



MEMORANDUM

TO: Mayor and Council Members

FROM: Jorge L. Morales, P.E., CFM, Director
Watershed Protection Department 

THROUGH: Robert Goode, Interim Assistant City Manager

DATE: April 3, 2023

SUBJECT: **Resolution No. 20220303-026 – Staff Response: Process to Notify Appropriate City Departments of Austin Fire Department Firefighting Activities that may Adversely Impact Waterways**

On March 3, 2022, Council approved [Resolution No. 20220303-026](#) directing the City Manager to create a process to notify appropriate city departments of Austin Fire Department (AFD) firefighting activities which may adversely affect waterways. The purpose of this memo is to report the establishment and implementation of a communications and response protocol of firefighting activities between AFD and the Watershed Protection Department (WPD).

Background

AFD has a long history of environmental stewardship and routinely partners with the WPD Spill Response program in protecting the environment from the potential impacts of emergency response. For many years, our departments have operated under a protocol involving AFD notification to WPD for hazardous material releases and other spills which potentially threaten waterways. Spills of these kind are frequent with roadway collisions, but less commonly associated with typical firefighting activities. Under this protocol, WPD responds to such incidents in an emergency capacity, 24/7, working with AFD, other first responding agencies, and responsible parties toward the mitigation of environmental impacts.

In February 2022, AFD and WPD discussed the broader scope of environmental emergency response activities related to this resolution, expanding beyond hazardous material spills to include firefighting activities potentially affecting sensitive waterways. As the local surface water quality regulator, WPD acknowledged that discharges from emergency firefighting activities are exempt from federal, state, and local water quality laws. The intent of increasing WPD's response actions is not for the purposes of regulatory enforcement, but for the proactive environmental protection to the maximum extent practical.

WPD conducted an historical data review of Austin fish kills caused by fires and identified only two known incidents: the Texas French Bread fire in January 2022 (resulting in the subject Resolution), and a restaurant fire in March 2009.

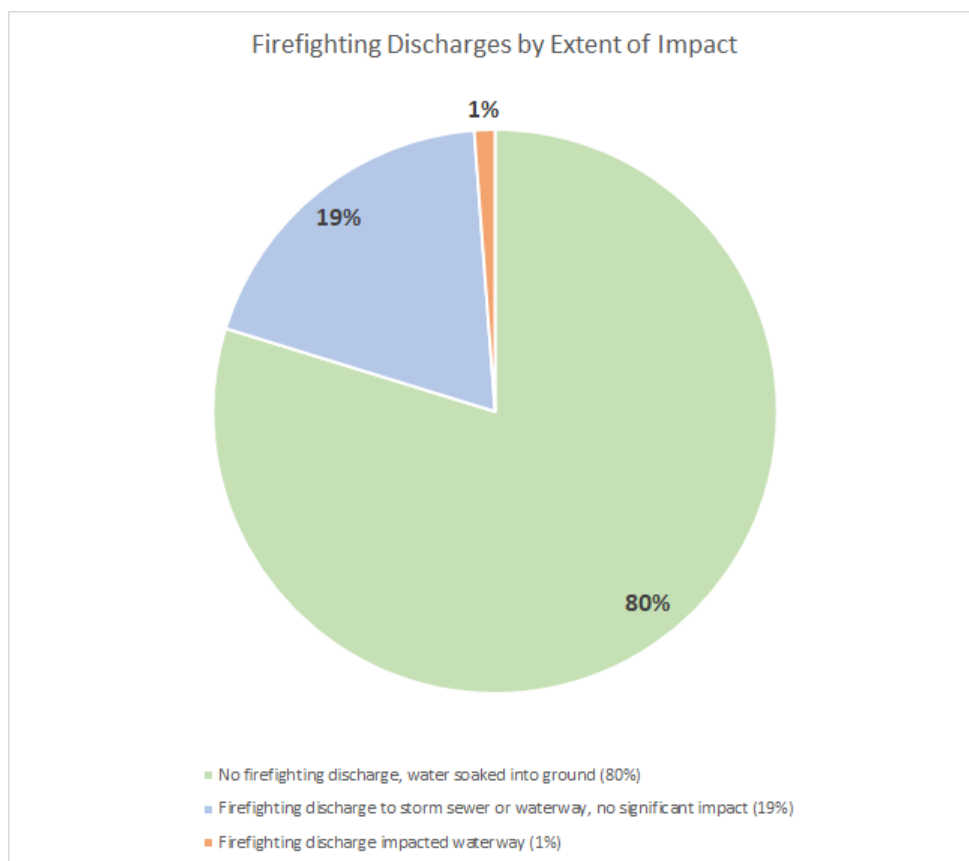
Recognizing there was limited data available to fully understand the frequency of firefighting discharges to waterways, the extent of their impacts, and the ability for prevention and mitigation, WPD designed a study to respond to and evaluate all AFD working fires over an eight-month period. A working fire is defined as a fire which AFD actively attacks by pulling a firefighting hose and applying water. In March 2022, AFD implemented an automated notification system to notify WPD Spill Response staff of working fires. During the study, WPD deployed staff to collect data and document any impacts or threats to aquatic life, in accordance with a specific Quality Assurance Project Plan created by a WPD team of environmental scientists and emergency responders.

