

MEMORANDUM



TO: VICTOR CARDENAS, INTERIM CITY MANAGER
FROM: BEN CROY, CITY ENGINEER
SUBJECT: CITY WEST DISTRICT UTILITY DEMANDS
DATE: JUNE 8, 2023

The Department of Public Works Engineering Division has been working with the Community Development Department projecting assumptions regarding anticipated utility demand within the proposed City West District (Grand River between Beck Road and Taft Road). Based on these discussions, the City West District potential development is estimated to demand 1,550 REUs for water service. One REU (Residential Equivalency Unit) equates to the utility demand from one single-family home. Water system improvements will be required to maintain adequate water pressures in the western limits of the city regardless of whether the area develops as proposed or as currently zoned. No improvements are anticipated to be required for the sanitary sewer system.

The City West District is located within the Intermediate Pressure District. Other areas in this pressure district (Section 18 and Sections 29-32) along the western extremities of the city currently maintain pressures and flow rates on the low end of desired ranges and could drop below minimums as demand in other areas increase. This future condition was identified and evaluated in the 2014 Water Master Plan Update. At that time, several projects were recommended to address the need for improvements with additional development. The attached map and table from the 2014 update have been updated with capital projects completed by the City or as part of private development projects. The attached also includes proposed projects which complete the entire water system improvement plan. The proposed improvements include ~9,100 feet of water main along Eight Mile, Napier and Nine Mile (referred to as the Southwest Loop projects #091-14, #091-23, #091-15 considered Phase 1), and the decommissioning of a pressure reducing valve, estimated at \$4-5M and \$200k, respectively.

Coincidentally, around the same time the City West District was being discussed, a new residential development, Parc Vista, was being proposed in the southwest portion of the City on Eight Mile west of Garfield. During the design of this site, staff identified the need for system improvements to maintain the desired minimum flows of 2,000 GPM required for fire protection. The addition of the Southwest Loop will increase flows above this standard and eliminate a long dead-end in the system. Elimination of dead ends is good standard practice to avoid water quality issues, decrease pressure fluctuations and provide redundancy (same as GLWA's regional redundancy main project only scaled to Novi system). Additionally, the Southwest Loop would provide water service to the ITC Sports Park in the future if desired.

As the City develops, system demands are continuously evaluated to identify appropriate infrastructure improvements. Like the improvements discussed above, numerous projects have been identified in the 2014 or earlier master plans, and as additional demand is anticipated, these projects can be implemented. Occasionally private development fills

gaps in the system, but there is no significant private development to make the Southwest Loop. Therefore, staff recommends executing these projects as capital improvements per the Master Plan. Just as the Island Lake Booster Station (#IL-07) was completed as the first step in expanding the west side system, staff continues to evaluate needs as they arise, versus implementing unnecessary improvements. These proposed pressure district expansions have appeared in the CIP at various times, most recently back in FY 2019-20. Consequently, the projects were removed as the certainty of the proposed developments was not confirmed.

Per the Master Plan the Island Lake Pressure District Expansion has been planned for completion in two phases, the first of which Phase 1 is discussed herein. The second phase would complete the district expansion (projects #IL-01, #IL-04, #IL-05) and would be implemented at the appropriate time based on system modeling following further development.