



**REQUEST FOR INFORMATION FOR**

# INTEGRATED MASTER PLANNING RFI

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**SEWERAGE & WATER BOARD OF NEW ORLEANS**

FEBRUARY 18, 2020



February 18, 2020

Sewerage & Water Board of New Orleans  
625 Saint Joseph Street  
New Orleans, LA 70165

**Re: Request for Information - Integrated Master Planning**

Since its beginnings, New Orleans' circumstances have required it to be an innovator in seeking solutions to its persistent stormwater and drainage challenges. From the open drainage ditches of the first settlement in what is now the French Quarter, to the time when A. Baldwin Wood's screw pumps made feasible the drainage of previously undevelopable swampland, New Orleans has been pushing up against the physical constraints of its geography and hydrology. This innovation was exported across the country and even the globe.

One hundred years later, the wisdom of that time – to remove as much water from the land as quickly as possible – has been revisited and reimagined as 'living with water,' finding space for stormwater amidst our urban development and in complement to the city's massive drainage system. The leading edge of innovation has come full circle where New Orleans is now learning from and exchanging with cities around the world in how to manage urban stormwater in a resilient and sustainable manner.

While this overall vision for a future New Orleans is strong, it is not at all clear how the city will realize it. We applaud the Sewerage and Water Board for undertaking this ambitious integrated master planning initiative to set a new course to achieve this vision for the city.

For decades, CSRS has helped its clients develop solutions to their drainage challenges. From planning to financing, from design to construction, CSRS engages and adds value throughout the process. Most recently, we have been working in communities that are developing stormwater master plans. We are working for state government under the Louisiana Watershed Initiative to expand this approach to regional watershed management and planning to communities throughout the state.

CSRS is committed to finding solutions to our flood risk and stormwater challenges in New Orleans. We look forward to partnering with the Sewerage & Water Board in this RFI process as it begins the integrated Master Planning.

**Primary Contact:** David Lessinger  
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Sincerely,



David Lessinger, Sr. Advisor

# FIRM OVERVIEW



For more than 40 years, CSRS, Inc. has leveraged our innovation and leadership expertise to plan for and implement community improvement, revitalization, and resilience.

More than program managers, we are engineers, architects, planners, surveyors, development advisors, governmental consultants and grants management experts. Whether we manage the process or perform the work ourselves, we understand every facet of successful project delivery. With our core competencies, we serve the education, infrastructure, land development, disaster recovery, commercial/retail, governmental and economic development markets. Having a great depth of staff and assigning experienced professionals who have expertise in working with specific project types reinforces the high level of performance we pride ourselves in providing to our clients.

CSRS' reputation for excellence is the result of our strong commitment to collaborative, multi-disciplinary, problem-solving. Our staff works side-by-side and office-to-office, combining the skills, energy, and focus needed to create and implement design and management solutions in partnership with our clients. Our project delivery approach hinges on client collaboration and is based on national best practices used to recognize and accomplish our clients' goals and objectives.

**FULL LEGAL NAME:**  
CSRS, Inc.

**CORPORATE STRUCTURE:**  
Privately Held Corporation

**YEARS IN BUSINESS:**  
Established in 1987

**NUMBER OF EMPLOYEES:**  
111 Employees

**OFFICE LOCATIONS:**  
Baton Rouge, LA  
New Orleans, LA  
Lake Charles, LA  
Dallas, TX

## KEY SUCCESSES

Program Management  
experience in leading capital  
improvements projects with  
a collective value exceeding  
\$10 billion.



## FIRM OVERVIEW



One of our core competencies is managing complex government programs using local staff with local experience to provide the quality of service to the State and the people who live and work in Louisiana. Additionally, our team has specific and relevant technical qualifications and experience dealing directly with local, state, and federal agencies.

