April 15, 2008

Ms. Carrie Austin
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

RE: Response to Proposed Guadalupe River Watershed Mercury TMDLs Basin Plan Amendment

Dear Ms. Austin:

On behalf of MTA Hillsdale, LP, the property owner of the former Hillsdale Mine site, this letter provides comments to the Guadalupe River Watershed Mercury Total Maximum Daily Load (TMDL) proposed San Francisco Bay Basin Plan amendment. The former Hillsdale Mine has been included in the proposed Basin Plan amendment as a potential source of mercury sediment that could impact water quality in the Guadalupe River which flows to the San Francisco Bay. We are presenting information in this letter that shows that the former Hillsdale Mine is not in the Guadalupe River watershed and has not historically nor does it currently drain to the Guadalupe River, and therefore should not be included in this Basin Plan amendment.

Introduction

The former Hillsdale Mine is located on the northeastern flank of Communication Hill which is a prominent bedrock ridge located in the south-central portion of the Santa Clara Valley (Figure 1). This mine has not been active for many decades and the area has been used extensively as a rock quarry for several decades. The cinnabar ore was removed by tunneling and some of the subsurface workings remain. The portals were generally sealed many years ago, but some have recently been uncovered for evaluation purposes. The quarry operations generally did not disturb the mine and ore deposit, but extensive grading was performed at the former smelters and lower areas of the site. No smelters or waste rock remain present though their former location is generally known from review of historic aerial photographs.

Mine History

According to Bradley (1918) the first mining activities at the Hillsdale Mine reportedly date back to 1847 just after the land was granted to a Pedro Chaboya. From 1847 to 1861 the mines were worked by these early Californios, and in 1861 the mines were sold to a Mr. Chapman who worked the mines until 1874. Peak production for the Hillsdale Mines was reportedly reached in 1871 with a production of 30 to 40 flasks per month (Bradley, 1918). This is a very small number when compared to the nearby New Almaden Mines which reached a peak production close to 4,000 flasks per month in 1865 (Layton and Bulmore, 1967). Clearly the Hillsdale Mines were marginal in

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production likely reflecting the small amount of mercury ore available and/or the poor grade of the ore.

SES has reviewed historical air photos and has confirmed that no active mining appeared to be present in the earliest aerial photos we reviewed from 1939 to the present. Grading related to the Raisch Quarry operations has intermittently disturbed areas near the mine openings and lower flat-lying areas below the former mine in the 1971 through at least 1996. This grading removed both retorts that were previously present in the mining area.

Mine Operations

From exploration work performed recently by SES, the mining was conducted by near-horizontal tunneling into the hillside at two levels, and opening up subsurface caverns using pillar and beam-type methods. Several steep air shafts appear to have been excavated as well. There is evidence that small, narrow-track ore carts were used to bring the ore out of the lowest levels of the mine and out to a retort located near the daylight of the main portal. From the SES review of historic aerial photos, it is not clear where the processed wastes were placed. It is possible that the wastes were placed in a low-lying area below the main mine workings, or used to improve the access roads to the mines. In either case, these areas are not located within the Guadalupe Watershed, as described below.

Surface Water Flow

Communication Hill is a bedrock ridge that rises several hundred feet above the Santa Clara Valley. The ridge is elongated trending northwest-southeast, as shown on Figures 2 and 4. The former Hillsdale Mine is located entirely on the northeast-facing slope of Communication Hill following an elongated lens of silica-carbonate altered rock. Mass grading in the last several years for the residential development on the southwest-facing flank has confirmed that there was no mining on that portion. Surface water drainage follows topography and flow is to the northeast as shown on Figure 2. This direction is away from the Guadalupe River Watershed including the closest surface water which is Canoas Creek. The bedrock topography, however, prevents surface water flow in this direction as can be seen in Figure 2 where bedrock highs intersect and do not allow surface water flow from the mine area to the northwest. The earliest available USGS topographic map from 1899 is included as Figure 4. This map illustrates that the Communication Hill topography at that time was similar to what it is today and prevented surface water drainage to the west and northwest towards the Guadalupe River Watershed.

In support of our observations about surface water flow, we have identified a watershed map produced by the Santa Clara Valley Water District (1996) which is reproduced as Figure 3. This map clearly shows that the site and vicinity is part of the Coyote Creek

Sub watershed and not the Guadalupe River Sub watershed. Given the bedrock topography in the area that control surface water drainage, these sub watershed boundaries in the site area would have been no different when the majority of the mining activity occurred in the 1800's.

