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DEP Begins Two-Month Shutdown of Shandaken Tunnel for Rehabilitation Work at Intake Chamber

Shutdown marks next phase of \$47 million rehabilitation of Shandaken Tunnel Intake Chamber

The New York City Department of Environmental Protection (DEP) today began an eight-week shutdown of the tunnel that carries water from Schoharie Reservoir to the Esopus Creek and Ashokan Reservoir. The shutdown, which is scheduled to last until April 30, will allow divers to install a massive plug within the intake structure, setting the conditions for them to safely remove and replace gates that control the flow of water into the tunnel. The work is part of a \$47 million rehabilitation of the Shandaken Tunnel Intake Chamber.

The timing and duration of the shutdown was planned in close coordination with experts from the state Department of Environmental Conservation. Because the tunnel contributes water to the Esopus Creek, the shutdown was planned to coincide with the period of spring rains and melting snow that have historically provided the greatest quantity of natural flow within the creek. The temperature of water in the creek will also not be a concern during early spring.

Work happening during this shutdown period is key to the full-scale rehabilitation of the Shandaken Tunnel Intake Chamber. That facility controls the flow of drinking water from Schoharie Reservoir into the Shandaken Tunnel, which travels 18 miles through the Catskill Mountains. That tunnel discharges into the Esopus Creek to help refill Ashokan Reservoir throughout the year.

During this shutdown, skilled divers will install a plug and bypass system within the intake structure. The approximately 8-foot-diameter plug will block the flow of water into the Shandaken Tunnel to protect the safety of divers while they remove and replace eight sluice gates that control the flow of water into the tunnel. The eight gates were installed during the 1920s when the reservoir was built. Three of them are currently inoperable. Last year, divers descended about 130 feet into the gate shaft and used sonar equipment to take precise measurements of the gates and the grooves that guide them. Those measurements were used to fabricate new gates, lifting mechanisms and other infrastructure to restore the full function of the intake chamber.

A bypass system—which includes a pipe that runs through the plug—will also be installed during this shutdown. That bypass pipe will allow DEP to safely move up to 100 million gallons of water each day into the tunnel without harming the divers or their work.

Work to replace the gates is expected to take approximately two years, from 2019-2021. DEP's ability to move water from Schoharie Reservoir into the Esopus Creek will be limited during that time. While the gravity-fed bypass pipe can convey up to 100 million gallons each day, its capacity at any given time will depend upon reservoir elevation.

A portion of the limited-capacity bypass system will be left in place and modified

More Information

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after the rehabilitation of the Shandaken Tunnel Intake Chamber is finished. The pipe will be connected to an articulating arm, which can pivot 45 feet up and down, giving DEP the ability to draw water from multiple depths within Schoharie Reservoir for the first time. The current intake structure only draws water from the bottom of the reservoir. In the future, this intake will help DEP convey higher quality water from Schoharie Reservoir and extend the life of its cold-water bank that supports the trout fishery on the Esopus Creek. Workers last year cored a 5-foot-diameter cylinder through the outer wall of the intake chamber in preparation for the bypass pipe. Additional cores will be drilled through the shaft wall during this shutdown for the installation of the bypass pipe, its control valves and other components.

In 2018, DEP also began work to improve the exterior and interior of the chamber. Approximately 4,200 slate shingles were installed on the roof of the chamber, along with new copper gutters. The bluestone structure was cleaned using a special micro-abrasion method to restore its original luster. All the lead paint inside the chamber was also successfully removed. Work on the building this year will include the installation of new energy-efficient windows and insulation. The inside of the building will be refurbished to include offices for approximately 12 DEP employees who work at Schoharie Reservoir and its watershed.

Shutdowns planned by DEP could be modified in the case of extreme weather or other unforeseen circumstances. DEP will consult with state regulators before and during each shutdown, and it will keep local residents and elected officials informed of the project as its continues. The rehabilitation of the Shandaken Tunnel Intake Chamber is one component of a \$400 million program to upgrade all the infrastructure at Schoharie Reservoir. A full-scale rehabilitation of Gilboa Dam was completed in 2014, and construction continues on new release works for the reservoir. Construction will also begin this year on a public overlook on the east side of Gilboa Dam, along Route 990V. A decorative-stone wall will include information displays about the New York City water supply, the history of Gilboa, and watershed recreation opportunities. [Several of the 380-million-year-old Gilboa fossils](#)—remnants of the oldest forest in the world – will also be displayed for people to enjoy at the new overlook.

About Schoharie Reservoir

Schoharie Reservoir, the northernmost reservoir in New York City’s water supply system, was built from 1919 to 1927. It was formed by the construction of Gilboa Dam, 2024 feet long and 182 feet high, which impounded the waters of Schoharie Creek. Schoharie Reservoir can store up to 19.6 billion gallons of water, and it accounts for nearly 15 percent of the drinking water delivered to New York City each day. Schoharie Reservoir collects water from a 314-square-mile watershed. It diverts that water through the 18-mile Shandaken Tunnel, which discharges into the Esopus Creek where it travels another 11 miles before entering Ashokan Reservoir. From Ashokan Reservoir, the water flows south through the 92-mile-long Catskill Aqueduct to New York City.

DEP manages New York City’s water supply, providing more than 1 billion gallons of high-quality water each day to more than 9.6 million New Yorkers. This includes more than 70 upstate communities and institutions in Ulster, Orange, Putnam and Westchester counties who consume an average of 110 million total gallons of drinking water daily from New York City’s water supply system. This water comes from the Catskill, Delaware, and Croton watersheds that extend more than 125 miles from the City, and the system comprises 19 reservoirs, three controlled lakes, and numerous tunnels and aqueducts. DEP has nearly 6,000 employees, including almost 1,000 scientists, engineers, surveyors, watershed maintainers and other professionals in the watershed. In addition to its \$70 million payroll and \$168.9 million in annual taxes paid in upstate counties, DEP has invested more than \$1.7 billion in watershed protection programs—including partnership organizations such as the Catskill Watershed Corporation and the Watershed Agricultural Council—that support sustainable farming practices, environmentally sensitive economic development, and local economic opportunity. In addition, DEP has a robust capital program with \$19.7 billion in investments planned over

the next decade that will create up to 3,000 construction-related jobs per year. For more information, visit nyc.gov/dep, like us on [Facebook](#), or follow us on [Twitter](#).

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