

STREAMLINE

News and Events at Louisville MSD

March 2019

OUR VISION

Achieving Safe, Clean Waterways
for a Healthy and Vibrant Community



Bumblebee—MSD's tunnel boring machine—is now at work 200-feet below Louisville

Eighteen stories underground, Louisville's largest infrastructure project is underway. MSD's massive tunnel boring machine is carving through bedrock to build the Waterway Protection Tunnel. Nicknamed "Bumblebee" in honor of Muhammad Ali, the 412-foot long machine will ultimately bore a four-mile-long tunnel to store combined stormwater and wastewater to prevent it from overflowing sewers and polluting our river and streams.

Bumblebee has taken a right turn from under the Ohio River near Ninth Street and is currently boring to a drop shaft by the Kentucky Science Center. When the side tunnel to the shaft is complete, the boring machine will back up to the main route. Over the next several months, the machine will continue east, moving deep under the river along the shore from downtown Louisville to Butchertown, then turning southeast and advancing to near Lexington Road and Grinstead Drive by the end of the year.

To remove the five-hundred-million-year-old rock from 18 stories underground, MSD dug and blasted two shafts into the bedrock and connected them by digging a tunnel between them. Cranes lowered the boring machine's parts down the shafts for the underground assembly of Bumblebee.

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OUR MISSION

Providing Exceptional Wastewater, Drainage
and Flood Protection Services for Our Community

24/7/365

502.540.6000 · CustomerRelations@LouisvilleMSD.org



Crews work to install a rail line to transport both workers and rock through the tunnel.



Excavated rock leaves the back of the boring machine by way of a conveyor belt. The rock travels to the tunnel's working shaft, where it is lifted out in muck cars by a crane.

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...tunnel boring machine...

How does Bumblebee work?

As the boring machine excavates the tunnel route, crews install locomotive tracks behind the machine. As the machine cuts through the rock, the rock fills a series of “muck cars.” A mini-locomotive then pulls the muck cars along the underground rail tracks to the working shaft near 12th and Rowan streets. A crane on the surface then lifts the muck cars filled with rock from the tunnel through that vertical shaft, which is 48-feet in diameter. Once the muck cars are empty, the crane lowers them back into the tunnel to repeat the process. Recently, crews installed a second set of locomotive tracks and muck cars to speed up the work. The excavated rock is loaded into dump trucks and transported to a local quarry.

After excavation is complete, the entire length of the tunnel is lined in concrete, making it watertight. The Waterway Protection Tunnel will store up to 55 million gallons of combined wastewater and stormwater during periods of heavy rain until capacity is available in the MSD sewer system. The contents are then pumped back into the system, conveyed to MSD’s Morris Forman Water Quality Treatment Center for proper treatment and later released into the Ohio River. The tunnel is slated to be operational by the end of 2020.



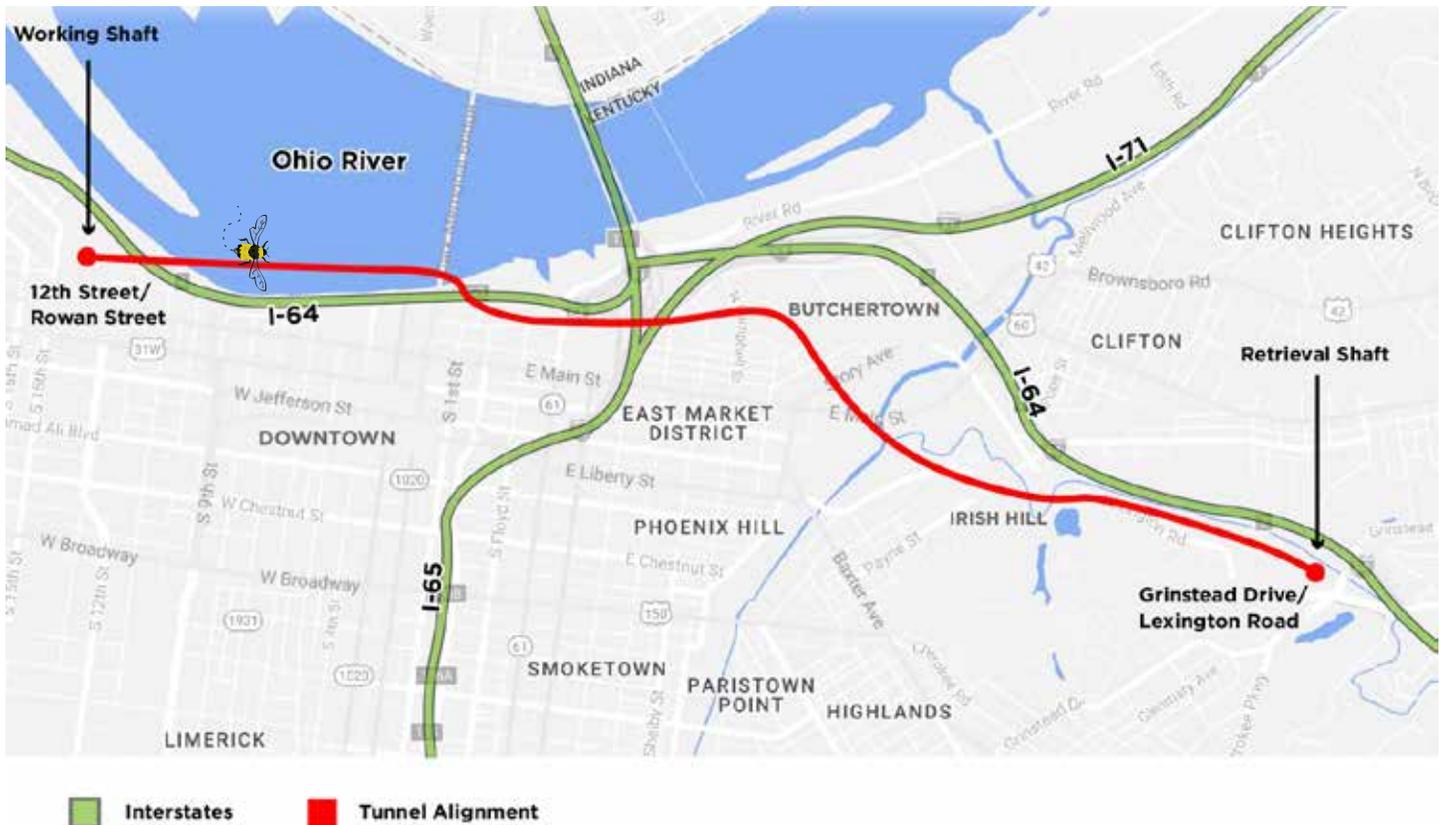
Excavated rock dumps from a muck car suspended by a crane.



