowest opening, groundwater, and floodplain elevations.

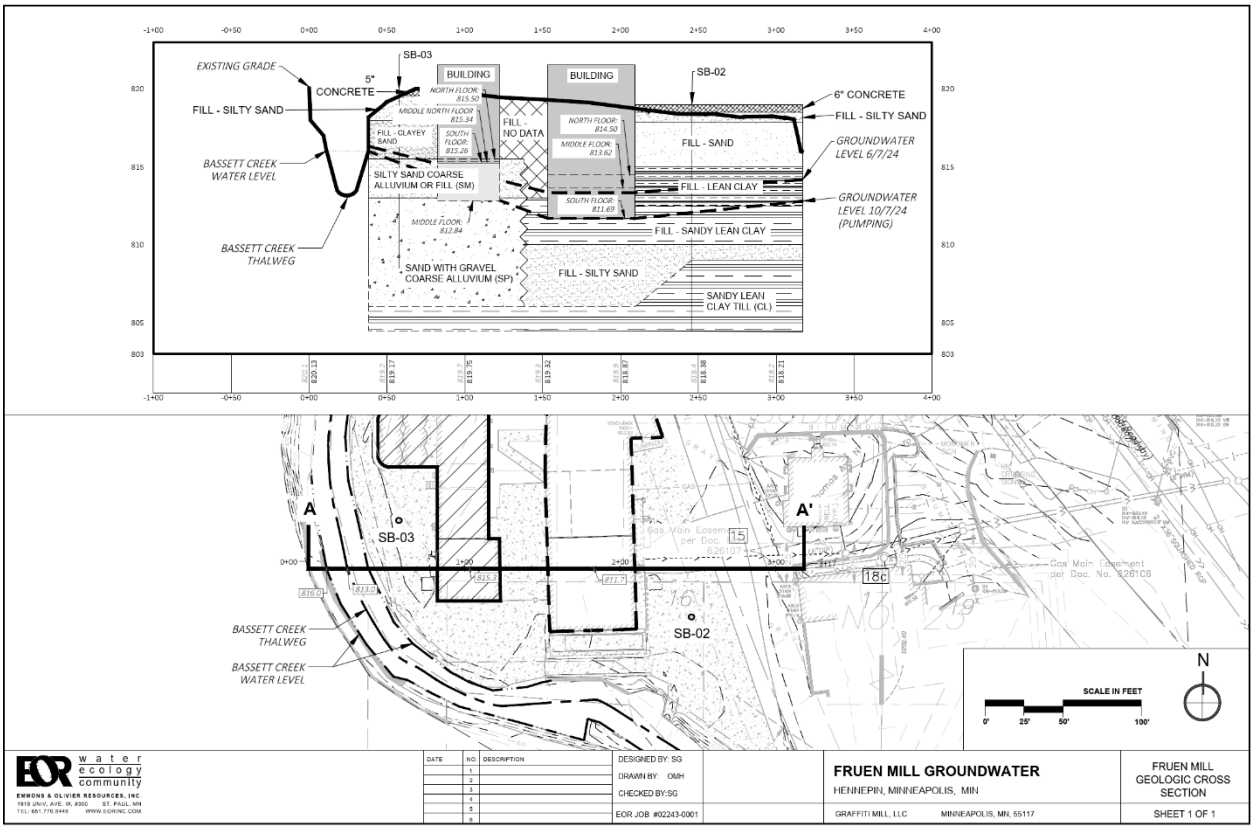


Figure 2. Site map and geologic cross-section

3.3.2 Precedence for Functioning, Existing Structures within BCWMC Floodplain and Other Jurisdiction Floodplain Requirements

We understand that the BCMWC standards are valid and serve well for new developments, and we are not suggesting they be changed. However, it is worth noting that in special circumstances like this, there is precedence elsewhere for flexibility to have functional building spaces in these kinds of situations. Hence, if the BCWMC were to grant the variance, this is not completely out of the norm of other similar jurisdictions. A review of adjacent jurisdictions found that there are different standards related to floodplains and building requirements in adjacent jurisdictions, including Watershed Districts, Watershed Management Organizations, and Cities, regarding lowest floor elevation (see Table 1 for summarized table and Attachment A for more detailed table). The BCWMC's standards are some of the most restrictive. We also note that there are several active businesses and structures downstream of Fruen Mill that are partly or wholly within the 100-yr floodplains from BCWMC and FEMA, as seen in Figure 1, and are successful commercial ventures in the community.

- **Precedence Exists in BCWMC for Existing and Actively Used Structures with Lowest Floor Below 100-yr Floodplain**
    - **Local examples in BCWMC are present** of existing buildings, such as floodproofed homes in Golden Valley and Crystal as part of the BCWMC Flood Control Project.
    - **Businesses to the South** – There are existing buildings with low floors below the 100-yr flood elevation + 2' FB that have been repurposed and continue to operate to

the southeast of the Fruen Mill site (Figure 1). These may not have had BCWMC approvals required in recent years, but are well functioning businesses in this setting.

- **Variable Standards and Allowance for Basements Lower than BCWMC's Standards**
  - **Not One-Size-Fits-All** - Different standards and settings exist in the various adjacent jurisdictions, including differences of new development and existing buildings, as shown in Table 1.
  - **"Low Floor" is not always the control/restriction** - Different parameters other than the lowest floor are used for control elevations, such as lowest opening for demonstrating floodplain compliance.
  - **Alternative compliance** methods are often allowed and/or provided for, as long as they are not residential uses. This secondary standard is allowed in Minneapolis' process with protection.
  - **Varying Freeboard requirements** were found, with BCMWC's toward the top.
- **Fruen Mill redevelopment would be allowed** under some of the other standards. Minneapolis guidelines have a secondary standard where low floor levels could be below the flood elevation with protection from seepage and floodproofed.
- **A Variance is a logical means to account for the unique history and site conditions,** allowing context-sensitive considerations in the approval with appropriate precautions, without depriving the use of the restored buildings. We understand that in a new development context, the higher standard would be expected, but this is a unique structure that is not starting from scratch.

Table 1. Summary of floodplain requirements for various regulatory entities in the Twin Cities Metro Area.

Entity	Control		Freeboard	Notes/Comments
	By	Alternative Compliance		
Bassett Creek WMC	Low Floor	No	2'	One of the most restrictive.
Minneapolis	Low Floor (FEMA)	Yes	1'	100-yr ~1.5' lower than BCWMC
Nine Mile Creek WD	Low Floor/Low Opening	Yes*	2'	*Altern. Compliance for stormwater practices.
Capital Region WD -includes St. Paul	Low Opening	No	2'	Low opening for parking structures and existing buildings, low floor for new buildings.
Rice Creek WD	Low Floor	No	2'	Exception given for non-habitable structures on residential property.
St. Paul	Low Floor w/ Flexibility	Yes	1'	
Golden Valley	Low Floor w/ Flexibility	Yes	2'	
Fridley	Low Floor	No	1'	

BCWMC Section 4.9 states that expansion of existing non-conforming land uses within the floodplain is prohibited unless fully floodproofed (BCWMC Requirements - Jan 2023). This recognizes that non-conforming land uses within the floodplain do exist, and that floodproofing is a means to address this situation. The proposed site plan is consistent with this standard from Section 4.9.

Additionally, the National Flood Insurance Program (NFIP) allows the lowest floor to be below the Base Flood Elevation (BFE) for new or substantially improved non-residential buildings in an A Zone (areas within the FEMA 100-yr floodplain), so long as the building is certified as dry floodproofed by a registered professional engineer or architect (Floodproofing - FEMA). The proposed future use of the building is non-residential for the lower floor and is to be dry floodproofed, thus consistent with the standard.

4 Building Floodproofing and Maintaining Floodplain Capacity

To prevent water from entering the building during flooding events, all building openings will be at least two feet above the 100-year flood elevation. Some other floodplain regulatory entities in the Twin Cities area use the low opening rather than lowest floor in their regulations (Minnehaha Creek Watershed District (WD), Capital Region WD), and some use lowest floor but allow alternative compliance and then use lowest opening (Nine Mile Creek WD). This illustrates that what is proposed here can be a viable alternative in the metro area. Table 2 shows the lowest level (i.e. the basement level) and lowest opening elevations for the East and West Mill buildings compared to the BCWMC 100-yr floodplain elevations and the BCWMC 100-yr floodplain elevations plus two (2) feet. Since the floodplain slopes across the site (elevation decreasing from north to south), values for the 100-yr BCWMC floodplain elevation are shown at the upstream and downstream locations in the table. The lowest floor elevations for the East and West Mill buildings are below the BCWMC 100-yr floodplain elevation, but the lowest openings for the East and West Mill buildings both exceed the required freeboard at the lowest opening locations.

Table 2. Lowest floor and lowest opening elevations for buildings and water elevation information.

