



August 18, 2021

Maricopa Consolidated Domestic  
Water Improvement District  
45290 W Garvey Ave,  
Maricopa, AZ 85139

Dear Board of Directors:

On April 22nd and 23rd of 2001, the Arizona Flow Test, LLC. company conducted a National Fire Protection Association (NFPA) compliant hydrant flow test and inspection of the Maricopa Consolidated Domestic Water Improvement District (MCDWID) system. This test was witnessed by both MCDWID and City of Maricopa Fire/Medical members. The testing results found that all hydrants, except for the ones located in the Saddle Back Vista service area, met or exceeded the minimum required fire flows per the adopted 2018 International Fire Code (IFC) in their respective Residential and Commercial area locations.

- A. One- and two-family dwellings Group R-3 and R-4 less than 3,600 sq. ft non-sprinkled require 1,000 GPM for a 1-hour duration.
- B. MCDWID has forty-two (42) flushing hydrants that meet this standard.
- C. Buildings other than One- and two-family dwellings Group R-3 and R-4 that are more than 3,600 sq. ft with a Type-VB identified as wood construction require a minimum of 1,500 GPM for a 2-hour duration measured at 20 psi residual.
- D. MCDWID has forty (40) compliant and two (2) non-compliant flushing hydrants that meet this standard.
- E. Four (4) hydrants were Out of Service (OOS) at the time of the test or in need of replacement or awaiting parts to be repaired. These have since been installed in the Saddle Back Vista service area and have been reported by

MCDWID to have only a 500 GPM flow for a 20-minute duration which is not IFC compliant for fire protection.

The fire hydrants were tested, verified operational by fully opening each valve, removing the caps to assure non-sticking, threads check to be in good condition, and flowed. Each hydrant test gathered the actual gallons per minute (GPM) and ensured each hydrant can produce and meet the available water supply per IFC needed for suppression and provide guidance for

determining the required fire flow, which is based on Insurance Services Office (ISO) Method.

The MCDWID Heritage District Service's flushing hydrants, except for the Saddle Back Vista service area, are compliant and adhere to the requirements of the City of Maricopa under their adopted IFC and NFPA specific standards and have no substantiated defects that would pose a threat to public health and welfare of residents. The Saddle Back Vista service area is not compliant and does pose a threat to public health and welfare of the residents as it does not meet the IFC fire code minimum standards

#### Remaining Area of Concern

Although the MCDWID system currently meets the fire code today, the significant issue with the MCDWID system is its ability to increase the system's capacity to meet increased peak domestic demand. As larger developments are approved within the MCDWID system, the demand will naturally increase. The Fire Flow Demand requirement is fixed, yet the demand is variable and will only increase over time. Without any infrastructure growth, including potentially new wells and larger capacity tanks, the Peak Domestic Demand will inhibit Fire Flow demand.

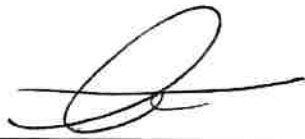
The IFC requires a minimum of 1500 GPM at 20 psi and 180,000 gallons Fire Flow demand for 2 hours. The current minimum networking volume of the Maricopa System of 393,570 gallons will meet that requirement; however, it would not meet that standard if there were two incidents at the same time. A 4-hour duration event (two concurrent 2-hour duration events) would require 360,000-gallon fire flow demand, and when combined with the 4-hour Peak Hour Domestic Demand of 244,372 gallons, it creates a combined demand of 604,372 gallons and a deficit of - 116,614 gallons in the system. The Sonoran Creek Market Place is within this system, and when it opens will increase domestic demand on the system.

At the Joint Task Force meeting, the District acknowledged the need for an additional water storage tank and stated they were working on a solution. This tank and a

City/District partnership to review new development plans before issuing Will Service Letters will be a positive step.

In conclusion, the City growth within the District and the increased peak domestic demands must be monitored closely. Clear communications between MCDWID and the City are essential to the residents' public safety. Future infrastructure development is critical for the District to maintain the current level of service as the area continues to grow with both residential and commercial development.

The City of Maricopa acknowledges that both parties have met the conditions of the Flushing Hydrant IGA requirements for testing and reporting.



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Acting Fire Chief, Brad Pitassi  
City of Maricopa



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City Manager, Ricky Horst  
City of Maricopa