

Substitution of manual hacking with the use of Qui-Cutter

Conventional method of removing the overcast top portion of diaphragm wall is by manual hacking using breakers. Workers operating the breaker are exposed to noise levels above 90 dBA and hand-transmitted vibrations.

The use of Qui Cutter to replace the hacking process successfully reduced the workers' noise exposure and eliminated the vibration they experienced. Qui Cutters are installed onto the reinforcement bars along the line where the portion of the wall is to be removed. The Qui cutter will expand upon contact with the water in the cement. When it reaches full expansion, the Qui Cutter weakens the cement structure around it and cracks will develop. This allows for easy extraction of the top portion of the wall above where the cracks develop.

With the use of Qui Cutter, a noise reduction of approximately 14 dBA was achieved.



Installation of Qui Cutters



Lowering setup into trench



Visible cracks formed



Extraction process