

## Trench Grates Prevent Flooding on State Route

**R**oute 110 in Huntington, N.Y., was prone to intense flooding and poor drainage. The New York State Department of Transportation (NYSDOT) worked to find a solution that would both minimize the flooding and be safe for vehicle traffic. NYSDOT's "extreme" trench grate system solution called for box culverts with transverse drainage grates. The grates that were needed would be significantly larger than those typically used—a span of 102 in., versus 12 to 24 in. Additionally, traction between tires and the grating was a concern. Flat grating could be too slippery in wet conditions, and might not have allowed for the proper traction required by the NYSDOT. Another challenge included a higher H-25 wheel load requirement that would need to be met.

EJ, headquartered in East Jordan, Mich., has branches worldwide, including a Syracuse, N.Y., fabrication facility. The company decided to take on the project, which included 42 large and six small heavy-duty, galvanized, steel-bolted trench grates and frames. Engineers at EJ were able to present a design that met the NYSDOT requirements.

To ensure safety for drivers, EJ applied a concept

that mimicked the Americans with Disabilities Act-compliant Detectable Warning Plates it makes for walkways.

An independent testing facility was hired to test the various skid-resistant designs that EJ developed for the surface of the grating. NYSDOT decided on a flat grate with a Safety Sure Grip top surface, which was found to be effective, wear resistant and durable. The grates were manufactured by EJ using American steel and materials to meet Buy American requirements.



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