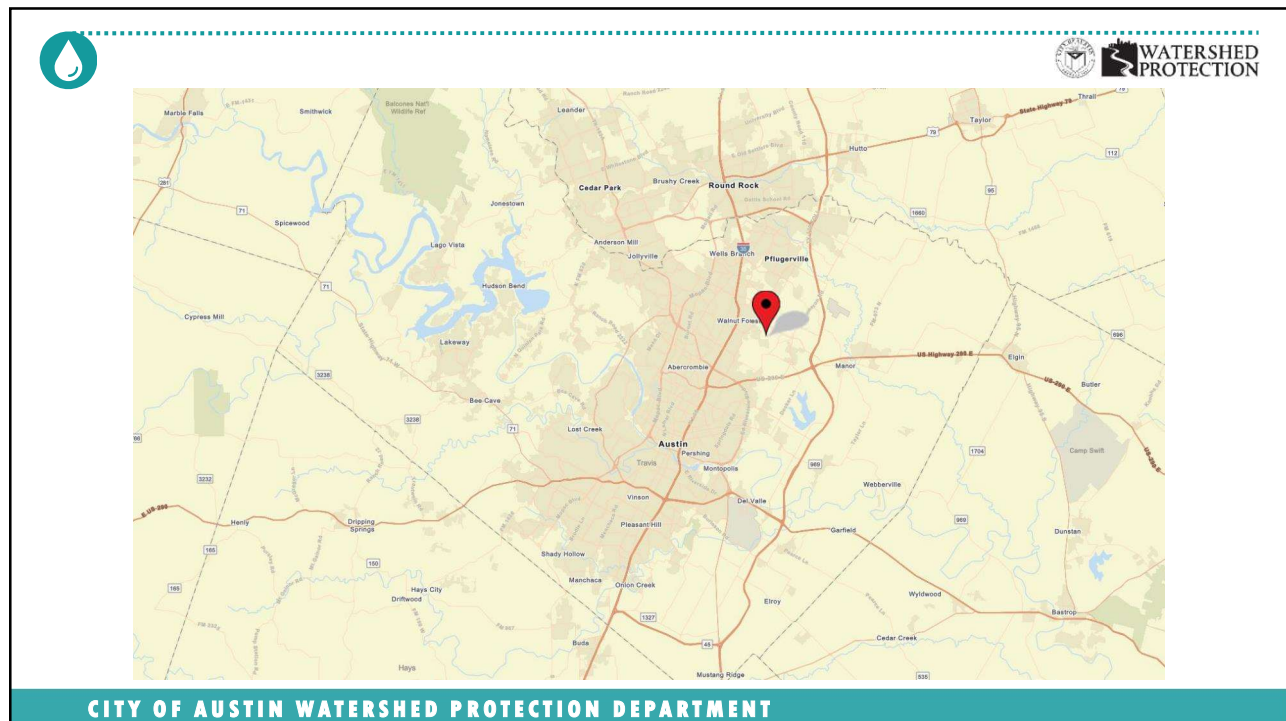
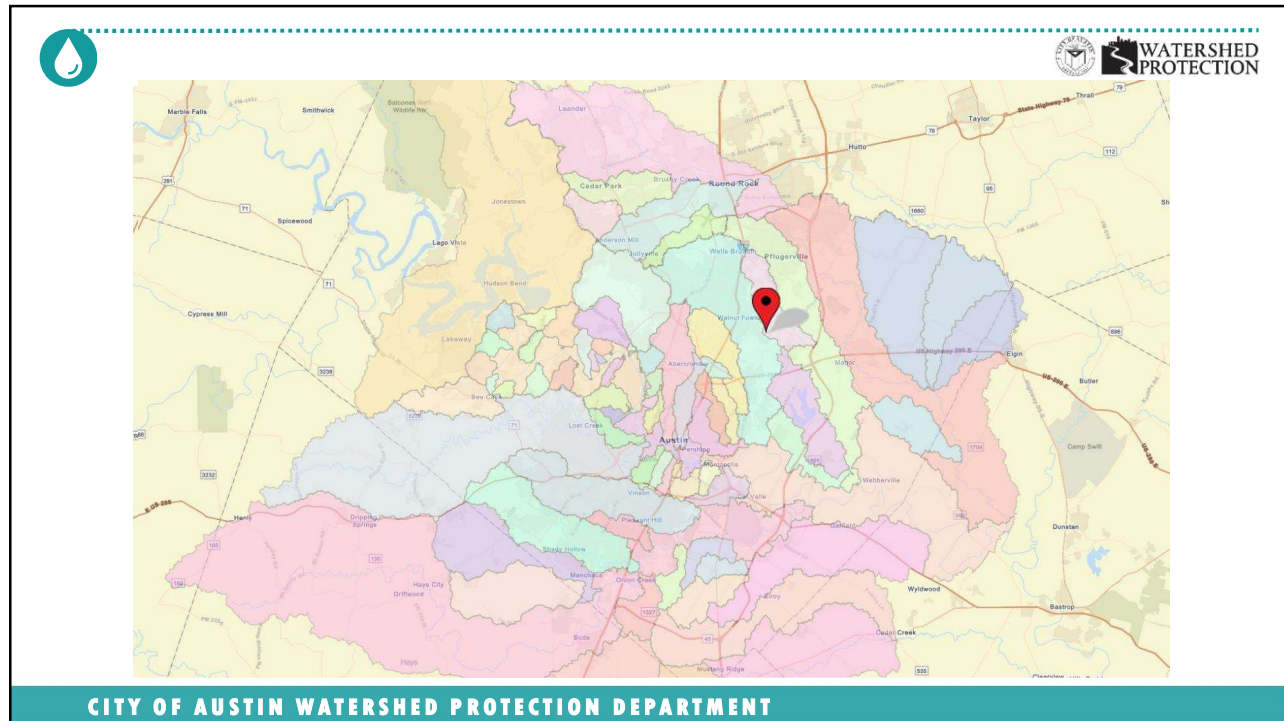


