Island End Park & Flood Barrier Project

Equitable Climate Resiliency Framework

Process Guide

June 2021

**Equitable Climate Resiliency Framework
Process Guide**

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Preface

A.   MVP Action Grant Note

Due to the change in project schedule and the Covid19 crisis, the sequence of project deliverables was updated and the framework document was delivered in two sections.

The January draft comprised a process guide citing best practice and resources for equitable climate engagement. This section includes the preliminary mapping of community groups and summary of equitable outreach practices from various guides and other community reports.

Due to Covid19 restrictions the two workshops were altered in format to a sequence of smaller online meetings with one public outdoors workshop (in compliance with Covid19 restrictions). The workshops were diverted to an outdoor event on May 22, including participation from local community and youth groups, survey with target outreach by GreenRoots (as part of a parallel process led by MyRWA), and community leader outreach by the City.

The Process Guide was updated in June to include input from the survey and targeted community outreach.
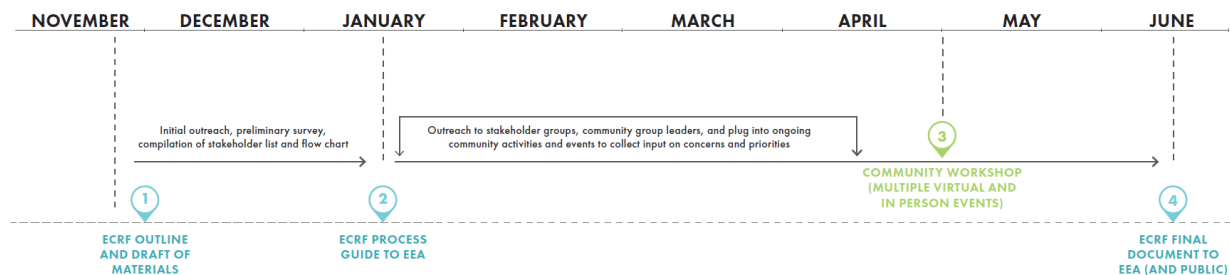
B.   User Guide

How to use this document?

This document is a resource to practitioners, City staff, and community organizations working on climate adaptation in Chelsea. The first chapter outlines the guiding principles and objectives for equitable climate adaptation in Chelsea and solidifies the commitment to equitable planning processes. Chapter 2 provides a list of nonprofits and community groups operating in the City and recommended widespread outreach strategies. Chapter 3 draws best practices for the planning and engagement process: How to discuss intersectional impacts and discuss climate with the community? What are the recommended decision-making practices for the construction of the planning process and the action? How to evaluate a developed plan of strategy - based on the equity-driven design goals? And a variety of ideas for activities to include in the planning process. Chapter 4 focused on virtual engagement guidelines. The COVID19 pandemic required many planning processes to adapt this last year for remote and socially distant outreach; this section summarizes lessons learned from this period.

HOW TO REACH THE COMMUNITY?	WHAT IS THE BEST WAY TO DISCUSS INTERSECTIONAL CLIMATE ISSUES?	HOW TO FACILITATE A COLLABORATIVE DECISION MAKING PROCESS WITH THE COMMUNITY?
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CHAPTER 3: EVALUATION AND METRICS	CHAPTER 4: VIRTUAL ENGAGEMENT	CHAPTER 4: VIRTUAL ENGAGEMENT

List of related appendix resources

   i.   Examples of graphics material - invitations/flyers, one pager for communication, storytelling kit
   ii.   Survey questions for spring engagement
   iii.   list of registered nonprofits in Chelsea (csv file from Ibrahim)

C.   Executive summary

The City of Chelsea has made planning and community development a priority, as evidenced through the City of Chelsea's most recent Hazard Mitigation Plan, 2017 Open Space & Recreation Plan, Municipal Vulnerability Preparedness Plan, and Designing Coastal Community Infrastructure for Climate Change. Recognizing the foundational importance of engaged community participation, the City spearheaded the Equitable Climate Resiliency Framework to provide coordinated direction and a cohesive vision for carrying out engagement and outreach efforts for its projects. This process is closely developed with two local community and advocacy groups: GreenRoots and the Mystic River Watershed Association (MyRWA).

Previous studies (funded by the Massachusetts Office of Coastal Zone Management (CZM) and Municipal Vulnerability Preparedness, (MVP Grant) identified the City of Chelsea as vulnerable to climate change impacts, as an Environmental Justice community, and as a community that is burdened by unresolved and historical public policy inequities, such as red lining and environmental racism. Supported by the MVP Action grant, this preliminary process guide is aimed to initiate a community outreach process to address climate and equity related concerns and priorities.

Growing a local constituency to support and advocate for the Island End Park & Flood Barrier project and city-wide resilience projects will be critical to developing a project that reflects community goals and priorities and can successfully advance toward implementation. This framework is a multi-pronged approach to engage the Chelsea community broadly and deeply, to ensure the range of ideas and voices is reflected in the proposed framework and in the design of the IER project approach. The content in this report can be transferable and used by neighboring communities facing similar challenges.

Development of a social resilience framework will help design team/consultants/municipal staff to: more effectively reach and engage with community members and empower the community to share their concerns regarding future climate impacts. The materials and best practices in this document aimed to support collaborative development of strategies and solutions with the City of Chelsea and key regional and local partners.

This framework has several main objectives:
- This document establishes **guiding principles** for public participation in the City's climate action work. It is aimed to create the basis and the initial resource for inclusive outreach.
- This preliminary framework will provide a space to streamline and increase the focus and efficacy of community participation, decision-making, and planning process for climate projects within the city. The aim is to empower the community to address shared challenges and build social capital, together.
- Provide a **resource** for practice and the city to support climate work in the city. Set guiding principles for climate planning processes (section 1). Provide distribution channels and list of identified community groups for outreach and engagement (section 2). Ideas and best practices for discussion of climate issues, decision making processes, and evaluation of results (section 4).
- Recommend **best practices** to structure equitable collaboration and engagement. Multiple resource documents are listed in section 3 and 4 and outline recommended strategies for communication and evaluation.
- **Concerns and priorities outreach** - Identify key concerns, issues and needs for local communities related to environmental resilience and information of related impacts. This section of the document was updated after spring outreach and will continue to be updated once the survey analysis is complete.

This work was inspired and grounded in several reports and guides produced to address the disproportionate burdens and impacts on underserved communities of color:

1. Community-Driven Climate Resilience Planning: A Framework, 2017, By National Association Of Climate Resilience Planners
2. Guide to Equitable, Community-Driven Climate Resilience Planning, May 2017, by USDN and Raimi+ Associates
3. The City of Providence's Climate Justice Plan, creating an equitable, low-carbon, and climate resilient future, Fall 2019, By the City of Providence
4. From Community Engagement to Ownership Tools for the Field with Case Studies of Four Municipal Community-Driven Environmental & Racial Equity Committees. An Urban Sustainability Directors Network Innovation Fund Project conducted by Facilitating Power, Movement Strategy Center, and the National Association of Climate Resilience Planners
5. OUR COMMUNITIES OUR POWER, Advancing Resistance and Resilience in Climate Change Adaptation, Action toolkit, 2019 By the NAACP Environmental and Climate Justice Program (ECJP)

"An inclusive, community-centered planning process can maximize the benefits of climate preparedness action among lower-income populations and communities of color, while creating greater resilience by empowering those most affected to shape the decisions that will impact their lives." [1]

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[1] Guide to Equitable, Community-Driven Climate Resilience Planning, May 2017, by USDN and Raimi+ Associates

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Definitions from the referenced documents:

Environmental justice communities are more vulnerable to climate change because of current inequities and societal barriers such as low-income, language barriers, health conditions, access to affordable housing, which makes them unable to bounce back from an extreme weather event, such as flood, compared to affluent communities.

