Seunghu Kim

HOW TO BREAK A CITY?

FROM Dismantling the Cityscape TO Hacking Infrastructure

Kingsbridge, 2022, Cyanotype on paper, 12 x 16 inches (Image by Maya Ciarrocchi)

SEUNGHU KIM

Seunghu Kim is an urban designer exploring ways to redefine the human relationship with nature, focusing on the right scale for design and framing a proper narrative.

How do you picture the river you grew up with? You might remember crisp pristine water between mossy freshness, flowing freely, confident in taking up as much space as it needs. All of New York City was once filled with streams like these, with rivers and wetlands.

Tibbetts Brook is one of these streams, buried when people covered it with concrete to build this city. For 7 miles it used to travel through the Bronx. Now, Tibbetts Brook flows south from a spring in Yonkers for 1.2 miles before entering an underground pipe. It then resurfaces for a short stretch inside Van Cortlandt Park. From there, the fresh water — some four to five million gallons a day — flows down a weir, a kind of a dam. Then it disappears into a pipe, and merges with New York City's sewer system to be treated unnecessarily. "Most people don't realize that, right? They look at it and they go, 'Oh, it's a waterfall,' without thinking about where that water goes," said Christina Taylor, deputy director of the Van Cortlandt Park Alliance.

Every day, about seven-and-a-half Olympic size pools worth of freshwater from Tibbetts Brook enters the city's sewer system, where it combines with household sewage and is delivered to the Wards Island Wastewater Resource Recovery Facility located on Randall's Island. When it rains, the 150-year-old sewer system cannot handle all the rainwater, and Ward's Island, as well as the city's 13 other treatment plants, spit excess untreated sewage into the rivers — a phenomenon called "Combined Sewage Overflow", or CSO.

Soon this will change, and the fresh water will not end its southward journey at the treatment plant. In June of 2024, New York City's Department of Environmental Protection and Parks and Recreation finalized a $11.2 million purchase of land from CSX Transportation, a railroad freight company that Tibbetts Brook flows under for one mile. Tibbetts Brook will be daylighted — the process of bringing a buried waterbody to its natural, above-ground path — and allowed to flow freely. Acquisition of the CSX property was the final piece needed to daylight the stream. This $144 million project will divert Tibbetts Brook from flowing into the city's sewer system to restore its original watercourse and discharge directly into the Harlem River.

This is the most ambitious green infrastructure improvement happening in the Bronx, which is expected to reduce the 220 million gallons of untreated sewage — kitchen grease, shower water, poop, garbage, and toxic oil — poured into the Harlem River. Karen Argenti of the Bronx Council for Environmental Quality, one of the groups behind the daylighting, described the news as particularly exciting for many Bronx communities: "Manhattan has greenways. We don't. We have a drawing on a map. They have an actual greenway."

Tibbetts Brook was dammed in the 18th century to create and power the mill pond in Van Cortlandt Park. The weir was constructed to control the flow of water. In 1912, Tibbetts Brook was completely buried as the marshlands that surrounded it were filled for development. "It was fine because we have a lot of green space that was absorbing all the rainwater, and we didn't have as many toilets to put into it. But you know, now we are at the point where it's not sustainable," said Taylor.

During superstorms, the impacts are particularly extreme. "When Sandy came, the storm surge came up the Harlem River and straight up to the CSX property to 238th Street and that was not during high tide" said Argenti. The Kingsbridge neighborhood was the most inundated, which is explained by the history of landscape: it used to be marshland through which Tibbetts Brook flowed. This is true in many of New York City's most flood-prone areas; the patterns of severe inundation areas align with former infill sites, historic watercourses, and wetlands. It seems like the forgotten watercourses are revealed during flash flood events, nature's way of reminding us what it used to be.

The idea to daylight Tibbetts Brook was first raised by the Bronx Council for Environmental Quality. The organization wanted to redirect the water to the Harlem River. According to Argenti, this took three decades of work. "It's a slow process. I mean... we had the drawings for the Daylighting of Tibbetts Brook in 1997." Once the Department of Environmental Protection understood the effects daylighting Tibbetts Brook could have on reducing combined sewage overflows, the project gained momentum. "It became very obvious that the only way they were actually going to reduce the CSO was by daylighting Tibbetts Brook, and that's what kind of sold it," said Taylor.

The plan is to modify the weir and daylight one mile of the brook, located in the Kingsbridge neighborhood. At 232th Street, it will enter a pipe again and from there it will be discharged into the Harlem River, not the sewer system. Multiple public access points will be constructed as well.

The project is currently in its final design phase which includes street access design and on-going restoration of Hester and Piero's Mill Pond. Construction is scheduled to begin in early 2026.

Daylighting is perhaps how we start to put cracks into our concrete cities. Tibbetts Brook could dismantle the cityscape through thoughtful deconstruction by unearthing the previously covered stream. It is a one way of adaptation between humans and nature, built infrastructure and natural systems — the wall we have imposed in our attempt to control nature, the line we draw against nature.

The water remembers its historic path and seeks freedom once again.

Tibbetts Brook Park (Image by @TheTurducken)