Results

WPD collected data during emergency responses to all working fires between February 23, 2022, and October 28, 2022. This study period generated enough data to statistically support a determination of the frequency of firefighting discharges to waterways.

A working fire was recorded 84 times over the 8-month (or 246 day) period. This is roughly a working fire every three days; however, the probability distribution of the frequencies indicates that a working fire is statistically more likely to occur about every two days.

Out of the 84 working fires, 17 (about 20%) generated runoff discharging to a storm sewer or waterway; the remaining ones were minimal, and any firefighting water infiltrated into the ground. Out of the 17 with runoff reaching a storm sewer or waterway, only one prompted action by the WPD responder (deploying dechlorination tablets). The chart below illustrates the breakdown of firefighting discharge extents.



Conclusion

Based on the historical data review and new data generated by the study, WPD determined that typical firefighting activities present a relatively low risk of harm to aquatic life or other significantly adverse water quality impacts when compared to other types of acute discharge events (e.g., wastewater sewer overflows).

An examination of WPD operational impacts of responding to all working fires during the study found an approximate 20% increase to the Spill Response program workload. Sustaining this level of response would require additional WPD resources.

These findings informed decisions by AFD and WPD during a meeting on February 9, 2023, toward an optimal, long-term notification and response protocol for firefighting activities most likely to threaten water quality. Notifications will now be triggered for WPD to respond when firefighting activities meet any of the following criteria:

- Estimated water use over 10,000 gallons, or over one-hour total duration of water flow; or
- Significant foam runoff leaving the site (e.g., foam runoff is greater than 1" deep); or
- Firefighting water is known or suspected to discharge to a receiving wet creek; or
- There is uncertainty if WPD should be involved. When in doubt, AFD will send notification.

These criteria were added to the longstanding protocol for AFD to notify WPD of hazardous material releases or other spills that potentially threaten water quality.

WPD will respond to AFD notifications and assess the extent of environmental impacts. While there are limited options for intervention to prevent or mitigate impacts during the infrequent instances of significant water quality threat, WPD will continue to evaluate feasibility of intervention actions on a case-by-case basis. Primary tactics may include:

- physically diverting firefighting flows away from sensitive waterways, such as toward landscaped areas or nearby water quality ponds, where firefighting water can soak into the ground; and
- dechlorinating firefighting flows that contain residual chlorine (from the potable water supply) which could harm aquatic life.

Should you have additional comments or questions, please contact Watershed Protection Manager Ryan Hebrink at 737-291-3102.

CC: Jesús Garza, Interim City Manager
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Fire Chief Joel Baker, Austin Fire Department