The environmental justice framework on climate change:

"The environmental justice movement approaches climate change differently. Environmental justice activists focus on the way climate change affects communities, is embedded in social justice, impacts public health, and is intertwined with transportation and industrial facilities. They analyze the connections between the abuse of the environment and the oppression of people with the least power, including the poor, immigrants, women, and people of color. They focus not only on the degradation of nature but also on the degradation of communities and the loss of traditional means of economic support as the environment is changed. They perceive and analyze global warming through people's memories and experiences rather than solely through data gathered by scientific experts and portrayed by national policy advocates."[2] From Everybody's movement Environmental Justice and Climate Change

What does social vulnerability[3] mean?

Social vulnerability is an indicator of the capacity to deal with shocks and stress on welfare and life's necessities. Vulnerability is derived from three risk-related indicators: exposure, sensitivity, and adaptive capacity. According to the CDC social vulnerability index: **Social vulnerability** refers to the potential negative effects on communities caused by external stresses on human health. Such stresses include natural or human-caused disasters or disease outbreaks. Reducing social vulnerability can decrease both human suffering and economic loss.

Resilience and vulnerability are inter-connected - as resilience (capacity to bounce back after a shock) is a characteristic of a community or a system with a certain level of vulnerability.

"Our vision of **climate resilience** takes a holistic view of the challenges our communities face and pursues solutions at the intersection of people, the environment, and the economy." **[4]**

What will this require?
"To be able to declare that **community resilience** has been achieved, we must develop systems that address the needs and provide protection for those most vulnerable and marginalized."[5]

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[2] From Everybody's movement Environmental Justice and Climate Change, December 2009, Written and researched by Angela Park, https://kresge.org/sites/default/files/Everybodys-movement-climate-social-justice.pdf
[3] Adger, W.. (2000). Social and Ecological Resilience: Are They Related?. Progress in Human Geography. 24. 347-364. 10.1191/030913200701540465.
[4] Our Communities, Our Power: Advancing Resistance and Resilience in Climate Change Adaptation - Action Toolkit, 2019, NAACP
[5] Equity in Building Resilience in Adaptation Planning, 2019, by the NAACP

Chapter 1:
Introduction: intent of the framework

1. <u>Intended audience</u>
   A tool for City agencies, Staff, Consultants, and the local community to collaborate in addressing climate risks. It can be used both as a resource for local community organizations towards climate action and a guide for professionals working on projects in the City.

2. <u>Applicability & uses</u>
   The document is a resource to the City, consultants, and the community - to everyone interested in collaborating to build an equitable climate resilience process. This process guide identifies the various community groups and maps pathways to outreach. It aimed to be a resource to practitioners and City staff working on climate adaptation projects. Under the shared goal of expanding outreach to as many residents and community members as possible, this document outlines multiple engagement pathways. Hopefully, this tool will expand the voices heard by the City and empower participation in the community. The document also provides best practices for meaningful and equitable outreach, which could be employed in future public projects. **While this document is only the first step, this process's end goal is to identify the community's vulnerabilities and envision goals for future projects**.

   When this framework is complete it will help the City address the following questions:

   - How do we effectively and equitably reach the community?
   - How do we have meaningful conversations around extreme weather impacts and resilience?
   - How do we ensure local participation and contributions to city projects?
   - How do we hear and incorporate community concerns into city projects?
   - How do we identify priority and vulnerabilities of the community and address them?

3. <u>The Chelsea community</u>

   Community profile: By 2030, 35% of land area in the City of Chelsea will be located in a flood zone due to sea level rise and coastal flooding. Nearly half of the City will be in a flood zone by 2070; over 35,000 residents and 16,000 jobs will be impacted based on the 2017 report, Designing Coastal Community Infrastructure for Climate Change. Moreover, nearly 10,000 residents holding an undocumented status will be impacted by such flooding and economic impacts. Two-thirds of the population identifies as Hispanic, and 70% speak a language other than English at home.

   Both Chelsea and Everett's entire land areas are designated as environmental justice communities by the Massachusetts Executive Office of Energy and Environmental Affairs. **Environmental justice communities** are comprised of block groups meeting one or more of the following criteria:

   1. The annual median household income is equal to or less than 65 percent of the statewide median ($62,072 in 2010)

   2. 25% or more of the residents identify as a race other than white

   3. English isolation, meaning that 25% or more of households have no one over the age of 14 who speaks English only or very well

The community of Chelsea was severely impacted by **COVID-19**[6]. As the pandemic has surged not once, but twice worldwide, the City of Chelsea has seen peaks of nearly 400 individuals contracting the virus per day with more than 180 pandemic related deaths. The pandemic is not simply a function of epidemiological stress on Chelsea's community; rather, it has highlighted some of the worst fractures and gaps in socioeconomic disparity, job loss, financial resilience, and emergency management & preparedness. This experience is analogous to an oncoming slew of climate disasters, flooding, and urban heat islands likely to befall Chelsea in the next decade and beyond. Therefore, the time for a strategic framework to reach the residents of Chelsea effectively and proactively is necessary.

Climate change and environmental injustices are a great risk to society today. Systemic racism, institutional discrimination, and disproportioned distributions of environmental burdens limited the resilience of underserved communities. Chelsea today is one of the most densely populated cities in the state. Lack of affordable housing and overcrowded residencies are directly connected to health risks.[7] For example, historical public policy decisions such as "redlining" of the 1930s, has contributed to the lack of generational wealth in BIPOC communities. Urban transformation as response to natural hazards and weather events should support the ability of the community to adapt and sustain these impacts.

Equitable climate preparedness will require a deep understanding of the causes of disproportionate risks and individual concerns across various factors and indicators, such as employment, health, housing, safety, transportation access and neighborhood conditions.

4.   Guiding principles and process outcomes.

Planning for climate adaptation requires systemic changes across the city systems. The planning process is an opportunity to build capacity in communities and city government for these shifts. The guiding principles below brings together the equitable planning process's personal, cultural, and structural components. These principles provide the users of this document with direction on how best to implement planning processes that support equity. Principles (inspired by NACRP Community Driven Climate Resilience Planning):

- **Collaboration** based on shared values and understanding of issues. Find opportunities for cross community and sector collaborations.
- Address barriers to participation and allow an **equal voice**. Value the time and knowledge people share with real compensation. Build and strengthen community networks and connections to the City.
- **Solutions** grounded in local needs and knowledge will empower ownership, build capacity, and eventually prove as effective. Ideas rooted in the local practices and ecologies will contribute to a sense of place. Proposed solutions must provide community benefits.
- Understand climate concerns from causes for **vulnerability** from multiple dimensions. And actively identify community opportunities in actions discussed.