**CSRS brings extensive experience in stormwater management planning, capital plan development, and infrastructure program management.**

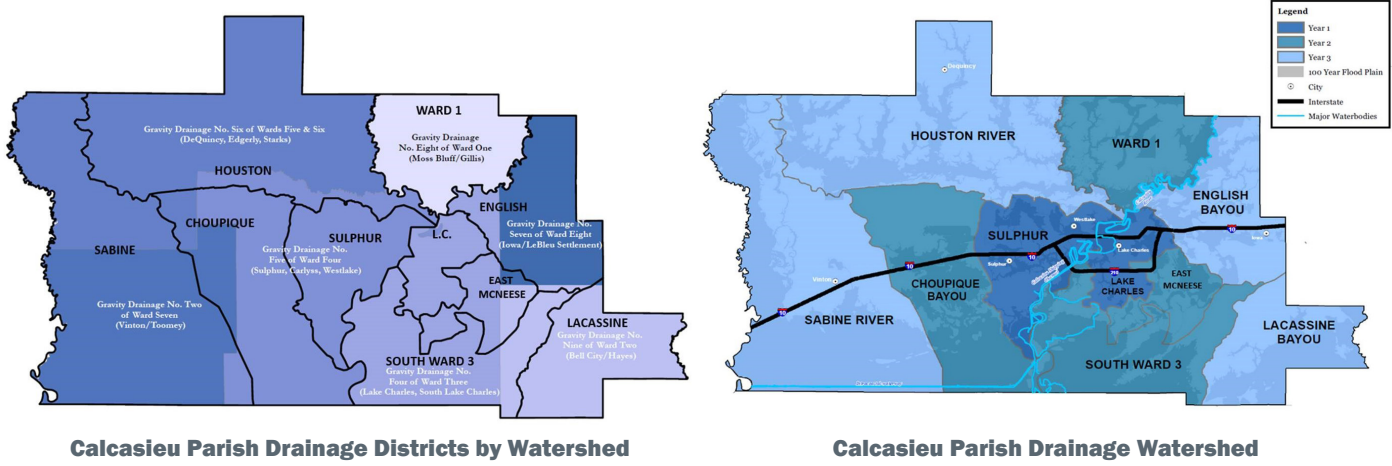
### **ADVANTAGES THE CSRS TEAM OFFERS**

Each member of the CSRS team specializes in various areas of expertise which enhances our ability to timely complete anticipated project scopes. The CSRS team has firsthand experience working with projects of similar size and scope in Louisiana's. We will leverage our knowledge, familiarity with policies and procedures, along with our understanding of the project scope to start work immediately with efficiency and enthusiasm. We will leverage our established relationships with local government as well as state and federal agencies to help expedite project delivery immediately upon receipt of task orders.

Other added benefits include our established quality assurance/quality control culture and respected accounting and financial management expertise. We are one of the industry's leaders in the successful delivery of engineering and related services to public and private projects statewide because we understand our clients' needs and are committed to meeting or exceeding those needs.



# RELEVANT PROJECTS



## Calcasieu Parish Regional Watershed Planning & Strategic Analysis

### CALCASIEU PARISH, LA

CSRS is supporting the Parish’s Regional Watershed Planning and Strategic Analysis. The initial effort is focused on watersheds selected through a series of pre-planning activities, led by CSRS. Through this process, CSRS engaged a variety of stakeholders to set overall goals for the planning process and prioritize the 10 regional watersheds in Calcasieu Parish. To support the decision-making and planning, CSRS is performing an asset inventory, supporting the vulnerability analysis, developing a web-based GIS tool for project evaluation, and is developing growth scenarios. CSRS is also conducting hydraulic and hydrologic modeling and damages modeling to support the development of Benefit-Cost Analyses.

#### SERVICES PROVIDED

- Drainage Master Planning
- Asset Inventory
- Vulnerability Analysis
- Growth Scenarios
- Stakeholder Engagement

#### PROJECT VALUE

- \$5M (Task Order 1: \$514K)