The railroad tracks below the former mine area are elevated and artificially interfere with surface water flow. Most surface water drainage is captured by a man-made pond that is present at the base of the hill and situated against the railroad tracks. During particularly wet years there are pipes beneath the railroad that allow excess surface water flows to the east. The railroad tracks were installed in 1935. During the mining activities in the 1800's presumably surface water flow and sediment transport was uninterrupted by the railroad and flow occurred to the northeast following topography. Flow in this direction would take all surface water to the Coyote Creek located about 1½ miles to the northeast. Given the nearly flat topography, small drainage area, and relatively long distance, we believe it is very unlikely that any sediment from the mine area would have been able to reach the Coyote Creek now or in the past.

Conclusions

In this response, we believe we have presented compelling evidence that the former Hillsdale Mine in not within the Guadalupe River Watershed, has not historically contributed sediment to the Guadalupe River Watershed, and therefore should not be included in the San Francisco Bay Basin Plan Amendment for the mercury TMDL implementation plan and controls for the Guadalupe River Watershed.

We hope you concur with our conclusions on this matter and the opportunity to comment on the proposed amendment. If you have any questions or concerns regarding this request, please contact me at (510) 451-2917 ext. 202, or (925) 786-7701 (cellular).

Sincerely,

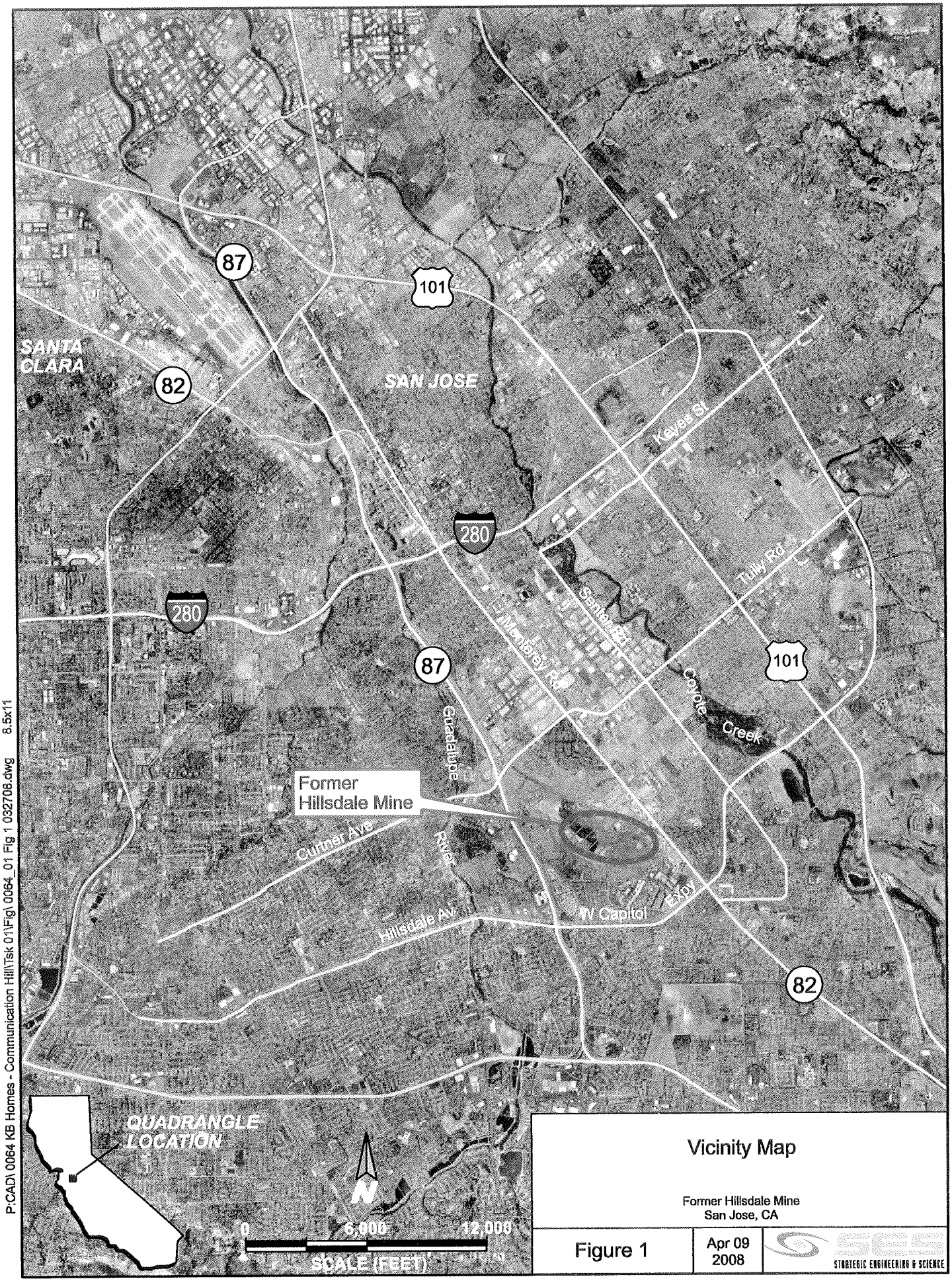
Thomas F. McCloskey, P.G., C.E.G./C.HG.
Principal Geologist

