



## ENVIRONMENTAL OBSTACLES

After several years of extensive planning, the City of Newport Beach, CA advertised the “Back Bay Storm Drain Rehabilitation” Project in September 2014.

The SPR™EX “Back Bay Storm Drain Rehabilitation” project is located in Upper Newport Bay in the County of Orange, California in a pristine ecological reserve. This project required the structural repair of over 40 culverts, including preliminary exploratory condition assessment to verify the structural condition of the culverts and that the scope of work could be executed as specified.

The project was competitively bid with Burtech Construction of Encinitas, California being the lowest responsive bidder. Once the project was awarded, Burtech approached the City of Newport Beach with a value engineering recommendation to substitute the culvert rehabilitation lining materials on this project.



Sekisui’s Spiral Wound liners offered the City of Newport Beach numerous constructability advantages for this high visibility project.

For example, Spiral Wound liners are mechanically installed and do not contain harmful chemicals or styrene as part of the installation process. This was considered to be a huge advantage due to the environmentally sensitive project location. Additionally, Spiral Wound liners can be installed in live flow without the need for bypassing.

**1,068** <sup>FT</sup>  
*Project Length*

**40+**  
*Culverts Renewed*

**0**  
*Environmental Impact*

**SPR™EX**

- 6" - 42"
- Tight fit
- Circular shapes

# VALUE ENGINEERING

With these significant advantages, the City of Newport Beach approved the use of Spiral Wound liners for the Back Bay project. Once approved, Sekisui's construction division, Heitkamp, Inc., partnered with Burtech to perform the Spiral Wound lining work. Based on design and hydraulic requirements, Sekisui's SPR™EX Lining system was recommended. SPR™EX is a tight fitting lining system that does not require annular space grouting.

Approximately half of the 40 culverts ranging in diameter from 12" - 24" were converted to SPR™EX. The remaining culvert segments had excessive ovality and deformation, in some cases up to 20% deflection. Further evaluation and repair methods were used on those pipe segments due to hydraulic constraints. The biggest construction challenges involved addressing the tidal flows. The excess flows were diverted to maintain workable flow levels, but the installation process still continued under live flow.

**Despite construction challenges and unusual rain events in December and January, the project finished on schedule and under budget.**

“ Due to constant tidal influence in many of the rehabilitation sites, we found utilizing the SPR™EX system in these areas gave us greater control within the time frames. Post-construction, Burtech Pipeline/ Nu-line Technologies, LLC feel we chose the best technologies in order to deliver the project in a timely manner and limit exposure in these highly sensitive work areas. We are extremely pleased with the end result as was the City of Newport Beach. ”

- Frank Durazo, Operations Manager Nu-Line Technologies, LLC.

“ Honestly, at first I did not think Spiral Wound would be a practical material for the Back Bay Storm Drain project, but after checking references and meeting Sekisui we decided to give it a try. It worked well and saved the City money. ”

- Peter Tauscher, P.E. City of Newport Beach.