#### SCHEDULE

- May 2018 – Present

#### FIRM RESPONSIBILITY

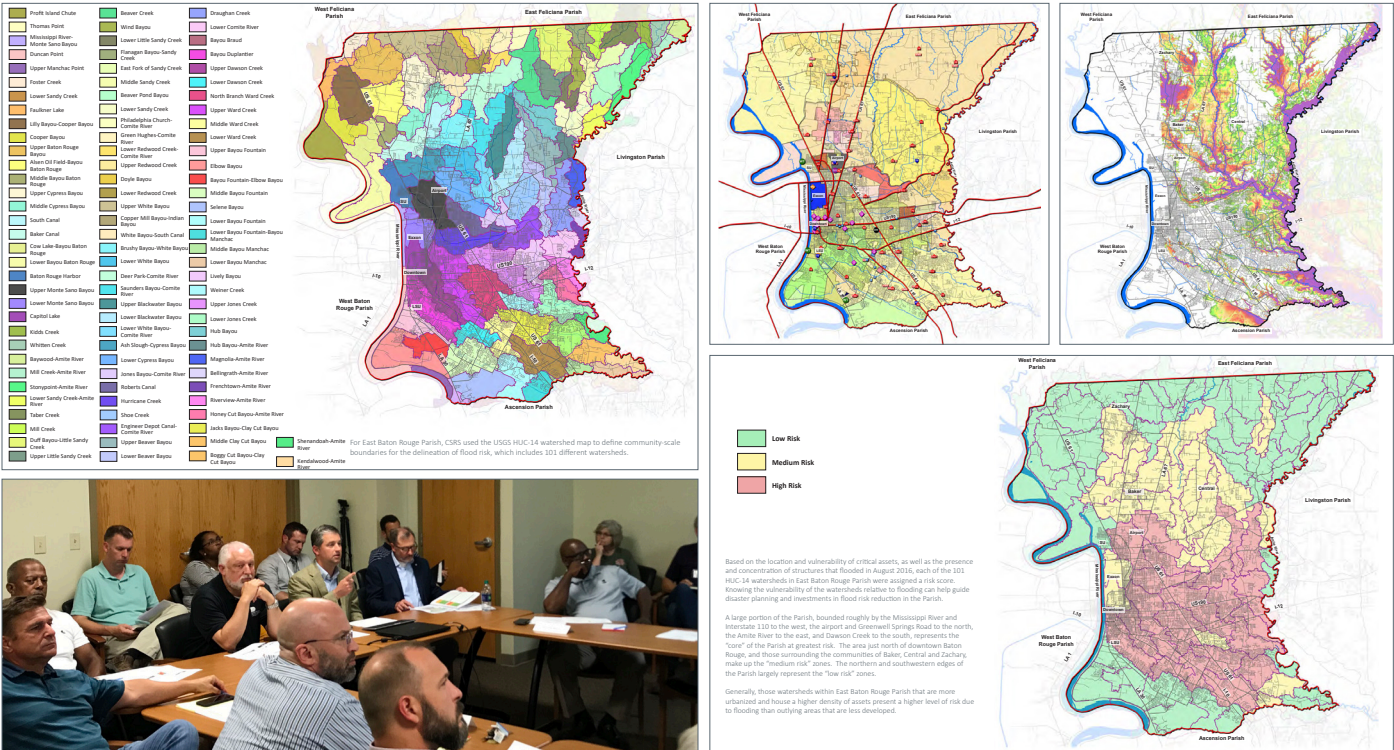
- Subconsultant

#### CLIENT REFERENCE

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# RELEVANT PROJECTS



## East Baton Rouge Stormwater Master Plan

CITY OF BATON ROUGE AND EAST BATON ROUGE PARISH, LA

Following the widespread flooding in East Baton Rouge Parish in 2016, it became clear that reducing flood risk on a local and regional scale would require careful planning across jurisdictions. The City of Baton Rouge and Parish of East Baton Rouge selected HNTB Corporation with CSRS to assist in the development of a Parish Stormwater Master Plan. The Stormwater Master Plan will identify and prioritize improvements to the system, develop concept-level designs, and estimated capital and operational costs. The master plan will also identify modifications or additions to the stormwater system necessary to address the need for surface water quality improvements.

The first phase of the Stormwater Master Plan focused on developing critical capital projects within the Parish that qualify for the FEMA Hazard Mitigation Grant Program (HMGP) allocations that the Parish will receive for the August 2016 floods. CSRS is also supporting outreach to key stakeholders, partners, and community organizations to develop partnerships, collect/acquire critical data, and formulate an asset management system for long-term use. CSRS led the Flood Risk Assessment and HMGP Application Development activities and supporting the HNTB team on the Data Collection and Gap Analysis, Stakeholder Engagement, and Implementation Framework activities. CSRS is conducting stormwater modeling at finer level of analysis to support project evaluation, an updated risk analysis, and finer-grain watershed planning.