Copies: Addressee (2)
MTA Hillsdale, LP (1)
Attn: Mr. Robert Bettencourt
SummerHill Homes (3)
Attn: Mr. Bob Hencken

References

Bradley, W.W., 1918, *Quicksilver Resources of California,* California State Mining Bureau, Bulletin no. 78.

Layton, Milton, and Bulmore, Laurence, 1967, *Cinnabar Hills: The Quicksilver Days of New Almaden.*



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Vicinity Map

Former Hillsdale Mine
San Jose, CA

Figure 1

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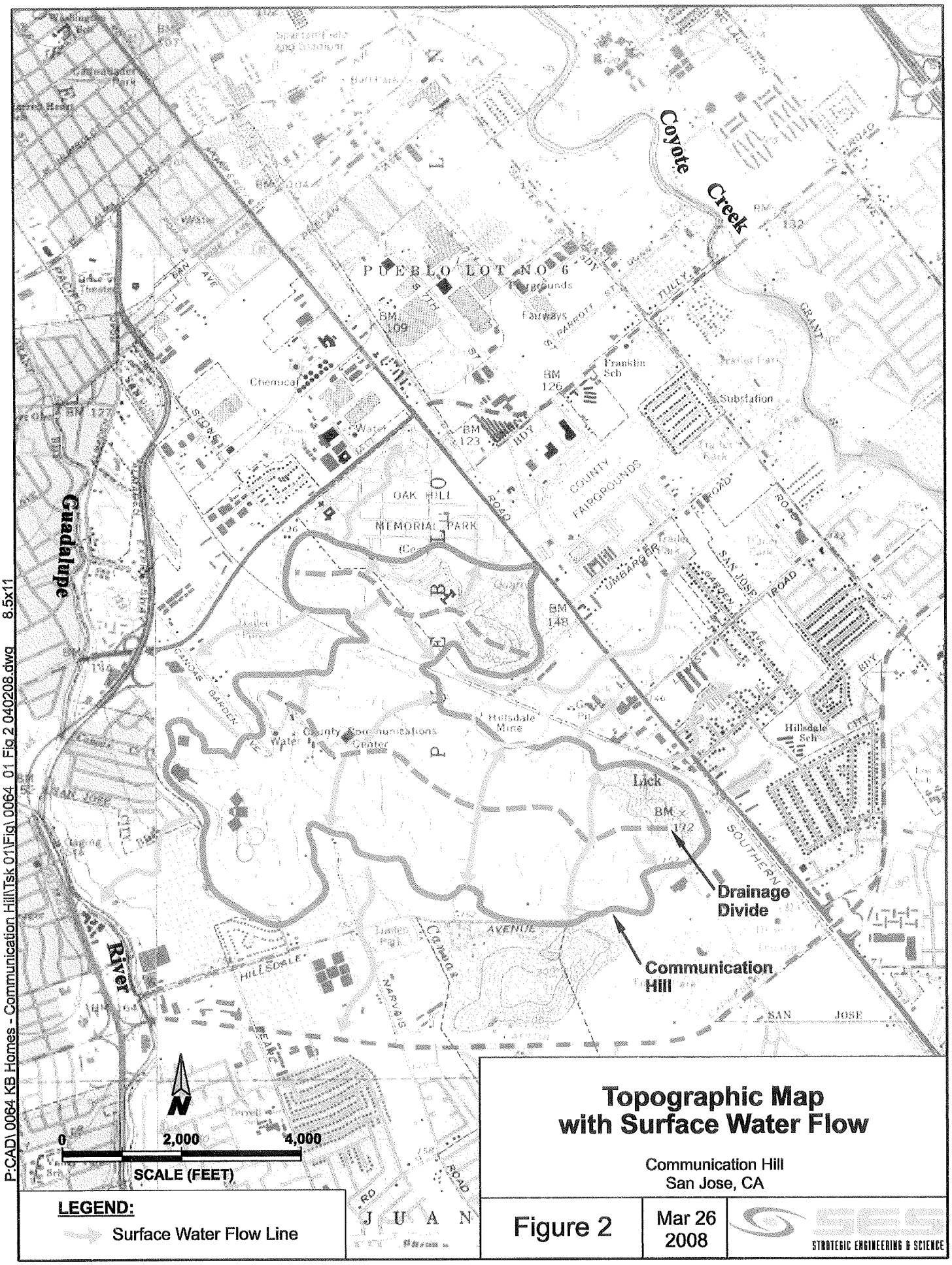