Structure	Low Floor Elevation (ft)	Observed Groundwater Elev. Range (ft)*	Approx. Creek Elev. (ft)**	Critical Low Opening Elev. (ft)***	100-yr Floodplain Elev. (ft) (North to South)	100-yr Floodplain Elev. +2' (ft) (North to South)
East Mill	811.69	815.51 - 811.58	816.7	822.95	821.11 – 819.80	823.11 - 820.20
West Mill	812.84	815.51 - 811.58	816.7	824.01	821.19 - 820.10	823.19 - 822.10

**Observed elevations from on-site monitoring wells before dewatering and during building dewatering (summer, 2024).*

***Surveyed creek elevation on 7/17/2025 at the staff gauge; note that just under 1" of rain was observed at nearby rain gauges on 6/16/2025, so creek level was likely higher than average.*

****Since the floodplain slopes across the site (decreasing elevation from north to south), values for the 100-yr BCWMC floodplain elevation needed to be used at the opening locations. The 100-yr floodplain elevations at the critical low opening locations are 820.53 ft for the East Mill and 821.09 ft for the West Mill.*

The first floor (i.e. the first floor above the basement level) of the East Mill building is approximately 1.9 inches (0.16 ft) less than two feet above the highest adjacent 100-year floodplain elevation. The West Mill first floor elevation is greater than two feet above the highest adjacent BCWMC 100-yr floodplain, as shown in Table 3.

Table 3. First/Entrance floor elevations for buildings and water elevation information.

Structure	First Floor/Entrance Elevation (ft)*	100-yr Floodplain Elev. (ft)**	100-yr Floodplain Elev. +2' (ft)	Clearance Above/Below Freeboard (ft)
East Mill	822.95	821.11	823.11	-0.16
West Mill	824.01	821.19	823.19	0.82

**First floor above the basement level*

***Highest BCWMC 100-yr floodplain level in contact with the structure; lower elevations to the south.*

Basement Floodproofing. The basement areas of the East and West Mill buildings will be floodproofed to prevent seepage and future damage. Two stages of floodproofing are planned (if necessary):

1. **Sealing off water inflows.** Pipe penetrations through the basement walls and cracks in the walls and floors will be sealed with concrete or other waterproofing sealants. One or more sumps will be dug to capture leaks or spills. The sumps will pump water to underground pipes that will discharge to Bassett Creek.
2. **Drainpipes installed in the basement floor of the buildings**. If the waterproofing in Stage 1 is not successful, a dewatering system using drainpipes installed below the basement floor would be implemented. Water that collects in the pipes would drain to sumps. The sump pumps would be capable of pumping continuously to Bassett Creek at a rate of 30 gpm, with a higher pumping capacity of 60 gpm during high water periods. The discharge would be downstream of the Fruen Mill dam. The seepage is largely coming from the creek and thus any dewatering would primarily be putting creek seepage back into the creek.

A diagram of pumping discharge system planned for the East and West Mill buildings is shown in Figure 3.

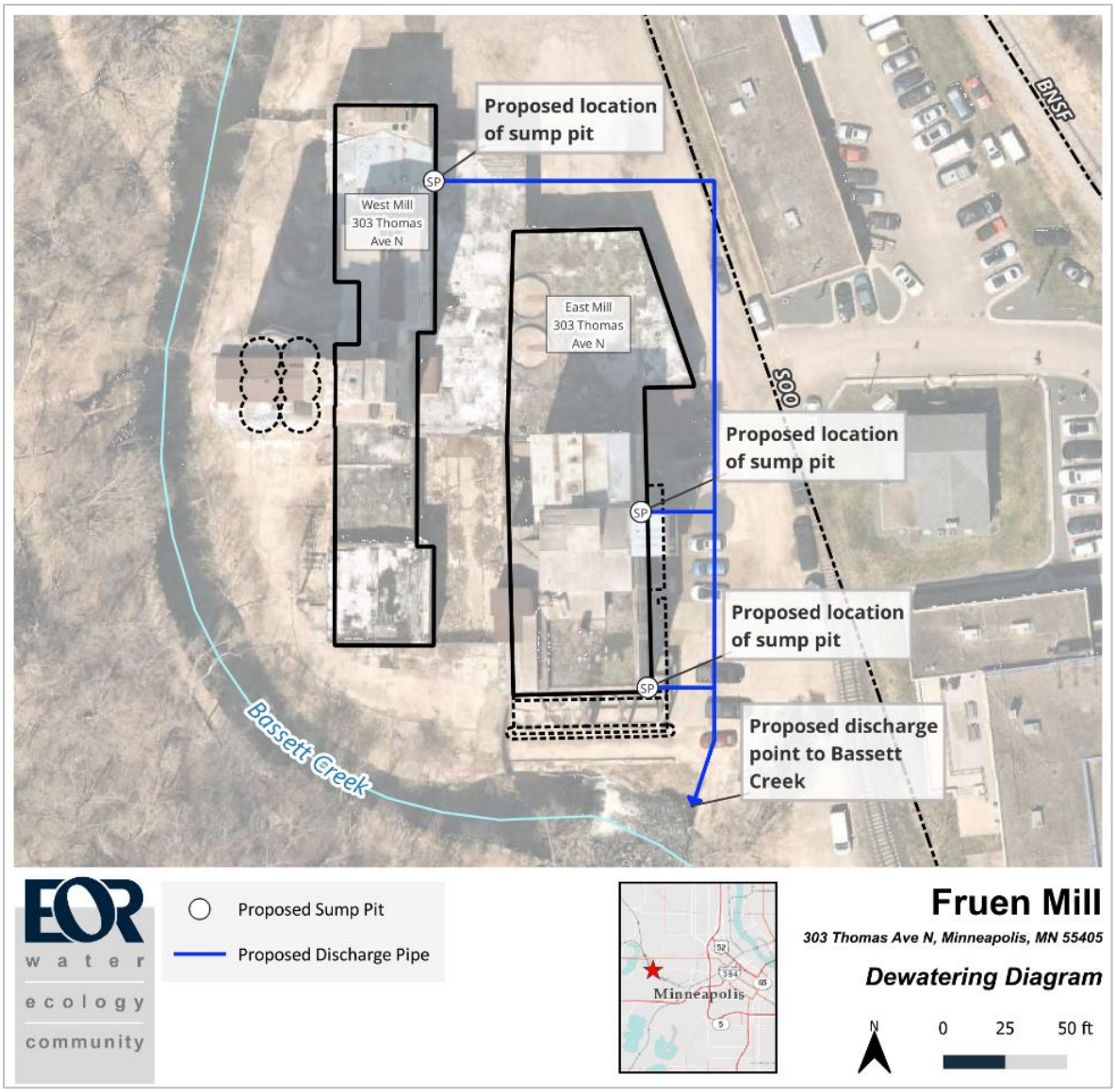


Figure 3. Overview diagram of dewatering system plan for Fruen Mill.

Water Quality. The groundwater currently present in the flooded basement will have no adverse impacts when discharged to Bassett Creek. Water samples were collected from the basement of the Fruen Mill east building on May 5, 2025. The water is representative of groundwater that would be pumped from the sumps. Laboratory analytical results are summarized in Table 4 and included in Attachment B. The results show that the discharged water will meet all applicable water quality standards.

Table 4. Water quality summary

Analyte	Units	Result	Lab Method Reporting Limit	Minnesota State Class 2B Standards
Volatile Organic Compounds	ug/L	< RL	0.5 - 10	Varies
Gasoline Range Organics	ug/l	< 100	100	N/A
Diesel Range Organics	ug/L	191	102	N/A
Barium	ug/L	56.2	2	N/A
Cadmium	ug/L	0.338	0.2	0.66 @ 50 mg/L Total Hardness
Lead	ug/L	1.28	0.5	1.3 @ 50 mg/L Total Hardness
Chloride	mg/L	66.1	20	230
Total Suspended Solids	mg/L	12	5	30
Chemical Oxygen Demand	mg/L	27.5	25	N/A
Biochemical Oxygen Demand	mg/L	< 3.0	3	3.5
pH		7.6		N/A

N/A = Not Applicable
RL = Lab Method Reporting Limit

Chloride and total suspended solids {TSS} are of particular concern in Bassett Creek. Chloride and TSS concentrations over time are shown on Figure 4 and Figure 5.

