


COUNCIL COMMUNICATION

	Number: 23-086	Meeting: February 20, 2023
	Agenda Item: 11	Roll Call: 23-207
	Submitted by: James M. Hoff, Facilities Manager and Steven L. Naber, P.E., City Engineer	

AGENDA HEADING:

Approving Change Order No. 1 with Van Maanen Electric, Inc. for additional work on Harriet Street Solar Field, in the amount of \$1,015,484.

SYNOPSIS:

Recommend approval of Change Order 1 in an amount not to exceed \$1,015,484 with Van Maanen Electric, Inc. (Nathan S. Van Maanen, President, 500 Iowa Speedway Drive, Newton, Iowa, 50208), for additional work on Harriet Street Solar Field.

FISCAL IMPACT:

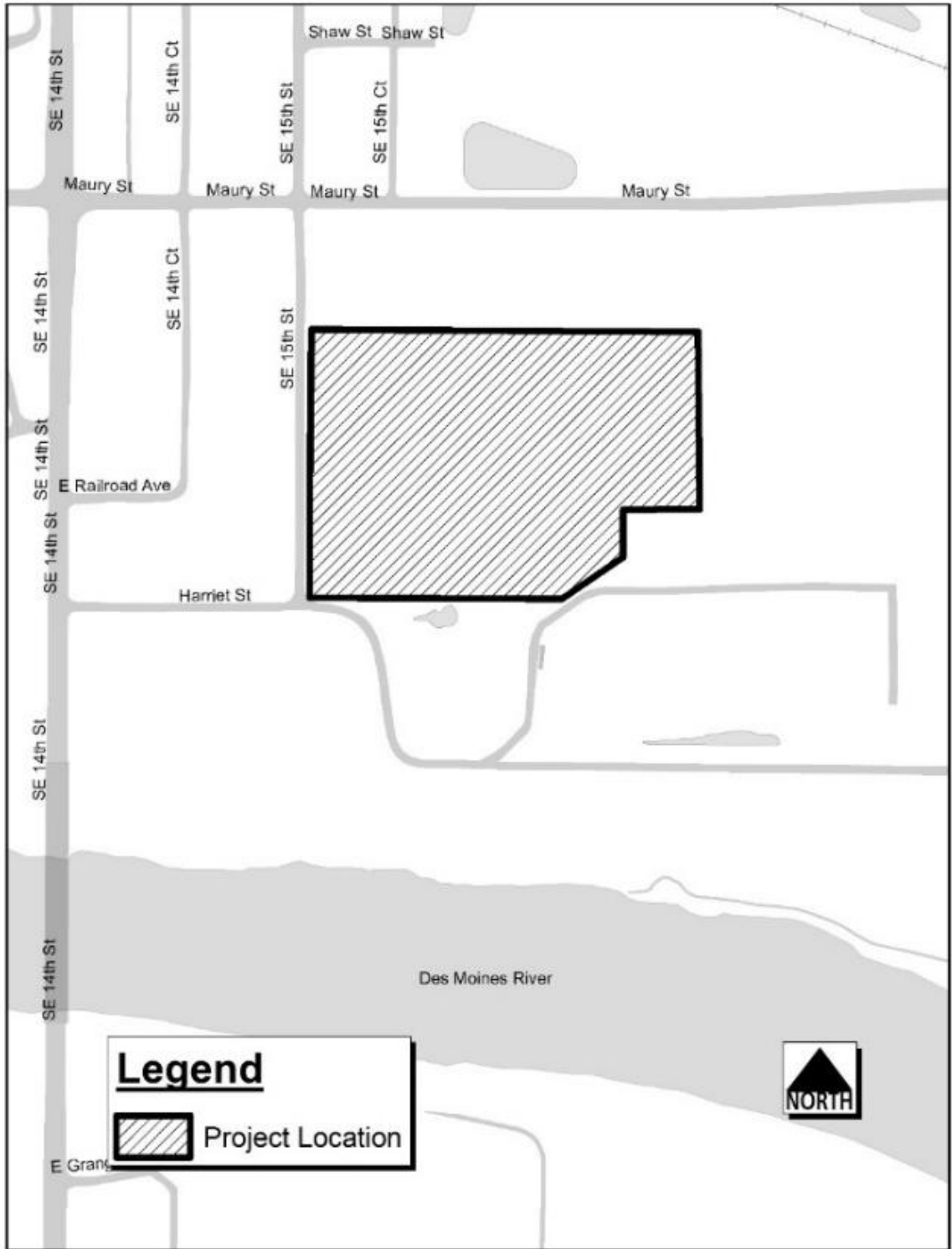
Amount: \$1,015,484

Funding Source: 2022-23 CIP, Page 60, Greenhouse Relocation, BL134, Being: American Rescue Plan Act (ARPA) Funding and \$54,374.32 from design consultant.

