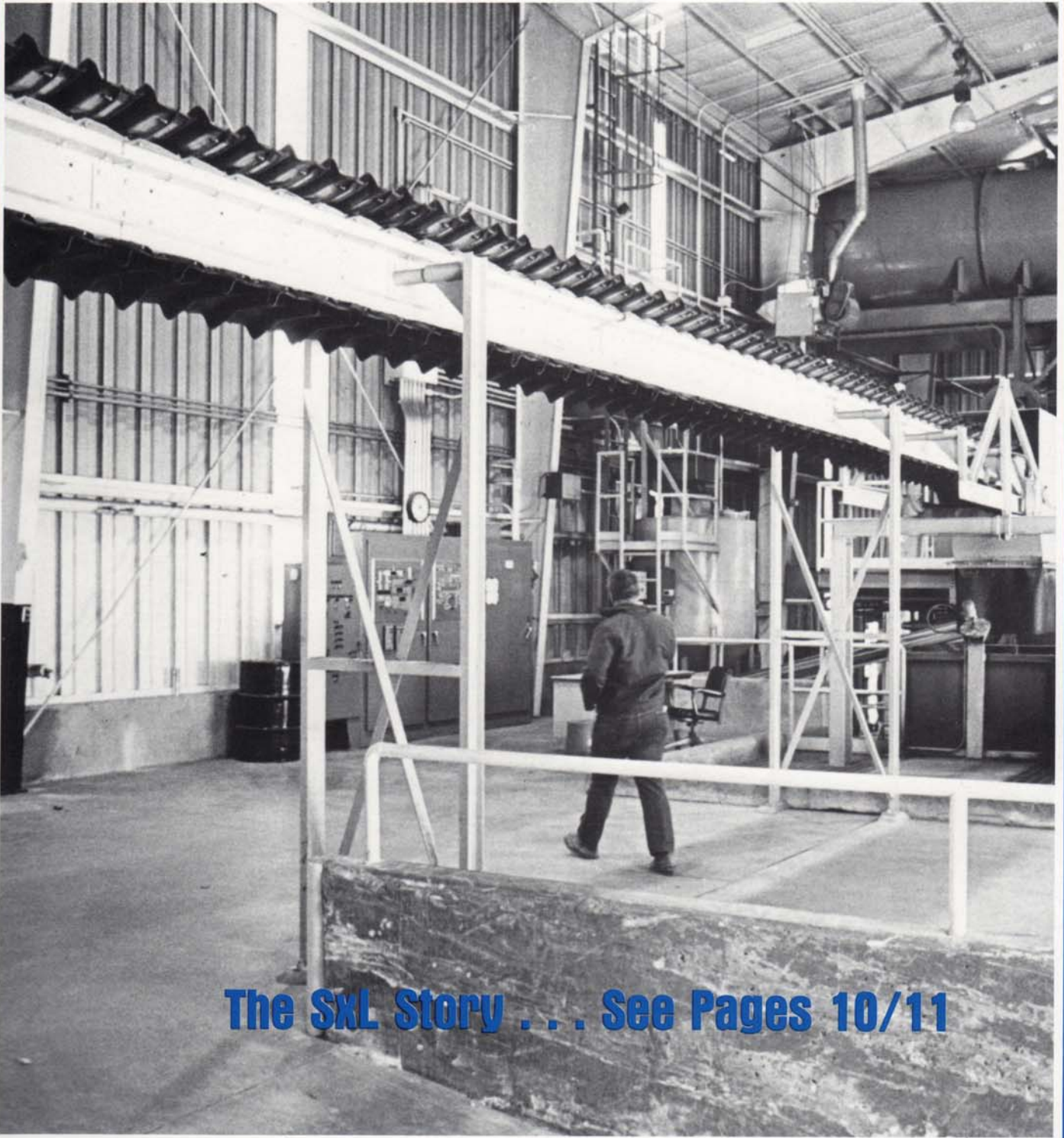


CONTINUOUS PATH CONVEYING



The SXL Story . . . See Pages 10/11

FALL/1986

Serpentix Conveyor Plays Key Role In Nation's First Privatized Sewage Plant

Except for a large structure jutting above the roof lines, passersby might mistake the small cluster of buildings on the outskirts of Chandler, Ariz., for a Spanish hacienda instead of a modern 5 million gallon per day (mgd) wastewater treatment plant.

The single incongruity is the high tower and hopper rising above and behind the main administration building where sludge filter cake is received from a three-dimensional, continuous path Serpentix conveyor.

Dedicated during the first quarter of 1986, the history-making Chandler Wastewater Reclamation Facility (CWRF) actually received its first delivery of wastewater influent on November 4, 1985. The facility is a tertiary treatment plant with an initial design capacity of 5 mgd. By the 1990s it will be expanded to its maximum capacity of 20 mgd.

