Santa Clara Valley Water District

File No.: 16-0474

Agenda Date: 8/23/2016
Item No.: 5.1.

BOARD AGENDA MEMORANDUM

SUBJECT:
Board Work Study Session: Dam Safety Program.

RECOMMENDATION:
Receive, review, and discuss the information on the Dam Safety Program.

SUMMARY:
The District owns and operates fourteen dams and ten reservoirs in Santa Clara County. The District dams and reservoirs were funded and constructed for water conservation, but also provide incidental flood management, recreation, and environmental benefits. Dam safety regulatory requirements, Board policies, and obligations due to dam ownership set direction for the Dam Safety Program.

Drivers for the program include the following Board's Ends Policies and CEO Interpretation Strategies:

- E-1 - The mission of the District is a healthy, safe, and enhanced quality of living in Santa Clara County.
- S-2.1.2.2 - Manage, operate and maintain dams and reservoir assets to maximize reliability, to minimize life cycle costs and to minimize impacts to the environment.
- S-2.1.2.3 - Aggressively implement dam remediation projects.

As a responsible dam owner, the District operates a comprehensive dam safety program to ensure public safety and operational availability of the reservoirs. This report describes components of the Dam Safety Program and updates the Board on its current status.

A detailed description of the Dam Safety Program is included as Attachment 1. The attachment describes the following four operational elements of the program - 1) Surveillance and monitoring; 2) Inspection and maintenance; 3) Emergency preparedness and response; and, 4) Special engineering studies. Attachment 1 also provides information on the status of seismic stability evaluations of District dams, and the retrofit projects resulting from these studies.

The seismic stability evaluations of Anderson, Almaden, Calero, Guadalupe, Stevens Creek and Lenihan Dams have been completed. The studies conclude that the embankments for Anderson,

Calero and Guadalupe Dams require remediation, and seismic retrofit projects have been initiated for these dams. Table 1 of Attachment 1, shows the water level operating restrictions imposed on the reservoirs based on these evaluations.

Staff initiated the dam safety evaluations of Coyote, Chesbro and Uvas Dams in FY15. The Board approved a consultant agreement for the project on September 9, 2014. Based on the experience gained in the seismic stability evaluations of the other dams, and the recognition that many of the dams need some type of upgrade due to their age and/or obsolescence, staff is taking a holistic approach towards management of these three dams. Staff will conduct seismic stability study, potential failure mode analysis, evaluation of spillway hydrology/hydraulics, and outlet works condition assessment and performance for the dams.

Attachment 2 is a description of the various physical components of the District dams, and a brief discussion on their condition. Table 1 in the attachment provides a summary of the remediation work needed at each dam. This will be further discussed during the staff presentation (Attachment 3).

FINANCIAL IMPACT:
There is no financial impact associated with the Board update.

The actual budget costs for the Dam Safety Program related projects for fiscal years FY15 and FY16, respectively; and the recent Board-approved budget for FY17 are as follows:

Operation Project	**Project No.**	**FY2015**	**FY2016**	**FY2017**
Dam Safety Program	91081007	$ 1,366,140	$ 1,590,234	$ 1,586,784
Dams & Reservoirs Maintenance	91761099	$ 1,342,724	$ 1,836,531	$ 1,643,304
Total		$ 2,708,864	$ 3,426,765	$ 3,230,088

The Dam Safety Program's approved FY17 budget is $3,230,088. The budget includes costs related to dam surveillance and monitoring; inspections and maintenance; emergency preparedness and response; and, special engineering studies. The decrease in the FY17 budget from the FY16 actual budget is due to a slightly reduced effort required to maintain the dams as per the environmental permits.

Seismic stability evaluations for Anderson, Almaden, Calero, Guadalupe, Lenihan, and Stevens Creek dams have been completed. The expenses related to these studies are as follows:

Seismic Stability Evaluation Project	**Project No.**	**Expenditure**
Anderson Dam	91081007	$ 3,126,252
Almaden, Calero, Guadalupe, Lenihan & Stevens Creek Dams	91084019	$ 7,678,605
Total		$ 10,804,857

As stated earlier, staff initiated safety evaluations of Coyote, Chesbro and Uvas Dams in 2014. The estimated cost for this project (Project No. 91084019) is $9.7 million.

The seismic stability evaluation studies have concluded that Anderson, Calero and Guadalupe dams will require seismic retrofits. Capital projects are on-going to design and construct the retrofits. The following costs have been included in the FY2017-2021 Capital Improvement Program for these projects:

Project	**Project No.**	**FY 2017-21 CIP**
Anderson Dam Seismic Retrofit Project	91864005	$ 200,958,000
Calero-Guadalupe Seismic Retrofit Project	91084020	$ 154,116,000
Almaden Dam Improvements Project	91854001	$ 56,518,000
Total		$ 411,592,000

CEQA:
The recommended actions do not constitute a project under CEQA because they do not have a potential for resulting in direct or reasonably foreseeable indirect physical change in the environment.

ATTACHMENTS:
Attachment 1: Dam Safety Program Description
Attachment 2: Description and Condition Assessment
Attachment 3: PowerPoint

UNCLASSIFIED MANAGER:
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