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[6] https://catalyst.nejm.org/doi/full/10.1056/CAT.20.0370
[7] https://www.researchgate.net/publication/343603772_Rising_Home_Values_and_Covid-19_Case_Rates_in_Massachusetts

- Create **a dynamic learning environment** with clear and accessible communication tools, climate science, facilitate opportunities to experiment, and increase information flow from both directions.
- **Capacity building** - Increase community awareness of City processes, operations, and funding opportunities.
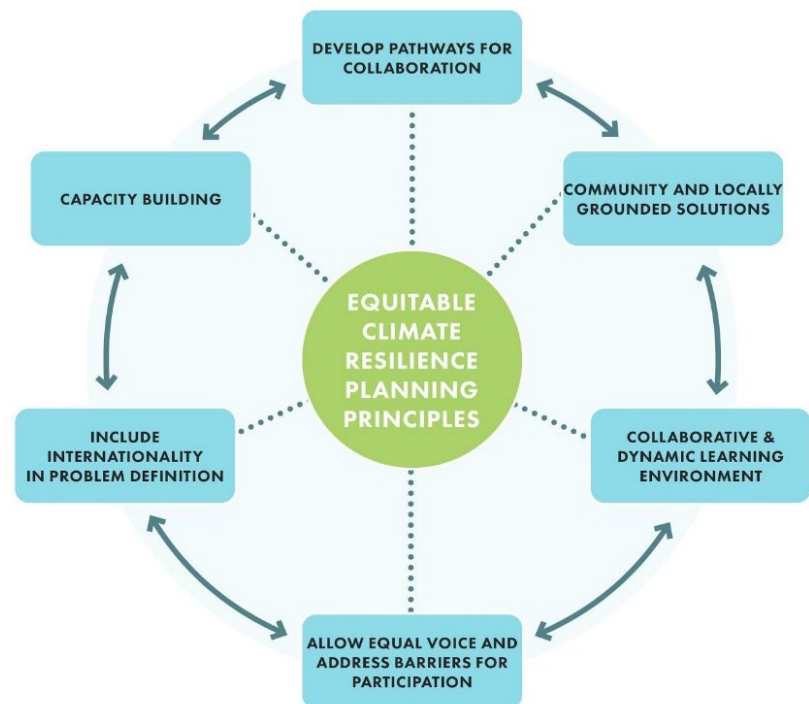
Outcomes for this preliminary process

In addition to providing the document itself as a resource, we hope to accomplish several additional outcomes. These actionable goals will emerge from initial conversations with community leaders and members and identify missing links between various systems.

- Improve engagement mechanisms for the city to increase equitable community participation and improve climate preparedness communication.
- Build partnerships and trust among community leaders, stakeholders, residents, and City staff and government.
- Inform vulnerable community members of climate risks and provide the network to report and identify ongoing challenges.
- Help practitioners empower residents with information and opportunities for actionable steps to ensure a valuable and long-term contribution to the planning process
- Identify needs for public space and services in Chelsea. Provide preliminary materials for climate impacts.
- Assist city and practitioners reach residents that engagement processes in Chelsea may not currently be reaching, with an emphasis on historically disenfranchised communities.

5. <u>What are the challenges we want to address?</u>

   a. Extreme storm events

Potential impact to power lines, utilities, transportation, and property and the residents who are dependent on them. Local flooding due to heavy rains and pooling of water in low lying locations can cause long term damage to building systems and pose health risks, such as microbial infections, pests, and exposure to molds. Furthermore, extreme storm events can yield high winds, endangering residents and damaging the built environment.

   b. Coastal Flooding

Low lying coastal areas are exposed to flooding during Nor'easters and hurricanes, and in the future frequent tidal overtopping. Salt water can damage utility systems and the subsurface. Coastal flooding can impact property, cars, and transit infrastructure. And consequently, impact people's employment and livelihood.

    c.   Heat, higher temperatures, and longer heatwaves

Increases in extreme heat waves can impact people who are working outside during long hours and households with poor insulation or without access to AC. Additionally, increased temperatures increase poor air quality inside homes and in outdoor spaces with little to no green space. Heightened temperatures are exacerbated by air pollution. Combined with air pollution, they disparately impact residents with underlying health conditions.

    d.   Health

Communities that are disproportionately burdened by environmental health impacts are also significantly affected by climate change impacts.[8] These challenges include: access to health services and emergency care, existing health risks (heart disease, diabetes, asthma, COPD), limited information in native language, ability to relocate and adapt after a disaster. Impacts include air quality, heat, contaminated water, food safety.
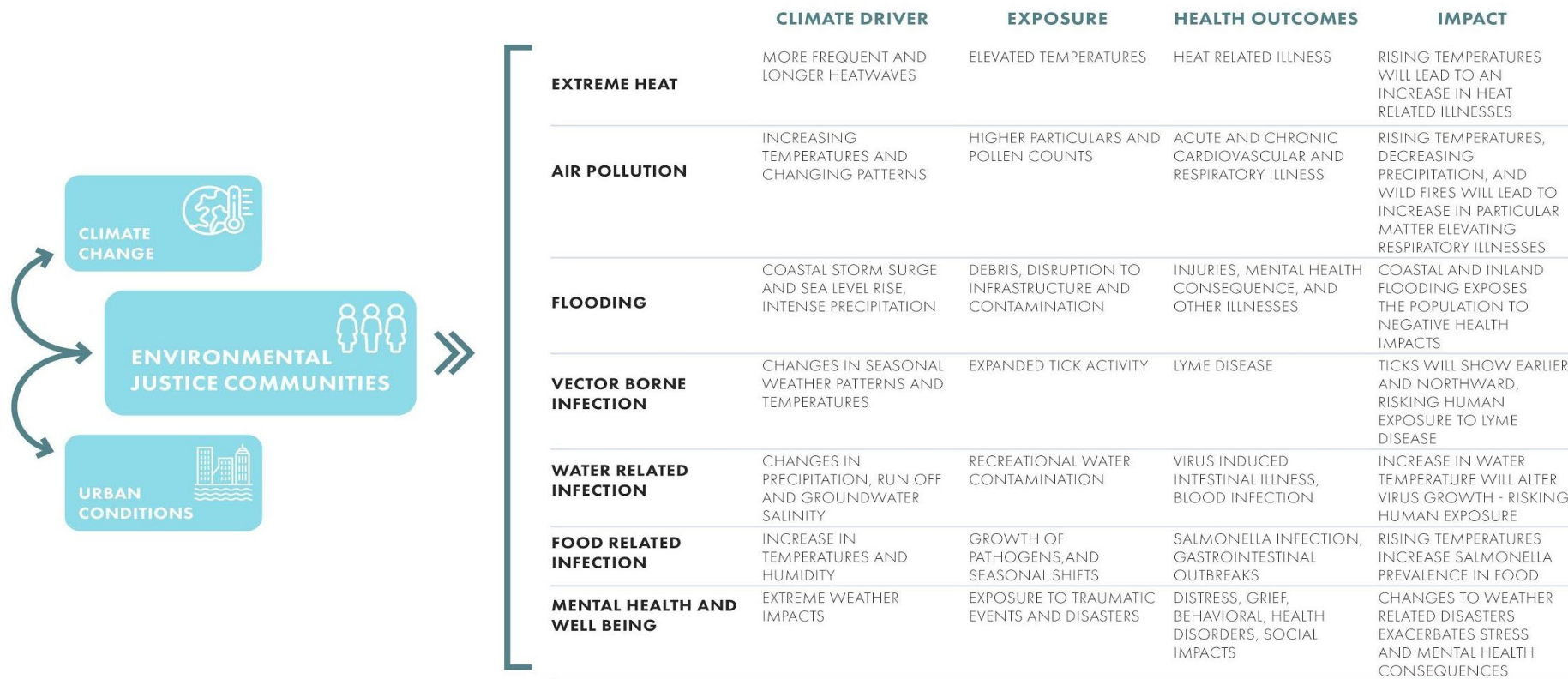
    e.   Economic impact and the pandemic