Figure 4. Basett Creek chloride concentrations (Basett Creek Watershed Management Commission web page)

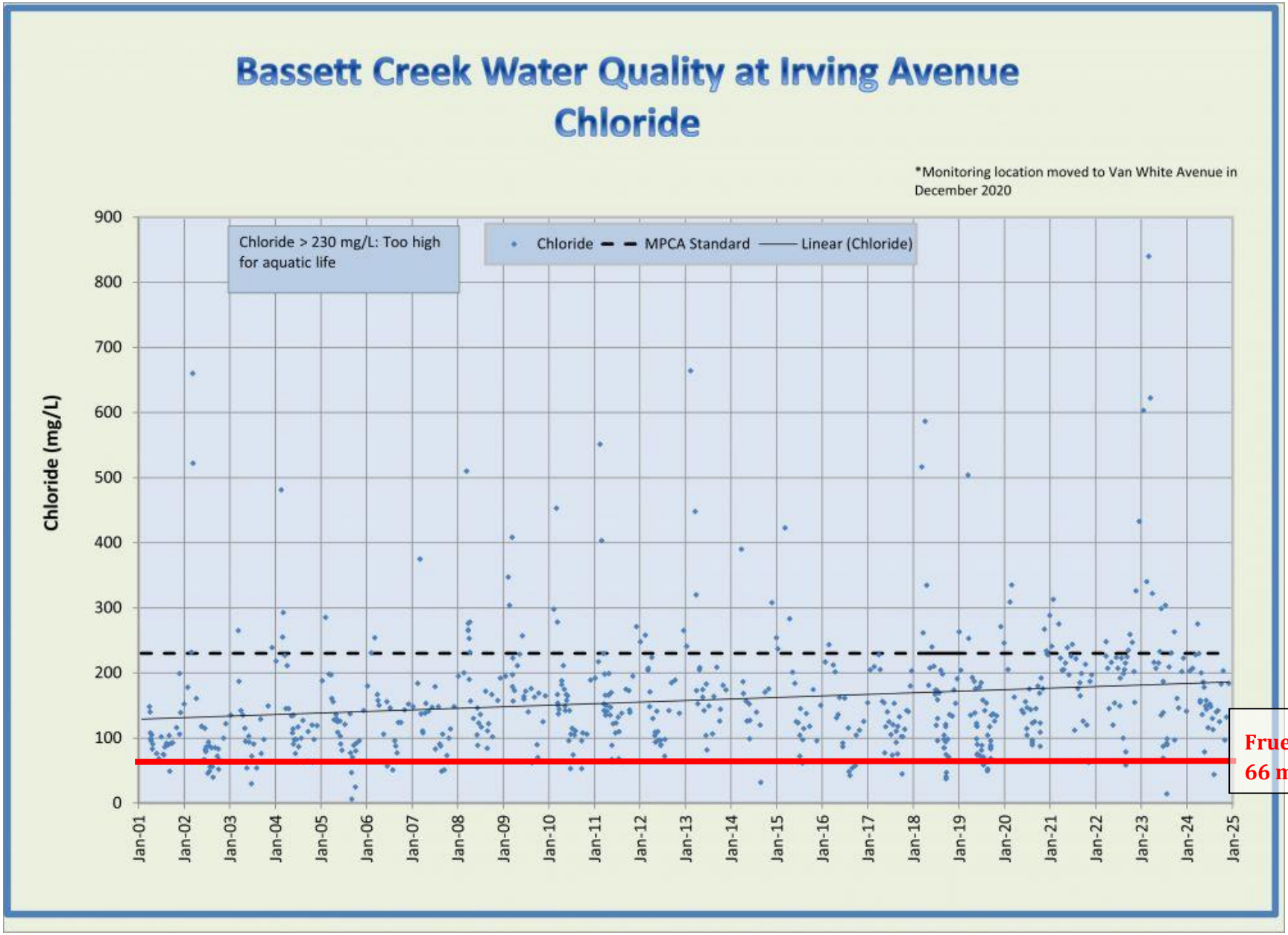
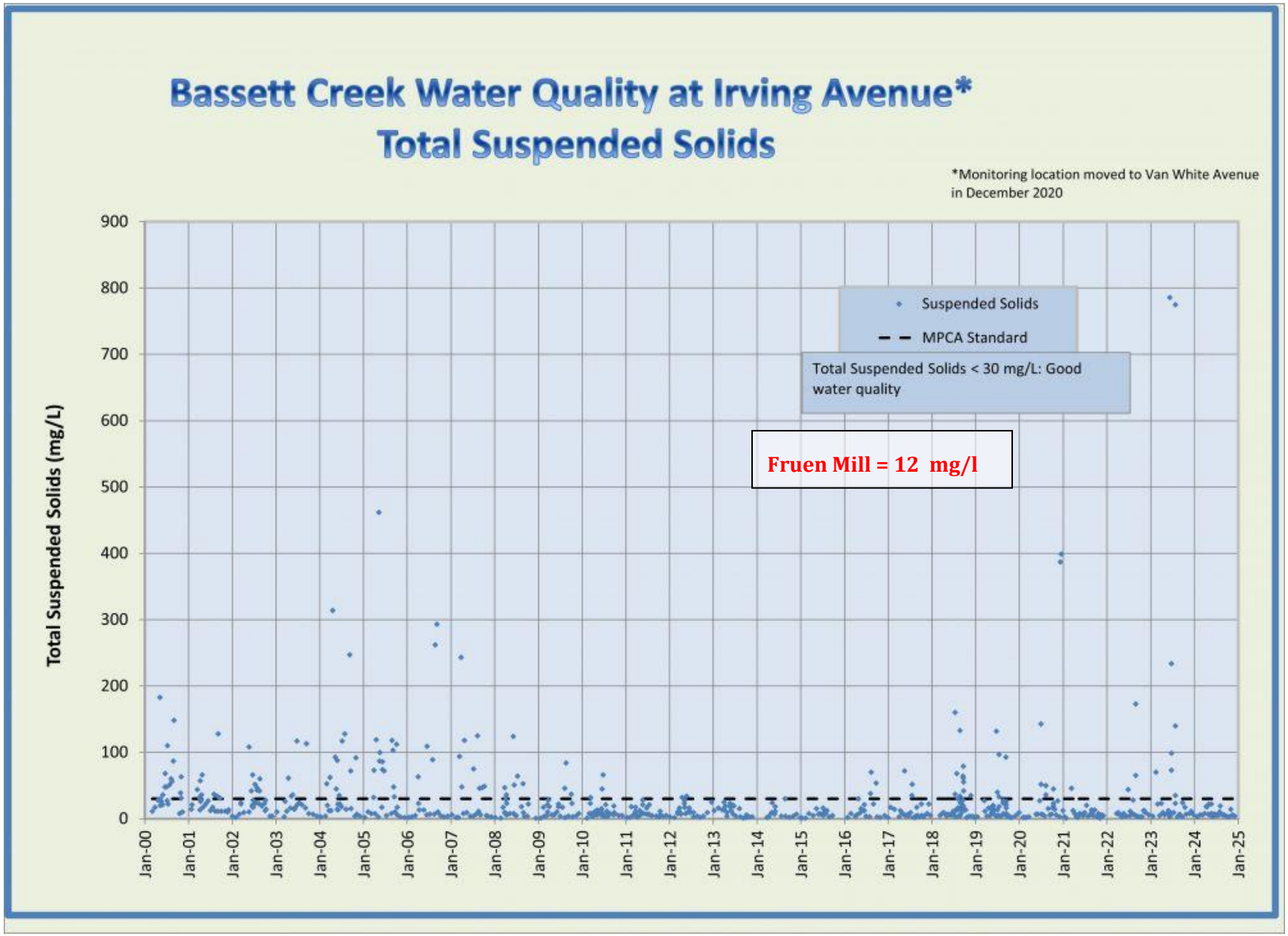


Figure 5. Basett Creek Total suspended solids concentrations (Basett Creek Watershed Management Commission web page)



Thermal Impact. Bassett Creek flows year-round. In the wintertime it is not used for walking, skating, or other recreational activities. The area below the dam does not freeze over. There will be no significant thermal impact to the Creek or ice conditions in the winter.

Increase in Bassett Creek Flood Levels. The discharge of pumped groundwater to Bassett Creek will not significantly increase flood levels, for two reasons:

1. Bassett Creek loses a significant amount of water to groundwater from the reach above the dam. This is the typical condition upstream of dams and is evident from the decreasing groundwater levels between the Creek and the Fruen Mill basement shown on Figure 2. With increased pumping and lower water levels in the basement, the flow of groundwater from the Creek to the basement will increase even more. By discharging the pumped groundwater below the dam, the pumping system would be taking water from the Creek above the dam and returning it below the dam. The net increase in flow of the Creek would be less than the projected 30 GPM pumping rate. In fact, groundwater entering the basement from the east side of the buildings would naturally have discharged to the Creek as well. The pumping system is merely sending it to the Creek via a different pathway.
2. EOR performed a simple calculation to determine the increase in water level in Bassett Creek during periods of average flow. The following values were taken from the BCWMC website, scaled from a map, or calculated:

Average flow of Bassett Creek:	25 cfs
Cross-sectional area:	30 sq. ft.
Average velocity:	0.8 ft/s
Groundwater discharge:	30 GPM
Increase in Bassett Creek level:	0.004 ft

   The increase in the level of Bassett Creek during flood conditions would be even less than 0.004 ft because of the larger cross-sectional area of the Creek and increased velocity due to flood conditions. EOR will perform those calculations when the data are available. Data on the cross-sectional area and average velocity at flood stage can be determined from model used to predict Bassett Creek floodplain elevations. The data have been requested from Barr Engineering but were not available in time for this submittal.

5 Grading

Per BCWMC requirements, any grading onsite that results in the net addition of fill will require addition of compensatory storage to ensure no net loss of floodplain capacity. The intent and final design would likely not be a basin, but rather creative re-grading and multi-use spaces. The excavation would be done to create usable open space and used as a site asset. Examples of how this space could be utilized are shown in Figure 6 through Figure 9.

