Item No. 15
Town of Atherton

CITY COUNCIL STAFF REPORT – REGULAR AGENDA

TO: **HONORABLE MAYOR AND CITY COUNCIL**
GEORGE RODERICKS, CITY MANAGER

FROM: **ROBERT OVADIA, PUBLIC WORKS DIRECTOR**

DATE: **MAY 16, 2018**

SUBJECT: **RECEIVE AN UPDATE AND PROVIDE DIRECTION ON NEXT STEPS FOR THE ATHERTON WATER CAPTURE FACILITY PROJECT**

RECOMMENDATION

Receive the project update and provide direction on next steps for the water capture facility project. Potential next steps include: 1) Proceed with finalizing the plans, specifications and estimate (PS&E) for the water capture project in Holbrook-Palmer Park; 2) Stop work on the water capture project in Holbrook-Palmer Park and continue the search for a new location; 3) Stop all work.

BACKGROUND

The need for a stormwater detention facility was identified in the Town-wide Drainage Study Update prepared in 2015 to reduce flooding associated with the Atherton Channel. The update identified three possible sites for the detention facility including Las Lomitas Elementary School, Holbrook-Palmer Park, and the Menlo Park Circus Club (JL Dixon Stables). Due to the complexity of working with a privately-owned site at some distance from the Channel, the Town chose not to locate the project at the JL Dixon Stables. The Town next attempted to work with the Las Lomitas Elementary School District on a water capture project at the school. While working with the school, the Town learned of a collaborative funding opportunity with Caltrans to not only provide the Town with the needed flood control project; but also, an opportunity to address the Town's requirements under the Regional Water Quality Control Permit.

Ultimately, the Town and District were unable to come to an agreement on funding and approval of a proposed traffic signal at Walsh Road, continued maintenance, and the Town's ability to terminate the project prior to construction, if desired. The remaining alternative for the water capture facility was at Holbrook-Palmer Park. The Town hired Tetra Tech Inc. to investigate the feasibility of installing a water capture facility in Holbrook-Palmer Park and to prepare preliminary concept designs.

The potential water capture project has been before the City Council numerous times since May 2017, most recently at the Council meeting on April 18, 2018. The project has also been presented to the Parks & Recreation Committee.

DISCUSSION

At the Council meeting on April 18, 2018, the City Council received the Preliminary Engineering (20 percent) Design Report and directed staff to present the report to the Park and Recreation Committee to request their recommendation as to whether the proposed water capture facility should be located at the park.

At the meeting, the City Council asked for additional information regarding the water quality in the Atherton Channel, the benefits anticipated downstream at the Bayfront Canal project, scalability of the project, and seismic stability. The Council also directed staff to investigate additional alternative locations for the project should the facility be deemed incompatible with the park use.

Park and Recreation Committee

Staff presented the Preliminary Engineering (20%) Design Report to the Park and Recreation Committee on May 2, 2018. Several members of the public were present to express their concerns regarding the proposed water capture facility in the park. Following the presentation, questions from the Committee and comments from the public, the Committee voted 4-0 not to support locating the facility at the park.

Water Quality

Water quality samples were collected from the Atherton Channel near the entry bridge on March 22, 2018 and April 6, 2018. Initial results are available from the March 22, 2018 event, with April 6th results still pending quality assurance and quality control. The single event sample indicates, as expected, the concentrations of Mercury and PCBs are low; however, it should be noted that these were obtained at a singular point in the storm and do not reflect the variability that is present throughout a rainfall event, or through the rain year. Tetra Tech modeled the water quality results against both the average storm event (determined using 6 hours of no rainfall between events as the threshold) and the average annual rainfall for the period of record available (WY 2001 – WY 2009) to estimate the quantity of Mercury and PCB's that could be removed from the channel through the proposed filtering mechanisms. Note that the captured pollutant volume is the maximum pollutant load that could be removed given the sample data; there may be some small sediment-bound particles that cannot be removed using the filtering mechanisms. The test results from the April 2018 storm were not received in time for inclusion in this report. The results are summarized below in Table 1.

Table 1: Estimated Water Quality Benefits

	Sample 1 (03/22/18)
Mercury (nanograms/liter)	22.4

PCBs (nanograms/liter)	8.9
Average Storm Capture Volume (ac-ft)	8.94
Average Storm Mercury Capture (grams)	0.25
Average Storm PCB Capture (grams)	0.10
Average Annual Capture Volume (ac-ft)	293
Average Annual Mercury Capture (grams)	8.10
Average Annual PCB Capture (grams)	3.22

Based on this preliminary assessment, the average annual capture is approximately 73% of the required load reduction by the Town for PCBs in the current permit term (4.4 g/year). San Mateo County is required to reduce the Mercury load by an estimated 48.0 grams per year in the current permit term, so this project would provide 17% of this requirement if the loading were assumed to be consistent through all storms for the average annual year.

