

July 10, 2020

Ms. Adele L. Braun
Barr Engineering
325 South Lake Avenue
Duluth, MN 55802

RE: MVP-2019-01900-MJB
Discharge fill into Waters of the U.S. Associated with the Proposed Repair of the Ames Mill East Foundation Wall
Northfield, Rice County
SHPO Number: 2020-0070

Dear Ms. Braun,

Thank you for continuing consultation on the above project. Information received in our office via email on May 11, 2020 has been reviewed pursuant to the responsibilities given the State Historic Preservation Officer by Section 106 of the National Historic Preservation Act of 1966 and implementing federal regulations at 36 CFR 800.

We previously provided comments on this project in a letter dated December 20, 2019. In that letter we reiterated our office's opinion that we did not believe that the project had been designed in conformance with the Standards.

In response, by letter dated May 11, 2020, Barr Engineering has now provided a response to concerns and recommendations expressed in our December 20th letter, reconfirmed your earlier "No Adverse Effect" finding, and provided documentation in support of this finding, including:

- Attachment A: Figures – Ames Mill Plan View Hydropower Sketch, Current and Historic (1980s) Photographs of the Ames Mill Foundation, Hand-Drawn Sketch "Wall Repair DTL" (n.d.), and images of high-water conditions;
- Attachment B: 2020 Inspection Notes;
- Attachment C: 2019 Bathymetry Survey;
- Attachment D: Report titled *Assessment of Effects, Ames Mill, East Foundation Wall Repair, Northfield, Rice County, Minnesota* as prepared by New History for Barr Engineering; and
- Attachment E: Proposed Concrete Overlay drawings titled "Ames Mill Dam Mill Wall Repair" dated February 28, 2020 (Issued for Construction).

Our comments are provided below.

Assessment of Adverse Effect

As stated previously, in order for our office to determine that the project will not adversely affect the Ames Mill, a contributing element in the Northfield Commercial Historic District (Historic District), and

concur with the finding made by Barr, as authorized by the federal agency, the proposed rehabilitation work must be designed in conformance with the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (Standards). In our December 20th letter we did not provide concurrence with the finding that the project, as proposed at that time, would avoid adverse effects to the historic property. We wrote:

Based upon information submitted to our office, we agree that significant repairs are needed to this historic property's foundation wall. However, the proposal to install a monolithic reinforced concrete wall that will tie into and completely obscure the historic wall system does not meet Standards and will therefore, as currently proposed, result in an adverse effect to the historic property. Repairing a historic building system by covering the system almost always leads to permanent damage. Movement between the two systems will likely open large cracks between the two systems allowing for significant water intrusion. This water will then be caught between the two systems and freeze-thaw action will cause further deterioration. Because the historic masonry will be softer than the new concrete system, the damage will occur at the historic system further eroding away the historic wall.

In order to meet Standards, we strongly recommend completing full masonry repairs at the historic wall which is what appears to have been done in the mid-1980s as a major part of the repair project at that time. We advise that the project hire an architect that has experience working with masonry buildings to help inform the proposed methods for wall repair.

Your May 11th letter provides detailed narrative responses to concerns expressed by our office in earlier letters and consultation conference calls, as well as substantial additional documentation in support of your assertion that the wall repair project, as currently proposed, has been designed in accordance with the Standards and will not result in adverse effects, either structural or inappropriate design modifications, to the historic property. We appreciate the extensive efforts that Barr Engineering and Post Holdings have taken to understand and address our concerns and recommendations.

The information submitted on May 11th indicates that water continually exists on both sides of the mill foundation wall and this is very important information. This essentially means the mill foundation wall is constantly saturated with water on both sides. The core sample appears to support that the 1980's repairs have been effective. Real data about the existing condition of the wall is very useful and should always be the basis of design decisions. It should be noted that the wall does not appear to have water on both sides for the full extent of the proposed repair area. Based upon information provided to our office at this time, while we would continue to recommend extensive repointing and repairs to the historic masonry, we understand the feasibility concerns expressed by the property owner and, as such, we will agree that the proposed application of a new concrete "overlay" wall on the historic limestone foundation wall can meet the Standards and not result in adverse structural effects. As such, it is essential that this new "overlay" wall be carefully designed to be compatible with the historic building, its setting, and historic district.

