

EXPERIMENTAL PROJECTS WORK PLAN

Electric Wildlife Deterrent Mat (EWDM) Evaluation

Location: Broadwater County/Butte District: U.S. 287/12; C000008 (P-8), Approximate Reference Point 88

Project Name: Toston Structures

Project Number: CN 7668

Experimental Project No.: MT-18-01

Type of Project: Wildlife Crossing Structure

Principal Investigator: Craig Abernathy: Experimental Project Manager (ExPM)

Technical Contact: Deb Wambach: MDT Helena Environmental

Description

Generically known as electric mats, these structures are crossing deterrents to discourage animals from entering an area deemed necessary to be 'animal free' to mitigate conflicts with travelling motorists. These mats incorporate a mild electric shock when a hooved animal attempts to enter the crossing.

These EWDM units are embedded directly in the pavement (concrete and metal composite material). Electric mats serve as an alternative to cattle guards and other non-electric crossing structures to manage ungulate movements.

The information gathered and analyzed from this project may result in a better understanding of how existing roadways may be utilized as wildlife barrier structures. In addition, to gain a better understanding of how "funnel" fencing can be used on existing and future projects. The end result will be a roadway system that is safer for motorists and wildlife.

Experimental Design

The project will incorporate wildlife fencing and will require two EWDM installations at each end of the designated ungulate free zone. One will be located at the north end of the bridge over the Missouri River and the other at the south end of the deck project.

The selected is EWDM is the ZapCrete™. The following is the vendor's information:

CrossTek LLC
2212 Queen Anne Avenue N 519
Seattle, WA US 98109
330.414.1955
Contact: Tim Hazlehurst
timhazl@aol.com

Monitor Wildlife-Vehicle Conflict: After fence and mat installation, Research along with Biology and Maintenance staff will gather data related to the location and/or frequency of potential wildlife/vehicle conflicts along the stated study area. If possible, these data will be compared to the current statistics prior to wildlife deterrent installation. In addition, information will be added regarding any activities associated with maintaining these units and/or repairs required to maintain performance.

Evaluation Procedures

Construction Documentation: The Research Section will document the construction methods and equipment, material placement, weather, and specification conformance etc.

Post Documentation: Will entail semi-annual site visits/inspections of the study area, collection/analysis of available data, and data interpretation for inclusion in to the annual and final reports; in addition to include any maintenance activities associated with the EWDM units.

Evaluation Schedule

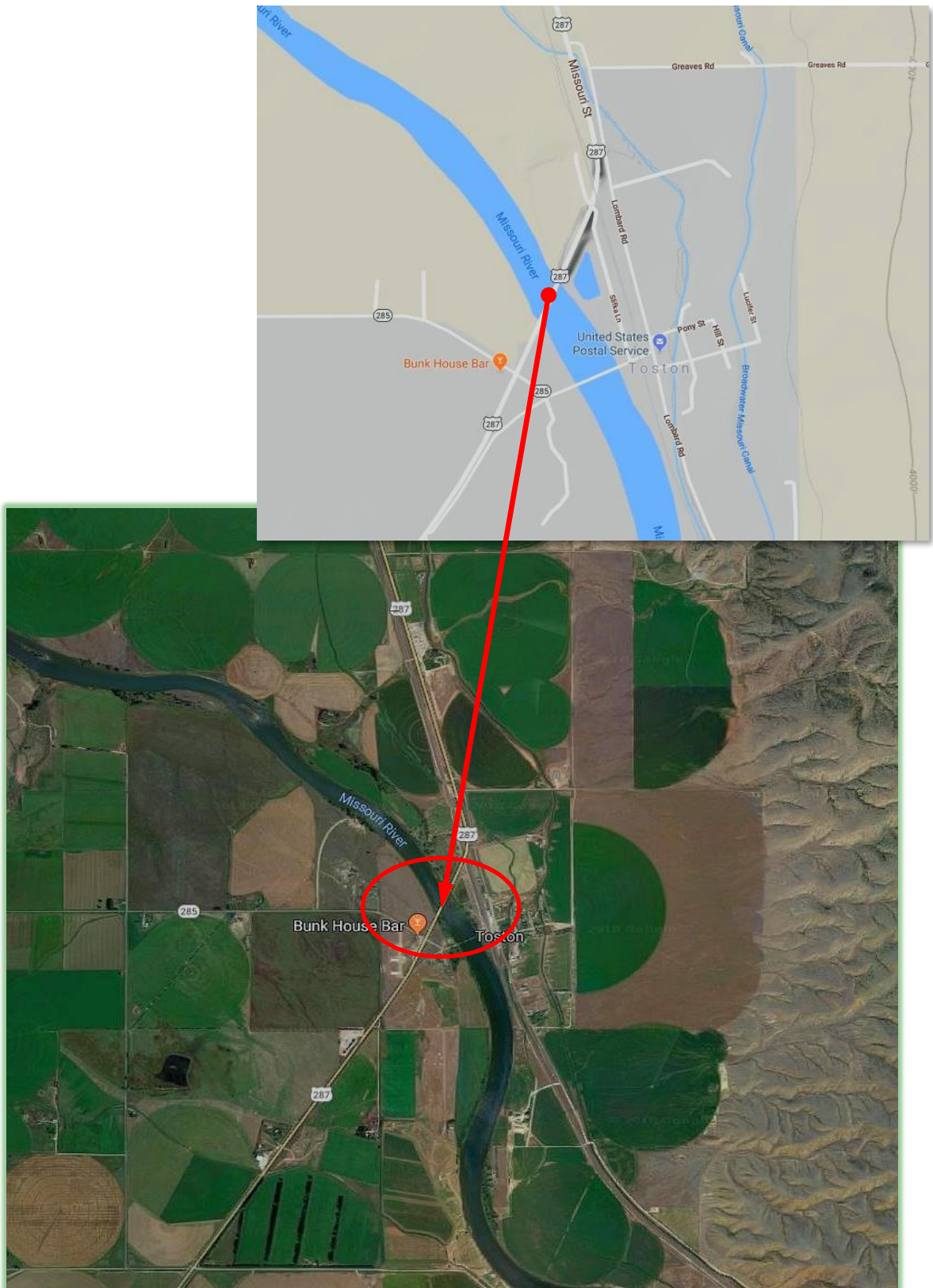
Research will monitor and report on performance for a minimum period of five years annually, with every year up to *ten years (informally). This is in accordance with the Department's "Experimental Project Procedures". Delivery of a construction/installation report, interim, annual or semi-annual reports is required as well as a final project report (responsibility of Research). A web page will be dedicated to display all reporting from the project.

2020:	Installation/Construction Report
2021-2022:	Semi-Annual Inspections/ Annual Evaluation Reports
2025:	Final Evaluation/Final Report

*If considered the extra data collection and analysis will add value to the overall results of the project.

*Overview of Approximate Location of the ZapCrete EWDM Installations

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*Values Approximate: Not to Scale