The proposed measures outlined above would ensure the redeveloped structures would be protected from flooding, while also maintaining the capacity of the floodplain and ensuring no threats to public welfare or damage to neighboring properties. Any minor loss in floodplain capacity due to any fill or cutting off of floodplain storage would be mitigated on site, but is not currently proposed here.



Figure 6. Example of multi-use of space compatible with compensatory flood storage.



Figure 7. Example of multi-use of space compatible with compensatory flood storage. Example from Stone Brewing World Bistro & Gardens – Escondido, CA (Developer's past project).



Figure 8. Example of multi-use of space compatible with compensatory flood storage. Example from Stone Brewing World Bistro & Gardens – Escondido, CA (Developer's past project).



Figure 9. Example of multi-use of space compatible with compensatory flood storage.

Attachment A – Floodplain Requirements for Various Regulatory Entities in the Twin Cities Metro Area

Regulatory Entity	Defining Parameter	Floodplain Requirement
Bassett Creek WMC	Lowest Floor	The lowest floor must be at least 2ft above 100yr floodplain. "Minimum building elevations (lowest floor) of new and redeveloped structures, including parking garages/ramps, must be at least 2.0 feet above the 100-year flood level."
City of Minneapolis	Lowest Floor	Lowest floor must be at or above the regulatory flood protection elevation. RFPE defined as "an elevation not less than one (1) foot above the elevation of the regional flood plus any increases in flood elevation caused by encroachments on the floodplain that result from designation of a floodway. In Zone AO, the RFPE is established by adding one (1) foot to the highest adjacent grade to a structure's proposed location on the ground". "All structures, including accessory structures, must be elevated on fill so that the lowest floor, as defined, is at or above the regulatory flood protection elevation. The finished fill elevation for structures must be no lower than one (1) foot below the regulatory flood protection elevation and the fill must extend at the same elevation at least fifteen (15) feet beyond the outside limits of the structure."
Nine Mile Creek WD	Lowest Floor: Alternative Compliance: • Assessment • Lowest Opening	The lowest floor must be at least two feet above the 100-year high water elevation or one foot above the natural overflow of a waterbody. Alternative to demonstrating compliance as above: "In addition, a stormwater management facility must be constructed at an elevation that ensures that no adjacent habitable building will be brought into noncompliance with a standard in this subsection 4.3.3. As an alternative to demonstrating compliance with the applicable freeboard requirement(s) above, an applicant may site a stormwater management facility relative to a new or reconstructed building (and vice versa) at a location set in accordance with Appendix 4a, "Low-Floor Elevation Assessment." Under any circumstances, all new and reconstructed buildings must be constructed such that no opening where surface flow can enter the structure is less than two feet above the 100- year high water elevation of an adjacent facility or waterbody."
Minnehaha Creek WD	Lowest Opening	A structure intended for residential, commercial, industrial or institutional occupancy must be constructed so that door and window openings are at least two feet above the 100-year high water elevation of the waterbody.
Capital Region WD	Lowest Opening	For underground parking structures, low opening must be a minimum of 2 feet above the 100-yr floodplain. Underground parking structures must be flood protected to minimize impacts from high groundwater during flooding, and all drainage structures within the underground parking must have an anti-backflow device. For existing habitable buildings – adjacent to and potentially affected by flood waters, low opening must be a minimum of 2 feet above the 100-yr elevation.
Rice Creek WD	Lowest Floor	Structures in the floodplain must have 2 feet of freeboard between 100-year flood profile and lowest floor.
City of St. Paul	Lowest Floor: Some allowed uses below.	Lowest floor definition: "The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, used solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a building's lowest floor."

	Alternative Compliance: • Floodproofing – anchored, structural for pressures, mechanicals elevated	Floodplain requirement: "All accessory structures must be elevated on fill so that the lowest floor, including basement floor, is at or above the regulatory flood protection elevation. The finished fill elevation for accessory structures shall be no lower than one (1) foot below the regulatory flood protection elevation and the fill shall extend at such elevation at least fifteen (15) feet beyond the outside limits of the structure erected thereon." Alternative to demonstrating compliance as above: "Accessory structures may be structurally dry floodproofed in accordance with the FP-1 or FP-2 floodproofing classification in the state building code or floodproofed to the FP-3 or FP-4 floodproofing classification in the state building code, provided the accessory structure constitutes a minimal investment, does not exceed five hundred (500) square feet in size and for a detached garage, the detached garage must be used solely for parking of vehicles and limited storage. All floodproofed accessory structures must meet the following additional standards, as appropriate: (1) The structure must be adequately anchored to prevent flotation, collapse or lateral movement of the structure and shall be designed to equalize hydrostatic flood forces on exterior walls; and (2) Any mechanical and utility equipment in a structure must be elevated to or above the regulatory flood protection elevation or properly floodproofed."
City of Golden Valley	Lowest Floor (no Freeboard): Some allowed uses below.	The lowest floor must be at or above regulatory flood protection elevation (RFPE), defined as "An elevation not less than two feet above the elevation of the regional flood." Alternative to demonstrating compliance as above: "Alternative elevation methods other than the use of fill may be used to elevate a structure's lowest floor above the RFPE. Use of these alternative methods must receive written authorization from the Floodplain Administrator and the City Engineer." "The base or floor of an enclosed area shall be considered above grade and not a structure's lowest floor if: (i) The enclosed area is above grade on at least two sides of the structure (ii) It is designed to internally flood and is constructed with flood-resistant materials; and (iii) It is used solely for parking of vehicles, building access or storage."
City of Fridley	Lowest Floor (1' Freeboard)	The lowest floor must be at or above regulatory flood protection elevation (1 foot above 100-year flood level).

Attachment B - Laboratory Analytical Reports of Fruen Mill Basement Dewatering

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ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

Fruen Mill

JOB NUMBER

310-304652-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

my EOL

Job Notes

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Job ID: 310-304652-1 Eurofins Cedar Falls

Job Narrative
310-304652-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 4/19/2025 8:50 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.1°C.

GC/MS VOA
Method 8260D: The initial calibration verification (ICV) result for batch 310-452441 was above the upper control limit. The affected analyte is: 1,1,1,2-Tetrachloroethane. Sample results were non-detects, and have been reported as qualified data.

Method 8260D: The continuing calibration verification (CCV) associated with batch 310-452441 recovered outside of the control limits for Bromomethane (-23.4%D). A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported. The associated sample is impacted: (CCV 310-452441/4).

Method 8260D: The continuing calibration verification (CCV) associated with batch 310-452441 recovered above the upper control limit for Dichlorodifluoromethane (20.4%D). The LCS associated with this CCV passed CCV criteria for the affected analyte; therefore, the data have been reported. The associated sample is:(CCV 310-452441/4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
Method WI_DRO: Significant peaks, readily distinguished from background, were detected in the following sample within five minutes after the end of the analytical window defined by the last component eluting in the Diesel Range Organics (DRO) mix (i.e., n-Octacosane): Basement (310-304652-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
Method SM5210B_Calc: The following sample was received outside of holding time: Basement (310-304652-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: Emmons & Olivier Resources, Inc.
Project/Site: Fruen Mill

Job ID: 310-304652-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-304652-1	Basement	Water	04/17/25 00:00	04/19/25 08:50
310-304652-2	Trip Blank	Water	04/17/25 00:00	04/19/25 08:50

Client: Emmons & Olivier Resources, Inc.
Project/Site: Fruen Mill

Job ID: 310-304652-1

Client Sample ID: Basement
Date Collected: 04/17/25 00:00
Date Received: 04/19/25 08:50

