



## MEMORANDUM

Date: March 26, 2019

To: Water Utility Board

From: Tom Heikkinen,  
General Manager

Amy Barrilleaux,  
Public Information Officer

Adam Wiederhoeft,  
Engineer 4

**Re: Water Conservation House Project Status Update and  
Evaluation of Alternative Project Locations with Recommendation to Proceed**

### Background and Objectives

In 2017, Madison Water Utility was authorized to proceed with planning and public participation efforts towards a proposed water efficiency demonstration home project ([Legistar File 45826](#)). In 2018, Madison Water Utility was authorized to hire Engberg Anderson, Inc. for architectural design services and proceed with the Water Conservation House as a Utility-lead land development project ([Legistar File 49594](#)).

The proposed '[Water Conservation House](#)' project consists of designing and overseeing the development of an affordable, energy efficient residential home that incorporates innovative design components and building systems that emphasize water conservation. The home will be built on surplus Water Utility property that will be sold to a qualified builder or developer in order to recover project design and development costs. After construction is completed, the house will be used for several months as a demonstration home promoting water conservation and efficient building systems to the public and residential design/build professionals.

### Progress To-Date

Engberg Anderson and the project team completed the pre-design and schematic design phases of the contract, evaluating two preliminary design concepts for the home to be located at vacant Utility property at the corner of Spaanem Ave and Allis Ave, directly south of Unit Well 9. The team unanimously selected an efficient split-level design concept fronting Allis Ave. The proposed home was presented in April 2018 at the [Lake Edge Neighborhood Association meeting](#). Engberg Anderson has since developed the concept to 95% complete construction documents before the team temporarily paused the project in summer 2018.

Engberg Anderson, Inc. has completed 95% of the design & construction document phase of the project and 0% of the proposal administration & construction oversight phase of the contract.

Total billings to-date are \$54,150 (total contract value is \$72,000).

Recently the team has been evaluating alternative sites for the project from the surplus Utility property inventory currently being considered for sale.

## **Feasibility Review of Alternative Project Locations**

As presented at the November 2018 Water Utility Board meeting, two additional Utility surplus properties, recently targeted for sale, were identified as potential alternative locations for the Water Conservation House project and were evaluated against the proposed Spaanem Ave location.

The Spaanem Ave development site, from a build-ready site perspective, is a very appealing location for a development concept such as this project. However, in creating these new residential lots, the CSM approval process established requirements for significant public infrastructure construction and impact fees to be settled ahead of the sale or development of these lots. There is concern that these requirements will detract prospective homebuilders from considering this project and potentially jeopardize the Utility's ability to recover the administrative costs associated with the project.

For these reasons, the following sites were evaluated as alternative locations for the project:

- 4251 Mohawk Dr. (Aldermanic District No. 10) is the site of Unit Well 10 (abandoned facility).
- 7033 East Pass (Aldermanic District No. 7) is vacant property with no proposed use.

The East Pass site does not have enough topographic relief to utilize the existing design concept and will require significant, if not complete re-design efforts from the Engberg Anderson team. Additionally, City Real Estate has since expressed interest in exploring this site for affordable housing opportunities.

The topography of the Mohawk Dr location accommodates the existing home design fairly well. Some design adjustments will be needed to address the site's steep slopes, confirm structural elements and reconfigure the site/landscaping plan. Additionally, assessed land values near this location are approximately 50% higher than properties near the Spaanem location, providing more opportunity for the Utility to recapture all project costs. The lot is large enough to be considered for future subdivision, which may be appealing to prospective developers. Public infrastructure development is not a condition restricting the sale or construction on this property; however, the existing vacant well house facility, buried reservoir and elevated tank foundation remain. These structures will require demolition and removal prior to development. This site appears to be a viable option for this project and presents fewer development challenges than the Spaanem Ave location.

The project team identified three feasible options for implementing the project:

- Continue with the Spaanem Ave site under existing development requirements.
- Continue with the Spaanem Ave location with revised development requirements.
- Relocate the project to the Mohawk Dr site.

## **Evaluation of Alternative Project Locations**

Attachment 1: 'Evaluation of Alternative Sites' contains estimated cost scenarios based on these project options in comparison to estimated land values. Following is a summary of the estimated cost implications of each scenario – see the attachment for additional details.

