Engineer’s Report

2020 Sidewalk Replacement Project
Various Locations in the City of Hudson

May 27, 2020
CERTIFICATION

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Wisconsin.

______________________________
Dean G. Chamberlain, PE – City Engineer

Date: 05/27/2020 License Number: E-47484

STATEMENT OF BENEFIT

This project benefits the properties proposed to be assessed. According to Wisconsin State Statutes 66.0703, the City of Hudson intends to exercise its police power to collect special assessments for this project. Attached to this report in Appendix A is the schedule of proposed assessments.
Introduction
The City of Hudson is committed to maintaining its infrastructure in a condition that allows for the safe and efficient movement of people and goods within our community. A significant part of our infrastructure system is our sidewalk system, which is vitally important to keep maintained in a serviceable condition to promote the vitality of the community.

The locations identified in this project for sidewalk replacement were previously identified in the City’s 2019 Sidewalk and Curb Ramp Inventory as those locations with the greatest vertical misalignments or tripping hazards (generally 1.5” and greater). The City feels that replacement of these tripping hazards are the best first step in utilizing the results of the Sidewalk and Curb Ramp Inventory plan.

Additionally, keeping the City’s drainage system in good condition is a top priority to the City. Good drainage systems allow for water to not pond in the street and thus freeze/thaw. The freezing and thawing creates problems with icing and is thus a safety issue. The freeze/thaw cycle also further damages the curb accelerating the deterioration of the curb system. The City’s Public Works Department has identified a number of curb and gutter replacements in the downtown area that need to be completed in advance of the 2021 2nd Street Mill & Overlay project through the downtown area. The Public Works Department also identified a missing section of curb & gutter along the south side of Cole Street where drainage currently ponds rather than reaching the storm sewer system.

In summary, this report recommends replacement of sections of sidewalks with significant tripping hazards as well as curb & gutter sections needing replacement in the downtown area and missing curb & gutter along Cole Street.

Project Alternatives and Recommendations
Sidewalks
The City has considered other alternatives to removal and replacement of the sidewalk sections. These alternatives included:

- Grinding off the tripping hazard
- Adding asphalt material to ramp up to misaligned panel
- Focusing on other priorities, such as replacing deficient pedestrian ramps, spalling joints, or significant cracking

Ultimately these options were not selected for implementation due to the following reasons:

- Grinding the sidewalk down leaves less sidewalk thickness and thus leaves the sidewalk more susceptible to breaking later. Also, grinding the sidewalk down is not allowed per the Americans with Disabilities Act for vertical misalignments over ½” in height.
- Adding asphalt material to ramp up to the misaligned panel can create a smaller tripping hazard since the aggregate materials in the asphalt pavement are generally over ½”.
- Grinding or adding asphalt material does not address any other deficiencies that may be present in the sidewalk panels such as the sidewalk being tipped away from the street, joint or surface spalling, or other deficiencies
- Although the City has many known deficiencies in the sidewalks around town that eventually need to be addressed, the City feels that focusing first on the worst tripping
hazards has a high reward in the form of pedestrian safety for the price paid. The City will look to continue forward with replacement of other deficient sidewalks with future projects.

Curb & Gutter
It is recommended to replace curb & gutter sections in the downtown area to minimize the potential water freeze/thaw damage on those streets. Not replacing the damaged and non-functional curbs & gutters will cause the existing curbs and pavements to deteriorate more quickly than if the curbs were not replaced. Due to the upcoming mill & overlay project on 2nd Street in 2021, these curb sections should be replaced in 2020 to avoid damage to new pavement after the mill & overlay project.

Addition of the curb & gutter along Cole Street is recommended to solve a long-standing drainage problem along that street. Waiting until a later year will allow the lack of drainage to further deteriorate the pavement along Cole Street.

Funding
Capital Improvement Program
Capital Improvement Program (CIP) funding for the City’s portion of the project was identified in the City’s 2020-2024 CIP under sidewalk replacement funds.