Since the early 1970s, Chandler has experienced heavy growth due to high tech industries attracted to the

suburban community, partly because of its proximity to Phoenix, 25 miles to the northwest. At present, Chandler is growing at the rate of 1,000 people per month. By 1990 the Phoenix suburb could be home to over 100,000 residents, more than three times its population of 1980.

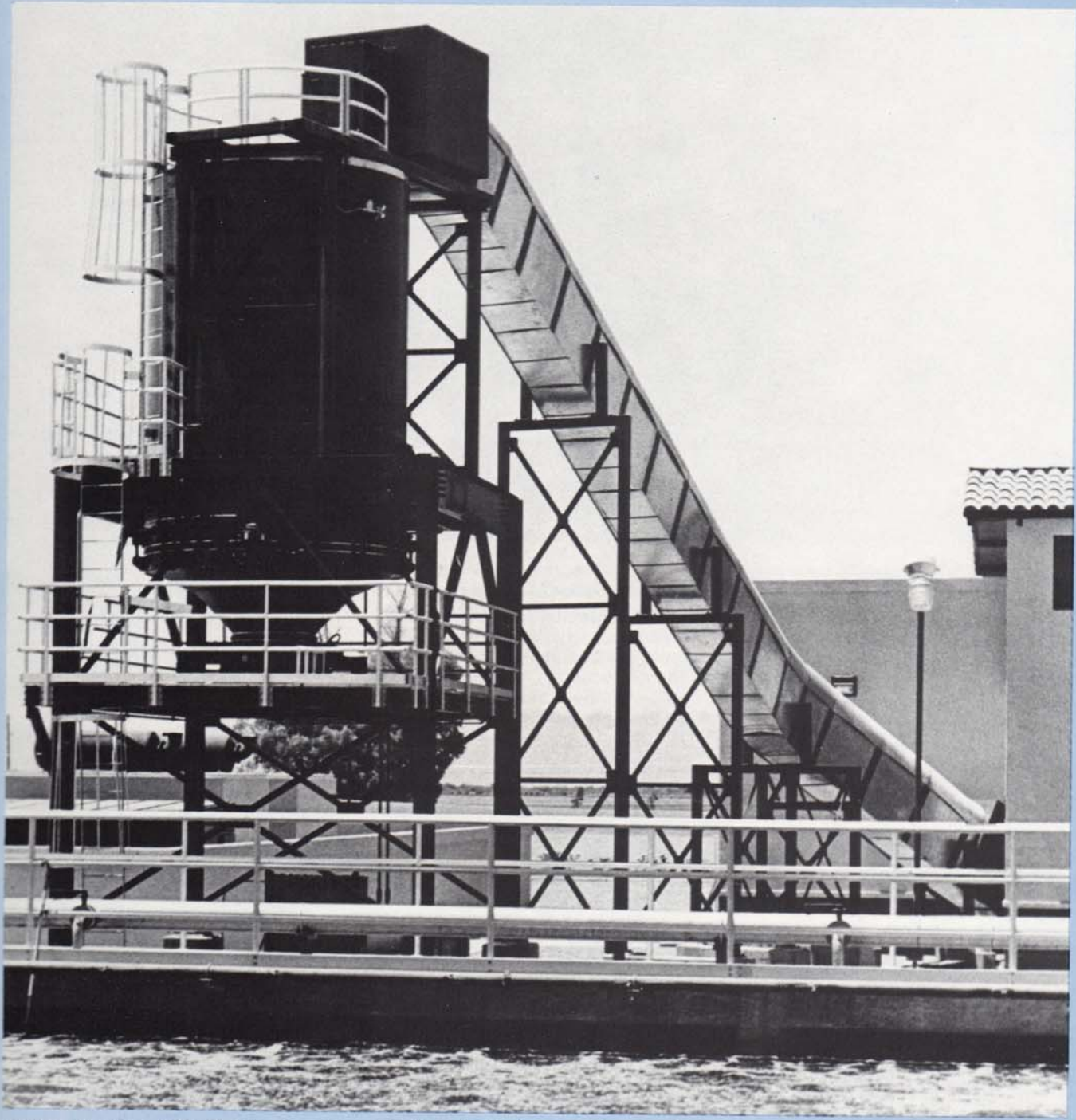
Chandler is the first city in the nation to arrange for a private company --- The Parsons Corporation, headquartered in Pasadena, California --- to build, own and

THE CHANDLER, ARIZONA WASTE-water Reclamation Facility strongly resembles a Spanish hacienda from the road leading to the administration build-

ing, shown below. Partially shielded from view behind the building, however, is the Serpentix conveyor and sludge cake handling facility, shown on the facing

page. In the foreground of that photo, is an aeration basin where fine air bubbles are injected to trigger a biological reaction.





operate a new wastewater treatment plant for the community to cope with its rapid growth. Under this arrangement --- commonly referred to as privatization --- the city pays Parsons an annual fee under a 25 year contract to provide wastewater treatment services for the city.