Lab Sample ID: 310-304652-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			04/24/25 11:09	1
Allyl chloride	<2.00		2.00		ug/L			04/24/25 11:09	1
Benzene	<0.500		0.500		ug/L			04/24/25 11:09	1
Bromobenzene	<1.00		1.00		ug/L			04/24/25 11:09	1
Bromochloromethane	<5.00		5.00		ug/L			04/24/25 11:09	1
Bromodichloromethane	<1.00		1.00		ug/L			04/24/25 11:09	1
Bromoform	<5.00		5.00		ug/L			04/24/25 11:09	1
Bromomethane	<4.00		4.00		ug/L			04/24/25 11:09	1
2-Butanone (MEK)	<10.0		10.0		ug/L			04/24/25 11:09	1
Carbon tetrachloride	<2.00		2.00		ug/L			04/24/25 11:09	1
Chlorobenzene	<1.00		1.00		ug/L			04/24/25 11:09	1
Chlorodibromomethane	<5.00		5.00		ug/L			04/24/25 11:09	1
Chloroethane	<4.00		4.00		ug/L			04/24/25 11:09	1
Chloroform	<3.00		3.00		ug/L			04/24/25 11:09	1
Chloromethane	<3.00		3.00		ug/L			04/24/25 11:09	1
2-Chlorotoluene	<1.00		1.00		ug/L			04/24/25 11:09	1
4-Chlorotoluene	<1.00		1.00		ug/L			04/24/25 11:09	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			04/24/25 11:09	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			04/24/25 11:09	1
1,2-Dibromo-3-chloropropane	<5.00		5.00		ug/L			04/24/25 11:09	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			04/24/25 11:09	1
Dibromomethane	<1.00		1.00		ug/L			04/24/25 11:09	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			04/24/25 11:09	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			04/24/25 11:09	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			04/24/25 11:09	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			04/24/25 11:09	1
1,1-Dichloroethane	<1.00		1.00		ug/L			04/24/25 11:09	1
1,2-Dichloroethane	<1.00		1.00		ug/L			04/24/25 11:09	1
1,1-Dichloroethene	<2.00		2.00		ug/L			04/24/25 11:09	1
Dichlorofluoromethane	<1.00		1.00		ug/L			04/24/25 11:09	1
1,2-Dichloropropane	<1.00		1.00		ug/L			04/24/25 11:09	1
1,3-Dichloropropane	<1.00		1.00		ug/L			04/24/25 11:09	1
2,2-Dichloropropane	<4.00		4.00		ug/L			04/24/25 11:09	1
1,1-Dichloropropene	<1.00		1.00		ug/L			04/24/25 11:09	1
Ethyl ether	<2.00		2.00		ug/L			04/24/25 11:09	1
Ethylbenzene	<1.00		1.00		ug/L			04/24/25 11:09	1
Hexachlorobutadiene	<5.00		5.00		ug/L			04/24/25 11:09	1
Isopropylbenzene	<1.00		1.00		ug/L			04/24/25 11:09	1
Methylene chloride	<5.00		5.00		ug/L			04/24/25 11:09	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			04/24/25 11:09	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			04/24/25 11:09	1
Naphthalene	<5.00		5.00		ug/L			04/24/25 11:09	1
Butylbenzene	<1.00	F2	1.00		ug/L			04/24/25 11:09	1
Propylbenzene	<1.00		1.00		ug/L			04/24/25 11:09	1
Cymene (isopropyltoluene)	<1.00		1.00		ug/L			04/24/25 11:09	1
sec-Butylbenzene	<1.00		1.00		ug/L			04/24/25 11:09	1
Styrene	<1.00		1.00		ug/L			04/24/25 11:09	1
tert-Butylbenzene	<1.00		1.00		ug/L			04/24/25 11:09	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			04/24/25 11:09	1

Client: Emmons & Olivier Resources, Inc.
Project/Site: Fruen Mill

Job ID: 310-304652-1

Client Sample ID: Basement
Date Collected: 04/17/25 00:00
Date Received: 04/19/25 08:50

Lab Sample ID: 310-304652-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			04/24/25 11:09	1
Tetrachloroethene	<1.00		1.00		ug/L			04/24/25 11:09	1
Tetrahydrofuran	<10.0		10.0		ug/L			04/24/25 11:09	1
Toluene	<1.00		1.00		ug/L			04/24/25 11:09	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			04/24/25 11:09	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			04/24/25 11:09	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			04/24/25 11:09	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			04/24/25 11:09	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			04/24/25 11:09	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			04/24/25 11:09	1
Trichloroethene	<1.00		1.00		ug/L			04/24/25 11:09	1
Trichlorofluoromethane	<4.00		4.00		ug/L			04/24/25 11:09	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			04/24/25 11:09	1
1,1,2-Trichlorotrifluoroethane	<2.00		2.00		ug/L			04/24/25 11:09	1
1,2,4-Trimethylbenzene	<1.00	F1 F2	1.00		ug/L			04/24/25 11:09	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			04/24/25 11:09	1
Vinyl chloride	<1.00		1.00		ug/L			04/24/25 11:09	1
Xylenes, Total	<3.00		3.00		ug/L			04/24/25 11:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*04/24/25 11:09*	*1*
Dibromofluoromethane (Surr)	*114*		*73 - 130*		*04/24/25 11:09*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*04/24/25 11:09*	*1*

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<100		100		ug/L			04/25/25 05:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*04/25/25 05:36*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	**191**		102		ug/L		04/21/25 10:30	04/29/25 13:22	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		04/24/25 09:00	04/25/25 14:29	1
Barium	**0.0562**		0.00200		mg/L		04/24/25 09:00	04/25/25 14:29	1
Cadmium	**0.000338**		0.000200		mg/L		04/24/25 09:00	04/25/25 14:29	1
Chromium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 14:29	1
Lead	**0.00128**		0.000500		mg/L		04/24/25 09:00	04/25/25 14:29	1
Selenium	<0.00500		0.00500		mg/L		04/24/25 09:00	04/25/25 14:29	1
Silver	<0.00100		0.00100		mg/L		04/24/25 09:00	04/25/25 14:29	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		04/29/25 09:26	04/29/25 14:53	1

Client: Emmons & Olivier Resources, Inc.
Job ID: 310-304652-1
Project/Site: Fruen Mill

Client Sample ID: Basement
Lab Sample ID: 310-304652-1
Date Collected: 04/17/25 00:00
Matrix: Water
Date Received: 04/19/25 08:50

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (SW846 9251)	**66.1**		20.0		mg/L			04/26/25 14:33	10
Total Suspended Solids (USGS I-3765-85)	**12.0**		5.00		mg/L			04/23/25 09:18	1
Chemical Oxygen Demand (SM 5220D)	**27.5**		25.0		mg/L			04/24/25 10:53	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	**7.6**	**HF**	1.0		SU			04/19/25 13:39	1
Biochemical Oxygen Demand 5 Day (SM 5210B)	<3.00	H H3	3.00		mg/L			04/19/25 11:23	1

Client Sample ID: Trip Blank
Lab Sample ID: 310-304652-2
Date Collected: 04/17/25 00:00
Matrix: Water
Date Received: 04/19/25 08:50

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			04/24/25 10:02	1
Allyl chloride	<2.00		2.00		ug/L			04/24/25 10:02	1
Benzene	<0.500		0.500		ug/L			04/24/25 10:02	1
Bromobenzene	<1.00		1.00		ug/L			04/24/25 10:02	1
Bromochloromethane	<5.00		5.00		ug/L			04/24/25 10:02	1
Bromodichloromethane	<1.00		1.00		ug/L			04/24/25 10:02	1
Bromoform	<5.00		5.00		ug/L			04/24/25 10:02	1
Bromomethane	<4.00		4.00		ug/L			04/24/25 10:02	1
2-Butanone (MEK)	<10.0		10.0		ug/L			04/24/25 10:02	1
Carbon tetrachloride	<2.00		2.00		ug/L			04/24/25 10:02	1
Chlorobenzene	<1.00		1.00		ug/L			04/24/25 10:02	1
Chlorodibromomethane	<5.00		5.00		ug/L			04/24/25 10:02	1
Chloroethane	<4.00		4.00		ug/L			04/24/25 10:02	1
Chloroform	<3.00		3.00		ug/L			04/24/25 10:02	1
Chloromethane	<3.00		3.00		ug/L			04/24/25 10:02	1
2-Chlorotoluene	<1.00		1.00		ug/L			04/24/25 10:02	1
4-Chlorotoluene	<1.00		1.00		ug/L			04/24/25 10:02	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			04/24/25 10:02	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			04/24/25 10:02	1
1,2-Dibromo-3-chloropropane	<5.00		5.00		ug/L			04/24/25 10:02	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			04/24/25 10:02	1
Dibromomethane	<1.00		1.00		ug/L			04/24/25 10:02	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			04/24/25 10:02	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			04/24/25 10:02	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			04/24/25 10:02	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			04/24/25 10:02	1
1,1-Dichloroethane	<1.00		1.00		ug/L			04/24/25 10:02	1
1,2-Dichloroethane	<1.00		1.00		ug/L			04/24/25 10:02	1
1,1-Dichloroethene	<2.00		2.00		ug/L			04/24/25 10:02	1
Dichlorofluoromethane	<1.00		1.00		ug/L			04/24/25 10:02	1
1,2-Dichloropropane	<1.00		1.00		ug/L			04/24/25 10:02	1
1,3-Dichloropropane	<1.00		1.00		ug/L			04/24/25 10:02	1
2,2-Dichloropropane	<4.00		4.00		ug/L			04/24/25 10:02	1
1,1-Dichloropropene	<1.00		1.00		ug/L			04/24/25 10:02	1

Client: Emmons & Olivier Resources, Inc.
Project/Site: Fruen Mill

Job ID: 310-304652-1

Client Sample ID: Trip Blank
Date Collected: 04/17/25 00:00
Date Received: 04/19/25 08:50

