Julia Kumari Drapkin
CEO and Founder
ISeeChange, Inc
julia@iseechange.org
917-720-7327

Patti Wallace
Purchasing Director
Sewerage and Water Board of New Orleans
pwallace@swbno.org

18 February 2020

Dear Ms. Wallace,

Please accept this submission for the Request for Information for the Sewerage and Water Board of New Orleans' Integrated Master Planning Process. ISeeChange is a New Orleans-based company dedicated to empowering residents to document extreme weather and climate data and experiences to help inform and co-design infrastructure and policy solutions. ISeeChange has been working with New Orleanians across the city to provide a platform to share their experiences of extreme weather, including heavy rains, flooding, damaging winds, hail, and powerful heat. Recently, ISeeChange has been working in partnership with the City of New Orleans and City contractors to distribute rain gauges to residents to improve data dialogue and contribute quantitative data to infrastructure projects. I encourage you to go to www.iseechange.org and start sharing your own experiences alongside others in New Orleans.

Around the country and world, ISeeChange is discovering new ways that people are observing changes in their natural and built environments and working directly with them to turn their observations into action. Critical infrastructure planning processes often lack the robust community knowledge and participation that increases both resident support and, more importantly, accuracy of engineering and project design. ISeeChange seeks to mediate these complex dialogues with quantitative and qualitative data for decision support, education, and cost savings.

The ISeeChange team is excited at the prospect of participating in upcoming workshops and charrettes for something so important as the long-term planning of critical and complex New Orleans infrastructure. We hope our approach to community engagement, resident-sourced knowledge and data—both quantitative and qualitative—can be useful to the Sewerage and Water Board as we look to the future as a city.

Please feel free to contact me with any questions or for clarifications.

Sincerely,

Julia Kumari Drapkin

4532 Bancroft Drive
New Orleans, LA 70122
www.iseechange.org

Sewerage and Water Board of New Orleans
Integrated Master Planning
Request for Information (RFI)

Overview

ISeeChange (ISC), a New Orleans-based company focused on extreme weather and climate change is pleased to share knowledge and experience gained from years of working with communities already experiencing changes in their natural and built environments. New Orleans is our home and we are invested in helping to steward her critical infrastructure for the benefit of all New Orleanians. ISeeChange leverages digital and creative engagement platforms for services to provide low-cost and effective methods to inform the development of statistical hazard models, identify unknown risk areas, and add deep context to how hazards like extreme storms, flooding, sea level rise, and infrastructure failures impact residents while promoting ongoing healthy dialogue.

Question

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?

Challenges:

ISeeChange works at the intersection of science, engineering, and lived experience, which means we have both a global perspective and an understanding of the power of an individual story. We anticipate that many of the biggest challenges for New Orleans in 50 years will be related to those that New Orleanians (and many others around the world) are already experiencing today, including:

- Unpredictability of storm events
- Aging infrastructure systems
- Coordination of infrastructure operations and maintenance

The increase in climate uncertainty that ISeeChangers in New Orleans and cities around the world have documented during the past decade, combined with aging infrastructure being burdened in new ways will continue to test cities and residents from New Orleans to Jakarta to Rotterdam over the coming decades. New Orleanians and their infrastructure will continue to experience acute challenges related to locally specific weather, climate, and geology conditions:

- Continued subsidence
- Rising sea levels

These will only make more complex the decisions that utilities like the Sewerage and Water Board and individuals and families have to make when acute crises occur or when chronic problems

become too costly, whether financially, physically, or emotionally. Amid the known physical challenges and New Orleans' unique geography, the city, its utilities, and its residents will be contending with very human concerns:

- Economic strength to pay for and justify major adaptations/improvements
- Continued proliferation of major assets in flooding streets
- Recalcitrance of expectations for dry, ground-level living
- Increasing inequality among neighborhoods and individuals

ISeeChange does not pretend that it can "solve" the multitude of problems currently facing New Orleans or those that will exist in 50 years, but it does promise a new way of approaching the problems from the perspective of the end users and beneficiaries of public infrastructure. Inequality does not exist only in terms of monetary assets or income, but also among access to decision-making processes and the ability to leverage the long-term knowledge and experience that comes only from living or working in city neighborhoods and caring about them.