This report would not be complete without a thoughtful analysis of how existing and new economic degradation has been amplified and catalyzed by the Covid-19 pandemic crisis. Through such an analysis of epidemiological impacts on local economies like the City of Chelsea's, new tools and best practices are formed, which can especially satisfy the worst of ailments plaguing community members most prone to climate and disaster related incidents. The intersectionality of those community members experiencing economic fallout and joblessness, homelessness, and financial hardship with those most heavily impacted by extreme heat events, extreme weather conditions, and flooding illuminates a stark overlap and a strong correlation. Preparing municipalities with thoughtful, achievable emergency management response protocols, community outreach and education techniques, and other meaningful approaches, to allay both pandemic related and climate related impacts, is a mission of the City of Chelsea and this report.

Climate and weather events are increasing in frequency and risk across the country; vulnerable communities are disproportionately impacted. The cascading impact of climate change reaches across all areas of our lives. Low- and moderate-income people are negatively exposed in a multitude of ways, including higher energy costs, dependence on public transit and lack of access to health care. The threat of these stressors and shocks on vulnerable populations, who have consistently experienced trauma, disinvestment, and discrimination can present significant health implications.[9]

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[8] EPA documents 2017 Climate Change, Health, and Environmental Justice
[9] Made to Last: a Field Guide to Community Resilience - Book by Enterprise Community Partners

	CLIMATE DRIVER	EXPOSURE	HEALTH OUTCOMES	IMPACT
EXTREME HEAT	MORE FREQUENT AND LONGER HEATWAVES	ELEVATED TEMPERATURES	HEAT RELATED ILLNESS	RISING TEMPERATURES WILL LEAD TO AN INCREASE IN HEAT RELATED ILLNESSES
AIR POLLUTION	INCREASING TEMPERATURES AND CHANGING PATTERNS	HIGHER PARTICULARS AND POLLEN COUNTS	ACUTE AND CHRONIC CARDIOVASCULAR AND RESPIRATORY ILLNESS	RISING TEMPERATURES, DECREASING PRECIPITATION, AND WILD FIRES WILL LEAD TO INCREASE IN PARTICULAR MATTER ELEVATING RESPIRATORY ILLNESSES
FLOODING	COASTAL STORM SURGE AND SEA LEVEL RISE, INTENSE PRECIPITATION	DEBRIS, DISRUPTION TO INFRASTRUCTURE AND CONTAMINATION	INJURIES, MENTAL HEALTH CONSEQUENCE, AND OTHER ILLNESSES	COASTAL AND INLAND FLOODING EXPOSES THE POPULATION TO NEGATIVE HEALTH IMPACTS
VECTOR BORNE INFECTION	CHANGES IN SEASONAL WEATHER PATTERNS AND TEMPERATURES	EXPANDED TICK ACTIVITY	LYME DISEASE	TICKS WILL SHOW EARLIER AND NORTHWARD, RISKING HUMAN EXPOSURE TO LYME DISEASE
WATER RELATED INFECTION	CHANGES IN PRECIPITATION, RUN OFF AND GROUNDWATER SALINITY	RECREATIONAL WATER CONTAMINATION	VIRUS INDUCED INTESTINAL ILLNESS, BLOOD INFECTION	INCREASE IN WATER TEMPERATURE WILL ALTER VIRUS GROWTH - RISKING HUMAN EXPOSURE
FOOD RELATED INFECTION	INCREASE IN TEMPERATURES AND HUMIDITY	GROWTH OF PATHOGENS, AND SEASONAL SHIFTS	SALMONELLA INFECTION, GASTROINTESTINAL OUTBREAKS	RISING TEMPERATURES INCREASE SALMONELLA PREVALENCE IN FOOD
MENTAL HEALTH AND WELL BEING	EXTREME WEATHER IMPACTS	EXPOSURE TO TRAUMATIC EVENTS AND DISASTERS	DISTRESS, GRIEF, BEHAVIORAL, HEALTH DISORDERS, SOCIAL IMPACTS	CHANGES TO WEATHER RELATED DISASTERS EXACERBATES STRESS AND MENTAL HEALTH CONSEQUENCES

CLIMATE CHANGE

ENVIRONMENTAL JUSTICE COMMUNITIES

URBAN CONDITIONS

The graphic above is adapted from Made to Last: a Field Guide to Community Resilience - Book by Enterprise Community Partners

Chapter 2:
Pathways for community organizing and power building

Working with a climate justice community requires thoughtful, culturally competent, and nuanced approaches to addressing issues that directly impact community members' livelihoods. These issues are personal, and selecting content, messaging strategies, and community leaders that effectively engage with hearts and minds is paramount. In engaging with community members this way, they will feel empowered to evoke change and advocate knowledgeable and effectively within their best interests. Working with a climate justice community means power building from the ground up and instilling community members with the tools and resources to engage with contemporary and forecasted issues, in a way that further teases out real and effective solutions to some of the worst consequences we will face in modern history and into the future.

1. <u>Lessons Learned from a Global Pandemic & Assessing Needs for Public Access, Equity and Social Services</u>

   Simply stated, the Covid-19 pandemic has unearthed deep fractures in federal, state, and local support for disenfranchised, environmental justice communities. The City of Chelsea has been vigilant in providing public services that close financial gaps for residents concerned about paying their rent, mortgages, utility bills, and food insecurity. Moreover, practitioners from both municipal government, nonprofit organizations, and private interests have witnessed staggering deficiencies in our existing programs. Providing federal, state, and local subsidies and financial dedications to allay such deficiencies in social services is a major hallmark of the City of Chelsea's long term recovery plan. Moreover, with the infrastructure in place, such a recovery plan can be executed again and again, informed by lessons learned, to effectively deal with the future impacts of climate change and their potential degradation of city-wide infrastructure, housing, food security, and beyond.

   <u>Climate change intensifies the pre-existing vulnerabilities for already-struggling communities</u>

   As previously mentioned within this report, the intersectionality of public health and climate concerns reveals many connections between, and highlights significant overlaps of, issues related to discrimination and inherent privilege during times of natural and epidemiological disasters. The Covid-19 pandemic most strikingly divulged massive gaps in existing services and the actual needs of community members regarding food insecurity, rental & housing assistance, homelessness, and access to basic medical care. If a pandemic can lay siege to a community in such a detrimental fashion, imagine the impact of a physical climate disaster on an Environmental Justice community. The programs and strategies that have grown out of this pandemic are without a doubt the most important and transferable tools we can gift to current and future practitioners fighting against climate change and upholding the resilience of vulnerable communities.