**SERVICES PROVIDED**

- Data Collection & Analysis
- Stakeholder Engagement
- Stormwater Management Planning
- Risk Assessment
- HMGP Application Development

**PROJECT VALUE**

- \$530K

**SCHEDULE**

- 2017 - 2019

**FIRM RESPONSIBILITY**

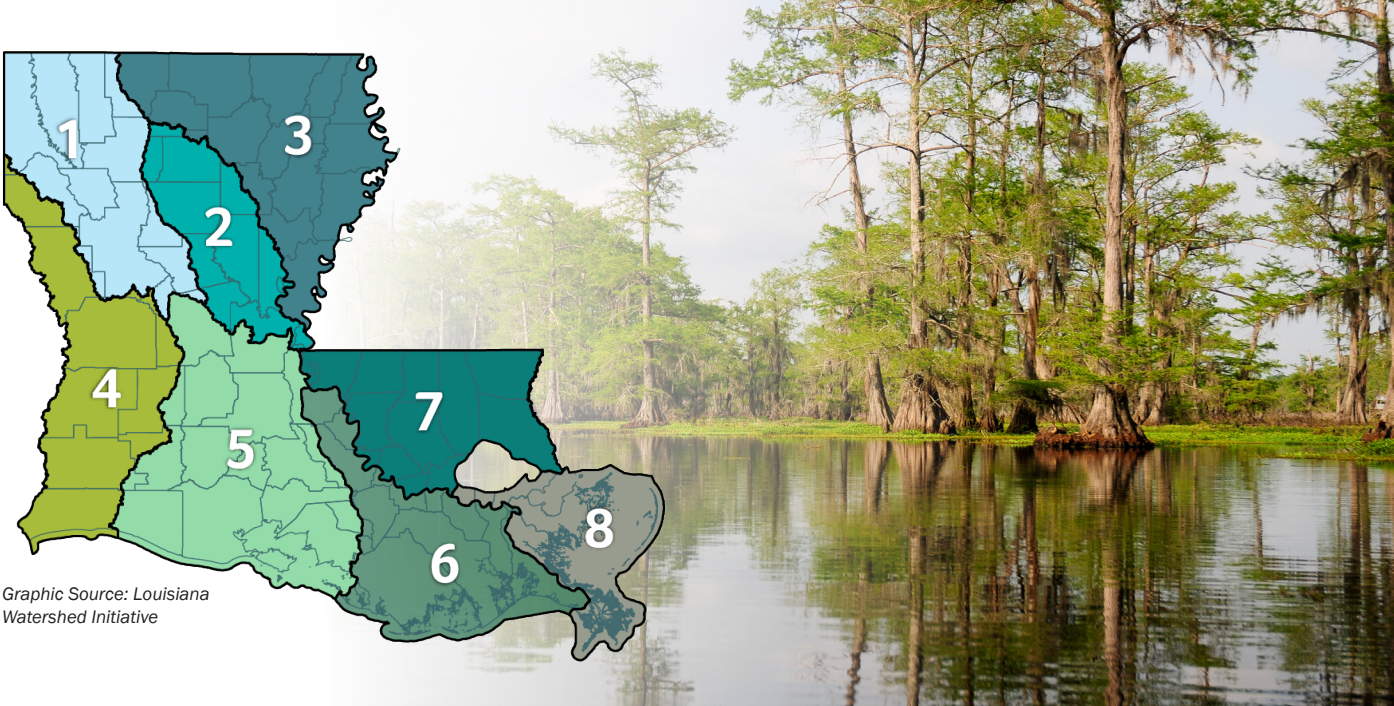
- Subconsultant

**CLIENT REFERENCE**

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# RELEVANT PROJECTS



Graphic Source: Louisiana Watershed Initiative

## The Louisiana Watershed Initiative Program Management Support Services

**LOUISIANA OFFICE OF COMMUNITY DEVELOPMENT – DISASTER RECOVERY UNIT (LA OCD-DR) | STATEWIDE, LA**

In May 2018, Governor Jon Bel Edwards issued an executive order to develop and implement the Louisiana Watershed Initiative (LWI), a statewide floodplain management program based on watersheds as opposed to the political and jurisdictional boundaries. The LWI acknowledges that water management decisions of one jurisdiction greatly impacts others, and that flooding is closely tied to land use, policy and infrastructure decisions that evolve over time among multiple governing authorities. The goal of the LWI is to facilitate federal, state, and local jurisdictions and communities in the implementation of regional, long-term solutions that follow watershed boundaries to most effectively reduce flood risk across Louisiana communities. The LWI engages and includes the support of subject matter experts from federal, state, local governments and the non-profit and private sector, who serve as advisors in building a foundation of data, projects, policies, standards and guidance. Initial work includes efforts ranging from the background work necessary for the development of hydraulic and hydrologic models to the development of watershed coalitions in coordination with state, federal and local government entities.

