

CASE STUDY

BUILDING RESILIENT SEWERAGE NETWORKS

Key Largo, Florida, United States

Established in 2005, the Florida Keys wastewater district embarked on a pivotal mission to address environmental degradation stemming from private septic systems. Given the unique challenges posed by the region's high-water-table environment and frequent natural disasters, the district sought innovative solutions to safeguard the delicate ecosystem. Among these solutions, the adoption of a vacuum collections system emerged, promising enhanced efficiency and environmental sustainability. However, the implementation of such a system presented multifaceted complexities, necessitating a concerted effort to ensure operational resilience and effectiveness.



Key Largo, Hurricane Irma Devastation. photo by Contessa Brewer CNBC

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key outcomes

- 1. COMMUNITY DEVELOPMENT AND GROWTH WITH REDUCED WASTEWATER FLOWS:** Through the implementation of advanced vacuum sewerage technology provided by Flovac, the Florida Keys wastewater district facilitated sustainable community development while minimizing wastewater flows. This not only ensured the preservation of local water resources but also supported the region's economic vitality.
- 2. PROTECTION OF COASTAL WATERS THROUGH FLOVAC'S MONITORING TOOLS:** The integration of state-of-the-art monitoring technology from Flovac enabled real-time surveillance of the vacuum collection system, thereby preventing sanitary sewer overflows and safeguarding coastal waters from contamination. This proactive approach to monitoring underscored the district's commitment to environmental stewardship and regulatory compliance.
- 3. REDUCTION IN INFLOW AND INFILTRATION FACILITATED BY FLOVAC'S MONITORING TOOLS:** By leveraging Flovac's monitoring tools, the Florida Keys wastewater district achieved significant reductions in inflow and infiltration, thereby enhancing system efficiency and minimizing the risk of operational disruptions. Through continuous monitoring and data-driven insights, the district was able to identify and rectify potential issues before they escalated, ensuring uninterrupted service delivery to residents and businesses.
- 4. GREENER OPERATIONS AND ENVIRONMENTAL STEWARDSHIP:** The adoption of Flovac's advanced vacuum sewerage monitoring system not only optimized operational efficiency but also facilitated greener operations, aligning with the district's commitment to environmental sustainability. By reducing energy consumption and minimizing environmental impact, the district demonstrated its role as a responsible steward of the delicate ecosystem of the Florida Keys.
- 5. SIGNIFICANT IMPROVEMENT IN WATER QUALITY:** The implementation of Flovac's monitoring technology and vacuum sewerage system yielded tangible improvements in water quality, evidenced by the revitalization of aquatic life in reefs and canals throughout the region. This marked enhancement underscored the effectiveness of the district's holistic approach to wastewater management and environmental conservation.

THE CHALLENGE

Facing hurricanes, floods, and power outages, the Florida Keys' vacuum collection system demands unprecedented adaptability and continuous innovation to overcome its environmental challenges and ensure optimal performance.

The deployment and maintenance of the vacuum collection system in the Florida Keys presented a myriad of challenges, including susceptibility to power outages, flooding, and hurricanes. These environmental factors demanded a high degree of adaptability and resilience from the wastewater district. Furthermore, the intricate nature of the vacuum system required continuous innovation to mitigate risks and optimize performance, particularly in the face of evolving environmental conditions.

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THE FLOVAC SOLUTION

Flovac emerged as a key partner in addressing the complex challenges associated with the vacuum collection system in the Florida Keys. Leveraging its expertise in vacuum sewerage technology and monitoring solutions, Flovac provided a comprehensive suite of products and services tailored to the unique requirements of the region. Central to this solution was the deployment of cutting-edge monitoring technology, enabling real-time surveillance and proactive maintenance of the vacuum system.



Installation of the monitoring system



A successful outcome

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THE RESULTS

The collaborative efforts between the Florida Keys wastewater district and Flovac yielded remarkable results, with tangible improvements in operational efficiency, environmental sustainability, and water quality. Through the strategic integration of Flovac's monitoring technology, the district achieved unparalleled levels of resilience and reliability, ensuring uninterrupted service delivery even in the face of adverse environmental conditions. Looking ahead, the ongoing partnership between the district and Flovac promises to further advance the region's wastewater management capabilities, paving the way for a cleaner, more sustainable future for the Florida Keys and its residents.

PRESERVING A DELICATE ECOSYSTEM THROUGH RIGOROUS MONITORING EFFORTS

“The whole reason we have our wastewater district is to care for our delicate ecosystem here in The Keys. That’s why we were funded, so anything we can do to continue following that, monitoring is something we take seriously and pursue.”

-**Nick Rodriguez**, Key Largo Wastewater Treatment District Board of Commissioners

for more information

Join us in shaping a sustainable future. To learn more about how Flovac is leading the change in environmental engineering and how we can assist in your wastewater management needs, contact us at info@flovac.com