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LEGEND:

Surface Water Flow Line

Topographic Map with Surface Water Flow

Communication Hill
San Jose, CA

Figure 2

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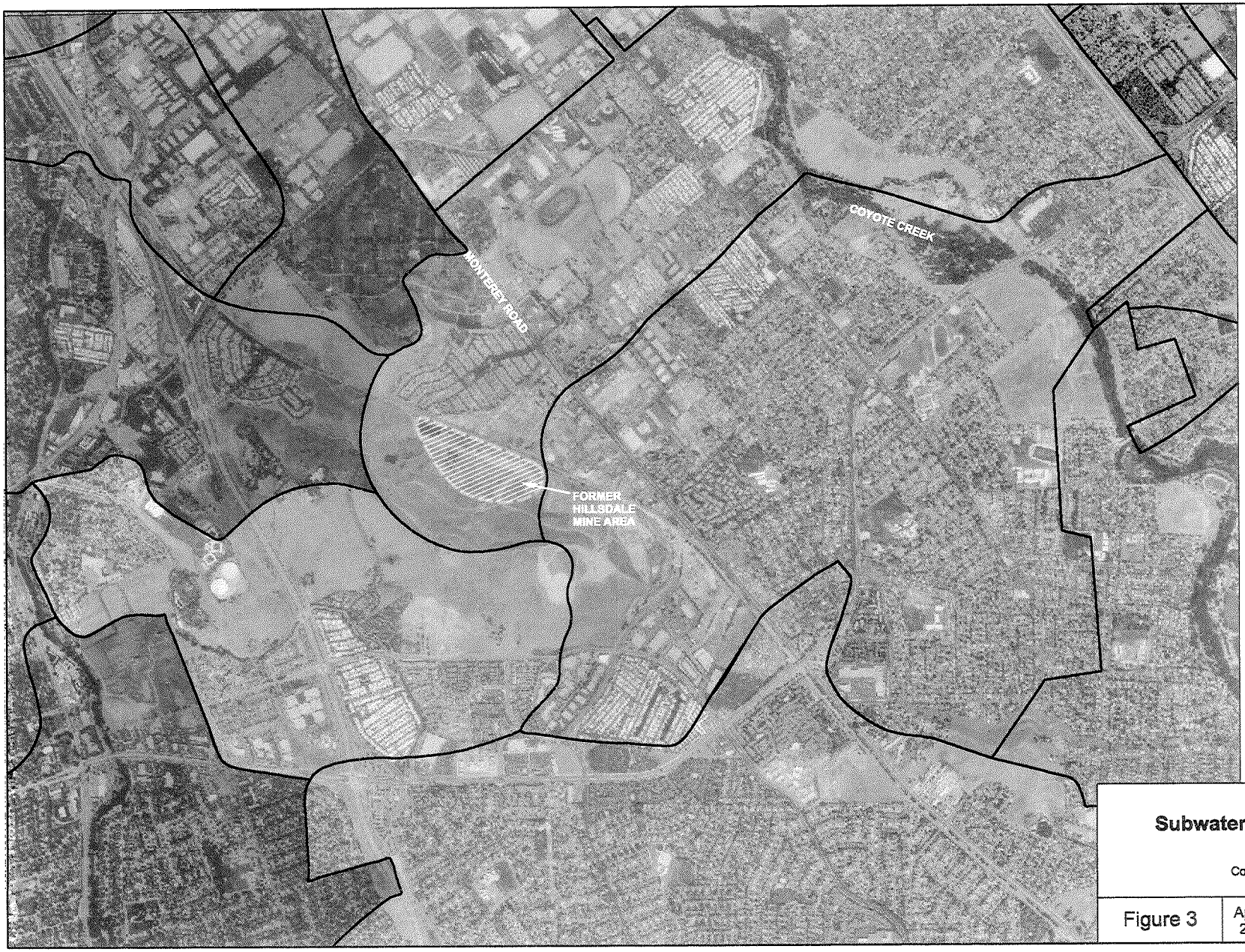