CSRS is providing administrative, technical, engagement, outreach, policy, planning, scientific, and related support services needed to help develop, facilitate, and implement the LWI. CSRS is responsible for ensuring the accuracy, timeliness, and completion for all tasks under this contract. CSRS is managing the establishment of regional watershed councils and will support these councils as they undertake regional watershed planning.

### SERVICES PROVIDED

- Administrative Support
- Policy and Program Development
- Technical Assistance and Evaluation
- Outreach and Engagement
- Regional Planning
- Organization Development and Plans
- Statewide Plan Development

### SCHEDULE

- 2019 - 2022

### FIRM RESPONSIBILITY

- Prime

### CLIENT REFERENCE

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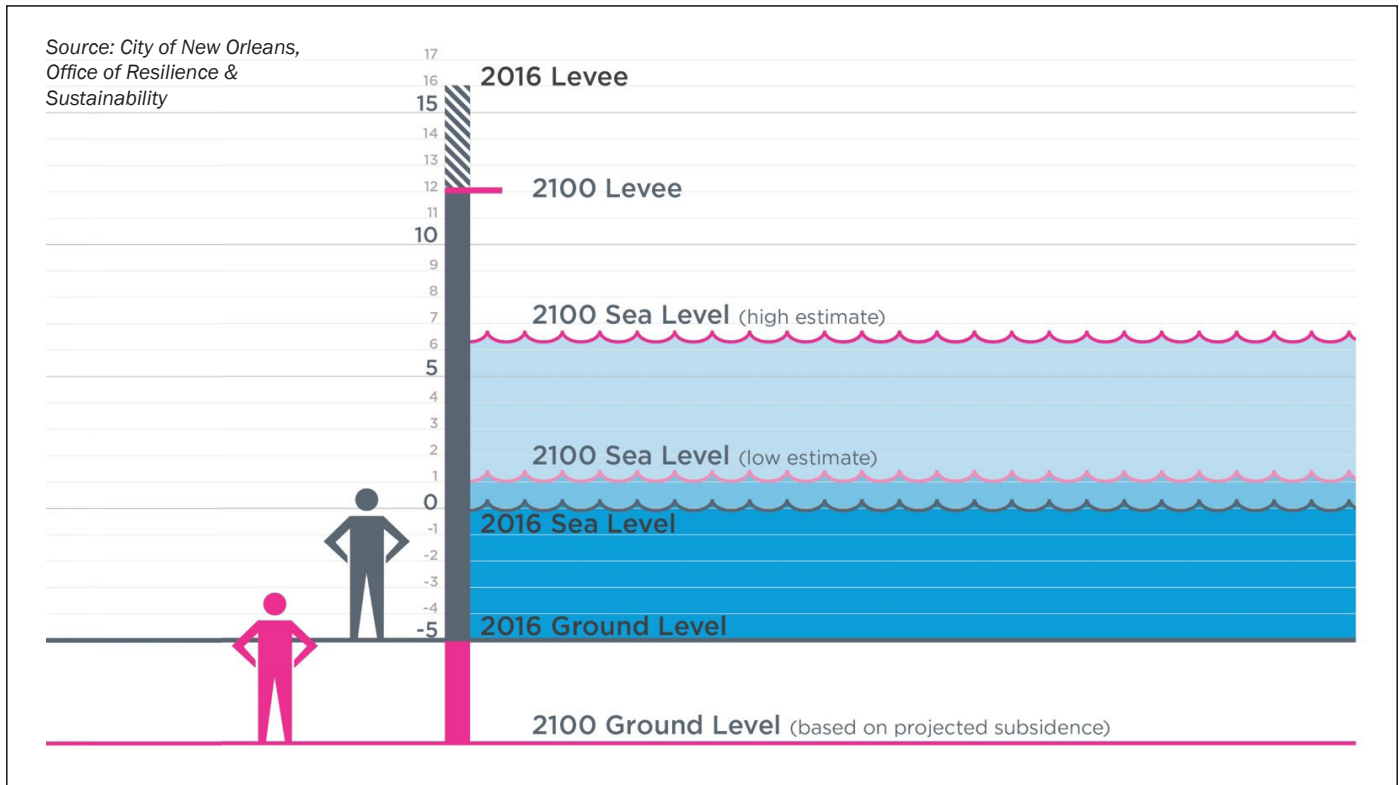
What will be New Orleans' biggest stormwater/drainage challenges in 50 years and what is the best approach to integrated, long-range planning to address those challenges?