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Timeline

1/14/22 – Samsung notified TCEQ and National Response Center of spill

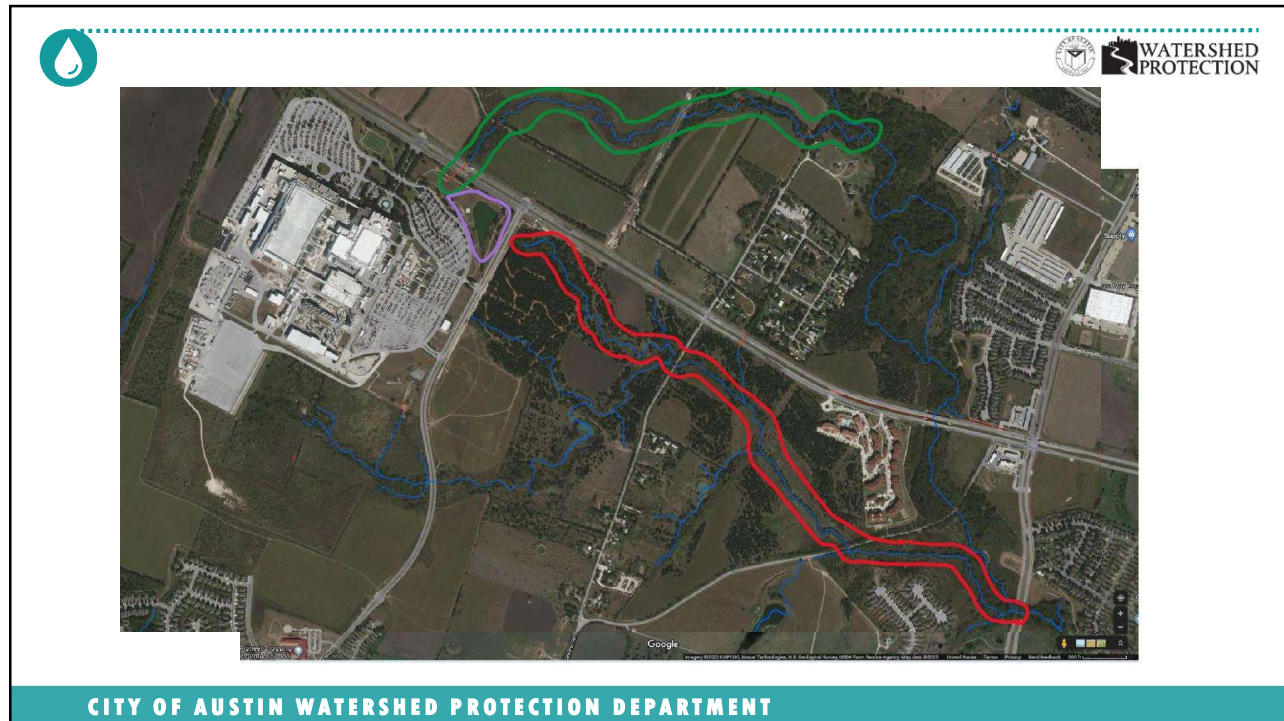
1/18/22 – City of Austin receives notice