Special Assessments
The City of Hudson’s special assessment policy applies to the replacement of sidewalk and curb & gutter according to the following schedule:

- 50% of the cost of replacement of curb & gutter sections is assessed to the fronting property
- 50% of the cost of replacement of sidewalk sections in residential districts is assessed to the fronting property
- 100% of the cost of replacement of sidewalk sections in districts other than residential is assessed to the fronting property

For curb & gutter replacement, the following costs are added together to determine the replacement cost:

- Removal of existing curb & gutter
- Removal of asphalt pavement in the street for patching curbs
- New curb & gutter construction
- New asphalt pavement patch in the street
- Drilled tie bars connecting new curb & gutter to existing curb & gutter
- Restoration behind curb
- Engineering cost (15% of construction cost)

For sidewalk replacement, the following costs are added together to determine the replacement cost:

- Removal of existing sidewalk panels
- New concrete sidewalk panels
- Restoration behind sidewalk
Engineering cost (15% of construction cost)
Additionally, Planning and Administration Fees are collected to offset the time spent by office administration staff to prepare project-related work, such as project accounting, project correspondence, project hearings, and other work not directly related to the engineering tasks associated with the project. The Planning and Administration Fees are calculated as follows:

- 1.5% on first $250,000 of total assessable costs
- 1.3% on next $750,000
- 1.1% on next $1,000,000
- 1.0% on next $1,000,000
- 0.8% on next $1,000,000
- 0.6% on remainder

Since this project has an estimated assessable cost of $51,144.82, the rate used to calculate the Planning and Administration Fees is 1.5%.

A detailed breakdown of estimated costs is provided in Appendix A of this report.

The assessment amounts in this report are preliminary estimates only and are subject to change based on bid prices received and on the actual amount of each bid item constructed on the project as applicable to each property.

The City of Hudson believes that replacement of sidewalks and curb & gutter constitute a benefit to the fronting property. Replacement of sidewalk panels will allow safe and efficient travel for pedestrians to and from their residences, businesses, recreation, and other destinations. Replacement of curb & gutter allows water flows from the impervious surfaces on each property to reach the City’s storm sewer system to be conveyed to sedimentation areas, infiltration areas, and/or discharge points to the St. Croix River. Without a functional curb & gutter system, each site would need to establish a means of conveying or infiltrating their storm water which would be much more cost prohibitive than the assessment amounts being proposed.

Summary of Project Funding
A summary of the project funding is as follows:

**Expenses:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Construction Costs:</td>
<td>$157,801.00</td>
</tr>
<tr>
<td>Estimated Engineering Costs:</td>
<td>$23,700.00</td>
</tr>
<tr>
<td>Estimated Total Project Costs:</td>
<td>$181,501.00</td>
</tr>
</tbody>
</table>

**Funding:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Assessments (not including Planning and Administration Fees):</td>
<td>$51,144.82</td>
</tr>
<tr>
<td>2020 Sidewalk Replacement Funds:</td>
<td>$75,000.00</td>
</tr>
<tr>
<td>Remaining Sidewalk and Curb/Gutter Replacement Funds:</td>
<td>$55,356.18</td>
</tr>
</tbody>
</table>
Total Funding: $181,501.00

Project funding levels for each fund may change based on the bids received, quantity of work performed, and actual engineering costs related to the project bid items associated with each fund. Final funding levels for each fund will be determined at the time of project close-out.

Summary
The recommended project for the sidewalk replacements and curb & gutter replacements/additions are as follows:

- Replace of sidewalks at identified locations with worst tripping hazards
- Replace deficient sections of curb & gutter in downtown area
- Add curb & gutter where missing along Cole Street
LIST OF APPENDICES

- Appendix A – Proposed Assessments
- Appendix B – Proposed Plans
- Appendix C – Proposed Specifications
APPENDIX A
Proposed Assessments
APPENDIX B

Proposed Plans
APPENDIX C
Proposed Specifications