The hand drawn sketch included in Attachment A: Figure A7 Wall Repair Detail (labeled "Wall Repair DTL") appears to be an improvement on the previous drawings as it provides a more uniform repair at a minimum of 8", rather than an uneven repair at an unknown depth. Due to the apparent success of a similar detail in this location (per the core), this could be an acceptable solution. The final design plan set included with your May 11th submission appears to reflect the scope of this sketch drawing.

It is appropriate and meets Standards for the top of the wall repair section to simply slope to drain away from the historic limestone wall, as it is shown in the "Wall Repair DTL" sketch and the wall repair section detail drawings on the most recent set of plans.

While we agree that the repair and the proposed methods to install the new concrete overlay onto the historic limestone foundation wall have been designed in accordance with the Standards, we have not been provided sufficient documentation regarding the final surface treatment (form liner pattern) or how the color of the new concrete is assured to match existing, adjacent historic limestone surfaces.

The new concrete surface should not have a "finished" or overly stylized final appearance as this is a historic industrial building, not an architecturally designed foundation feature. In order to meet Standards, the final form liner pattern should definitely break up the uniform look of the poured concrete but not be pattern that too closely tries to "mimic" the texture and look of rusticated stone as indicated on the current plans. It should not "mimic" or match, but should be very compatible. You have not provided details of what is proposed as final surface treatment. We recommend that you submit actual photographs or drawings of the specific form liner pattern chosen for this project. Also, images from the form liner manufacturer as well as any images from actual completed projects in a similar setting such as this one, would be appreciated.

Finally, the new overlay, as indicated on the current plans, is to "mimic" the color of the existing historic limestone wall. In our experience, it takes very detailed specifications and mock up scenarios to achieve a new concrete with a warm tone to match the adjacent historic material, rather than a cold blue tone. This desired warm tone to match existing historic might be achieved by with additives that have a buff tone as some fly ash accomplishes this, but often does not. A concrete stain may be the easiest way to achieve this tone. Please provide clarification as to how the project intends to achieve this color match.

While we generally agree, based upon the level of documentation provided in your May 11th submission, that the proposed mill foundation wall repair project has been designed in accordance with the Standards and will likely avoid adverse effects to the historic property, we feel that there is additional information needed in order to fully document adherence to the Standards as indicated above.

Therefore, at this time, we will provide concurrence that the undertaking, as it is currently proposed, will have **no adverse effect** on the Northfield Historic District provided that the following condition is met pursuant to 36 CFR 800.5(b):

- Subsequent consultation with our office will occur prior to commencement of project construction in order to ensure that the above design details discussed above are consistent with the Standards. This condition means that the authorized federal agent will provide, to our office for final review and comment, responses to the concerns expressed above regarding final surface treatment pattern and color and will submit to our office with sufficient documentation to support consistency with the Standards.

We request confirmation that the above condition has been accepted by the authorized federal agent and, as such, will comply with the terms proposed by our office.

Consulting Parties/Public Involvement

We understand by your May 11th letter that Barr Engineering has presented the proposed project to the Northfield Heritage Preservation Commission (HPC) at a regular meeting on March 5, 2020. It is our

understanding that the HPC will be reviewing the proposed project in accordance with the City's preservation ordinance.

Please feel free to contact me at (651) 201-3290 or by email at sarah.beimers@state.mn.us if you have any questions regarding our review or would like to discuss next steps.

Sincerely,



Sarah J. Beimers
Environmental Review Program Manager

cc via email:

Nancy Komulainen-Dillenburg, USACE Cultural Resources Manager
Mikayla Schmidt, City Planner, City of Northfield