Based on 2018 City of Madison assessed unimproved land values near the project sites (see attached Land Value overview maps), residential land near the Spaanem Ave site is assessed between \$4.00/SF and \$8.00/SF, with \$7.00/SF being estimated for the Utility lots, based on values of comparable sized parcels. The total "build-ready" estimated land value of the Spaanem Ave location is \$172,732 for all three lots. Typical land assessments near the Mohawk Dr location are between \$9.00/SF and \$13.00/SF, with \$11.00/SF used to estimate the Mohawk Dr parcel at \$211,200.

Under current requirements for development on the Spaanem Ave location, sidewalk, drive aprons, sanitary sewer main and sanitary/water laterals must be installed under a City private development contract prior to the sale of these lots. The Utility would need to fund the plans and development contract to be included in the sale of the parcels, and the developer would need to construct this

infrastructure prior to developing the lots. Additionally, City Parks Department Parkland Impact Fees will need to be paid prior to the issuance of any building permits on these lots. Based on the existing development conditions it is estimated that the developer would have to invest \$97,245 in order to prepare the lots for construction, resulting in a potential sale value of \$75,487 for the three lots. The estimated project expenses to the Utility under this scenario are \$103,000, suggesting a potential net cost of \$27,500 to the Utility.

If the public infrastructure requirements at the Spaanem Ave location can be amended, the site preparation costs to the developer could be reduced by approximately \$36,000 and the Utility-incurred costs could be reduced by approximately \$1,500, yielding a net positive impact of approximately \$10,000 to the Utility. Under this scenario, the Shaffer Ave parcel would not require a sewer main extension and pre-development public improvements, with the exception of sidewalk fronting Allis Ave, would be foregone until the street becomes improved in the future.

The Mohawk Dr location will require demolition and removal of the existing well house structure, and potentially the existing buried reservoir and standpipe footing. It is estimated that a developer will incur costs of approximately \$105,000 to prepare this site for development and potentially split into two parcels, resulting in a potential sale value of \$106,200. The Utility anticipates approximately \$15,000 in additional design fees to revise and integrate the existing design documents with the new location, resulting in a total estimated project cost of \$102,000 to the Utility, resulting in approximately \$4,200 benefit to the Utility. The Utility could also consider removing the existing structures ahead of the sale if internal costs for the site preparation are projected be significantly lower than estimated developer/contract removal costs. Further evaluation will be required if this site is selected.

### **Recommendation for Project Location**

Based on evaluations of the feasible project locations available to the Utility, the project team recommends proceeding with the Spaanem Ave location under the condition that current development requirements for public infrastructure are revised. The concrete drive apron improvements, roadway curb & gutter and sewer improvements would become subject to special assessments in the future when these streets are improved through the City of Madison Public Works construction process. The Utility has been in discussion regarding this scenario with the City Engineering Division, and mutually agreeable terms have been established. The existing Memorandum of Understanding for these improvements will be revised accordingly if the recommendation is selected by the Water Utility board.

### **Next Steps**

Based on the Water Utility Board's project site selection, the project team will resume work with Engberg Anderson on final design documents. The project team will proceed with coordination between City Real Estate and City Purchasing to finalize the terms and conditions of the project to be included with the sale.

