

WOODBURY COUNTY BOARD OF SUPERVISORS AGENDA ITEM(S) REQUEST FORM

Date: 10/06/2021 Weekly Agenda Date: 10/12/2021

ELECTED OFFICIAL / DEPARTMENT HEAD / CITIZEN: Mark J. Nahra, County Engineer

WORDING FOR AGENDA ITEM:

Approve proposal for culvert repair on county route D50, west of Union Avenue

ACTION REQUIRED:

Approve Ordinance

Approve Resolution

Approve Motion

Public Hearing

Other: Informational

Attachments

EXECUTIVE SUMMARY:

The county engineer received a quotation from Uretek for filling voids and raising pavement over an existing 9 foot diameter culvert.

BACKGROUND:

The county has worked to stabilize a 9 foot diameter, 210 foot long culvert under the paved county route D50. The county road department has cut off water undermining the culvert, but continued settlement of the pavement has persisted. Dynamic cone penetrometer testing has been conducted and weak spots have been identified. A two year warranty on the work will be provided.

FINANCIAL IMPACT:

The project is paid for with local Woodbury County secondary road funds.

IF THERE IS A CONTRACT INVOLVED IN THE AGENDA ITEM, HAS THE CONTRACT BEEN SUBMITTED AT LEAST ONE WEEK PRIOR AND ANSWERED WITH A REVIEW BY THE COUNTY ATTORNEY'S OFFICE?

Yes No

RECOMMENDATION:

I recommend that the Board approve the proposal for culvert repair.

ACTION REQUIRED / PROPOSED MOTION:

Motion to approve the proposal from Uretek for \$82,000.00.

URETEK

PROPOSAL FOR SERVICES

Prepared for:

Mark Nahra

Woodbury County, IA

09/21 Woodbury County - Culvert - 250th and Union

Prepared by:

Kevin Stumpff

Regional Project Manager

URETEK USA, Inc.

(402) 417-8407

kstumpff@uretekusa.com

www.uretekusa.com

Proposal date:

September 28, 2021



URETEK

Mark,

URETEK USA, Inc. is pleased to present this proposal for our safe, non-intrusive, and long-lasting polymer repair solutions. URETEK pioneered and refined the polymer ground injection technology in use today. We have 30 years in the business and over 100,000 (and counting) successful projects to date.

Scope of Work:

9' culvert with a steep drop has eroded around the outside of the culvert in the past. A bulkhead has been constructed at the uphill side and is working. Previous voiding has been partially remediated via flowable fill.

Preliminary DCP tests have been performed by Onsite Discovery and indicate soil weakness above the culvert. See the DCP Report.

URETEK recommends the following treatment plan to remediate the weakened soils as well as lift and re-align the roadway.

- South Shoulder Area
 - 2 Rows of Injections at -4' and -8' above the culvert.
 - 2 Rows of injections at -4' for 12' on both sides of the culvert.
- South Lane (Eastbound Lane)
 - Injections at -4' and -8' above the culvert.
 - Injections at -4' for 12' on both sides of the culvert.
- North Lane (Westbound Lane)
 - Injections at -4', -8', and -12' above the culvert.
 - Injections tapering up from -12' to -4' on both sides of the culvert for 12' in either direction.
- North Shoulder Area
 - Injections at -4', -8', and -12' above the culvert.
 - Injections tapering up from -12' to -4' on both sides of the culvert for 12' in either direction.

This work shall consist of soil densification to strengthen base and sub-base soils under flexible asphalt, concrete, or composite pavement, by furnishing and injecting expansive polyurethane material into the foundation soils beneath the pavement through holes or injection tubes inserted into drilled holes at locations and depths, as shown on the plans or as directed by the Engineer, while monitoring for movement at the surface. If necessary, injection of material shall continue as needed to lift the pavement to grade.

This problem can be addressed by utilizing the URETEK Deep Injection® (UDI) or the URETEK Method® process in conjunction with our URETEK 486 STAR® hydro-insensitive polymer.

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Construction Details:

URETEK will perform the following operations:

- If required, Dynamic Cone Penetrometer (DCP) tests at locations chosen by the URETEK Supervisor will be executed. DCP tests will be used to confirm existing subgrade and/or foundation soil conditions, to locate voids, and to assist in determining or confirming injection depth(s). This plan will include depths, spacing, and pattern for all injections. If testing shows additional injection levels are needed, the URETEK Project Manager will get approval from the client prior to proceeding.
- Pavement Profile will be taken every 10 ft. in a longitudinal direction on edges and center of work area. Profile spots will be taken before and after injections and documented for review. During the procedure for void fill and/or pavement lifting, injections will be monitored by laser level, dial indicator, and/or string line.
- For UDI, holes will be vertically drilled to a depth sufficient to penetrate below the pavement and into the subgrade. Injection tubes will be inserted to the required depth(s) determined by the DCP test results. The holes shall be sufficiently spaced to fill voids and realign the pavement.
- Production units will have mounted proportion pumps capable of maintaining proper polyurethane component material temperature, material pressure and proper mixing of component materials.
- Certified and calibrated Flow Meters will read injected material amounts of components ("A" + "B").

Proposed Cost:

URETEK 486 STAR (LB)
12,000 LB @ \$6.50/LB = \$78,000.00

Mobilization (Each)
1 Each @ \$4,000.00/Each = \$4,000.00

Total Estimate: \$82,000.00

Changes to Scope of Work:

All change orders must be approved in writing and signed on behalf of URETEK and the project site representative.

