

Dutch Dialogues™ Charleston

Grounded in Science, Driven by Design

WAGGONNER
& BALL

THE WATER INSTITUTE
OF THE GULF



Charleston's future depends upon how well the City and surrounding counties invest to adapt and preserve physical assets, underlying economies of medicine, education, tourism and trade, and enhance residents' quality of life. Given Charleston's abundant natural and man-made assets, creatively linking spatial planning, integrated water management, infrastructure and development will yield a compelling vision for Charleston's future.

To create that vision, the City of Charleston has launched Dutch Dialogues Charleston, a collaborative effort involving national and international water experts working alongside Charleston's local teams to conceptualize a Living With Water™ future. This new way of thinking about water, land, and people with multiple benefits will provide near- and long-term value to Charleston.

Many U.S. coastal cities, like Charleston, are experiencing the limits of "pump and drain" due to recurrent, more severe storms with extreme precipitation, increased river discharge and sea level rise. Dutch Dialogues Charleston will research, explore, design and propose integrated ways to mitigate and adapt to flood and other risks threatening the City and Lowcountry environs. These Dialogues should demonstrate the need for a comprehensive, realistic and inspirational Charleston Regional and Urban Water Plan to guide investment and (re)development in both nature-based and man-made water infrastructure improvements in the coming decades and provide a road map for flood risk mitigation.

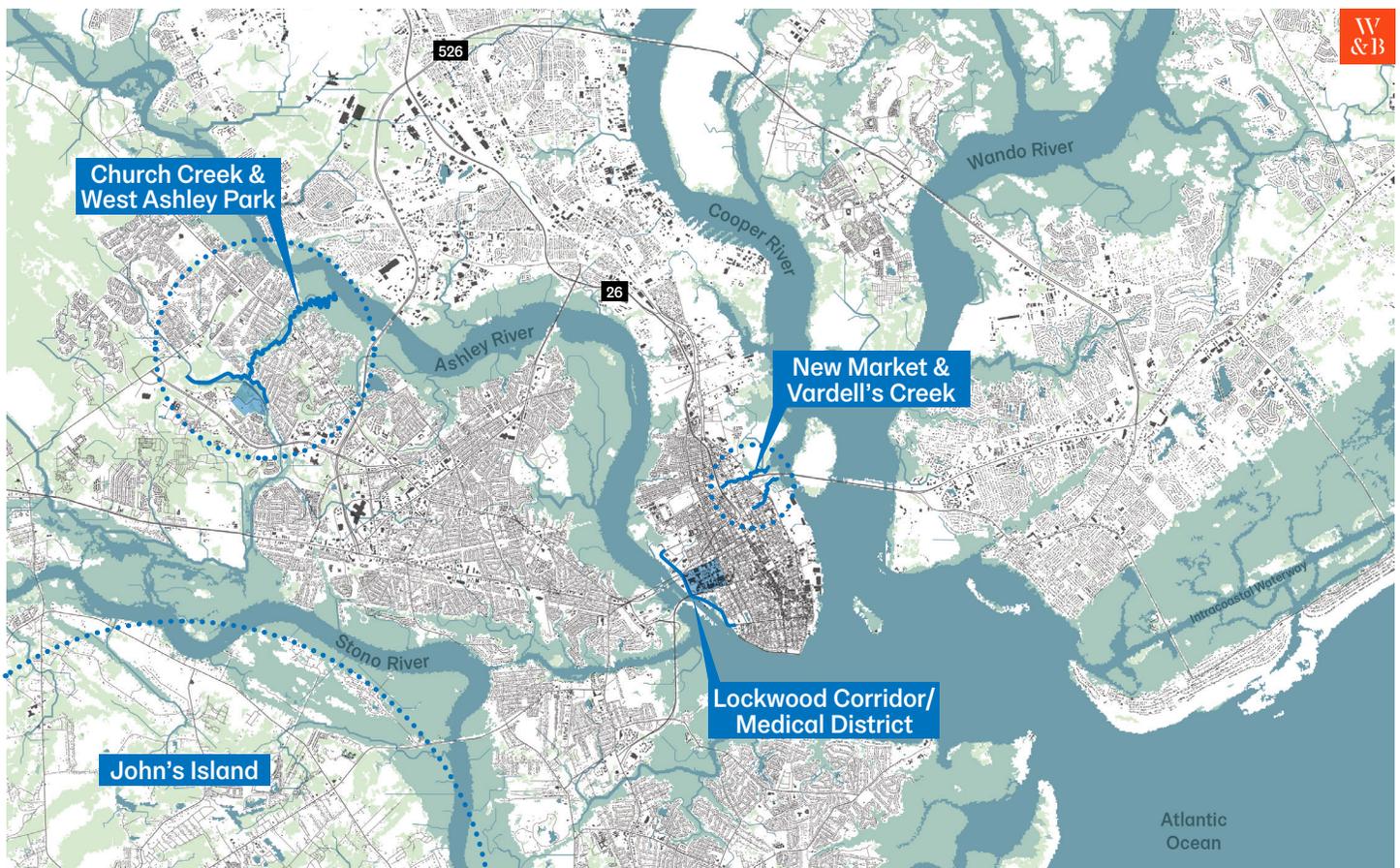
Dutch Dialogues Charleston will be directed and coordinated by Waggonner & Ball, LLC, The Water Institute of the Gulf and the Royal Netherlands Embassy, Washington, DC, alongside key Charleston-region partners from January through late-summer 2019. The proposed areas of focus include:

Lockwood Corridor/Medical District is a critical provider of essential services, and is currently impaired by recurrent tidal and storm-related flooding.