- Up to 763,000 gallons, up to 106 days
- Diluted acidic wastewater from Samsung's industrial processes: sulfuric acid, hydrogen peroxide, ammonium hydroxide, air conditioning condensate


1/31/22 and 2/3/22 – Significant rainfall overwhelms containment. Discharge of stormwater mixed with partially treated wastewater



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Public Safety

- **TCEQ is currently the lead agency for this incident, including components relating to public health and public communications.**
- **No documented impacts to human health.**
- **Public access to this area is limited. No nearby parks.**
- **No indications of homeless encampments along the tributary.**
- **Austin Public Health officials in contact with TCEQ.**

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Environmental Impacts

Southeast Receiving Tributary

- Early reports of pH levels between 3 and 4 (far below normal)
 - pH levels returned close to normal by 1/19
- Significant short-term impact on aquatic community and ecology
- Long term impacts unknown. Ecosystem network must rebuild

Northeast Receiving Tributary

- No impacts found

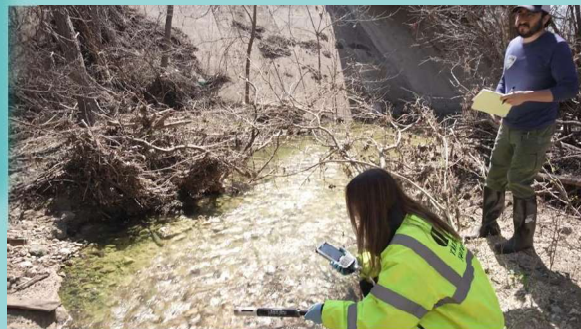
Main branch of Harris Branch Creek

- No impacts found

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Next Steps

- **Continued remediation and long-term recovery monitoring**
- **Ecological restoration and enhancement**
- **Spill detection system improvements**
- **TCEQ investigation report**



Samsung Austin Semiconductor Acid Waste Water Incident

Fire Marshal's Office – Hazardous Materials Engineering Group
Yvonne Espinoza, PE
Scott Stookey

AUSTIN FIRE DEPARTMENT

Samsung Acid Waste Water Incident

HAZARDOUS MATERIALS ENGINEERING GROUP

The AFD Fire Marshal's Office Engineering Section performs plan review and construction inspection of Samsung projects through the Development Process and the Annual Permit Program and maintenance inspections through the Aboveground Hazardous Materials Permit Program.

The Fire Marshal's Office Hazardous Materials Engineering Group has a well established long term relationship with Samsung.

- Mandatory inspections of new equipment for virgin & waste chemicals
- AFD is on-site monthly for inspections of fire protection & hazardous material systems
- Aboveground Hazardous Material Permit Program inspection of the entire site



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AUSTIN FIRE DEPARTMENT

January 31, 2022 Fact Finding Meeting

The Hazardous Materials Engineering Group met with Samsung's Environmental, Health, and Safety Group following the incident to confirm what waste products were released and how this incident occurred.

- The Acid Waste Water Stream consist of Ammonium Hydroxide, Sulfuric Acid, and Hydrogen Peroxide diluted by water.
- The Waste Water Stream is gravity-fed to one of approximately 160 Acid Waste Water Sumps located in a confined space underneath the fabrication facility. The liquid is pumped from the waste water sump to Industrial Waste Treatment.
- The release occurred at one of the Acid Waste Water Sumps due to a failure of a check valve and loss of containment in the sump.
- The AFD Prevention Hazardous Materials Engineering Group confirmed that the leak did not involve a hazardous material as defined in the 2021 International Fire Code.



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AUSTIN FIRE DEPARTMENT

Corrective Actions

- Samsung is considering adding additional controls
 - Waste water pump monitoring
 - Sump inspections
- Hazardous Materials Engineering is evaluating if additional controls are needed in confined spaces.
- AFD Special Operations and Hazardous Materials Engineering are discussing changes to notification requirements for Emergency Response Teams, which are required for all semiconductor fabrications facilities.