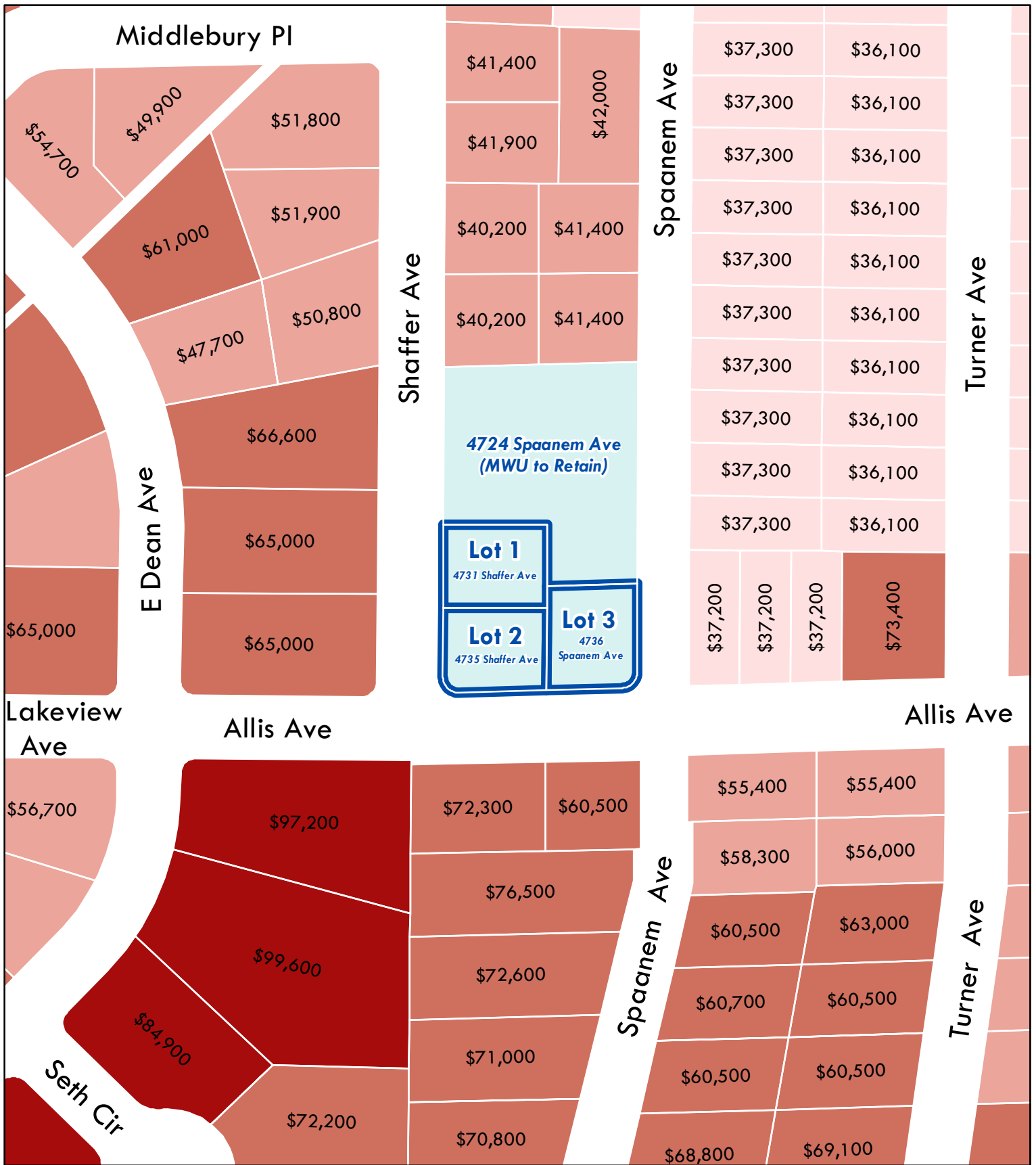
The recommended final design proposal will be presented to the Water Utility Board for review and approval prior to advertising the request for development proposals.

### **Attachments**

- Evaluation of Alternative Sites
- 2018 Assessed Land Values in Vicinity of Spaanem Ave Site
- 2018 Assessed Land Values in Vicinity of Mohawk Dr Site
- Overview Map of Spaanem Ave Site
- Overview Map of Mohawk Dr Site