New Market & Vardell's Creek Area is experiencing significant growth and requires comprehensive land use and water planning to address the low elevation, stormwater flooding, unmet housing needs, and broader neighborhood development patterns.

Johns Island requires a set of best water management practices to mitigate current and predicted flood risk. This multi-jurisdictional area with many infrastructure and growth-related challenges demands a regional perspective.

Church Creek is heavily urbanized, underutilized, and constrained and serves primarily as a drainage conduit and cause of flooding. Settlement patterns, geography, land use, water storage, and discharge needs, and upland opportunities will influence proposed interventions to lower flood risk and enhance post-event resiliency while ensuring the vitality and viability of the area.



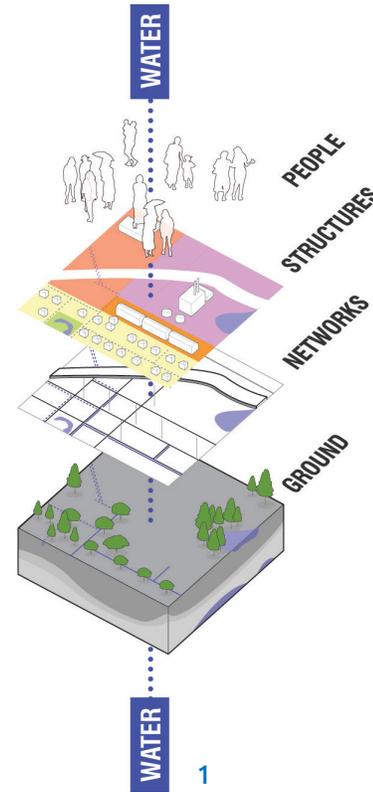
Dutch Dialogues™ History

Recovery & Resilience through Collaboration

Recovery requires cooperation. Resilience requires vision. These are two of the important lessons learned in the immediate aftermath of Hurricane Katrina as coastal Louisiana and neighboring regions struggled to address multiple storm-related environmental challenges (coastal surge, subsidence, urban storm water, aging pump and water-management infrastructure) and their related long-term social, economic, and quality-of-life consequences.

Recognizing that recovery efforts in the crucial time after a disaster event are often addressed as discrete, disconnected problems, David Waggoner of Waggonner & Ball, Dale Morris of the Royal Netherlands Embassy (now at the Water Institute), and Paul Farmer, former CEO of the American Planning Association, co-developed a series of stakeholder-focused workshops, the Dutch Dialogues, modeled on the Dutch approach of developing actionable solutions through integrated water management and flood infrastructure planning with a preference for multi-benefit investments. The New Orleans Dutch Dialogues, hosted between 2008 and 2010, seeded the Greater New Orleans Urban Water Plan, a large portion of the New Orleans Resilience Plan, and was instrumental to the \$141 million Gentilly Resilience District project. Dutch Dialogues were also held in St. Louis in 2013 and in Tidewater (Norfolk), Virginia in 2015, the latter providing crucial input for Norfolk's successful \$121 million National Disaster Resilience award. The workshop model has been successfully deployed in exploratory engagements in Los Angeles and Miami, and with Rebuild by Design in Bridgeport, Connecticut.

The methodology led to over \$310 million in federal funding for New Orleans, Norfolk, and Bridgeport. It transformed how these cities approach economic (re)development in relation to water, catalyzed water entrepreneurship and job creation through resilience building and stimulated citizens to become part of the region's systemic effort to reduce flooding. Dutch Dialogues begins the process of transforming water from threat to asset.



\$50 million

Rebuild by Design, Bridgeport, CT

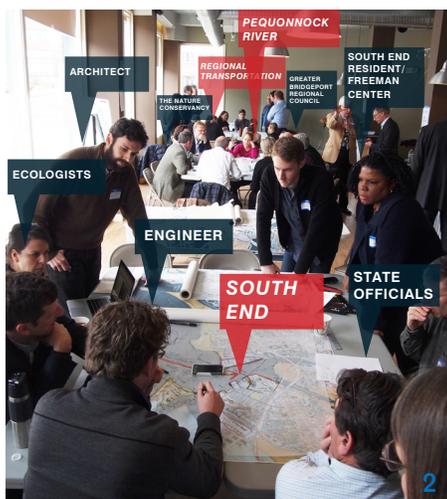
\$121 million

National Disaster Resilience award, Norfolk, VA

\$141 million

Gentilly Resilience District, New Orleans, LA

Federal funding outcomes or proposals developed through Dutch Dialogues



- 1 Planning involves all layers of place, from subsurface aquifers to patterns of human inhabitation.
- 2 Team structures maximize knowledge sharing and involve a full spectrum of stakeholders, from government officials to local residents.
- 3 Natural systems and public infrastructure connect all scales, from backyard to bayou to bay.