Transit Terminal Inlets Reconstructed Using Grade Rings

he Champaign-Urbana (III.) Mass Transit District boasts more than 12 million riders annually. The terminal's concrete pavement is approximately five years old and there is a constant flow of coach buses through the terminal drive, causing a problem with premature failure around storm water inlets. The pavement surrounding three of these inlets had deteriorated and was replaced three years ago under warranty by the original contractor.

The previously repaired areas had sunk and new repairs were once again needed. Inlet No. 1001 was repaired on Aug. 19, 2014, and during excavation, the contractor found that the top two concrete grade adjustment rings were broken into multiple pieces and only held together by the steel reinforcing wire. The extruded butyl rope typically used under the casting and between the concrete grade rings had been pushed out of the joints into the inlet. This was likely the primary cause of the failure at this particular inlet. The contractor also reported similar findings at the other two inlets that were reconstructed.

Due to the premature failures of these inlets, another method of construction had to be found. Pro-Ring by Cretex Specialty Products was selected. It is manufactured from

expanded polypropylene, a lightweight, highstrength plastic that

has an



energy-dissipating property, weighs 95% less than typical grade rings, meets or exceeds AASHTO HS-25 loading and has high chemical resistance. Because the units are installed using a construction adhesive/sealant, the use of the butyl rope was eliminated, resulting in a long-term repair. All three of the inlets were adjusted with the products, and to date there have been no signs of pavement failure or settlement around the reconstructed inlets.

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