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State of some Moraga storm drains causes alarm

By Vera Kochan

As the saying goes, "A picture is worth a thousand words," and the condition of some of the town's storm drains speak volumes.



There are "21 miles of publicly maintained storm drain infrastructure consisting of underground pipes, culverts at roadway under crossings, improved and unimproved ditches, and natural creeks within the Town's Right of Way easements," according to a Nov. 9 staff report by Public Works Director/Town Engineer Shawn Knapp and Senior Civil Engineer Farah Khorashadi. "The remaining 8 miles of the storm drain system are within private property, and maintenance is the responsibility of the property owner."

Corrugated metal pipe deterioration of invert near Donald Drive and Moraga Road.

A Storm Drain Master Plan was developed in 2015, with an eye toward creating a Capital Improvement Program in order to get a jump on any potential issues in the making. The Master Plan included video inspections of

pipelines, field investigations of creek culverts and drainage features (including manholes and catch basins). This allowed for recommendations and repairs to the areas that needed immediate attention first.

Measure K funds were directed to the repairing of failing streets, storm drains and other related infrastructural needs. The storm drain repairs are a necessity in order to help maintain the roadways above them. Repairs through the years have included removal and replacement of pipes, lining, and point repairs.

"After heavy rainfall in 2016, the Town experienced repeated failed storm drain infrastructure, which caused major sinkholes and triggered maintenance work to unclog pipes filled with debris and sediment," according to the staff report. "As there wasn't significant flooding caused by undersized pipes, the focus was shifted to addressing the existing condition of the pipelines, not capacity issues."

The town council awarded a \$30,125 annual contract to 360 Pipeline in 2020 for small scale cleaning and Close-Circuit Television Videoing with the intent of troubleshooting the town's storm drain issues. It was during one of these inspections that severe issues were discovered in three pipe segments resulting in the Moraga Road & Hacienda Drainage Project (CIP 21-206) which was repaired this past fall.

In 2021, a one-time funding from the American Rescue Plan Act (ARPA) of \$2,071,000 provided a much-needed influx of cash that was directed to projects such as the storm drains; and this past spring the town council approved a \$334,573 engineering design services agreement with Harris & Associates for the 2021-23 Annual Storm Drain Repairs Project.

Harris' duties included: updating the Geographic Information System; inspecting 30,000 linear feet of storm drain while looking for defects, obstructions or potential failures on all pipes; documenting the condition of the pipes and prioritizing repairs; providing repair recommendations and cost estimates; and developing Plans, Specifications & Estimates based on a \$1.3 million construction budget.

In July 2022, Harris' sub-consultant, Presidio, began the inspection of approximately 30,000 linear feet of storm drain pipes and graded the defects from 1-5 (with 1 being the least severe and 5 being high priority). Some of the recommended improvements involve point repairs; invert paving; heavy cleaning followed by a pipe re-inspection; rehabilitation by grouting the invert; cleaning and rehabilitating with Geopolymer liner; installing a Cured-in-Place-Pipe liner; and removing and replacing pipe.

The \$1.3 million construction budget is more than enough to repair all of the pipes with a Grade 4 and 5 first, and even allowing for repairs to several Grade 3 pipes. While Harris completes the 65% and 100% design drawings for the construction project, staff anticipates bringing the contract award to council for approval during an April 2023 meeting in the hopes that construction will begin during the summer.



Photo courtesy Town of Moraga Public Works Department

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