	SPAANEM SITE - CURRENT SITE REQUIREMENTS		SPAANEM SITE - REVISED SITE REQUIREMENTS		WELL 10 SITE	
<b>Property Information:</b>						
Location/Address	4731 Shaffer Ave, 4735 Shaffer Ave, 4736 Spaanem Ave		4731 Shaffer Ave, 4735 Shaffer Ave, 4736 Spaanem Ave		4251 Mohawk Dr	
Zoning District	SR-C1 Suburban Residential - Consistent District 1		SR-C1 Suburban Residential - Consistent District 1		TR-C2 Traditional Residential - Consistent District 2	
Land Area	8,000 SF, 8,000 SF, 8,676 SF - Total = 24,676 SF		8,000 SF, 8,000 SF, 8,676 SF - Total = 24,676 SF		19,200 SF (one parcel, originally platted as three lots)	
<b>Estimated Land Value (build-ready value)</b>	Est. \$7.00/SF = \$56,000, \$56,000, \$60,732	<b>\$172,732.00</b>	Est. \$7.00/SF = \$56,000, \$56,000, \$60,732	<b>\$172,732.00</b>	Est. \$11.00/SF = \$211,200	<b>\$211,200.00</b>
<b>Estimated Internal Administrative Costs:</b>						
Architectural design, construction administration	Engberg Anderson Design Contract - as bid	<b>-\$72,000.00</b>	Engberg Anderson Design Contract - as bid	<b>-\$72,000.00</b>	Engberg Anderson Design Contract - revised fee	<b>-\$87,000.00</b>
Internal project administration costs	Project execution and coordination (Utility staff)	<b>-\$15,000.00</b>	Project execution and coordination (Utility staff)	<b>-\$15,000.00</b>	Project execution and coordination (Utility staff)	<b>-\$15,000.00</b>
Internal CSM preparation and implementation	CSM to establish residential lots	<b>-\$7,500.00</b>	CSM to establish residential lots + sanitary easement	<b>-\$8,500.00</b>		
Internal City Eng. Dev. contract costs	Design, Inspection, Permitting, Fees for Public Infrastructure ( est. 10% of City Eng. PW requirements)	<b>-\$8,500.00</b>	Sidewalk along Shaffer Ave and Allis Ave ( 200-LF * 5-FT * \$6/SF = \$6,000 )	<b>-\$6,000.00</b>		
<b>Estimated Administrative Cost to Utility</b>		<b>-\$103,000.00</b>		<b>-\$101,500.00</b>		<b>-\$102,000.00</b>
<b>Development Requirements:</b>						
Development Requirements prior to construction	Sidewalk along Shaffer Ave and Allis Ave ( 370-LF * 5-FT * \$6/SF = \$11,100 )	<b>-\$11,100.00</b>	Drive aprons ( 3-EA * 25-LF * 10-FT * \$6/SF = \$4,500 )	<b>-\$4,500.00</b>	Demolition and removal of existing structures	<b>-\$100,000.00</b>
	Drive aprons ( 3-EA * 25-LF * 10-FT * \$12/SF = \$9,000 )	<b>-\$9,000.00</b>	Sanitary easement to Spaanem Ave, 2 sanitary laterals ( 2 * \$10,000 = \$20,000 )	<b>-\$20,000.00</b>	Implement CSM to establish multiple lots	<b>-\$5,000.00</b>
	Sanitary extension along Shaffer Ave, 2 sanitary laterals ( 100-LF * \$150/LF and 2 * \$10,000 = \$35,000 )	<b>-\$35,000.00</b>	Water laterals ( 3 * \$5,000 = \$15,000 )	<b>-\$15,000.00</b>		
	Water laterals ( 3 * \$5,000 = \$15,000 )	<b>-\$15,000.00</b>	Roadway reconstruction, utility patches	<b>-\$7,500.00</b>		
	Roadway reconstruction, utility patches	<b>-\$15,000.00</b>	City of Madison Parks Dept. Parkland Impact Fees	<b>-\$12,145.00</b>		
	City of Madison Parks Dept. Parkland Impact Fees	<b>-\$12,145.00</b>	City of Madison Right of Way permits/inspection fees	<b>-\$2,000.00</b>		
<b>Estimated Land Preparation Cost (to developer):</b>		<b>-\$97,245.00</b>		<b>-\$61,145.00</b>		<b>-\$105,000.00</b>
<b>Estimated Land Value (Potential Sale Amount):</b>	Potential land value minus development preparation cost:	<b>\$75,487.00</b>	Potential land value minus development preparation cost:	<b>\$111,587.00</b>	Potential land value minus development preparation cost:	<b>\$106,200.00</b>
	<b>Net Impact to Utility:</b>	<b>-\$27,513.00</b>	<b>Net Impact to Utility:</b>	<b>\$10,087.00</b>	<b>Net Impact to Utility:</b>	<b>\$4,200.00</b>





**4724 Spannem Ave (MWU to Retain)**

**Lot 1**  
4731 Shaffer Ave

**Lot 2**  
4735 Shaffer Ave

**Lot 3**  
4736 Spannem Ave



Orthimagery: Spring 2016  
 Disclaimer: The City of Madison makes no representation about the accuracy or completeness of these records and in no event shall the City be liable for any damages whatsoever resulting from the use of these records.

MWU Lot for Planned Residential Development

**Land Value**



- City Owned / Not Assessed
- \$25,816.91 - \$39,840.00
- \$39,840.01 - \$59,760.00
- \$59,760.01 - \$79,680.00
- \$79,680.01 - \$99,600.00

1 inch = 125 feet

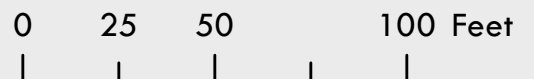
0 125 250 Feet



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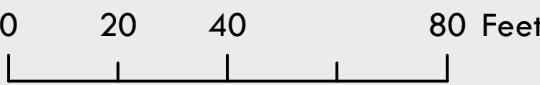




-  Parcel
-  MWU Lot for Planned Residential Development

1 inch = 50 feet





Orthimagery: Spring 2016  
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	2-ft Contour	 <b>1 inch = 35 feet</b> 
	Sanitary Sewer Main	
	Water Main	
	Parcel	
	MWU Lot for Planned Residential Development	