Items not Included in Quote:

Traffic Control, Bonding/Bond Participation, Saw Cutting, Sales Tax, Joint/Crack Sealing, Milling of Existing Asphalt Wedges (if required), Certified/Prevailing/Davis Bacon Wages

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Payment Terms:

If agreement is by the pound, client will only pay for product installed. Payment terms are net 30 unless the contract states differently.

Warranty:

URETEK will provide a two-year unconditional warranty against settlement of more than 1/2" of the injected areas. In the unlikely event that movement of more than 1/2" in the injected areas occurs, URETEK will return to inject the affected area to lift to proper grade at no charge to the owner. If traffic control is not included in this proposal, URETEK would require that any traffic control required to perform the warranty work be provided by the owner.

Any bonded project shall only provide a one-year warranty from date of substantial completion. This shall not impact the URETEK two-year unconditional warranty described above.

This warranty shall be null if:

The only exception to the warranty is if the DCP tests reveal problems deeper than the approved injection plan and the client chooses not to address those problems at the time of this project.

Indemnification & Hold Harmless:

To the fullest extent permitted by law, the Subcontractor shall indemnify and hold harmless the Contractor, the Contractor's other subcontractors, the Architect, the Owner and their agents, consultants and employees (the Indemnities) from all claims for bodily injury and property damage other than to the Work itself that may arise from the performance of the Subcontract Work, including reasonable attorneys' fees, costs and expenses, that arise from the performance of the Work, but only to the extent caused by the negligent acts or omissions of the Subcontractor, the Subcontractor's Sub Subcontractors or anyone employed directly or indirectly by any of them or by anyone for whose acts any of them may be liable. This indemnity includes if the Subcontractor or any of its agents, employees, suppliers, or lower-tier Subcontractors utilize any machinery, equipment, tools, scaffolding, hoists, lifts or similar items owned, leased, or under the control of the Contractor. The Subcontractor shall be entitled to reimbursement of any defense cost paid above Subcontractor's percentage of liability for the underlying claim to the extent attributable to the negligent acts or omissions of the Indemnities.

Schedule:

Schedule will be discussed between URETEK and client after all paperwork has been approved by both sides. Operations can accommodate day or night/weekday and/or weekend work depending on the client's schedule. Traffic can be returned to the project area 15 minutes after our last injection.

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Merit Shop Contractor:

URETEK USA, Inc. is a merit shop contractor and all services provided by this proposal will be on a merit shop basis. All reference to labor agreement of any kind, or alluded to, in a contract in principle or a sub-contract, are set aside and not part of this proposal.

Operating Classification:

URETEK USA, Inc. is a self-performing, SBA designated, Small Business Entity.

Primary NAICS:

237310 - Highway, Street, and Bridge Construction

Secondary NAICS:

237110 - Water and Sewer Line and Related Structures Construction

237990 - Railroad Construction & Other Heavy and Civil Engineering Construction

236118 - Remodeling Construction

236210 - Industrial Building Construction

236220 - Construction (including new work, additions, alterations, maintenance, and repairs) of

Commercial and Institutional Buildings and Related Structures

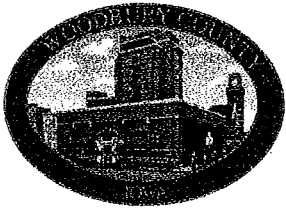
238190 - Other Foundation, Structure, and Building Exterior Contractors

238990 - Specialized Trade and Site Preparation

DUNS #: 556910990

CAGE code: 1T9Y9

URETEK USA, Inc. is an Equal Opportunity Employer hiring minority, disadvantaged, disabled, and veteran personnel.



Woodbury County Secondary Roads Department

759 E. Frontage Road • Merville, Iowa 51039
Telephone (712) 279-6484 • (712) 873-3215 • Fax (712) 873-3235

COUNTY ENGINEER
Mark J. Nahra, P.E.
mnahra@sioux-city.org

ASSISTANT TO THE COUNTY ENGINEER
Benjamin T. Kusler, E.I.T.
bkusler@sioux-city.org

SECRETARY
Tish Brice
tbrice@sioux-city.org

To: Board members

From: Mark Nahra, Woodbury County Engineer

Date: October 6, 2021

Subject: D50 Culvert Repair

I am recommending the Urettek repair method under the D50 pavement around a corrugated metal pipe culvert that has had multiple problems with undermining, and pavement settlement dating back to 2008. In the intervening years, we have repaired the road embankment at the inlet and outlet side of the culvert, pumped grout under the pavement to fill voids and patched the pavement in the westbound lane of county route D50. We also built a headwall structure at the inlet of the culvert to cut off water that persisted in undermining the culvert. The pavement over the culvert has continued to settle, however, and over 3" of settlement is present. Farm trailers and trucks bounce over the culvert as exhibited by skid marks east and west of the box centerline.

The culvert was constructed in 1983 and is in good condition. Replacing the culvert would cost more than \$500,000. Looking at the condition of the current CMP culvert, we should have 20-25 years of life left in the culvert. In evaluating a repair, I considered removing the pavement, excavating around the culvert, backfilling with select material, and patching the PCC Pavement. This cost was estimated to be around \$100,000 and would close the road for 2-3 weeks, followed by 1-2 months with an aggregate surfacing over the culvert, finally followed by PCC patching at a later date.

The cost of the Urettek repair is estimated at \$82,000. The work can be done under traffic with a single lane closure and flaggers controlling traffic. Other counties in Iowa and Nebraska have utilized this repair method and had good success. Work would take 1-2 days with minimal traffic interruption. The company also warrants their repair to not settle more than ½ inch for two years following the completion of repair. I believe this method is worth trying to extend the life of the pavement and culvert and recommend approval of the proposal from Urettek.

Please contact me if you have any questions.