   <u>Assistance with food access and housing during an emergency</u>
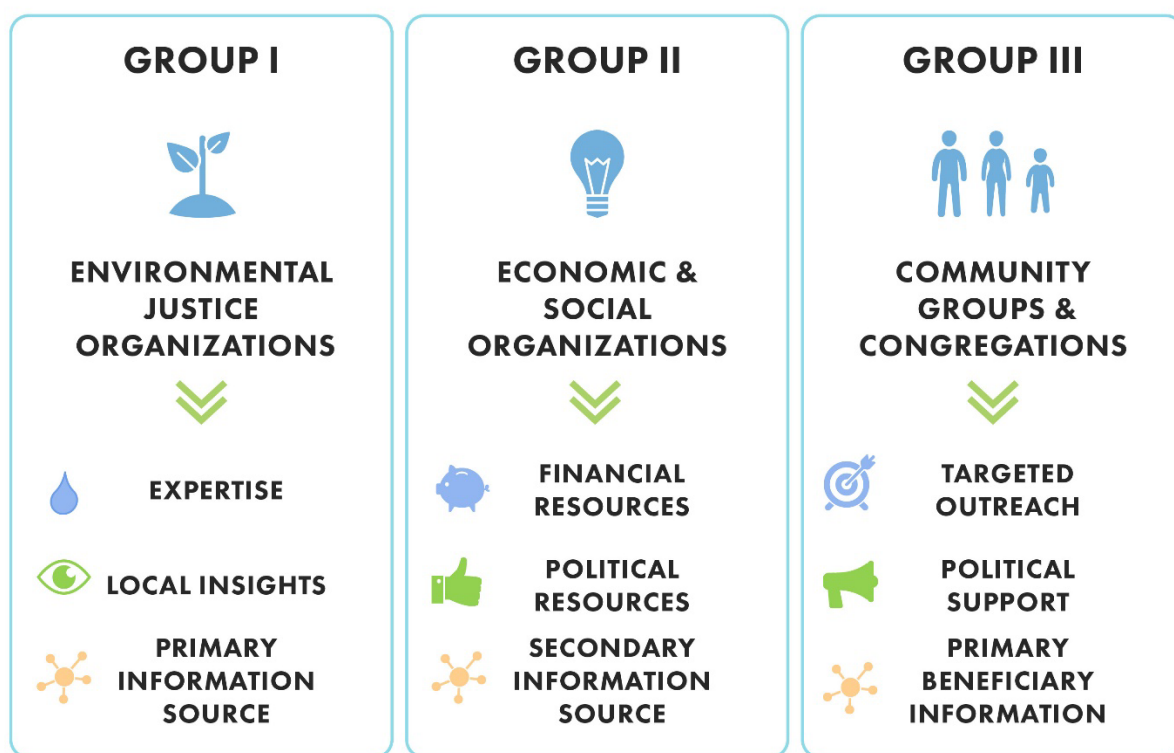
   The COVID-19 pandemic has magnified long-standing racial, economic, and social inequities in Chelsea. Prior to the crisis, the pervasiveness of food insecurity was rising, fueled by the increasing costs of living. In Chelsea, due to the demographic composition and underlying inequalities, food insecurity has disproportionately affected Latinx populations, especially undocumented residents. A symptom of the undeniable inequities burdening residents, food insecurity has precipitously grown, a direct result of COVID-19. Moreover, the very center of food insecurity lies within financial deficiencies. Therefore, allaying issues directly related to increasing usable income among vulnerable populations frees up financial resources to assist with housing and housing related expenses. The City has endeavored to support its residents through multiple rounds of Housing & Rental Assistance programs, providing nominal financial resources to residents in need. The connection between these programs, and their complementary nature, further reinforces the

intersectionality of housing, food insecurity, and the dense network of interrelated externalities that become jeopardized by community wide disasters ranging from full blown global pandemics to unknowable climate and natural disasters.

2. <u>Chelsea Community groups – resource for outreach and contacts</u>

The City of Chelsea contains primary, secondary, and tertiary entities that can provide effective communication pathways that lead to chief climate justice practitioners and organizations, entities concerned with local economic and social programs for community members, and community groups focused on stewarding specific demographics of residents, respectively. The table below provides detailed areas of interest and effective contact information to equip practitioners with communication mechanisms that will lead them to successful and rigorous approaches in mitigating the impacts of climate change and natural disasters.

Below Flow chart how to identify communities and groups and how to contact them.

GROUP I

ENVIRONMENTAL JUSTICE ORGANIZATIONS

EXPERTISE

LOCAL INSIGHTS

PRIMARY INFORMATION SOURCE

GROUP II

ECONOMIC & SOCIAL ORGANIZATIONS

FINANCIAL RESOURCES

POLITICAL RESOURCES

SECONDARY INFORMATION SOURCE

GROUP III

COMMUNITY GROUPS & CONGREGATIONS

TARGETED OUTREACH

POLITICAL SUPPORT

PRIMARY BENEFICIARY INFORMATION

	ENTITY	CONTACT	INFORMATION	AREAS OF INTEREST & INVOLVEMENT
GROUP I	GreenRoots	Roseann Bongiovanni	roseannb@greenrootschelsea.org	Environmental Justice, Climate Justice, Transit Justice
	La Colaborativa de Chelsea	Dinanyili Paulino	dinanyilip@chelseacollab.org	Youth, Housing, Tenant's Rights, Immigration
GROUP II	Chelsea Business Foundation	Carlos Matos	matos@chelseabusinessfoundation.org	Commerce, Economic Development, Networking

	The Neighborhood Developers (TND)	Sharon Fosbury	sfosbury@tndinc.org	Community Development Organization, Affordable Housing
	CAPIC	Dianne Curtin	dcurtin@capicinc.org	Community Development Organization, Youth
	Healthy Chelsea (Chelsea MGH)	Ron Fishman	rfishman@mgh.com	Public Health, Food Security
GROUP III	North Suffolk Community Health	Kim Joyce	KJoyce@northsuffolk.org	Public Health, Mental Health, Elder Services
	Salvation Army	Isael Gonzalez	isael.gonzalez@use.salvationarmy.org	Community Development Organization, Youth, Food Security
	Saint Luke's	Father Edgar	vicarsanlucas@aol.com	Faith Based Organization, Food Security
	Chelsea Housing Authority	Paul Nowicki	pnowicki@chelseaha.com	Housing, Community Development Organization
	Luz de Cristo / SELAH	Iglesia la Luz de Cristo	iglesialaluzdecristo@yahoo.com	Faith Based Organization, Community Center
	Senior Center	Tracy Nowicki	tnowicki@chelseama.gov	Elder Services, Community Center

<u>Networks created during the Covid19 crisis that we would like to maintain and leverage</u>

The network of practitioners, volunteers, and residents within the City of Chelsea has always existed in some form. What the Covid-19 pandemic did, however, is **strengthen the existing network while building out more efficient and more nuanced connections between otherwise estranged or ancillary groupings.** Primarily, City Staff, in partnership with community based organizations, were able to tap into organizations and their resources in profound ways to satisfy the needs of Chelsea's residents. The Department of Housing & Community Development at City Hall and GreenRoots, in collaboration with over 40 volunteers and workers, was able to erect a massive food production and delivery service to its residents. Never before has the city embarked on such a venture. Additionally, collaboration between the City of Chelsea and several faith-based organizations and community groups allowed for the effective dispersal of social service applications and financing, therefore closing financial gaps among the city's most vulnerable populations. If there is any silver lining to the Covid-19 pandemic, it is the distillation of **communication pathways** and the cross fertilization of interests that has spurred a new and more robust network that can continuously be leveraged and maintained to endure and conquer the worst that climate change and future disasters may unleash.

