

New technique pitched in Azusa mining plan gets mixed reviews from experts

Daniel Tedford, Los Angeles Newspaper Group, 4-16-10

AZUSA -- Pitching its plan to move its mining operation closer to Duarte, Vulcan Materials Co. has promised to excavate in a way that leaves behind a site that looks much better than the typical rock quarry.

But expert opinions on Vulcan's "micro-benching" technique range from calling the result "visually pleasing" to "just plain ugly."

The Azusa City Council on Monday is scheduled to consider allowing Vulcan to move its mining operation from a site east of Fish Canyon to a new site near Duarte.

"There is probably no other area in the country where a hard rock quarry is situated ... so close to (residents)," Vulcan Manager of Mine Planning and Geology Richard Jones said. "We are trying to look at something that will achieve more visually pleasing results and for us that means a lot more added expense."

If the Council approves the plan, Vulcan has promised to mine the site with the micro-benching technique, which leaves behind two-foot terraces designed to promote wild plant growth. The smaller benches also allow Vulcan the opportunity to contour the hillside to better mimic their natural shape, officials said.

If the plan is disallowed, Vulcan officials said the company will continue using 30-foot "Mayan steps" as its cost-efficient technique of choice on the east side.

"Vulcan has been in this business for a long time and anytime we propose a reclamation plan it is one we believe we will be 100 percent successful with," Jones said. "It goes without saying, that is the case for our plan at Azusa Rock."

The technique is so new, the term "micro-benching" evolved during discussions over the best way to reclaim the hillside, Vulcan officials said.

But using smaller benches at a hard rock quarry is more difficult than it sounds, some experts said.

Anaheim-based mining consultant Horst Schor wrote the book "Landforming: An Environmental Approach to Hillside Development, Mine Reclamation and Watershed Restoration."

While small benches will eventually catch dirt and grow plants, Schor said the hillsides would still look "just plain ugly."

"It is unaesthetic. It remains a step bench for years," Schor said. "There is some advantage to it as it reduces the erosion and traps the silt on each bench and sometimes will encourage revegetation, but visually it will always remain a scar on the hillside. Eventually in 10,000 years it will erode to a flat surface."

A better way to reshape a hillside is using the land-forming methods outlined in his book, Schor said.

Other experts said Vulcan is on the right track.

Mary Ann Wright, a professor at the University of Utah's Department of Mining and former Associate Director for Mining for the Utah Division of Oil, Gas and Mining, is an expert in revegetation for mining reclamation.

The benches will trap sediments and moisture needed for plant growth, and seeding methods used by Vulcan are advantages to the plan, she said.

"It appears that what they call micro-benching is fairly similar to the deep gouging and pocking we recommend for increasing revegetation success," Wright said. "'Will it work?' and 'Will plants grow?' In a word, yes to both."

The company should be commended for its effort to make hillsides look more natural, she said.

"This gratuitous reclamation of re-doing the 'Mayan slopes' will definitely cost the company since anytime they move dirt, it costs them," Wright said. "It is good that they are sensitive to the black eye that mining often gets and want to be a good neighbor by leaving visually pleasing slopes."

Caltrans used the smaller benches at several sites, and the state agency submitted a letter to Azusa in support of the project.

But getting that type of benching to work in a mining site, on hard aggregate will be more difficult than benching the average hillside, one consultant said.

"Granite sites are some of the most difficult to revegetate and while it is true that small benches can provide (an environment for plants to grow)... the statements they are making might be dramatically simplistic," said John McCullah, who is the principal of Salix Applied Earthcare in Redding. "These types of conditions will require huge challenges. Some of us have been working diligently with Caltrans, UC Davis, CalPoly to solve these kinds of vegetation establishment problems on severely adverse soils and slopes."

"I think micro benching might be necessary, but so should the landform grading, proper drainage techniques, etc. be employed," he said.

Azusa City Manager Fran Delach believes the proposed plan is a cut above Vulcan's existing permit. He has seen enough evidence to convince him micro-benching will work.

"Everyone says this is the best approach to take and drastically improves the conditions of the mined area," he said. "Are giant benches better than the micro-benches? Our opinion is the plan is far superior than giant benches currently permitted. It is a matter of what is better, the current reclamation plan or the new."

"Our consultants are mining experts also," Delach said. "Experts have varying opinions. I am sure if a better proposal comes forward ... the City Council would visit that and I am sure Vulcan would too."

Vulcan agreed to buy an \$80 million performance bond so if they aren't able to complete the project as proposed, Azusa can pay for it using the bond. Experts agreed that was a more than sufficient amount, and should serve the city well if needed.

In an environmental report on the project, some residents in neighboring Duarte were the only ones "significantly" impacted by the project due to their view. Officials in Duarte have opposed the project and remain skeptical of micro-benching.

"The difficulty with the conversation about micro-benching is that Vulcan has never done it," Duarte City Manager Darrell George said. "Does it work? I don't know. There is way too many questions. I have major concerns about this revegetation point based on the solid rock. I don't know if the revegetation becomes a reality."