Malcolm Pirnie, Inc., an environmental engineering consulting firm, assisted the city in its early

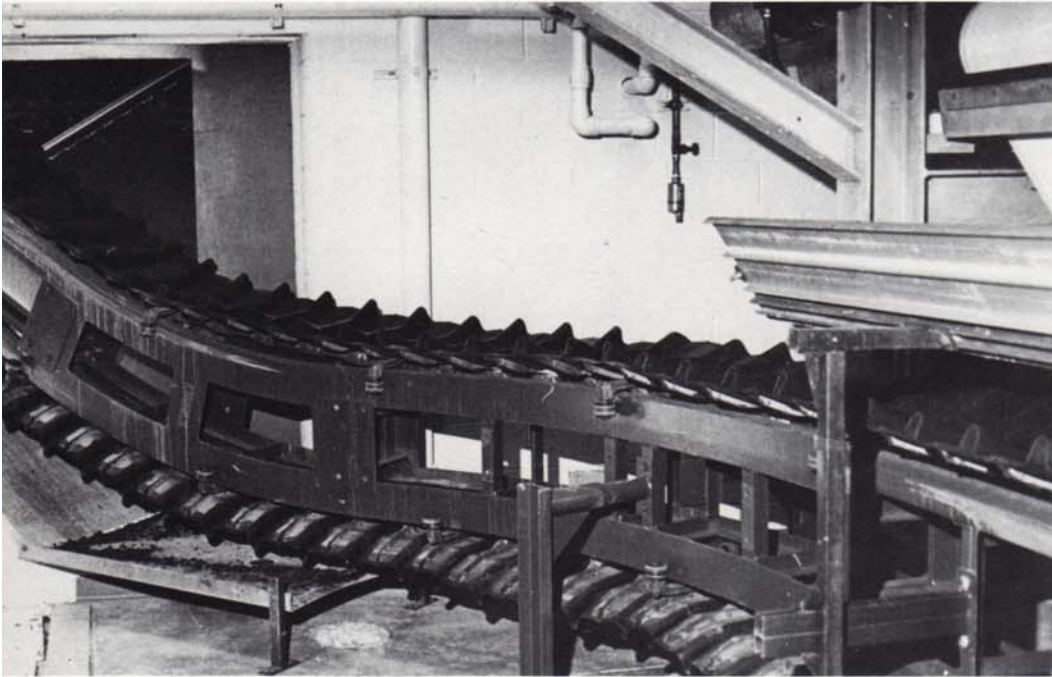
activities to find a solution for its treatment needs.

Parsons Municipal Services, Inc., a subsidiary of Parsons Corporation, structured a plan that saved Chandler time and money in bringing the new plant on-line. Parsons financed the plant with \$23 million in floating rate industrial development bonds at a substantial savings to the city.

Carl P. Dentler, project manager

for ES Environmental Services, Inc., manages CWRf under the privatization contract between the city and Parsons.

City officials have estimated that privatization will save Chandler \$1 million annually over the life of the project. The net result for Chandler has been a new wastewater treatment plant, without the city having to raise taxes, increase user fees or burden



itself with additional municipal bonded debt.

Unique features of the plant include its architecture --- a Spanish motif --- the equipment used in the treatment process and, the great care being taken to insure a pristine quality to the plant effluent. All tie in closely with the nine square mile residential development adjacent to CWRP.

CWRP was built on land leased from the city by Parsons. The 25-acre CWRP site was dedicated by the developers to the city for use as a wastewater treatment facility. Part of the agreement was that the development would receive the plant's treated effluent for use in irrigation, watering and for a continuing source of water for the 94 acres of lakes now in the subdivision

FILTER CAKE IS RECEIVED, IN PHOTO at right, by the 117-foot long Serpentix conveyor. After passing two belt presses it exits the building in top photo. After making a climbing, helical turn to the left, the conveyor transports the filter cake up a 30 degree incline for discharge into a truck load-out hopper.

and the 410 acres of lakes planned upon completion of the development.

The treatment plant uses extended aeration activated sludge with secondary treatment plus sand filters and disinfection. The waste activated sludge is then dewatered through belt filter presses.

The 18 to 28 percent filter cake coming from the belt presses is carried by the 117-foot Model H Serpentix conveyor to a load-out hopper. An average of three tons per week is being transported to a landfill three miles away where it is buried.

Rated for 10 tons per hour, the three dimensional Serpentix conveyor at Chandler has a 20-inch convoluted belt powered by a three horsepower motor. With a belt speed of 25 feet per minute, the continuous path conveyor travels in a straight line past the belt filter presses and then exits the building.

It then makes a 90-degree helical turn to the left and transports its load up a 30 degree incline for an elevation gain of 33 feet from floor level. The Serpentix conveyor then makes a vertical curve to level off and discharge into the storage hopper.

Dentler explained that great pains have been taken to guard against odors from the facility. Also, special measures to protect the conveyor's neoprene belt pans from the ultra-violet rays of the harsh Arizona sun were taken. The conveyor is totally enclosed by stainless steel covers outside the dewatering building where the conveyor climbs to the load-out hopper. ■