3. <u>List options/resource for targeted outreach:</u>

    Ongoing/recurring community meetings – monthly/weekly meetings, for presentations and distribution of materials:
    - Once a week, the Food Assistance Team, headed up by Chelsea Mass General Hospital's Healthy Chelsea and The Hunger Network, meets to discuss and strategize initiatives to allay the worst of hunger among Chelsea's residents. For more information, contact Ron Fishman at Chelsea MGH.
    - During the Covid-19 pandemic, the City of Chelsea formed the Pandemic Response Team. Once a week, during the peak of the virus's transmission and impact among residents, a meeting was held with all

organizations and residents involved and related to the Pandemic Response Team. This conference was easily accessible via phone, video chat, and social media outlets. Therefore, the city will initiate such a coordination strategy as a part of its emergency response during climate and natural disasters.

- Covering housing insecurity, weekly Eviction Task Force meetings present a forum through which inter-agency collaboration and collective service delivery can effectively occur. Meetings are centered on tenancy preservation, displacement mitigation, and homelessness prevention. Currently, meetings occur virtually, with representatives from all direct service agencies in the City.

Students and youth engagement coordinated with local schools

- Science classes and presentations by professionals
- Reference for citizens scientists' programs – examples and resources:
  - Houston high school students support stormwater infrastructure monitoring a s part of a research and collaboration program[10]
  - EcoRise is a nonprofit that supports school-based programs to empower youth to tackle real-world challenges in their schools and communities by teaching sustainability, design innovation, and social entrepreneurship.
  - https://www.ecorise.org/impact/19-20impactreport/
  - https://www.neefusa.org/nature/plants-and-animals/citizens-observing-changing-climate
  - https://theoryandpractice.citizenscienceassociation.org/articles/10.5334/cstp.170/

Distribution strategies between social media and community groups:

- Twitter @ChelseaGov_MA
- Twitter @ChelseaScanner
- Facebook - Chelsea, MA What's Happening https://www.facebook.com/groups/312775472113592
- Facebook https://www.facebook.com/CityOfChelsea
- Facebook https://www.facebook.com/GreenRootsChelsea/
- Radio/Telemundo, very effective with older/immigrant Latinx/Hispanic populations
- El Planeta and El Mundo, Spanish language newspapers and digital media
- Chelsea Record – Chelsea Massachusetts Newspaper
- Explore option for mailers and flyers, posters in public places

The city will consider dedicating funding within programs for more effective outreach. One such method involves the use of postal service companies in mailing out public meeting flyers, information, and climate related educational materials to the physical homes of Chelsea's residents. The most usual pathway to date is to mail out such materials via the assessor's database, which does not include actual residents living within rental and/or housing units in Chelsea, unless they are the direct owner of their residence. Nearly 80% of Chelsea's residents rent rather than own their place of residence. A further option is to employ local youth to assist with flyer and poster distribution, a cost that could be factored into future project budgeting.

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[10] https://ascelibrary.org/doi/pdf/10.1061/%28ASCE%29IS.1943-555X.0000495

Chapter 3:
Equitable Engagement strategies and best practices

This chapter includes strategies and ideas from multiple resources to develop and lead an equitable climate planning process.

1. Talking about climate and intersectionality

    a. Climate vulnerability and cascading impacts –
        Climate risks often intersect and magnify underlying social vulnerabilities in frontline communities. These communities not only face climate change impacts but often economic insecurity from changing in daily weather conditions and resulting access / mobility challenges; are burdened with insufficient infrastructure and utility systems; lack access to recovery resources and places of shelter; and occupy areas with heightened climate risks, such as flood zones and/or places lacking tree canopy, public open space, and legacy contamination, among other challenges.

        In these communities, engagement around climate change and its impacts must be cognizant of the intersecting risks and overlapping disasters that the community may face. It is not necessarily possible, nor beneficial, to treat the range of concerns and challenges community members experience as separable. Layered vulnerability indicators such as poverty, linguistic isolation, health / medical challenges, housing instability, age, and race must be foregrounded in planning to achieve equitable outcomes – in which all community members get what they need to thrive.

Figure 2: Root Causes and Factors Affecting Sensitivity to Climate Change
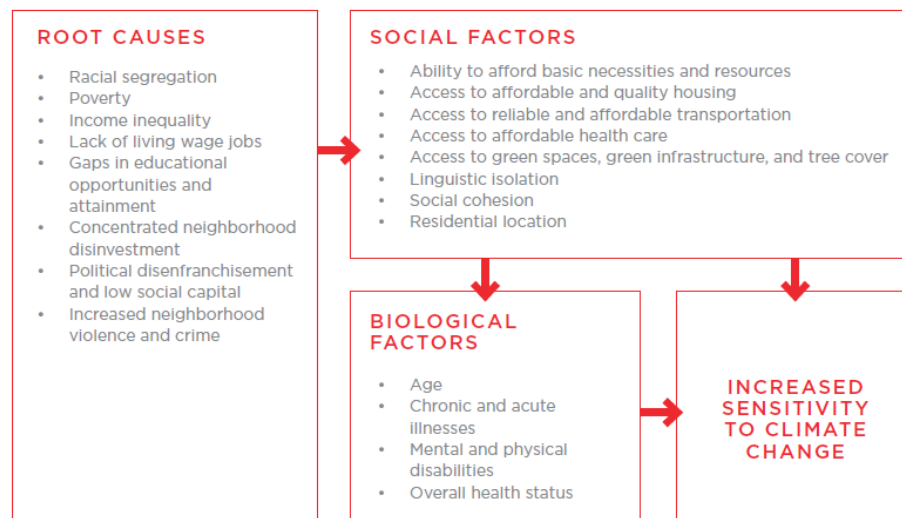
Image above from Guide to Equitable, Community-Driven Climate Resilience Planning, May 2017, by USDN and Raimi+ Associates

The factors in the community leading to disproportionate vulnerability to climate change is also called resilience indicators. Identifying resilience and equity indicators early in the project process can assist framing the existing barriers and assess vulnerabilities. Resilience indicators can help the project team and community to drive localized interventions towards equitable outcomes. The factors researched and mapped can include demographics, community organizations, levels of empowerment, housing stock and affordability, food insecure households, food access, emergency services, transportation, per capita health resources, environmental health incidents, environmental hazards, economic status, employment, education, utility access and shutoffs, etc.

