



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7

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**ORIGINATING SECTION: GROUNDWATER SECTION**  
**CONTACT: COLLEEN WINEY/CAROL MAHONEY**

**AGENDA DATE:** August 16, 2017

**ITEM NO.** 7g

**SUBJECT:** Agreement with Vulcan Materials Company to Extend a Second Pipeline, Repair Slopes, and Install a Drainage System at Cope Lake

**SUMMARY:**

- Zone 7 and Vulcan entered into an agreement on December 2, 2011, (A12-54-VUL) allowing for the capture of Vulcan's pumped water in the Chain-of-Lakes to keep the water in the groundwater basin instead of being discharged to the Arroyo Mocho and then out to the Bay under Vulcan's existing NPDES permit.
- In December 2013, Zone 7 started capturing Vulcan's water in Cope Lake through the extended pipeline. Since the pipeline became operational, over 20,000 AF of water has been captured in Cope Lake instead of being discharged to the Arroyo Mocho. Of that over 15,000 AF has been transferred to Lake I for recharge into the groundwater basin.
- Vulcan has submitted an updated Report of Waste Discharge (ROWD) to the Regional Water Quality Control Board (RWQCB) to allow for the additional proposed capture.
- Because the project benefits both Zone 7 and Vulcan, our respective staffs propose that the two entities share the construction costs such that Vulcan constructs the second pipeline extension, slope repairs, and drainage system and Zone 7 pays them for the portion of each constructed on Zone 7 property. The estimated cost for Zone 7's portion is \$130,000.
- A Mitigated Negative Declaration (MND) and associated Mitigation Monitoring and Reporting Plan (MMRP), which included the Vulcan pipeline construction project, were adopted by the Zone 7 Board on February 15, 2012. Staff conducted a formal review of the 2012 MND in light of current site conditions and the project proposal. The conclusions and proposed mitigation are valid; therefore, no additional CEQA compliance is necessary.
- Staff recommends authorizing the proposed project and Zone 7's financial participation up to \$150,000, which includes a contingency.

**FUNDING:**

Funding for this project is budgeted and available from Fund 120– Renewal and Replacement / System-Wide Improvements (70%) and Fund 130 – Expansion (30%).

**RECOMMENDED ACTION:**

Adopt attached Resolution.

**ATTACHMENTS:**

1. Memo providing additional background and discussion of agenda item
2. Zone 7 Board Resolution

## Interoffice Memo

**Date:** August 16, 2017  
**To:** Jill Duerig, General Manager  
**From:** Colleen Winey, Assistant Geologist, Groundwater Section  
**Subject:** Agreement with Vulcan Materials Company to Extend a Second Pipeline, Repair Slopes, and Install a Drainage System at Cope Lake.

### BACKGROUND:

On December 2, 2011, Zone 7 and Vulcan entered into an agreement (A12-54-VUL) that allows Vulcan to transfer pumped groundwater into the Chain-of-Lakes (COL) and allows Zone 7 to accept the water. By accepting Vulcan's water into the COLs, groundwater that had previously been discharged in the Arroyo Mocho and left the valley is now retained in the groundwater basin. In the agreement, there is no guarantee for Vulcan to provide water and no guarantee for Zone 7 to accept the water. Turning off the transfer into the COL can be requested at any time, without reason, by either party. The Agreement requires Vulcan to acquire any permits required for the water transfer from the RWQCB and to comply with all RWQCB permit requirements including sampling and reporting.

In 2011, Vulcan submitted an Application for Waste Discharge Requirements to the Regional Water Quality Control Board – San Francisco Bay Region (RWQCB) which proposed up to 25 million gallons per day (mgd) be allowed to be transferred into Cope Lake. The Application became a de facto WDR permit effective January 14, 2012, and Vulcan has been submitting quarterly reports since that time. The water covered by the WDR permit is groundwater that is pumped from Vulcan's quarry pits in order for them to economically extract aggregate materials from the quarries. The pumped groundwater is routed to one or more settling ponds for clarification before it is conveyed to Cope Lake. A small portion of the water is used onsite to wash the mined aggregate, and then recombined with the remaining pumped groundwater in one of the settling ponds.