Approach

ISeeChange is focused on building collective knowledge in diverse communities to raise awareness about climate impacts and co-design resilience solutions. Our greatest experience is with extreme storms, flooding, and stormwater/drainage infrastructure, but we believe our approach can extend to most public infrastructure planning and design, including wastewater, sewer, and potable water systems. We believe that long-term planning needs to cast a wide net when it comes to geography, demographics, interest, knowledge, and empowerment. We also believe that long-range, integrated planning requires longitudinal data—which includes both quantitative measurements and qualitative experiences of those for whom infrastructure exists: residents and businesses.

ISeeChange services provide low-cost and effective methods to inform the development of statistical hazard models, identify unknown risk areas, and add deep context to how hazards like extreme storms, infrastructure failures, sea level rise, and flooding impact residents while promoting ongoing dialogue.

Why Now?

The best time to be working with New Orleans residents to consider the future and their quality of life is now—and continuously over the next 50 years. Many residents are left out of traditional engagement efforts, and critical information and feedback can be missed. By empowering the end users and beneficiaries of critical infrastructure to equitably contribute positively to its development on the front end, it is much more likely that the infrastructure will be more effective and economically serve resident needs on the back end. Additionally, in an age of climate and weather uncertainty, more informed and engaged residents, voters, and taxpayers can help proactively create conditions for communities to thrive rather than only respond to crises.

Human- and Data-Centered

We believe that everyone is an expert in their own community and has the ability to generate actionable data for the public good. The ISeeChange approach begins with a recruitment and education campaign to build interest in considering everyday climate impacts and weather events.

Qualitative Data

By combining data from across an entire community, citizens co-author a collective archive of their changing environment. The platform enables citizens to report on what they are experiencing via community photos and stories while drawing on their own informed personal observations and tapping the intimacy individuals have with their own local environments. The moments and realizations that ISeeChange users report tell the story of how we are experiencing changes in our cities today and create qualitative data about how we interact with the places we live and work, and sometimes how we cope with change. Our syntactic data processing analysis has proven that ISC users get more engaged over time and develop more detailed observations of their communities with respect to weather, climate, and infrastructure.

Quantitative Data

The qualitative data created by ISC users helps direct the increasingly targeted deployment of citizen science quantitative data collection instruments, including rain gauges, flood and heat sensors, and time-lapse cameras—setting the stage for more comprehensive Smart City infrastructure networks. By encouraging engaged residents and businesses to host scientific tools and sensors, ISC helps bridge the perceived divide between science and everyday experience. By informing the creation of new models or ground-truthing existing modeling data in parallel with engineering and surveying teams to inform specific designs and areas of focus, ISC data and analysis ultimately saves time and money in the design and implementation of infrastructure projects—a critical consideration for a long-term infrastructure plan.

Design Equity and Excellence

Centralizing ISeeChange platform and its data in infrastructure and adaptation planning processes creates an opportunity for more community partners, including advocacy and community groups, to leverage their knowledge, data, and findings and to develop a common language for public engagement and empowerment. Post-it notes and pins in maps may never make it into models and design decisions due the laborious process of integrating them into existing data sets and their lack of neighborhood context. However, ISC data is already GIS ready; includes date, time, specific weather event details, weather information; and provides deep context via qualitative input and real time photos and dialogue. ISC data analysis in concert with municipal and civil society partners have helped fundamentally inform and change plans, models, and designs. ISeeChange also identifies and partners with key public service and media organizations to report on findings, connect them to broader research and policies, and raise collective awareness about climate change impacts that are impacting daily life right now while collectively shaping the future of human-centered climate adaptation infrastructure.

Firm Profile

What is ISeeChange?

ISeeChange's platform—available online and through mobile apps—mobilizes communities to collect and share their own personal climate stories, photos, and weather measurements. ISeeChange (ISC) combines real-time quantitative and qualitative data with sensor networks and natural language processing to illustrate community-scale climate trends and create actionable recommendations for climate adaptation project design.

At its core, ISC is an innovative form of public media that challenges the traditional models of journalism and science—which usually begin with a reporter and a scientific "expert" on a topic like climate change—by starting with community members first, positioning them as experts on their own environments, and amplifying their voices in adaptation and infrastructure design.