Downstream Benefits

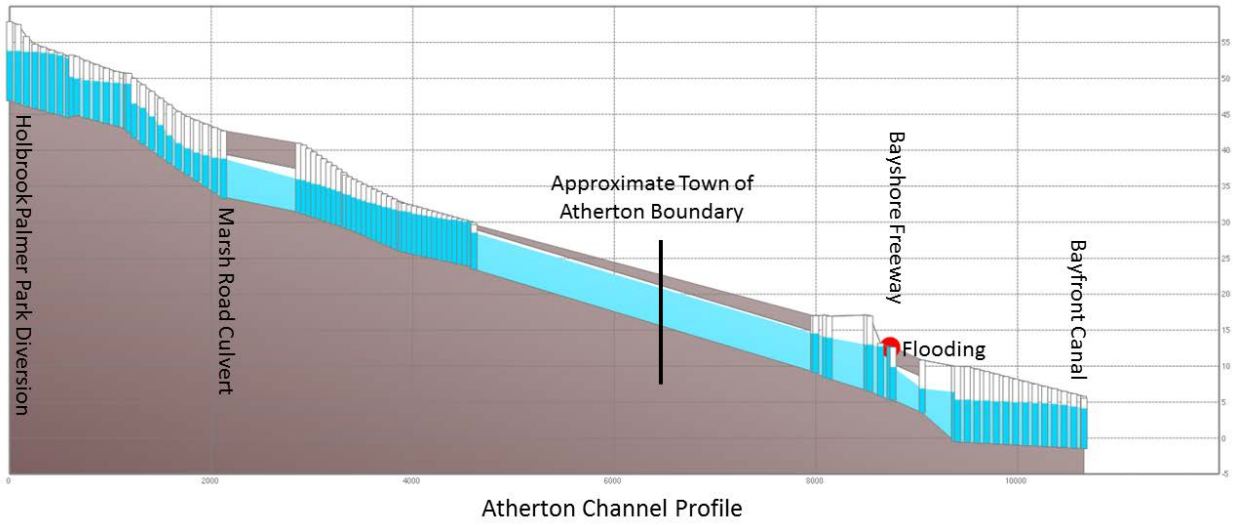
Following the Council meeting, Tetra Tech obtained a copy of the County's hydrographic model for the Bayfront Canal to assess the impacts of installing a water capture facility upstream along the channel. The analysis evaluated incremental sizing of a detention facility ranging from 5.0 acre-feet to 8.9 acre-feet. The detention of storm flows upstream of the Canal, in the park, would reduce upstream pressure and open capacity of the canal to discharge accumulated flows at the lower end of the watershed. The preliminary modeling showed that the diversion would eliminate downstream flooding in Atherton up to the 10-year storm, as well as eliminate flooding for the 25-year storm if the facility was sized to have 100 cfs diversion and a storage volume of greater than 7 ac-ft (see Table 2 below).

Table 2: Flooding occurrence in the Town of Atherton with variable project diversion rates and storage sizes

	Pre-Project Flooding in Atherton	Y	Y	Y	Y
Unit Storage (ac-ft)	Diversion Rate (cfs)	5-Year Storm	7-Year Storm	10-Year Storm	25-Year Storm
5	50	N	N*	N*	Y*
5.5	50	N	N*	N*	Y*
6	50	N	N*	N*	Y*
6.5	100	N	N*	N*	Y*
7	100	N	N*	N*	N*
7.5	100	N	N*	N*	N*
8	100	N	N*	N*	N*
8.5	100	N	N*	N*	N*
8.94	100	N	N*	N*	N*

N – no flooding in Town, Y – flooding in Town
*Note that there was flooding downstream of the Town at the Bayshore Freeway for these design storms and conditions.

The design storms greater than the 7-year did result in flooding downstream of the Town jurisdictional boundary at the Bayshore Freeway. An example of the hydraulic grade line (HGL) and the location of the project, Town boundary, and flooding location, is shown in the Figure below.