To track Bumblebee’s progress under Louisville, please visit LouisvilleMSD.org/Tunnel.

Get Boring News at LouisvilleMSD.org/tunnel/newletter

Below: The path for the tunnel is shown in red. The boring machine is moving from west to east.





Waterway Protection Tunnel gains national attention



MSD Waterway Protection Tunnel Project and the project’s manager, Jacob Mathis PE, are featured in the online publication “Water Innovations” March edition.



The tunnel project is also featured in the Canadian publication “Tunnels and Tunnelling” magazine’s February/ March edition.

To view these articles and for more information about MSD’s Waterway Protection Tunnel, visit

Louisvillemsd.org/tunnel

Tunnel technology on display



MSD’s Waterway Protection Tunnel technology and the geological history of Louisville Metro are on display at the Kentucky Science Center. The interactive exhibit features core samples used by geologists and engineers to determine the path and depth of the tunnel, as well as why a tunnel is needed. You can find the exhibit in “The World Around Us” on the second floor of the Center.



Spreading the tree canopy

MSD recently approved a grant for planting 166 trees as part of the third annual “Planting O’ the Green.” Urban tree canopy restoration plays a vital role for MSD as we strive toward our vision of safe, clean waterways for our community. MSD is committed to planting 14,000 trees by 2024 as part of our Integrated Overflow Abatement Plan. The plantings are concentrated within Louisville’s combined sewer system boundaries. MSD’s tree planting will keep millions of gallons of stormwater from entering our sewer system, which helps decrease sewer overflows into our waterways.

Trees add value to your property

The Tree Benefits Calculator allows anyone to make a simple estimation of the benefits individual street-side trees provide. Visit <http://www.treebenefits.com/calculator/> to see the benefits trees can provide for your property.

Customer **Compliments**

Thank you to **Joey Ashby, David Johnson** and **Tony Kelly** for their time and assistance to help us understand the role MSD plays in the new subdivision approval process. As well as, outlining the exacting details of all that you do, and are capable of doing in terms of land drainage needs and requirements. We were impressed with your dedication, knowledge and skills. We appreciate your commitment to protecting neighboring communities, as well as new developments from water drainage issues. Your state-of-the-art “land reconnaissance” capabilities are amazing!

We appreciate your time and willingness to meet with us.

— Lynne Dowling
President Innisbrook Community HOA
Prospect, KY

**MSD is available 24/7
at 502.587.0603**

Report a sanitary sewer backup before contacting a plumber.



700 West Liberty Street
Louisville, KY 40203-1911



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The public is welcome to attend MSD Board meetings.
For MSD Board information and meeting schedule visit:
LouisvilleMSD.org/About-Us/MSD-Board



Upcoming Events

APRIL 8
Wet-Weather Stakeholder Meeting
5:15 PM, Shawnee Park Clubhouse
460 Northwestern Parkway

APRIL 11
Joint Utility Reception
1-3 PM, The Olmsted, 3701 Frankfort Avenue

APRIL 12
MSD Board Audit Committee Meeting
3 PM, 700 West Liberty Street

APRIL 17
MSD Board joint Infrastructure and Finance Committees Meeting
3:30 PM, 700 West Liberty Street

APRIL 22
MSD Board Meeting
1 PM, Open Session, 700 West Liberty Street



Beargrass Creek. — Photo courtesy of John Nation

Make plans now! Ohio River Sweep Saturday, June 15 · 9 AM to Noon



MSD proudly sponsors Ohio River Sweep with ORSANCO, LG&E and Louisville Water. The event is one of the nation's largest and longest-running environmental cleanup events.

MSD employees will equip volunteers with gloves and bags.

LouisvilleMSD.org/OhioRiverSweep