Key ISeeChange Services

- Climate Adaptation-Focused Citizen Science Platform for Residents and Businesses
- Qualitative and Quantitative Hyperlocal Climate Data Collection and Analysis
- Creative Engagement and Storytelling with Diverse Stakeholders
- Creative Media Strategy and Placement for Wide Audiences

Experience

Founded in 2012, ISeeChange is the nation's first community-crowdsourced climate and weather journal that empowers users to document environmental changes with others and discuss the impacts over time. The app and platform have served as the center of on-the-ground community initiatives in cities around the country addressing urban heat, flooding, and drought, such as:

- Partnership with **Stantec** on City of New Orleans' National Disaster Resilience (NDR) projects to ground-truth flooding and heat modeling data in the Gentilly neighborhood to better inform engineering and create creative engagement opportunities. ISC data quadrupled public input on the project and led to four major design changes which saved up to $600,000 in potential redesign fees. Currently, ISC is working with the City to extend this project to include long-term evaluation of infrastructure updates in collaboration with residents.
- Partnership with the **City of New Orleans Office of Homeland Security and Emergency Preparedness** to deploy and monitor rain gauges alongside flood sensors across the city to augment the City's data and understanding of storm flooding patterns. This project's implementation is part of the city's flood risk education efforts to lower community insurance rates under the FEMA Community Rating System (CRS).
- Community-led pilot in Ocean City, NJ on the combination of high tide events and precipitation flooding.
- Harlem Heat: Our award-winning urban heat island investigation explores the public health risks of and solutions to urban heat, using a combination of crowdsourced observations, heat

and temperature sensor data reporting, and narrative journalism. The project's data and broadcasting led to changes to the City's cooling center initiative.

- Field Photo Library: ISeeChange user photographs and text were compared to the U.S. Drought Monitor data, as well as carbon and temperature data already available on ISeeChange.org to create a photographic index of drought nationwide.

Core Team Members

Julia Kumari Drapkin, *CEO and Founder*

Julia Kumari Drapkin is the founder of ISeeChange. Her passion is connecting communities to each other and their changing environments. In 2012, Drapkin created ISeeChange after spending over a decade covering natural disasters and climate change science as a reporter, producer, and photojournalist across the globe and in her own backyard on the Louisiana Gulf Coast. Drapkin serves on the board of the National Federation of Community Broadcasters and has been a consultant for NASA and DC think tank Resources for the Future. Prior to journalism, Julia did research anthropology and archaeology for over 7 years in Latin America. Drapkin was recently named a 2018 MIT Solver, a 2019 Grist 50 Fixer, and a 2019 Echoing Green Fellow.

Lindsey Wagner, *Experience Designer and Lead Artist*

Lindsey has been designing for over 12 years with a specialty in human centered design and research. Wagner helped found the ISeeChange platform in 2012 and has led the team through three critical design evolutions. In addition to ISeeChange, her design career focuses on civic design and designing for social change. Most recently, she helped complete an iterative research project on naturalization barriers for New America. She has also helped the state of Massachusetts overhaul their digital platform and their vaccination management system. Previously, she spent time in NYC at an intensive social impact tech incubator and helped lead her team on prototyping a lending circle platform for low income college students. Wagner recently led the team's artificial intelligence design discovery which resulted in winning the McGovern AI for the Betterment of Humanity Award in 2019.

Jared Genova, *Urban Resilience Adviser*

Jared is an urban strategy and development consultant based in New Orleans. He formerly served as the Resilience Planning and Strategy Manager for the City of New Orleans, managing the development and implementation of the world's first comprehensive city resilience strategy, *Resilient New Orleans*. He was co-designer and author of the City's winning entry for the HUD National Disaster Resilience Competition, which yielded more than $140M for the City of New Orleans, and co-author and editor of the City's first climate action strategy, *Climate Action for a Resilient New Orleans*. Jared has also worked as an adviser and consultant on urban design, planning, and disaster risk reduction projects in Texas and New York, as well as the Caribbean, Latin America, and Southeast Asia. Jared holds a BA in Metropolitan Studies and Urban Design + Architecture from New York University (NYU) and MS in Community and Regional Planning from The University of Texas at Austin School of Architecture.

Jacopo Scazossi, *Senior Developer*
Jacopo Scazossi is a software developer based in Milan with a focus on web-oriented backend development, media automation engineering in heterogeneous contexts (IoT), remote sensing data, and data management systems. In addition to ISeeChange, his professional experience includes contract work for Siemens designing energy management systems.

Isaac Chansky, *Developer*
Isaac Chansky is a front-end developer passionate about using technology for good. He's been a civic application developer for Massachusetts Digital Services, WethePeople, Beam Interactive, and Impact Mapper. He ran civic tech meetups for Code for Boston for three years.

Samantha Harrington, *Digital Community Manager*
Samantha Harrington is a senior reporter and digital community manager at ISeeChange. She has a background in entrepreneurial media through work at the University of North Carolina's Reese News Lab and her own startup Driven Media which ran from 2015-2017.