Source: City of New Orleans, Office of Resilience & Sustainability

## CHALLENGES

New Orleans has faced drainage and stormwater challenges from its very inception. While it has overcome many of them by developing one of the largest and most energy-intensive drainage systems in the world, the city now faces the challenge of adapting to climate change. But those are not just the challenges of water and land. Perhaps more complicated, are the interdependent challenges of the human systems that must also transform and adapt to rise to the climate challenges. To untangle these issues, the anticipated drainage challenges New Orleans will face in 50 years are organized below into physical challenges, economic challenges, and cultural challenges.



## PHYSICAL CHALLENGES

Daily rainstorms – what were once average downpours – now bring the threat of becoming cloudbursts that threaten safety, property, and the healthy functioning of the regional economy. When combined with the impacts of relative sea-level rise which could affect the city’s ability to drain its internal area and remain safe from storm surge at the same time, it’s clear that New Orleans stands on the front lines of climate change. Solutions to such a daunting challenge will not come from simply incremental improvements to the existing system but will require changes to how we occupy, use, and inhabit the land and water of our city.

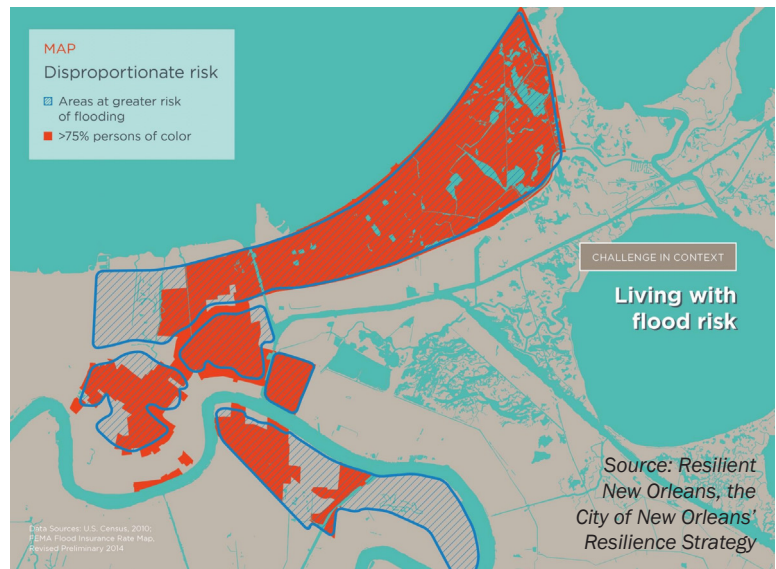
- Increased rate of rainfall.** Recent research confirms that while total annual rainfall and storm frequency may not have increased with the warming climate, the rate of rainfall, when measured hourly, has increased drastically and can be expected to increase further over the next 50 years.<sup>1</sup> This will make for increasing challenges for New Orleans’ stormwater system because it is the rate of rainfall that can overwhelm the system’s capacity.
- Relative sea-level rise.** The compounding factors of land subsidence and sea level rise give South Louisiana one of the highest rates of relative sea level rise in the world over the next 50-100 years. Since New Orleans pumps its stormwater to Lake Pontchartrain and other tidal waters, sea level rise will exacerbate the already energy-intensive physics of moving water against gravity and will become increasingly risky in times when the flood gates must be closed to prevent storm surge from entering the drainage system.
- Population density and growth patterns.** To ‘make room for the water’ – to find the physical space in the urban landscape required to provide the storage and infiltration needed to significantly reduce flood risk – will be a major challenge over the next 50 years. This is partly because the amount of space needed is immense and because land use regulations and development incentives will need to be harnessed to transform density patterns to delineate areas for development and space for water.

<sup>1</sup> Why is Louisiana seeing more ‘showers on steroids,’ intense downpours these days? by Charles Lussier in *The Advocate*, August 11, 2019.



## ECONOMIC CHALLENGES

- Drainage and economic development interdependence.** The drainage system cannot be transformed over the next 50 years without a robust and recurring revenue source. Improvements to New Orleans' drainage system and the city's economic development prospects could enter a virtuous cycle where flood risk reduction begets investment and investment begets revenue for flood risk reduction. However, the converse could also be true where population and investment loss from the real or perceived risk of flooding diminishes the city's economic competitiveness and thereby reduces the drainage system's revenue potential.



