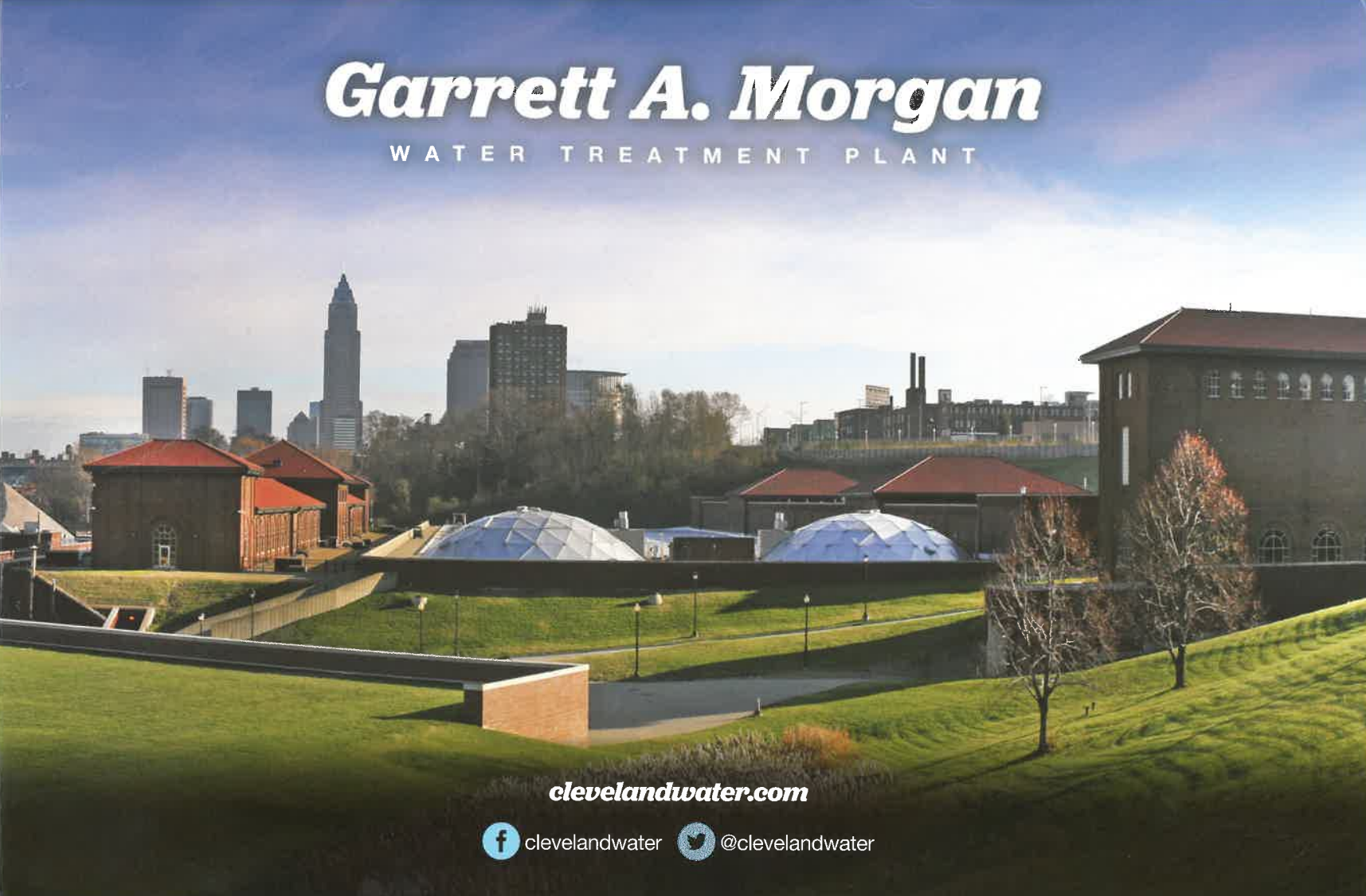
Garrett A. Morgan
WATER TREATMENT PLANT
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The Garrett A. Morgan Water Treatment Plant, built in 1916, was originally named the Division Avenue Pumping and Filtration Plant, and was constructed on the site of where the water system originated in 1856. This makes Morgan the oldest treatment facility within the Cleveland Water system. The architecture of Morgan is an example of the Mediterranean Romanesque style which was prominent in the Midwest in the late 1800s and early 1900s. The key features of this style are red tile roofs, red brick façade, and arched windows.

In 1991, the plant was renamed the Garrett A. Morgan Water Treatment Plant. It is named after Garrett Augustus Morgan, a local inventor and entrepreneur whose creations have made a positive impact on the world and are still being used today. He is known for inventing an improved traffic signal with a warning light; a zig-zag stitching attachment for sewing machines; and hair cream. However, his most notable invention was the gas mask, which in 1916 saved the lives of several men trapped during an explosion in an underground tunnel. It was being built beneath Lake Erie to extend the plant's intake farther offshore. This same gas mask was adopted by the U.S. Armed Forces during WWI and became the prototype for modern day firefighting hoods used to battle oil well fires.

From 2001 to 2012, Morgan underwent renovations as part of Cleveland Water's Plant Enhancement Program. The cost associated with these improvements was $177.2 million and consisted of: a new finished water pump station; renovated filters; a renovated Filter and Administration building and a raw water pump station; a new 15 million gallon reservoir; and the demolition of the old finished water pump building. Morgan has an Ohio EPA approved capacity of 150 million gallons per day, pumping an average of 60 million gallons of water a day to the residents and businesses located downtown and in the western and southern suburbs of Cleveland.