Similarly outline of connections between health risks and climate risk can facilitate the development of community specific indicators. Below a table outlining key climate change and impacts on health in Chelsea[11]:

Impact	Description	Health impacts	Increased risk resulting
Storms and Heavy rain	Frequent and intense storms with heavy rainfall and strong winds	Health impacts can happen long after or far away from the extreme event. Water inundation damage to homes that can trigger respiratory health issues. Damage to power, water, transportation, and communication systems important for health care and emergency response services.	Limit to transportation access, access to health care, no or limited health insurance or property insurance, Essential workers
Coastal Flooding	Overtopping of salt water from the Chelsea Creek and the Mystic River.		
Extreme Heat	Increase in heat events and days above 90°. Urban heat island in urbanized and industrialized areas.	Heat exhaustion, Heat strokes, Hyperthermia (above normal body temperature), Dehydration	Work outdoors, Essential workers, Home with poor insulation, No AC at work/home, No access to cooling centers
Air pollution	Ozone and particulate matter are affected by climate change	Cardiovascular (heart), respiratory (lung) illnesses, Worsened allergy and asthma conditions	Living in and urban area with air pollution, work outdoors, Essential workers, have medical conditions like asthma

b. Communicating climate change impacts through **storytelling**
    In addition to rigorous climate impacts analysis, which includes mapping and representation of the science, local impacts, data, and the review of indicators, in some cases, it is also recommended to use a story-based strategy to discuss climate change and resilience with the community. Personal narratives and experiences can help people understand how a particular aspect of climate change can have human dimensions.

    The Center for Story Based Strategy defines its methodology as "a participatory approach that links movement building with an analysis of narrative power and places storytelling at the center of social change." [12] The strategy identifies five elements to a story: conflict, characters. Imagery, foreshadowing, underlying assumptions. This approach uses storytelling as a process for empowerment through the "breaking down the opposition's story" and bringing the "audience" or community to the front and center of the narrative.

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[11] EPA documents 2017 Climate Change, Health, and Environmental Justice
[12] https://www.storybasedstrategy.org/

(graphics below from the Story Based Strategy ORG website)

Conflict — The backbone of narrative, what defines the drama, point of view, and makes the story interesting

Characters — The subjects, protagonists, and narrators of stories

Imagery — Words to capture imagination with metaphor, anecdote, and descriptions that speak to the senses and make the story tangible

Foreshadowing — The ways that a story provides hints to its outcome

Underlying Assumptions — Unstated parts of the story that must be accepted in order to believe the narrative is true

Another strategy is focused on creating personal stories about climate experiences. Climate Generation[13] offers strategies for climate change education to build advocacy and stewardship. A climate story can be based on an observation or an experience, they provide prompts with three questions: (1) personal reflection (2) how did you experience climate change? (3) imagine a better future. And finally, to bring it all together. Self-reported narratives can provoke emotions and provide a more clear and memorable understanding of events. The approach of Storytelling has been growing in popularity across the field of climate communications due to its capacity to motivate advocacy and provoke action.[14]

c. Personal experiences and impacts - how to ask the right questions?

Using indicator relationships to inquire about household impact may establish an initial understanding of risk for the community. Measuring preliminary community resilience capacities can be done with questions regarding past challenges and the capacity to handle identified risks. As a base it is recommended for Chelsea climate action projects to address the following issues as part of their surveys:

HEAT / AIR POLLUTION / STORMWATER / COASTAL FLOODING — CONCERNS AND PRIORITIES — HEALTH / HOUSING / COST OF LIVING / TRANSPORTATION / EMPLOYMENT

Examples for structuring questions that incorporate intersectional issues:
- Health
  - Do you have access to health care?
  - How would you rate your ability to see a doctor when you need to?

[13] https://www.climategen.org/take-action/act-climate-change/climate-stories/
[14] https://link.springer.com/article/10.1007/s10584-019-02425-6

- o Have you gotten a bill from your doctor that you have been unable to pay?
- o Have you or anyone in your home avoided seeing a doctor because you are worried it might disqualify you from obtaining a green card or US citizenship?

- Housing and Cost of Living –
  - o Do you own or rent?
  - o How responsive is your landlord to repairs? [scale/rate]
  - o Do you have air conditioning/ heating in your home?
  - o Did you make any house repairs for water damage?
  - o Do you know where the nearest emergency shelter, warming center, or cooling center is?
  - o Do you check in on a neighbor during/after an extreme event, or does a neighbor check in on you?

- Employment –
  - o Do you work outdoors? How much time do you spend outdoors?
  - o Does your work require working with dangerous   materials?
  - o Is air conditioning used in your workplace?
  - o Would you be able to work from home in the event of an emergency or in a storm?

- Transportation –
  - o How do you get around? [Check all that apply]

- Walk, Buses, Trains, Commuter Rail, Personal Vehicle, The Ride, Rides Provided by Friends and Family, Rideshare Services [Uber, Lift, other Services]
  - o How much time do you spend outside waiting for public transit?

- Education
  - o Would you be able to teach or join your class remotely in the event of an extreme weather event, such as a Nor'easter?
  - o How do we incorporate climate resilience in the curriculum?
  - o How do initiate education for 18+ residents?
    - ▪ Into local ESOL programs?

- Social capital

  Rate how well you agree with the following statements:
  - o People are willing to help their neighbors
  - o This is a close-knit neighborhood
  - o People in this neighborhood are trustworthy
  - o People in this neighborhood do not get along with each other.
  - o If I had an emergency, I have enough savings for X months
  - o If there is an emergency and I need to leave my home, I have a safe place to go (e.g., family member or friend).
  - o If I have an emergency, I can call one of my neighbors for help.

d. Developing community messaging:

A post Katrina project - the **Gulf South Rising**[15] developed messaging in five workshops with participation ranging between 30-60 people:

Workshop #1: Conversations around stories, what to share, and who needs to be heard.

Workshop #2: Headline suggestion exercise

Workshop #3: Categorizing themes of headlines with emphasis on intersectionality

Workshop #4: Compiled themes and finalized slogans

Workshop #5: Finalize five main messages

The messages selected were rooted in local experience and connection to the place. Below and example of the formatting:

Top Line Message(s)	Community Demand(s)	Issue(s) rooted in this message
1. Displaced, Misplaced, Replaced	We have a Right to Return.	• Mass Displacement; Mass Disaster-based migration • Right to return as articulated by the Palestinian movement • Right to resist initial displacement • Just Recovery • Gentrification • Human Right to Return • Return of displaced people; return of social and public services; return of opportunities for those here pre-Katrina
2. Gone But Not forgotten	We will not be forgotten.	• 1800 dead, not all accounted for • Permanent displacement; gone = non-existent • Cutting public and social services is a barrier to recovery • The long-term impact of trauma • Mis-used money. Where did the money go? Billions of tax dollar benefit a few. • 10 years later, we're still rebuilding. We have not fully recovered. • We saved ourselves. The government chose power; corporations chose profits.

2. <u>Equitable decision-making practices</u>

A path to equitable climate adaptation planning includes building capacity in the community and a shared decision-making process fit for the community priorities and strengths. This process of engagement and collaborative planning should give the community agency and a level of autonomy to have tangible influence. To cultivate an informed and transparent decision making several municipal projects utilized the Spectrum of Community Engagement to Ownership[16] developed by Rosa González of Facilitating Power. This tool can help facilitate the path towards community driven governance models and empower decision making. The City can evaluate where it is on the spectrum today and where they want this process and commitment to equitable climate action to be.