- Equity in flood risk and economic equity.** Flood risk and its costs are borne disproportionately by low-income households and non-white households. This racial and economic disparity exacerbates the already profound inequities in New Orleans. In 50 years, this trend could become acute where only those with wealth and power are able to stay dry and those without are at greater risk than ever. On the other hand, the opposite could become true, where flood risk is reduced in targeted ways specifically for low-income and households of color, expanding economic equity.

## CULTURAL CHALLENGES

New Orleans has no shortage of what we normally think of when we say “culture”: food, music, art, celebration, tradition, and a sense of civic identity. But the city has yet to adopt a culture of proactive flood risk reduction. But simply being ready for the next hurricane is not a climate adaptation strategy. The city as a whole must understand the anticipated risks of climate change and be willing to invest in the transformation required to address them.

- A system (re)built on trust.** The current lack of public trust the SWBNO faces is an indicator of the challenge the Board could face in 50 years. But improved performance and increased transparency will rebuild that trust over time. Developing a planning process that develops the public's understanding of the drainage infrastructure while improving the utility's performance in all aspects can inspire co-investment from the public in their own resilience and adaptation.
- Alignment of public and private incentives.** The SWBNO's rates are not just a revenue source, they can also function as public incentives as well. When households and businesses are incentivized to conserve water and manage their stormwater on-site, they become not just part of the physical solution set but also build a culture of adaptation. In 50 years, the people and organizations could either feel aligned, financially and culturally, with the collective mission of adapting to climate risks or could be working against it if the incentives are misaligned.







Source: CSRS, Inc.

## APPROACHES

### COMMUNITY ENGAGEMENT AND EDUCATION

Integrated master planning presents an opportunity to not just develop a plan with a set of solutions but also address many of the underlying issues of public trust and understanding through a robust engagement process. Therefore, the process itself is as important as the plan it produces.

- Robust and high-quality community engagement.** Planning processes too often mistake quantity for quality when it comes to public participation. It is not the number of meetings, attendees, or completed questionnaires that make an engagement process successful but the depth of understanding and the strength of the exchange between the public and the planners that make it meaningful. It's clear that the SWBNO is already planning a robust engagement process based on the RFI but focusing how it measures the success of this campaign in metrics that reveal quality, rather than quantity, will be essential to its success.
- Public education and information campaign.** Only a small fraction of the city's population will participate in the integrated master planning process. However, the rest of the city can be informed through media, schools, libraries, etc. Since very few residents truly understand the language used in risk modeling, how the drainage system works, how a paradigm shift towards climate adaptation is critical to the future of their city, a public information and education campaign that runs concurrently with the planning process will be essential to building support and understanding.
- Clear and meaningful metrics.** Creating a vision is not enough. The integrated planning process must result in simple, understandable metrics that customers and the general public can use to understand the improving performance of the SWBNO. The planning process can be used to develop and also communicate successes as the SWBNO begins to exceed expectations and rebuild the trust and confidence of the public.





## CROSS-FUNCTIONAL AND CROSS-JURISDICTIONAL PLANNING

- **Planning and integrating across systems.** Mapping the dependencies between the water, wastewater, stormwater, and power systems will be critical to a successful planning process so that it's clear where the systems are reliant and influential on one another. Since there may be separate planning processes for the various systems, it will be essential to ensure that the planning processes do not work at cross-purposes.
- **A drainage plan is also a land use plan.** The landscape of flood risk varies widely across the city. We must find room for stormwater detention beyond the public right of way. Building codes and land use regulations will be indispensable to focus density in areas that have lower flood risk and dedicate space for stormwater management. While this is beyond the scope of authority for the SWBNO, the integrated master planning process should interact with the city's master plan and land use updates to leverage the power of land use planning in service of the drainage plan.
- **The intersection of rainfall drainage and storm surge.** The stormwater drainage system, while a separate system from the surge protection system, is interdependent with the surge protection system and depends on the lake levels in order to be functional. This SWBNO clearly needs to play an integral role in the management of the surge protection system.
- **Regional responsibility and authority.** There are critical questions of governance between city agencies (e.g. who will be responsible for the operation and maintenance of green infrastructure?) and between Parishes regarding how the regional levee system will be continually financed. The integrated planning process is an opportunity to engage other agencies and jurisdictions to develop a regional approach to managing stormwater. The Louisiana Watershed Initiative presents a unique opportunity to fund regional flood risk reduction plans across jurisdictions and build the regionalism needed to adapt over the next 50 years.