



MEMORIAL HIGHWAY IMPROVEMENTS

Newsletter #6
*Stormwater and
Drainage Basics*

Where does the water go?



Currently, the roadway is designed as a 'rural section' which means water drains off the roadway into the ditch. Sometimes, during high flow events or spring melt, this water causes ponding in the ditches and adjacent properties. Currently, runoff from smaller rainfall events doesn't freely drain out of the system and tends to collect in the roadside ditches and other low areas along the corridor where it evaporates and infiltrates into the ground.

What are the requirements the final design needs to meet?

DESIGN REQUIREMENTS

10
Year

24-hour rainfall event
3.1 inches in 24 hours

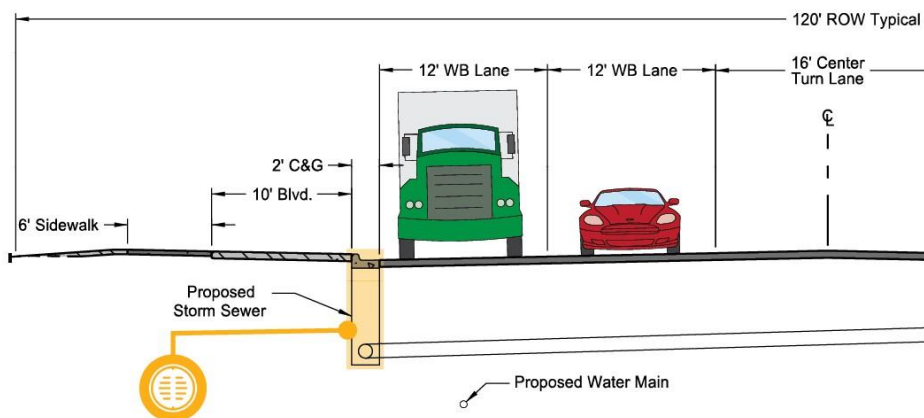
100
Year

24-hour runoff event
5.3 inches in 24 hours

Both the NDDOT and the City of Mandan design standards require street stormwater collection systems to collect and convey the 10-year 24-hour rainfall event. The City of Mandan also requires that the 100-year 24-hour runoff event be collected and conveyed in a manner that does not inundate surrounding property. Establishing curb and gutter on the edge of the roadway will help capture these flows and guide them on the roadway and into the storm sewer system.

A 10-year event has a 10% chance of occurring or exceeded in any given year. A 100-year event has a 1% chance of occurring or exceeded in any given year.

How will proposed improvements help?



Drainage improvements along the roadway include a storm sewer system

The goal of the design is to capture the water that falls on the roadway into a storm sewer system that will be built under the roadway. The proposed storm water system will collect water from the road corridor at inlets located along the

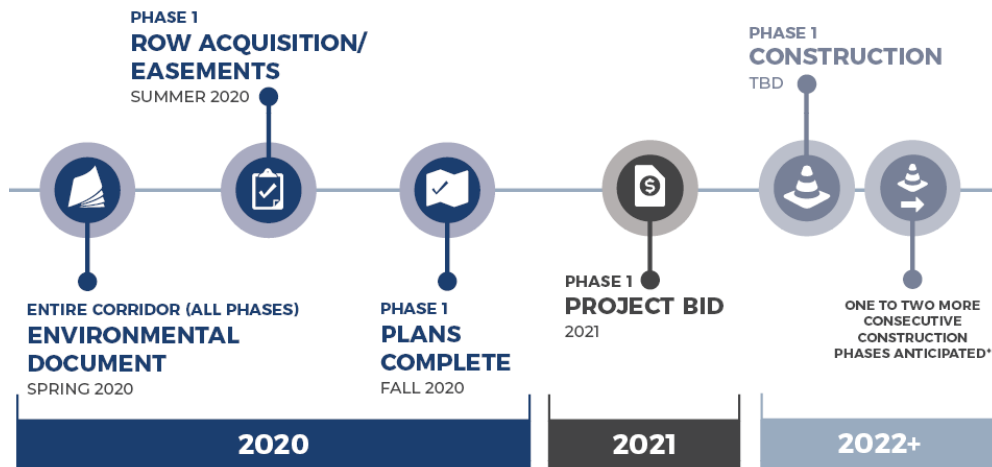
curb and gutter and from area drains near the outside edge of the road to reduce ponding; then gravity drain to pump stations or to existing drainage channels.

What might the roadway with curb and gutter look like?



To help illustrate what these improvements might look like, we have developed an interactive rendering of a portion of the highway which allows users to get a 360 degree view of what these improvements will look like. [Click here](#) to explore the rendering.

Here's what's next...



Tentative Schedule

The North Dakota Department of Transportation has created a website for the project. Visit dot.nd.gov/projects/memorialhwy for more information. To submit comments, email input@memorialhighwayproject.com. Periodic updates will also be posted to the cityofmandan.com website.

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