Lab Sample ID: 310-304652-2
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl ether	<2.00		2.00		ug/L			04/24/25 10:02	1
Ethylbenzene	<1.00		1.00		ug/L			04/24/25 10:02	1
Hexachlorobutadiene	<5.00		5.00		ug/L			04/24/25 10:02	1
Isopropylbenzene	<1.00		1.00		ug/L			04/24/25 10:02	1
Methylene chloride	<5.00		5.00		ug/L			04/24/25 10:02	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			04/24/25 10:02	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			04/24/25 10:02	1
Naphthalene	<5.00		5.00		ug/L			04/24/25 10:02	1
Butylbenzene	<1.00		1.00		ug/L			04/24/25 10:02	1
Propylbenzene	<1.00		1.00		ug/L			04/24/25 10:02	1
Cymene (isopropyltoluene)	<1.00		1.00		ug/L			04/24/25 10:02	1
sec-Butylbenzene	<1.00		1.00		ug/L			04/24/25 10:02	1
Styrene	<1.00		1.00		ug/L			04/24/25 10:02	1
tert-Butylbenzene	<1.00		1.00		ug/L			04/24/25 10:02	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			04/24/25 10:02	1
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			04/24/25 10:02	1
Tetrachloroethene	<1.00		1.00		ug/L			04/24/25 10:02	1
Tetrahydrofuran	<10.0		10.0		ug/L			04/24/25 10:02	1
Toluene	<1.00		1.00		ug/L			04/24/25 10:02	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			04/24/25 10:02	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			04/24/25 10:02	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			04/24/25 10:02	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			04/24/25 10:02	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			04/24/25 10:02	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			04/24/25 10:02	1
Trichloroethene	<1.00		1.00		ug/L			04/24/25 10:02	1
Trichlorofluoromethane	<4.00		4.00		ug/L			04/24/25 10:02	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			04/24/25 10:02	1
1,1,2-Trichlorotrifluoroethane	<2.00		2.00		ug/L			04/24/25 10:02	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			04/24/25 10:02	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			04/24/25 10:02	1
Vinyl chloride	<1.00		1.00		ug/L			04/24/25 10:02	1
Xylenes, Total	<3.00		3.00		ug/L			04/24/25 10:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*		*04/24/25 10:02*	*1*
Dibromofluoromethane (Surr)	*114*		*73 - 130*		*04/24/25 10:02*	*1*
Toluene-d8 (Surr)	*92*		*80 - 120*		*04/24/25 10:02*	*1*

Lab Chronicle

Client: Emmons & Olivier Resources, Inc.
Project/Site: Fruen Mill

Job ID: 310-304652-1

Client Sample ID: Basement

Lab Sample ID: 310-304652-1

Date Collected: 04/17/25 00:00
Matrix: Water
Date Received: 04/19/25 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	452441	WSE8	EET CF	04/24/25 11:09
Total/NA	Analysis	WI-GRO		1	452588	MZR8	EET CF	04/25/25 05:36
Total/NA	Prep	3510C			452183	J5BR	EET CF	04/21/25 10:30
Total/NA	Analysis	WI-DRO		1	452972	C3AA	EET CF	04/29/25 13:22
Total/NA	Prep	3005A			452476	QTZ5	EET CF	04/24/25 09:00
Total/NA	Analysis	6020B		1	452834	NFT2	EET CF	04/25/25 14:29
Total/NA	Prep	7470A			452863	F5MW	EET CF	04/29/25 09:26
Total/NA	Analysis	7470A		1	453118	F5MW	EET CF	04/29/25 14:53
Total/NA	Analysis	9251		10	452818	ENB7	EET CF	04/26/25 14:33
Total/NA	Analysis	I-3765-85		1	452418	HE7K	EET CF	04/23/25 09:18
Total/NA	Analysis	SM 4500 H+ B		1	452110	WZC8	EET CF	04/19/25 13:39
Total/NA	Analysis	SM 5210B		1	452101	WZC8	EET CF	04/19/25 11:23
Total/NA	Analysis	SM 5220D		5	452591	HE7K	EET CF	04/24/25 10:53

Client Sample ID: Trip Blank

Lab Sample ID: 310-304652-2

Date Collected: 04/17/25 00:00
Matrix: Water
Date Received: 04/19/25 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	452441	WSE8	EET CF	04/24/25 10:02

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Definitions/Glossary

Client: Emmons & Olivier Resources, Inc. Job ID: 310-304652-1
Project/Site: Fruen Mill

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
H3	Sample was received and analyzed past holding time. This does not meet regulatory requirements.
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Emmons & Olivier Resources, Inc. Job ID: 310-304652-1
Project/Site: Fruen Mill

Laboratory: Eurofins Cedar Falls

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Minnesota	NELAP	019-999-319	12-31-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260D		Water	Dichlorofluoromethane

Method Summary

Client: Emmons & Olivier Resources, Inc.
Project/Site: Fruen Mill

Job ID: 310-304652-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CF
WI-GRO	Wisconsin - Gasoline Range Organics (GC)	WI-GRO	EET CF
WI-DRO	Wisconsin - Diesel Range Organics (GC)	WI-DRO	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
9251	Chloride (Colormetric, Automated Ferricyanide)	SW846	EET CF
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
SM 4500 H+ B	pH	SM	EET CF
SM 5210B	BOD, 5-Day	SM	EET CF
SM 5220D	COD	SM	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET CF
5030B	Purge and Trap	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

USGS = "Methods For Analysis Of Water And Fluvial Sediments", USGS, 1989

WI-DRO = "Modified DRO: Method For Determining Diesel Range Organics", Wisconsin DNR, Publ-SW-141, September, 1995.

WI-GRO = "Modified GRO: Method For Determining Gasoline Range Organics", Wisconsin DNR, Publ-SW-140, September, 1995.

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

eurofins | Environment Testing America

310-304652 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: For Tac.

City/State: CITY St. Paul | STATE MN | Project:

Receipt Information

Date/Time Received: DATE 4/1/4125 | TIME 850 | Received By: SR

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☑ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☐ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☐ Yes ☑ No *If yes:* Cooler # _____ of _____

Cooler Custody Seals Present? ☑ Yes ☐ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☑ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☑ Yes ☐ No *If yes:* Which VOA samples are in cooler? ↓

#1

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: #1 | Correction Factor (°C): 0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 2.1 | Corrected Temp (°C): 2.1

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Address: _____

Eurofins Minneapolis 213

Chain of Custody Record

640332

eurofins | Environment Testing America

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210

Client Contact	Project Manager: Steve Grubb	Site Contact:	Date:	COC No:
Company Name: EOR, INC.	Tel/Email: 651-247-2045	Lab Contact:	Carrier:	1 of 1 COCs
Address: 1919 University Ave. W	Analysis Turnaround Time			Sampler:
City/State/Zip: St. Paul, MN	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 651-247-2045	TAT if different from Below _____			Walk-in Client:
Fax:	☒ 2 weeks			Lab Sampling:
Project Name: Fruen Mill	☐ 1 week			Job / SDG No.:
Site:	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	CHLORIDES	pH	VOCs	GRO/DRO	BOD/COD	Sample Specific Notes:
BASEMENT	04/10/25		G	WATER	11	N	N	X	X	X	X	X	

Page 15 of 16

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other NE

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____		
Relinquished by:	Company: EOR, INC	Date/Time: 04/15/25 0947	Received by:	Company:	Date/Time: 4-18-25 0947
Relinquished by:	Company:	Date/Time: 4/18/25 1140	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time: 4.18.25 855

4/30/2025

Login Sample Receipt Checklist

Client: Emmons & Olivier Resources, Inc.

Job Number: 310-304652-1

Login Number: 304652

List Source: Eurofins Cedar Falls

List Number: 1

Creator: Hirsch, Preston

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Attachment C – Memo on FEMA Floodplain Analysis/LOMA

memo

Project Name |	Fruen Mill, aka Graffiti Mill, Redevelopment	**Date** |	25 July 2025
To / Contact info |	Laura Jester, Administrator / BCWMC, Jim Herbert, BCWMC Engr. / Barr,		
Cc / Contact info |	Jeremy Strehlo, Tim Sexton, Angie Craft, Chris Vrchota, Eric Hansen, Steve Poor, Meg McMahan, Andrew Liska / City of Minneapolis Winston Wildebush, Greg Koch / Graffiti Mill LLC		
From / Contact info |	Brett H. Emmons, PE; Stu Grubb, PG; Steve Gaffield, PE; Alec Olson, EIT / EOR		
Regarding |	FEMA Floodplain/Floodway and Letter of Map Amendment (LOMA) Approval		

Project Background

This memo contains a summary of the Letter of Map Amendment (LOMA) application and approval from FEMA that clarified that the existing structures of the Fruen Mill redevelopment project are not in the FEMA 100-yr floodway and floodplain. Fruen Mill is an old industrial site located at 303 Thomas Ave N, Minneapolis, MN 55405. The original mill building and workshop were constructed in the 1870's next to the creek for waterpower and were rebuilt in the early-to-mid 1900's following a fire that destroyed the original buildings. There are two existing main structures present on the site today, referred to as the East Mill and West Mill buildings, along with silos and other ancillary structures.

Floodplain Requirements

The project has been reviewed for floodplain requirements from the City of Minneapolis and Bassett Creek Watershed Management Commission (BCWMC). The City of Minneapolis uses the FEMA floodplain mapping for assessing compliance, which in this case is lower than the BCWMC's elevations. This memo discusses compliance with City of Minneapolis floodplain regulations regarding FEMA floodplain maps. BCWMC has independent 100-year flood elevations for various locations along Bassett Creek and those issues are further discussed in a Technical Memo provided separately to this memo.