THE WATER TREATMENT PROCESS

Cleaning Lake Erie water to make it potable occurs at Cleveland Water's four treatment plants. We remove dirt, bacteria, viruses, parasites and chemical impurities from lake water and turn it into safe drinking water. Cleveland Water's treatment process inciudes primary steps of coagulation, flocculation, sedimentation, filtration, disinfection and finishing.

1. **CRIB**
3 to 5 miles offshore in Lake Erie, a crib protects the top of the pipe into which water flows.

2. **INTAKE TUNNEL**
50-feet beneath the bed of Lake Erie, the intake tunnel brings water back to land.

3. **SCREENS**
Mussel shells, fish and other debris are removed before raw water enters the treatment process.

4. **RAW WATER PUMPS**
Pumps move water from Lake Erie through the treatment process.

5. **RAPID MIX**
In only takes a few seconds to mix ingredients into the water that help microscopic particles clump together.

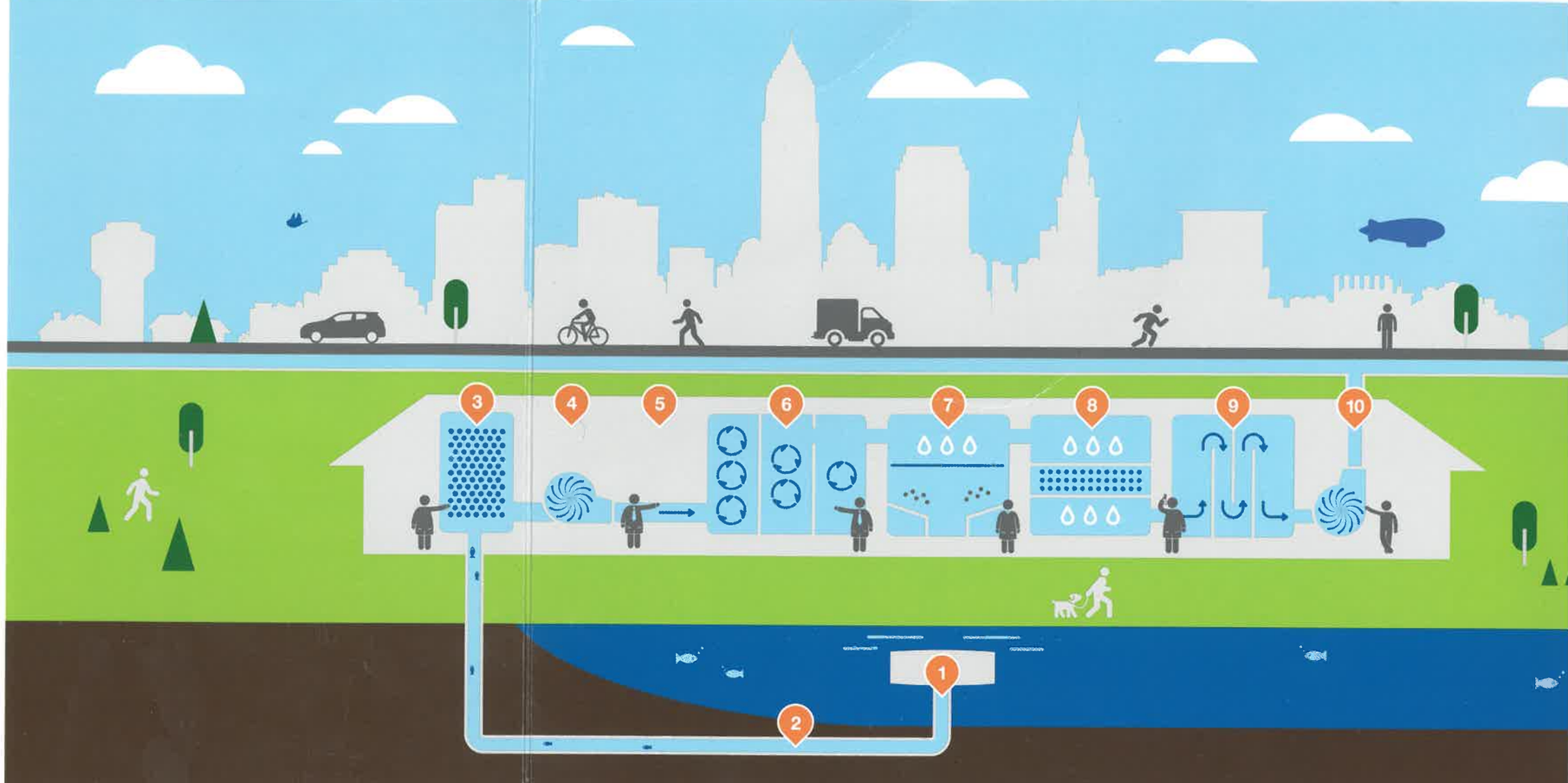
6. **FLOCCULATION**
The speed water is moving slows in three tanks, allowing organic and inorganic material to stick together as floc.

7. **SEDIMENTATION**
Gravity pulls heavy clumps of floc to the bottom of the settling basin where floc is removed. Water flows on.

8. **FILTRATION**
Gravity pulls water through filters, made of 2-feet of anthracite over 1-foot of sand, to remove impurities.

9. **DISINFECTION & FINISHING**
Ingredients that kill pathogens, protect dental health, and prevent pipe corrosion are added. Then water slowly moves through the finished water reservoir to ensure chlorine has adequate contact time to kill all pathogens.

10. **TESTING & PUMPING**
Before water is pumped through the distribution system, staff test the water throughout the day, every day, to ensure it is safe to drink.



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