



TO: Mayor Shaun Sipma
Members of the City Council

FROM: Lance Meyer, PE, City Engineer

DATE: 8/5/2019

SUBJECT: CITY HALL RETAINING WALL – ALTERNATIVE SELECTION (4398)

I. RECOMMENDED ACTION

1. Recommend council select wall finish option 3 as recommended by the aesthetics committee.
2. Recommend council select one of the following sets of option:
 1. Option 5B/4B (soldier pile wall with MSE (block) wall on north face of wall 2
 2. Option 5A/4A (soldier pile wall entire length of wall 2) – Staff Recommendation
3. Recommend council authorize the city engineer to negotiate a scope and fee for an engineering contract amendment in order to bid multiple wall alternatives and observe the work.

II. DEPARTMENT CONTACT PERSONS

Lance Meyer, City Engineer	857-4100
Emily Huettl, Assistant City Engineer	857-4100

III. DESCRIPTION

A. Background

A grouted rock retaining wall system is currently in place to retain the soil for the City Hall complex. The system was constructed in 1954 making the existing slope system 65 years old. Over the years, repairs have been made to the wall to keep it in a serviceable condition. However, the walls have outlived their useful lives and are in need of replacement. A full background of the walls and condition can be found in the attached decision document authored by KLJ.

B. Proposed Project

In December 2018, council authorized staff to request qualifications from consulting engineers to perform services for this project. KLJ was selected in March 2019 to proceed with design of the project.

A committee was assembled in April to review options for wall types, constructability, budget, and aesthetics. The committee included: Mayor Sipma, Director Merritt, Chief Olson, Sr. Accountant Vollmer, Property Maintenance Superintendent Sickler, Assistant City Engineer Huettl, and City Engineer Meyer.

The committee reviewed the city hall/auditorium site for system needs such as longevity, safety, and functionality. These project needs then led to analysis of multiple wall system alternatives each reviewed for cost, impact to the site and users, additional parking created,

and construction time. For a review of these options, please consult Table 1: Retaining Wall Alternative Comparison in the decision document.

For wall #1 (the short wall south of city hall), the only cost effective solution was to construct a large block retaining wall. The cost for this wall is included within all alternatives presented.

For wall #2 (the serpentine wall between the auditorium and city hall), multiple options are shown in Table 1 of the decision document ranked by cost, least to most expensive.

Overall, options that contain mechanically stabilized earth (MSE) walls are the least expensive. However, MSE walls have the greatest impact to the complex site. The primary drawbacks to the MSE options are the large excavation needed to construct the walls necessitating approximately 4,000 truck trips. In addition, access to municipal court would be closed during construction. The number of added parking stalls is lower than soldier pile options, 21 stalls versus 38 stalls. Due to varying soil conditions, there is a larger construction cost risk for differing site conditions which is difficult to quantify at this point in the process. Lastly, the aesthetic options are limited compared to an unlimited amount of options for a soldier pile system.

In reviewing the soldier pile wall options, they are generally more expensive compared to MSE walls. Construction risk is less, which can make the MSE and soldier pile options potentially closer in cost comparison. The negative site impacts are significantly reduced using soldier pile construction. This can be seen in the significant reduction in truck trips needed to construct the soldier pile wall (4,000 vs 500). The municipal court access can remain open which will prevent court traffic moving through the auditorium. Additionally, more space is provided with soldier pile options allowing for additional parking, snow storage, and site maneuverability. Lastly, the aesthetics that can be applied to soldier pile wall facings are virtually unlimited, which allows designers to enhance the site for a fraction of the project cost above the base MSE wall price (5-8%).

For these reasons, staff and the committee is recommending moving forward with soldier pile wall options.

The difference in soldier pile options comes down to two factors:

1. How are the wall facings built: Cast in Place (CIP) versus Precast (PC)
2. Do we construct a MSE wall on the north side (2nd Ave side) to lessen the cost or construct the north wall consistent with the rest of the wall 2 (additional \$140,000)

Staff recommends installing the soldier pile wall for the entire length of wall 2. While costlier, the consistent aesthetics and improved site functionality is a worthwhile investment.

In addition, KLJ is recommending the city bid both CIP and PC wall facing options. This creates a significantly improved bidding environment and will help save costs. The additional engineering costs to bid both options have been included in the alternatives. This has the potential to save several hundred thousand dollars.

C. Consultant Selection

KLJ was selected using a competitive qualifications based selection. The current scope includes bidding only one option. By increasing the bid alternates, the city will save costs that will greatly exceed the anticipated contract amendment (\$40,000 to \$50,000). These costs are included in the engineering fees for wall alternatives.

IV. IMPACT:

A. Strategic Impact:

The City Hall/Auditorium complex is a critical asset to the City. The site houses primary government functions and services the public in multiple ways.

B. Service/Delivery Impact:

During construction, parking and access to the City Hall complex will be temporarily impacted.

C. Fiscal Impact:

In total, the wall alternatives vary from \$4.3 to \$5.5 million and include engineering, construction, 15% contingency, and include the costs of wall 1 and aesthetic option 3. Staff anticipates the project to cost approximately \$4.7 million.

Project funding is anticipated to come from these sources:

Hub City Funding:	\$2,899,051
<u>Cash Reserves:</u>	<u>\$1,826,898</u>
Total:	\$4,725,949

V. ALTERNATIVES

A list of alternatives has been provided in the Decision Document attached to this memo.

VI. TIME CONSTRAINTS

Council must choose an alternative before design can proceed on the project. Once an alternative is selected, the project will continue to move forward to the design phase.

VII. LIST OF ATTACHMENTS

- A. City Hall Retaining Walls 1 & 2 Decision Document