In December 2013, Vulcan constructed a pipeline extension along the east side of the Arroyo Mocho crossing the arroyo near the mid-point of the eastern side of Cope Lake. The pipeline is trenched under Zone 7's maintenance road and extends into the water of the northeast corner of the southeastern cell of Cope Lake. Zone 7 has captured over 20,000 acre-feet (AF) of Vulcan's water in Cope Lake since the pipeline became operational. Over 15,000 AF has been transferred to Lake I to recharge the groundwater basin.

During the January and February 2017 storms, the southeastern corner of Cope Lake sustained some damage due to excessive surface runoff and the Arroyo Mocho overtopping its banks. An engineered drainage system to divert the flow could have minimized damage to both Zone 7 and Vulcan property.

Vulcan has completed mining in the northern portion of the property covered under Surface Mining Permit 16 (SMP-16) which includes future Lakes E, F, and G. In order to start their reclamation of this portion of SMP-16 they will need to pump additional water from the existing ponds so they can build the required berms to create the lakes. In June 2017, Vulcan submitted an Amendment to their WDR permit to increase the allowed transfer amount to 40 mgd. In order to move that much water, a second pipeline is being proposed to be installed at Cope Lake.

According to the Agreement, Zone 7 is responsible for any required CEQA documentation. A Mitigated Negative Declaration (MND) was generated for several near-term construction projects at Cope Lake including the construction of the original pipeline extension. This document was adopted by the Zone 7 Board on February 15, 2012. Staff conducted a formal review of the 2012 MND in light of current site conditions and the project proposal. The conclusions and proposed mitigation are valid; therefore, no additional CEQA compliance is necessary.

## **DISCUSSION:**

The existing Agreement with Vulcan was designed to be flexible and allow for water from Vulcan to be accepted into any of the lakes in the COLs that are owned by Zone 7. It also does not specify a volume of water that will be guaranteed by Vulcan or a storage capacity that will be provided by Zone 7. So the Agreement will allow Vulcan to increase their transfer amount as long as Zone 7 feels there is capacity in Cope Lake to accommodate it.

Vulcan and Zone 7 staffs collaborated on the proposed pipeline design and alignment, which is shown in the attached Figure 1. The pipeline will be installed adjacent to Vulcan's existing pipeline running along the east side of the Arroyo Mocho to about mid-Cope Lake, then crossing the Arroyo Mocho and terminating about 50 feet offshore in the northeast corner of the southeast cell of Cope Lake. The pipeline will cross the arroyo aerially above the 100-year flood elevation and be buried where it crosses Zone 7's Cope Lake maintenance road. The pipeline will be constructed mostly of 22-inch HDPE except the portion that spans the Arroyo Mocho; it will be constructed of 22-inch Schedule 30 steel pipe and with concrete footings located on the top of each bank, out of the floodway. The pipe trench across the existing maintenance road will be backfilled in a way that will support the typical vehicular traffic as well as heavy equipment that may be needed for future facility maintenance or construction. The outlet of the pipeline will be extended offshore into Cope Lake in a way that will ensure that the water will not cause any erosion of the lake's slopes.

In 2013 and again in 2015, Zone 7 made repairs to the southeastern corner of Cope Lake. The repair work included rebuilding the lake's eroded, oversteepened bank with a reinforced slope as well as providing a drainage system for approximately 2,000' of lake's slope area. In 2015, a crack was repaired in the southeast corner by removing unsuitable material and rebuilding the area with more reinforcement. During the storms in January and February of this year, surface flow from Vulcan's property including overflow from the Arroyo Mocho which flowed across Vulcan's roadway and down the slopes into Cope Lake and one of Vulcan's silt ponds. This flow sent debris down into Cope Lake as well as removing the vegetation and upper layer of material from the Cope Lake slope. The slope appears to have retained its structural integrity and the geofabric is mostly still in place. The slope should be repaired and hydroseeded prior to additional water being conveyed to Cope Lake which could raise the water level and make the slope less accessible for any repair work. Vulcan has agreed to include this work while they are installing the additional pipeline and drainage system and repairs to Vulcan's property.