Atherton Channel Profile

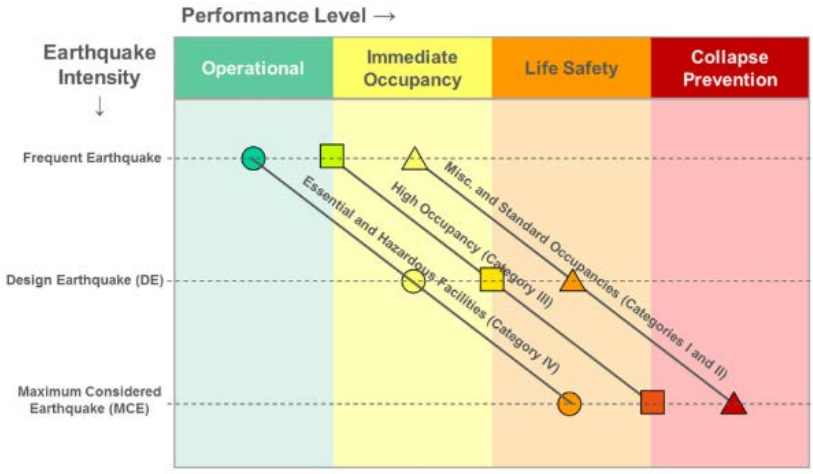
Though the results of these analysis need to be further developed and must be submitted to the County for review, the estimate is that the diversion would reduce peak flows at the confluence of the Atherton Cannel with the Bayfront Canal by approximately 19% on average for the long-term simulation (WY 2001 – WY 2009), thereby reducing the Town's contribution to the Bayfront Canal project for both construction and for operations & maintenance expenses. There was a much smaller impact for the design storm impacts due to the relatively small size of the facility compared to the overall watershed.

Scalability

The above water quality and long-term flood control benefits are based on the base project of 8.9 acre-feet. As the detention system is modular by design, the project is scalable. Though the 2015 Drainage Master Plan Update indicated that detention in the volume of 10 acre-feet was needed, the modeling analysis shows that downstream benefits for the Town will begin at approximately 5.0 acre-feet, with optimization at approximately 7.0 acre-feet with a diversion rate of 100 cfs. The water quality benefits scale based on capture volume and diversion rate and are preliminary at this time due to the availability of only one sample in the Channel.

Seismic Stability

The project would be designed to current seismic requirements as outlined in the California Building Code, which requires the use of site specific information from the USGS regarding for seismic design factors. If directed by Council, the project could be designed to a higher performance standard, such as the essential facility standard, typically used for schools and emergency facilities, which provides for a greater factor of safety over the standard Building Code design, as illustrated in the chart below. This would need to be factored into the cost of the project and may reduce the size of the facility if implemented.



Alternative Locations

Staff continues to investigate potential alternate locations for the water capture facility, but does not have any additional information regarding that issue at this time.

Staff is requesting direction on potential next steps for a water capture facility in the Town of Atherton. Potential next steps include: 1) Proceed with finalizing the plans, specifications and estimate (PS&E) for the water capture project in Holbrook-Palmer Park; 2) Stop work on the water capture project in Holbrook-Palmer Park and continue the search for a new location; 3) Stop all work.

If the Town does not commit to complete this Project, the Caltrans $13.6M funding will not remain available. The Town can "receive" the 20% Design and engage in further investigation on an alternative location before committing to proceed; however, Caltrans is interested in moving a project forward and has funding restrictions that are tied to fund expenditure timelines. These timelines could result in a loss of funds should the project not move forward at a location in a timely manner. Staff is still working with Caltrans on this issue.

POLICY FOCUS

The need for a stormwater detention facility was identified in the 2015 Town-wide Drainage Study Update as a Tier 1 project. The Town is also required to improve the quality of stormwater discharges from its municipal stormwater drainage system.

As was mentioned at the various Council meetings, flood control is the Town's primary objective with this proposed facility. Water quality, while still a State-mandate, may be achieved regionally. The Town may be requested and/or required to contribute to regional project in order to achieve the water quality objective if a facility is not located within its jurisdiction.

FISCAL IMPACT

The Town has entered into a Cooperative Implementation Agreement with Caltrans which reimburses the Town for the cost of the development of conceptual design plans for a stormwater capture and treatment project in the Town, as well as the costs of final design and construction if authorized by the Council.

PUBLIC NOTICE

Public notification was achieved by posting the agenda, with this agenda item being listed, at least 72 hours prior to the meeting in print and electronically. Information about the project is also disseminated via the Town's electronic News Flash and Atherton Online. There are approximately 1,200 subscribers to the Town's electronic News Flash publications. Subscribers include residents as well as stakeholders – to include, but be not limited to, media outlets, school districts, Menlo Park Fire District, service provides (water, power, and sewer), and regional elected officials.

COMMISSION/COMMITTEE FEEDBACK/REFERRAL

This item __X__ has or _____ has not been before a Town Committee or Commission.

____ Audit/Finance Committee (meets every other month)
____ Bicycle/Pedestrian Committee (meets as needed)
____ Civic Center Advisory Committee (meets as needed)
____ Environmental Programs Committee (meets every other month)
_X_ Park and Recreation Committee (meets each month) – *On January 10, 2018, March 7, 2018, and May 2, 2018*
____ Planning Commission (meets each month)
____ Rail Committee (meets every other month)
____ Transportation Committee (meets every other month)
____ Tree Committee (meets each month)

ATTACHMENTS

None