The City of Minneapolis earlier asked for clarification on the current floodway relative to the buildings. The FEMA "floodway" (vs. floodplain) is the channel of the river or stream and the adjacent areas where there is active flow during an event and is deemed important to preserve the flow capacity of the waterway in high flows. The floodway along the Fruen Mill site is rather narrow and contained in the channel and is mapped as the same as the floodplain west of the buildings. In one area mapping appeared to intersect structures on the site, namely a small portion of the silos on the western edge of the site. Following up on city staff suggestions, EOR investigated the accuracy of the FEMA floodway/floodplain line in the project area by comparing survey data collected on-site (Loucks) to FEMA base flood elevations, and where needed, interpolated along the centerline of Bassett Creek through the site.

The review of field survey data and ground elevations determined the floodway does not intersect the structures as shown in Figure 1. The FEMA floodway/floodplain elevations are lower than ground elevations and should be west of the silos. To address the inconsistency with the FEMA map, a Letter of Map Amendment (LOMA) was submitted, and then approved by FEMA on June 25th, 2025. This confirmed that the two existing buildings are not in the NFIP regulatory floodway nor the SFHA (i.e., the area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). The City of Minneapolis was involved in the review and acknowledgement of the LOMA. Chris Vrchota with the City of Minneapolis Community Planning and Economic Development Zoning

Administration reviewed the LOMA application documents and signed the Community Acknowledgement Form, a requirement for the LOMA application. A copy of the Loucks Survey and LOMA approval can be found attached at the end of this memo.

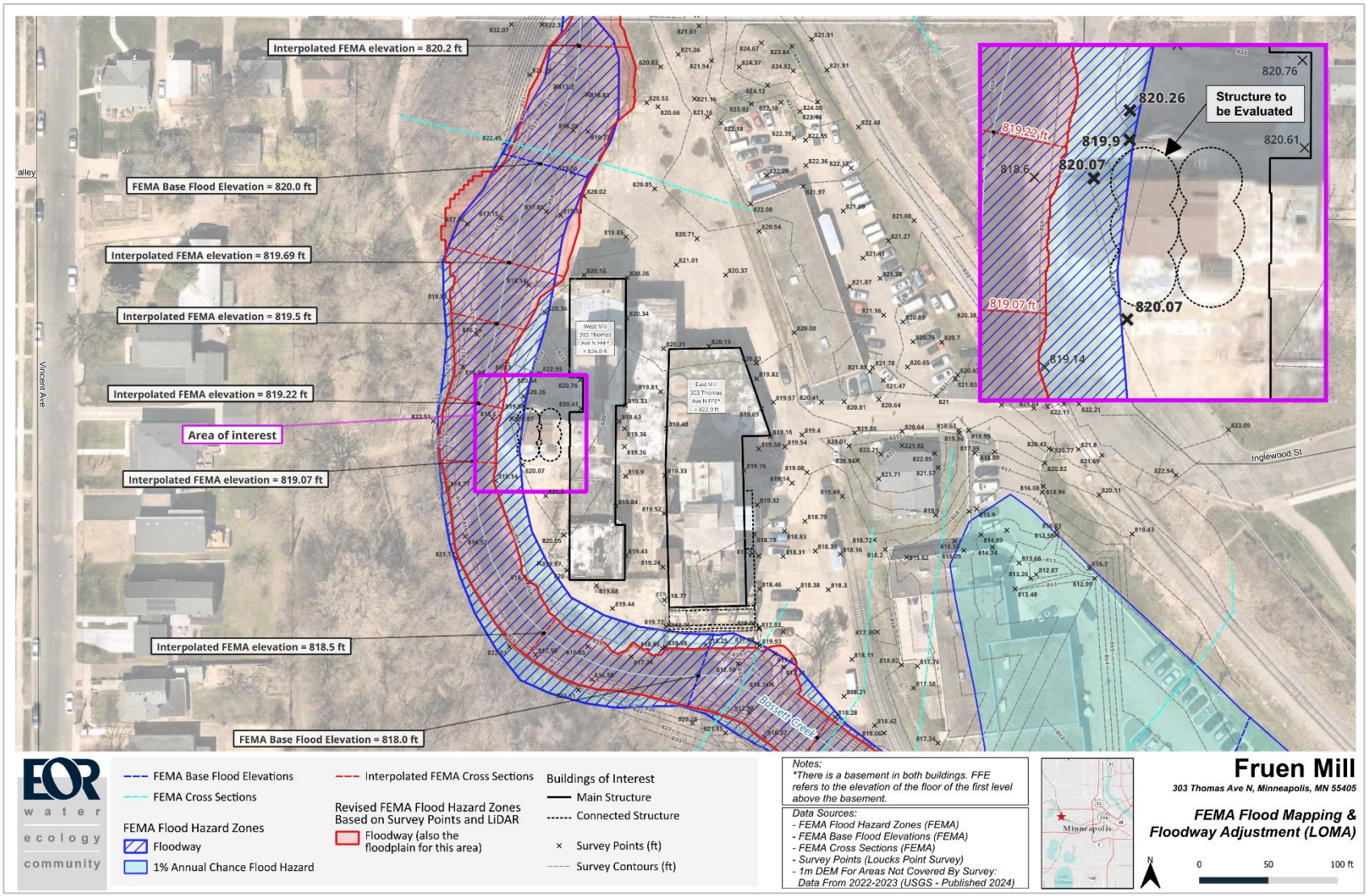
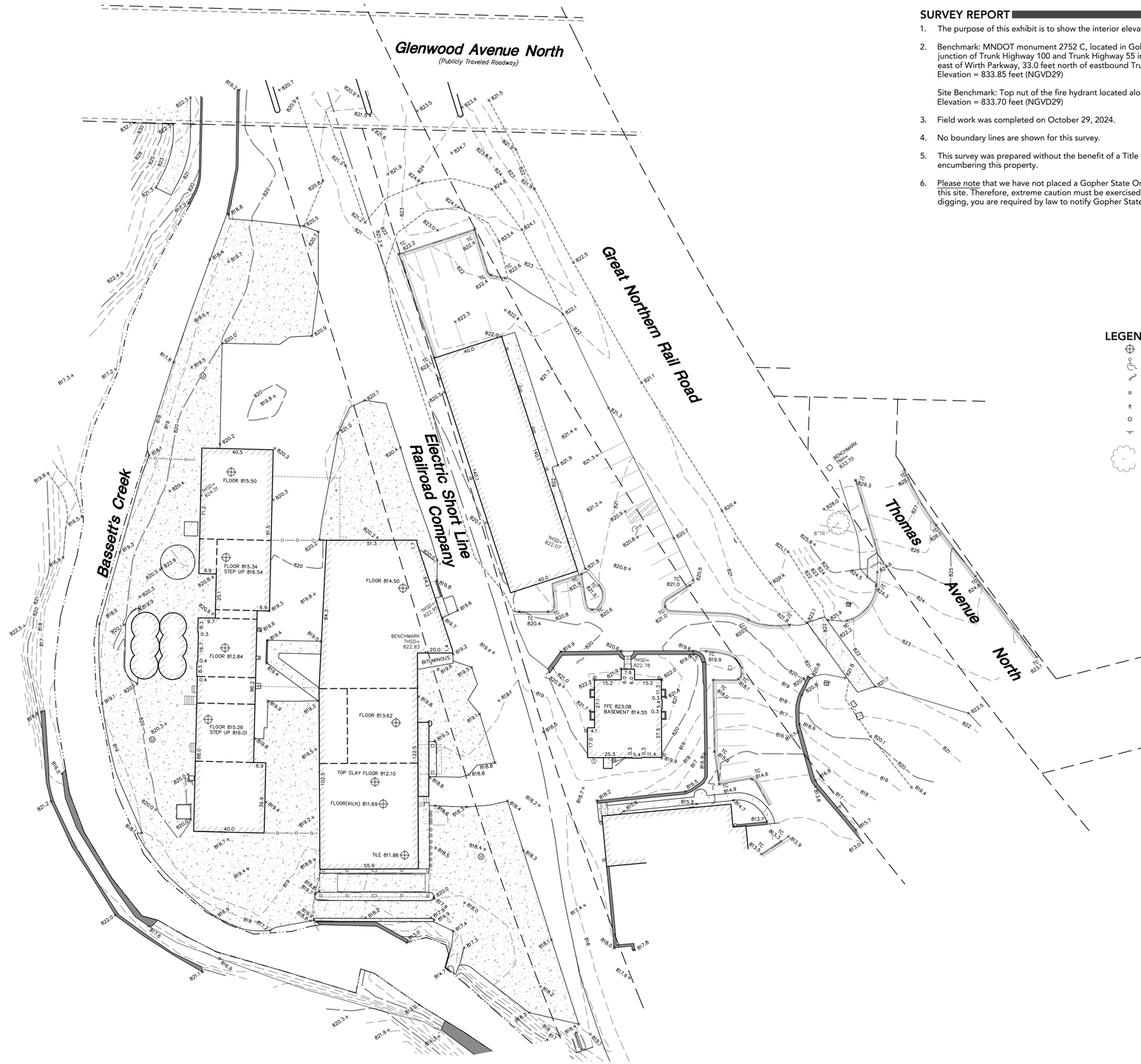


Figure 1. Refinement of FEMA floodway/floodplain based on survey data for LOMA.

