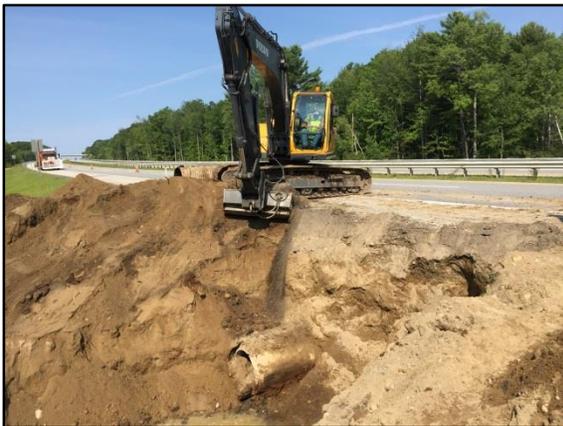


### Drainage Culvert Repairs

Drainage culverts that cross the Turnpike were originally constructed using concrete pipe under the paved sections of the roadway, extending from outside pavement edge to outside pavement edge on each bound. Corrugated metal pipe (CMP) end sections were then installed to extend the culvert pipe to the bottom of the roadway embankment and to the ditch line. These end sections are typically 20 feet long and have a life expectancy of approximately 50 years before they rot out. Many of these culverts ends that were not replaced during the Widening are now failing in sections of the Turnpike from Portland to Gardiner. Some of these culvert end replacements are included in Capital Improvement Projects, while others are replaced by Highway Maintenance Staff each year. The pictures below show the replacement of two culvert ends undertaken by the Litchfield and Gardiner Highway Maintenance crews at MM 92.5 northbound in which the crew excavated and removed the old pipe ends, installed new corrugated HDPE drainage pipe, and then reconstructed the embankment. This work took approximately 8 hours to complete. In some cases, side slope flattening to improve the roadside clear zone attributes is also undertaken. The life expectancy of corrugated HDPE drainage pipe is approximately 100+ years.



*Excavating and removing the old pipe ends.*



*Old pipe removed. Note rotted-out invert.*



*Installing the new corrugated HDPE pipe ends.*



*Backfilling and finishing the side slopes.*

### Crack Sealing

Each year, the Authority spends approximately \$10M on pavement rehabilitation projects. To help protect this investment and extend pavement lifespan, Highway Maintenance crews identify pavement sections that have experienced substantial cracking and seal all transverse and longitudinal cracks within the section with hot rubberized asphaltic material. Sealing cracks in the pavement surface helps to keep moisture from penetrating into the pavement, which can cause damage to pavement during the freeze thaw cycle. Recently, the Gray Maintenance crew crack sealed MM 64 to MM 68, including pavement at the New Gloucester ORT facility.



*Hot lancing a transverse crack at MM 66.5. This cleans out the crack and heats it up to accept the hot liquid asphalt.*



*Crack sealing at the New Gloucester ORT facility.*