SECTION B

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1

D2 Local reports DE Obituaries DC 7 Editorial & Onini

## Sand replenishment project — part of lagoon restoration — complete

BY PHIL DIEHL

Officials celebrated the completion of another big North County beach replenishment project Tuesday and a milestone in the \$120 million restoration of the San Elijo Lagoon.

To prepare for the restoration, workers dug nearly 440,000 cubic yards of clean sand from a single pit at the western end of the lagoon near the railroad tracks. Over the last four months the sand was piped onto the beaches at Cardiff and at Fletcher Cove in Solana Beach.

That's enough sand to fill 133 Olympic-sized swimming pools, or 73 million beach pails.

Next, the 40-foot-deep pit will be refilled with muck and sediment excavated from the San Elijo Creek channel and mud flats as the restoration effort unfolds. Eventually, the pit will be permanently capped with clean, beach-quality sand.

Planned for more than 20 years, the lagoon restoration is being overseen by the nonprofit San Elijo Lagoon Conservancy, along with the San Diego Association of Governments, or SANDAG, and the state Department of Transportation, or Caltrans, and a host of other government agencies.

When everything is done, as soon as the summer of 2020, the wetlands will be revived, native plants and animals will be restored, an additional hiking trail will be open, and ocean tides will flow under Interstate 5 and east of the freeway for the first time in many years.

"It's just a really wonderful project for our city," Solana Beach Mayor David Zito said at the celebration Tuesday morning. "It's a good thing all around."

Much of the beach had eroded down to cobblestones before the restoration began, said Encinitas Mayor Catherine Blakespear.

"When we have actual sand, more people come to the beach and enjoy the ocean," she said. "It gives people an outdoor experience and makes family memories."

Restoring the beach also protects parks, buildings and highways. The stretch of Highway 101 at Cardiff is one of the lowest in the state. Waves often wash over the pavement during the highest tides of the year, sometimes closing parts of the road.

"There are huge benefits to this sand project," said Darren Smith, a district services manager for the state Parks and Recreation Department.

More rock will be added to the revetment along the highway to further protect the road and stabilize the sand, he said, and native vegetation such as sand verbenas, Nuttall's lotus, and beach evening primrose will be planted.

The finished "living shoreline project" will have a 60-foot-wide stretch of low dunes for about three-quarters of a mile along the highway at the coastal border of Encinitas and Solana Beach.

An earlier restoration plan called for some of the sand taken from the lagoon to be deposited offshore and stored there for future beach replenishment, said Doug Gibson, executive director of the lagoon conservancy.

Instead, all the sand went onto the beach, which speeds up the entire restoration project.

"It removed a big liability — people working in the open ocean, and it saved time and money," Gibson said.

The 979-acre San Elijo reserve is home to more than 1,000 species of plants and animals, including many that are rare or endangered.

The lagoon restoration is being done at the same time as the construction of a carpool lane on Interstate 5 and double-tracking the coastal railway between Solana Beach and state Route 78 in Oceanside.

Doing the projects together reduces down time and creates a number of efficiencies for everyone involved, officials said.

The work under way is the first phase of improvements in the North Coast Corridor Program, which includes multiple transportation and environmental projects expected to cost a total \$6 billion over 40 years between downtown San Diego and the Orange County border.

Much of the work is funded through TransNet, the half-cent sales tax approved by San Diego County voters.

Cardiff was one of seven North County beaches that got sand from a \$22.5 million SANDAG restoration project in 2012. That sand was pumped from offshore deposits.

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