Attachment A. Loucks Survey



SURVEY REPORT

1. The purpose of this exhibit is to show the interior elevations of the buildings.
2. Benchmark: MNDOT monument 2752 C, located in Golden Valley, 1.15 miles east along Trunk Highway 55 from the junction of Trunk Highway 100 and Trunk Highway 55 in Golden Valley, at Trunk Highway 55 milepoint 187.9, 280.0 feet east of Wirth Parkway, 33.0 feet north of eastbound Trunk Highway 55, 2.0 feet west of a witness post.
   Elevation = 833.85 feet (NGVD29)

   Site Benchmark: Top nut of the fire hydrant located along Thomas Avenue North. As shown hereon.
   Elevation = 833.70 feet (NGVD29)
3. Field work was completed on October 29, 2024.
4. No boundary lines are shown for this survey.
5. This survey was prepared without the benefit of a Title Commitment. There may or may not be easements of record encumbering this property.
6. Please note that we have not placed a Gopher State One Call for this survey. There may or may not be other utilities serving this site. Therefore, extreme caution must be exercised before any excavation takes place on or near this site. Before digging, you are required by law to notify Gopher State One Call at least 48 hours in advance at (651) 454-0002.

LEGEND

- APPROXIMATE LOCATION OF ELEVATION
- DISABLED PARKING STALL
- FLAG POLE
- GUARD POST
- MAILBOX
- ROOF DRAIN
- SIGN
- DECIDUOUS TREE
- TR TREE (GEN)
- CHAIN LINK FENCE
- CONCRETE CURB
- RETAINING WALL
- CONCRETE
- NO PARKING
- EXISTING BUILDING
- 972 CONTOUR
- x972.5 SPOT ELEVATION
- WATER LINE
- HYDRANT

0 30 60
SCALE IN FEET

GRAFFITI MILL

301 AND 305 THOMAS AVE N
MINNEAPOLIS, MINNESOTA 55405

GRAFFITI MILL, LLC
P.O. BOX 23166
2155 E. SEVENTH STREET
SUITE 413
LOS ANGELES, CALIFORNIA 90023

LOUCKS
PLANNING
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
7200 Hemlock Lane, Suite 300
Maple Grove, MN 55369
763.424.5505
www.loucksinc.com

CADD QUALIFICATION

CADD files prepared by the Consultant for this project are instruments of the Consultant professional services for use solely with respect to this project. These CADD files shall not be used on other projects, for additions to this project, or for completion of this project by others without written approval by the Consultant. With the Consultant's approval, others may be permitted to obtain copies of the CADD drawing files for information and reference only. All intentional or unintentional revisions, additions, or deletions to these CADD files shall be made at the full risk of that party making such revisions, additions or deletions and that party shall hold harmless and indemnify the Consultant from any & all responsibilities, claims, and liabilities.

SUBMITTAL/REVISIONS

04/24/25	EXHIBIT ISSUED

PROFESSIONAL SIGNATURE

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota.

Max L. Stanislowski - PLS

License No.	48988
Date	04/24/25

QUALITY CONTROL

Loucks Project No.	22113A
Project Lead	MLS
Drawn By	NRS
Checked By	MLS
Field Crew	SKS/MJA

VICINITY MAP



ELEVATION EXHIBIT

1 OF 1

Plotted: 04 /24 / 2025 10:21 AM W:\2022\22113A\CADD DATA\SURVEY_dwg Sheet Files\S22113A.EXH INTELEV

Attachment B. Letter of Map Amendment (LOMA) Approval

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION FLOODWAY DETERMINATION DOCUMENT (REMOVAL)

COMMUNITY AND MAP PANEL INFORMATION		LEGAL PROPERTY DESCRIPTION
COMMUNITY	CITY OF MINNEAPOLIS, HENNEPIN COUNTY, MINNESOTA	Lot 15, Auditor's Subdivision No. 23, as described in the Warranty Deed recorded as Document No. 5998485, in the Office of the Registrar of Titles, Hennepin County, Minnesota
	COMMUNITY NO.: 270172	
AFFECTED MAP PANEL	NUMBER: 27053C0352F	
	DATE: 11/4/2016	
FLOODING SOURCE: BASSETT CREEK		APPROXIMATE LATITUDE & LONGITUDE OF PROPERTY:44.979822, -93.314391 SOURCE OF LAT & LONG: LOMA LOGIC DATUM: NAD 83

DETERMINATION

LOT	BLOCK/ SECTION	SUBDIVISION	STREET	OUTCOME WHAT IS REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NGVD 29)	LOWEST ADJACENT GRADE ELEVATION (NGVD 29)	LOWEST LOT ELEVATION (NGVD 29)
15	--	Auditor's No. 23	303 Thomas Avenue North	Structure (East Mill)	X (unshaded)	--	819.0 feet	--

Special Flood Hazard Area (SFHA) - The SFHA is an area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood).

ADDITIONAL CONSIDERATIONS (Please refer to the appropriate section on Attachment 1 for the additional considerations listed below.)

DETERMINATION TABLE (CONTINUED)
INADVERTENT INCLUSION FLOODWAY 1
STATE LOCAL CONSIDERATIONS

This document provides the Federal Emergency Management Agency's determination regarding a request for a Letter of Map Revision for the property described above. Using the information submitted and the effective National Flood Insurance Program (NFIP) map, we have determined that the structure(s) on the property(ies) is/are not located in the NFIP regulatory floodway or the SFHA, an area inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). This document revises the effective NFIP map to remove the subject property from the NFIP regulatory floodway and the SFHA located on the effective NFIP map; therefore, the Federal mandatory flood insurance requirement does not apply. However, the lender has the option to continue the flood insurance requirement to protect its financial risk on the loan.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Mapping and Insurance eXchange (FMIX) toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426.

David N. Bascom

David N. Bascom, Acting Director
Engineering and Modeling Division
Risk Analysis, Planning and Information Directorate

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION FLOODWAY DETERMINATION DOCUMENT (REMOVAL)

ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)

DETERMINATION TABLE (CONTINUED)

LOT	BLOCK/ SECTION	SUBDIVISION	STREET	OUTCOME WHAT IS REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NGVD 29)	LOWEST ADJACENT GRADE ELEVATION (NGVD 29)	LOWEST LOT ELEVATION (NGVD 29)
15	--	Auditor's No. 23	303 Thomas Avenue North	Structure (West Mill)	X (shaded)	--	819.4 feet	--

INADVERTENT INCLUSION IN THE FLOODWAY 1 (PORTIONS OF THE PROPERTY REMAIN IN THE FLOODWAY) (This Additional Consideration applies to the preceding 2 Properties.)

A portion of this property is located within the National Flood Insurance Program (NFIP) regulatory floodway for the flooding source indicated on the Determination Document, while the subject of this determination is not. The NFIP regulatory floodway is the area that must remain unobstructed in order to prevent unacceptable increases in base flood elevations. Therefore, no construction may take place in an NFIP regulatory floodway that may cause an increase in the base flood elevation, and any future construction or substantial improvement on the property remains subject to Federal, State/Commonwealth, and local regulations for floodplain management. The NFIP regulatory floodway is provided to the community as a tool to regulate floodplain development. Therefore, the NFIP regulatory floodway modification described in the Determination Document, while acceptable to the Federal Emergency Management Agency (FEMA), must also be acceptable to the community and adopted by appropriate community action, as specified in Paragraph 60.3(d) of the NFIP regulations. Any proposed revision to the NFIP regulatory floodway must be submitted to FEMA by community officials. The community should contact either the Regional Director (for those communities in Regions I-IV, and VI-X), or the Regional Engineer (for those communities in Region V) for guidance on the data which must be submitted for a revision to the NFIP regulatory floodway. Contact information for each regional office can be obtained by calling the FEMA Mapping and Insurance eXchange toll free at (877) 336-2627 (877-FEMA MAP) or from our web site at http://www.fema.gov/about/regoff.htm.

STATE AND LOCAL CONSIDERATIONS (This Additional Consideration applies to all properties in the LOMR-FW DETERMINATION DOCUMENT (REMOVAL))

Please note that this document does not override or supersede any State or local procedural or substantive provisions which may apply to floodplain management requirements associated with amendments to State or local floodplain zoning ordinances, maps, or State or local procedures adopted under the National Flood Insurance Program.

This attachment provides additional information regarding this request. If you have any questions about this attachment, please contact the FEMA Mapping and Insurance eXchange (FMIX) toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426.

David N. Bascom, Acting Director
Engineering and Modeling Division
Risk Analysis, Planning and Information Directorate