



When  
Odor  
Control

is the  
problem,  
Conservatek's  
extruded  
aluminum  
flat covers  
are the  
solution.

U.S. PATENT NO. 5,921,030

Pictured above: At this Houston area wastewater treatment plant, Conservatek was responsible for fabricating a network of self-supporting extruded flat cover panels that could conform to complex shapes while providing a snug, air-tight fit. This photo shows the covers installed on the plant's lift station.

**When a state-of-the-art wastewater treatment facility's odor control problems alienated the very community it was designed to serve...**

All too often, this much-needed wastewater treatment facility generated noxious odors that profoundly affected air quality in the area. Public outcry, especially from residents of a nearby subdivision, raised the possibility that this innovative plant would face closure if its odor control problems could not be solved.

**...custom-designed Conservatek flat covers put a lid on the problem.**

The task was to provide a cover system that could effectively seal in odors while not interfering with the wastewater treatment plant's equipment and processes. The cover system needed to be lightweight, self-supporting and capable of bearing weights of up to 40 pounds per square foot and a 250 pound concentrated load. Materials used in fabricating the covers needed to be tough enough to withstand the harsh, humid environment of the treatment plant, and they needed to be removable to accommodate maintenance procedures critical to the plant's operations.

Because the plant's processing scheme involved a series of basins, chambers and effluent channels of various sizes and shapes, the covers themselves had to be fabricated in those same sizes and shapes. And these complex, custom shapes had to be matched accurately to provide a snug fit.

(continued)



Pictured above: In the treatment plant's headworks building, covers for the grit chambers and effluent channels require interlocking panels that are complex and difficult to fit.



Pictured above: This portion of the cover stretches over effluent channels and measures more than 150 feet. It is composed of a series of interlocking panels sealed with neoprene gaskets (see back of flyer for detail).

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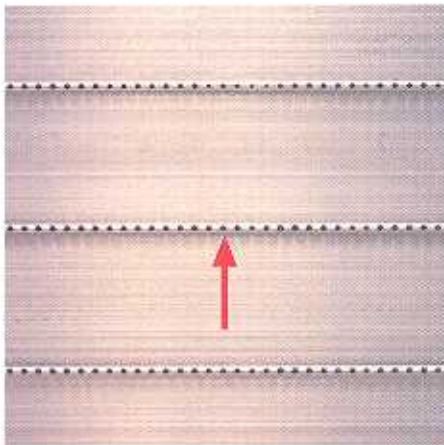
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Figured above: A panel covering affluent channels is removed to show its relative size. The panel measures 3.5' x 6'.



Figured to the right: This close-up shows the "lip" and neoprene gasket that work with the adjacent panel to provide a virtually air-tight fit.



Figured above: This detail of the bi-directional non-skid surface shows the integral ridges fabricated into the aluminum to provide traction in even the most slick conditions.

**The individual panels of the flat cover had to be of manageable size and weight so they could be easily removed for maintenance, and they had to provide a virtually air-tight seal.**

To accommodate maintenance procedures for the treatment plant, the flat covers were designed so they could be easily removed. That meant that the individual panels had to be relatively small and light enough to be moved by two people. Fabricating the panels and structural members from lightweight aluminum, Conservatek produced individual pieces which fit together to conform to the various shapes required. None of the panels weighed more than 150 pounds, and their average size was 4' x 6'.

A virtually air-tight seal was provided by outfitting each panel with a two inch "lip" lined with a neoprene gasket. Using the weight of the adjacent panel pressing down onto the neoprene, a simple yet effective seal was created to prevent odors from escaping into the surrounding area.

**Because of the high humidity of the wastewater treatment plant's environment, the materials used had to address issues of durability and safety.**

As a long-time manufacturer of aluminum domes, vaults and flat covers, Conservatek designers knew that high-grade aluminum would be the ideal material for use in the high humidity of the wastewater treatment plant. Its resistance to corrosion and biological growths, combined with its resistance to ultraviolet and ozone degradation meant Conservatek's extruded aluminum flat covers would boast a longer life than alternative materials, and therefore better value for the customer.

Conservatek's designers also knew that high humidity and weather can cause any surface to become slick – including aluminum – so for safety purposes, a bi-directional, non-skid surface feature was included in the extrusion process. Comprised of integral ridges 0.10" high placed at 1.75" intervals, this feature provides exceptional traction under adverse conditions.

For more information on this or other Conservatek products, please contact:



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