ADDITIONAL INFORMATION:

- The Harriet Street Solar Field project includes constructing solar arrays to provide renewable energy to two (2) new City of Des Moines facilities currently under construction - the Animal Control Facility at 1441 Harriet Street and the Greenhouse Facility at 1553 Maury Street. Solar arrays will be located on approximately six (6) acres of City-owned property in the area east of S.E. 15th Street, north of Harriet Street, and south of Maury Street. Work includes clearing and grubbing, ballast-mounted solar arrays, inverters, electrical infrastructure, and associated sitework, including security fencing, security cameras, and native seeding; also, includes an add alternate for additional site clearing and native seeding in an area adjacent to the solar field.
- On December 12, 2022, under Roll Call No. 22-1941, the City Council approved plans and specifications for the Harriet Street Solar field project and designated the lowest responsible bidder as Van Maanen Electric for \$1,983,314.
- The solar arrays were to be sized by the design professional to provide 110% of the annual electrical usage for both the Greenhouse Facility and the new Animal Control Facility, both currently under construction. The Greenhouse Facility solar array was sized correctly, but the Animal Control Facility solar array was inadequately sized.

- The Animal Control Facility solar array size was miscalculated by the solar design subconsultant for the architect. The solar design subconsultant is also serving as a design subconsultant for other system components included in both the Greenhouse Facility and Animal Control Facility, providing engineering services for structural, mechanical, plumbing, electrical, fire suppression, and technology. The miscalculation occurred because the solar design subconsultant mistakenly sized the solar array using an earlier energy model created to evaluate and size only the geothermal system for the Animal Control Facility, which did not accurately reflect all the energy needs of the building. This was discovered by the solar design subconsultant once the energy model was developed further, and the total energy use was calculated correctly. The Animal Control Facility solar array size, per the contract documents, is sized to provide only 48% of the annual electrical usage for the building, failing to meet the project requirement to provide 110% of the annual electrical usage.
- The architect and the solar design subconsultant acknowledged the mistake in miscalculating the Animal Control Facility solar array size and have offered to offset Change Order No. 1 costs in the amount of \$54,374.32, which was calculated by City staff and is equivalent to the estimated increased cost the City is now realizing by adding solar arrays by change order. The architect and the solar design subconsultant are performing the added design necessary to include the additional solar arrays at no cost. If the design had been correctly calculated and initially designed to the City's project requirements, the added solar array equipment would have been included in the original bid documents. The architect and the solar design subconsultant have indicated they will be reimbursing the City for its added costs in the form of a check to the City.
- Change Order No. 1 includes the following changes to the construction contract:
 - Revises the Animal Control Facility solar array from a size of 382 kW DC to 875 kW DC, including additional solar panels, non-penetrating ballast racking, wiring, inverters, and increased electrical component sizing.
 - Additional topsoil stripping, grading, and topsoil respread to account for increased solar array footprint.
 - Additional 500 feet of site fencing to account for increased solar array footprint.
 - Two (2) additional cameras to account for increased solar array footprint.
 - Revised pollinator lawn and native seeding for increased solar array footprint.



PREVIOUS COUNCIL ACTION(S):

Date: December 12, 2022

Roll Call Number: [22-1941](#) and [22-1942](#)

Action: On Harriet Street Solar Field: Resolution approving plans, specifications, form of contract documents, engineer's estimate, receive and file bids, and designating the lowest responsive, responsible bidder as Van Maanen Electric, Inc. (Nathan S. Van Maanen, President), \$1,983,314. (Council Communication No. 22-575) Moved by Mandelbaum to adopt. Second by Voss. Motion Carried 7-0.

- (A) Approval of contract and bond and permission to sublet. Moved by Mandelbaum to adopt. Second by Voss. Motion Carried 7-0.

BOARD/COMMISSION ACTION(S):

Board: Zoning Board of Adjustment

Date: July 27, 2022

Resolution Number: ZBOA 2022-000078

Action: Appeal for a Conditional Use (per City Code Section 134-6.4) for a "Utilities and Public Service Facility, Major" use in an "I1" District, to Construction of a ground-mounted solar farm facility in an "I1" District comprised of solar panels, inverters, control systems, underground transmission lines and other associated equipment, is granted. The Decision and Order was adopted by a vote of 5-0, with all Board members present voting in favor thereof.

ANTICIPATED ACTIONS AND FUTURE COMMITMENTS:

Partial payments to the contractor and final acceptance of work.

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