Vulcan and Zone 7 staff worked together to come up with a design to divert surface runoff and any potential overtopping of the Arroyo Mocho into Cope Lake. The design is still being finalized but is based on an estimated peak flow of 150 cfs surface flow into Cope Lake during the February storm. The system consists of a single drainage inlet leading to a 24" or 36" culvert that will go from Vulcan's property into Cope Lake.

Several biological resources surveys have been conducted in recent years in the same general area. No special status species have been found in the construction areas. Additional pre-construction biological surveys will be conducted as required by the adopted MND and associated Mitigation Monitoring and Reporting Plan (MMRP). Because a small portion of this project will be adjacent to the arroyo, a silt fence will be installed to prevent any construction debris from entering the creek as well as keeping any amphibians from entering the construction site.

Because this additional pipeline, slope repair, and drainage system project benefits both Zone 7 and Vulcan, the proposal is that the responsibilities and costs would be shared by the two parties. Vulcan prepared the initial pipeline extension design to ensure that it is compatible with their existing system, while Zone 7 staff made sure that it is compatible with Zone 7's current and future COL operations and maintenance. Zone 7 is also responsible for making sure that all of the requirements of the MMRP are met for the construction project on Zone 7 property. As provided in the Agreement, the cost of construction will be split between the two parties based on the portions to be constructed on each respective property. The Agreement also allows Vulcan to construct Zone 7's portion under a separate pipeline agreement if both parties should choose. This was how the first pipeline was constructed and the arrangement was successful. Staff recommends entering into a second such agreement for the additional pipeline and associated work, and believes this action to be the most efficient and cost-effective alternative.

The final costs and terms of cost sharing are still being negotiated, but the cost to Zone 7 has been estimated at \$130,000 by staff. Subsequent to execution of the Agreement, Vulcan will immediately order the required materials and begin construction preparations for the project according to design drawings approved by Zone 7 staff.

Funding for this project is budgeted and available from Fund 120– Renewal and Replacement / System-Wide Improvements (70%) and Fund 130 – Expansion (30%). Staff recommends that the Board authorize the General Manager to negotiate and execute the agreement.



**ZONE 7 WATER AGENCY**  
 100 North Canyons Parkway, Livermore, CA

DRAWN: C. Winey  
 REVIEWED:  
 E:\MONITOR\GQI\2016\WY\AnnualReport2016\2017\Vulcan2ndDischargeandRepair.mxd

**SLOPE REPAIR, DRAINAGE, AND  
 PROPOSED SECOND PIPELINE ROUTE  
 VULCAN DISCHARGE TO COPE LAKE**

Scale: 1" = 150'  
 Date: 8/4/2017  
**FIGURE 1**

ZONE 7  
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT  
BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY  
SECONDED BY

**Agreement with Vulcan Materials Company to Share Costs to  
Extend a Second Pipeline, Repair Slopes, and Install Drainage at Cope Lake**

WHEREAS, Zone 7 previously entered into an agreement with Vulcan Materials Company (Vulcan) allowing for Vulcan transfer water to be captured in the Chain-of-Lakes (A12-54-VUL, December 2, 2012); and

WHEREAS, it would be beneficial for the Livermore-Amador Groundwater Basin to store and re-percolate more quarry water back into the groundwater basin utilizing the Chain-of-Lakes; and

WHEREAS, Vulcan has additional water available plus the need for a second pipeline to convey it; and

WHEREAS, repairs to Cope Lake's southeastern slope need to be conducted prior to additional water being transferred; and

WHEREAS, construction of drainage to divert surface runoff into Cope Lake is recommended to protect slopes from future damage from stormwater; and

WHEREAS, a Mitigated Negative Declaration and associated Mitigation Monitoring and Reporting Plan was adopted for the original Vulcan pipeline project by the Zone 7 Board on February 15, 2012, and was reviewed by staff and found to adequately cover impacts and mitigation needs for this work.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District does hereby authorize the General Manager to negotiate and execute an agreement with Vulcan Materials Company for a not-to-exceed contribution of \$150,000 for Zone 7's share of the construction of a second pipeline, repairs to the southeastern slope, and installation of drainage at Cope Lake.

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on August 16, 2017.

By: \_\_\_\_\_  
President, Board of Directors