LEGEND:

SUBWATERSHED CREEK

- Canoas Creek
- Coyote Creek
- Guadalupe River
- Upper Silver Creek

N

0 1,500 3,000

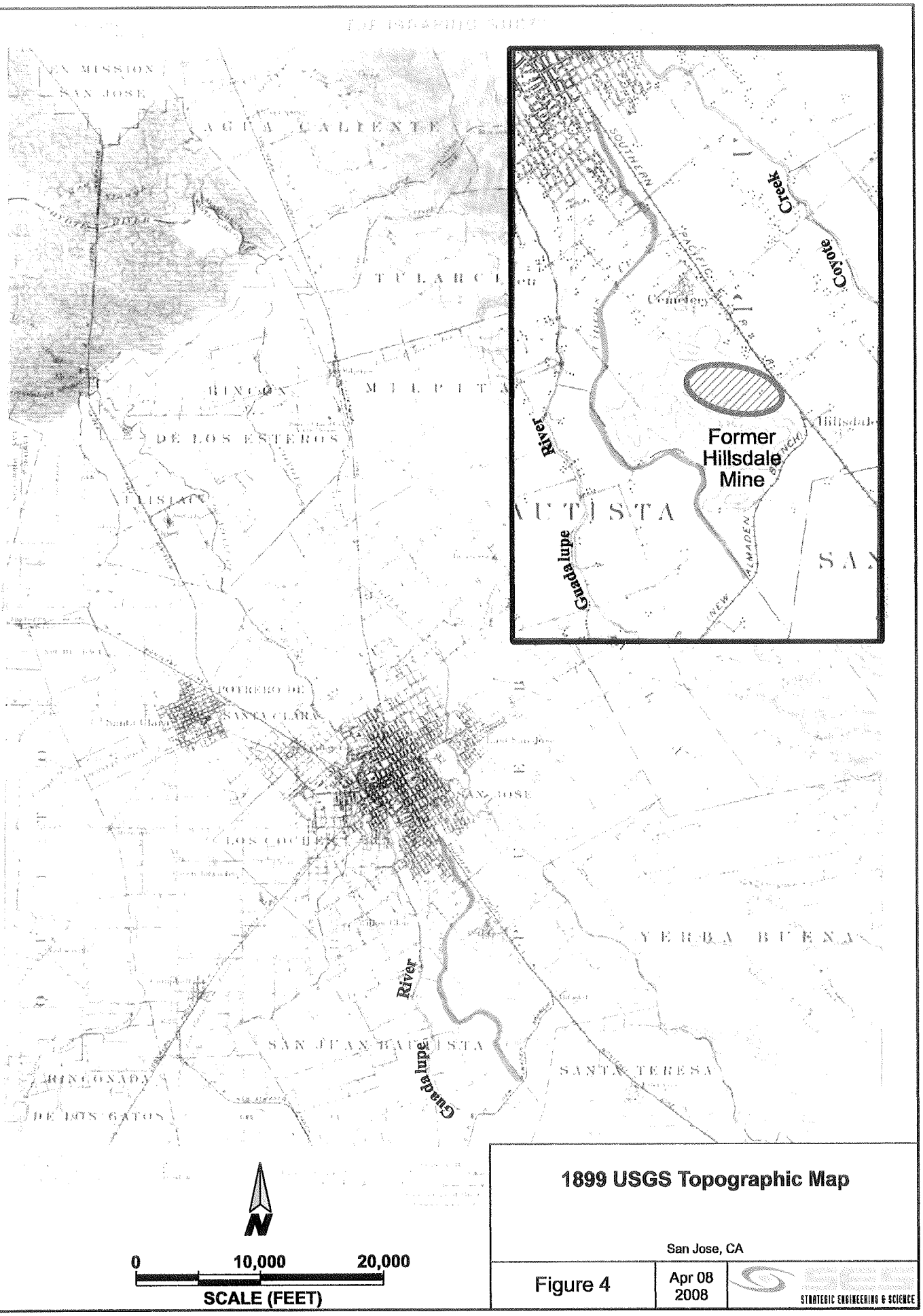
SCALE (FEET)

Source: Santa Clara Valley Water District, 03/01/96

Subwatershed Boundaries

Communication Hill
San Jose, CA

Figure 3	Apr 02 2008	STRATEGIC ENGINEERING & SCIENCE



1899 USGS Topographic Map

San Jose, CA

Figure 4	Apr 08 2008	STRATEGIC ENGINEERING & SCIENCE

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