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[15] http://www.gulfsouthrising.org/wp-content/uploads/2015/08/GulfSouthRising-Community-Messaging-Summary-Document-Katrina-10-Week-of-Action-1.pdf

[16] From Community Engagement to Ownership Tools for the Field with Case Studies of Four Municipal Community-Driven Environmental & Racial Equity Committees, by USDN

Stance towards community	0 IGNORE	1 INFORM	2 CONSULT	3 INVOLVE	4 COLLABORATE	5 DEFER TO
Impact	*Marginalization*	*Placation*	*Tokenization*	*Voice*	*Delegated Power*	*Community Ownership*
Community Engagement Goals	Deny access to decision-making processes	Provide the community with relevant information	Gather input from the community	Ensure community needs and assets are integrated into process and inform planning	Ensure community capacity to play a leadership role in implementation of decisions	Foster democratic participation and equity by placing full decision-making in the hands of the community; bridge divide between community and governance
Message to Community	*"Your voice, needs, and interests do not matter"*	*"We will keep you informed"*	*"We care what you think"*	*"You are making us think (and therefore act) differently about the issue"*	*"Your leadership and expertise are critical to how we address the issue"*	*"It's time to unlock collective power and capacity for transformative solutions"*
Activities	Closed-Door Meetings Misinformation Systematic Disenfranchisement Voter Suppression	Fact Sheets Open Houses Presentations Billboards Videos	Public Comment Focus Groups Community Forums Surveys	Community Organizing & Advocacy House Meetings Interactive Workshops Polling Community Forums	MOUs with Community-Based Organizations Community Organizing Citizen Advisory Committees Open Planning Forums with Citizen Polling	Community-Driven Planning Consensus Building Participatory Action Research Participatory Budgeting Cooperatives
Resource Allocation Ratios	**100%** systems admin	**70-90%** to systems admin **10-30%** to promotions and publicity	**60-80%** to systems admin **20-40%** to consultation activities	**50-60%** to systems admin **40-50%** to community involvement	**20-50%** to systems admin **50-70%** to community partners	**80-100%** to community partners and community-driven processes that ideally generate new value and resources that can be invested in solutions

Development stages are described in the "Community Engagement to Ownership...Providence, RI" [17] document as follows:

- Inform: provide the community with relevant information.
- Consult: Gather input from the community.
- Involve: Ensure community needs and assets are integrated into process & inform planning.
- Collaborate: endure community capacity to play a leadership role in implementation of decisions.
- Defer to foster democratic participation and equity by placing full decision making in the hands of the community, bridge divide between community & governance.

Levels of collaboration between the community and local government can include the participation of members in implementation and city practices to acknowledge challenges in policy and capacity limitations. Shared analysis of indicators can increase capacity for implementation. Building community networks and clear purpose can cultivate conditions essential for collaborative governance (commitment, resourcing, capacity, and trust building). There must be clear and transparent decision-making processes in which the community can participate. It is important to create a multidirectional learning atmosphere where community members receive key input from city staff on policies and processes, and city staff receive key information from community members on impacts, community strengths/assets, and needs. Levels of trust in the development of an equitable decision-making protocol arise from a collaborative process and the capacity to act.

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[17] Idib.

Equitable decisions cultivate accountability between community and government. From the cited Providence Climate Justice Plan case study appendix, the decision-making practice is divided between four entities: CBO, City Staff, 3rd party facilitators, and Philanthropy. Actions per each group contribute to collaborative implementation efforts (see table below):

CBO's: visioning and priority setting, consensus building, identifying resident leaders, informing all parties of the decisions. City: assess barriers, transparency, collaborate with CBOs on policy development, inform all parties of the decisions. City and CBO's should collaborate on equity goals and equity assessment before implementing policy. 3rd Party facilitators: consensus building tools, lean into tensions, develop participatory equity impact assessments. Philanthropy: prioritize funding to strategic collaborations

CBOs	City Staff	Third-Party Facilitators	Philanthropic Partners
• Engage a base of residents in visioning, problem definition, and priority setting based on community assessments[19] • Cultivate a culture of consensus-building among resident leaders[20] • Identify a base of resident leaders with whom to build consensus around decisions being made in the collaborative initiative[21] • **Support policy makers in the city to set equity goals and to conduct equity impact assessment before finalizing policy decisions** • Ensure that all parties impacted by decisions are informed of the decision and the impacts[22]	• Assess internal barriers to equitable decision-making processes and plan accordingly • Be transparent about how decisions are made at the departmental and city levels. Inform community partners when and how they can have actual influence • Partner with CBOs to define the problem and design the solution before starting the policy development process, allowing ample time for collaborative design • **Collaborate with CBOs to set equity goals and conduct equity impact assessments before finalizing decisions** • Ensure that all parties impacted by decisions are informed of the decision and the impacts	• Support city staff in assessing internal barriers to equitable decision-making processes • Use gradients of agreement to build consensus • Prepare the group to make real-time strategic decisions rooted in shared principles and practices • Lean into tensions to find multi-stakeholder solutions • **Help to develop participatory equity impact assessments that center the voices, needs, and current realities of impacted communities and inform decision-making within collaborative initiatives[23]**	• Prioritize funding for community-driven planning • Engage in racial equity issue analysis forums with residents and other key stakeholders to ensure funding strategies are rooted in a collaborative analysis • Support grantees to use participatory evaluation methods that provide impacted residents with the tools and platform to assess and help shape equity strategies

3. Evaluation and metrics

This section offers two strategies to measure engagement processes' success, as described in the reference documents studies. The first strategy is using *Resilience Indicators* identified at the early stages of the projects and prescribed by the City. These indicators can provide a consistent metric to track progress across projects. Second is the use of the Spectrum of Engagement Ownership, which can be used to evaluate an institutional process, for example, the establishment of a committee (as in the case of the Providence Racial and Environmental Justice Committee). Both strategies require preliminary preparation by the City and project team, whether it is to define the indicators they are addressing or the identified objective position on the spectrum. **As part of this process, the team working will establish preliminary Resilience Indicators through the community processes planned for February-May 2021. The updated version of the report in the summer will include Chelsea specific recommendations for indicators.**

"Procedural equity is accomplished in the Framework through community engagement, shared decision making, and transparency in government processes. Distributional equity is achieved by ensuring that the plan reflects community concerns and priorities and that there are mechanisms in place to review and monitor the implementation of actions." [18]

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[18] Guide to Equitable, Community-Driven Climate Resilience Planning, May 2017, by USDN and Raimi+ Associates

1. Resilience Indicators

A comprehensive list of indicators will span intersectional issues in the local context of Chelsea and climate change and will include sea level rise, extreme weather, employment, livelihood, housing, education, heath, transportation, etc. The basic characteristics to be taken into account across projects are demographics of the community – with focus on preexisting vulnerabilities. Indicators should be classified by neighborhood and the community circumstances – to be as specific as possible. "...it is important to note that some of the vulnerability indicators are also process/outcome indicators and vice versa which highlights the interconnection and the critical need for cross referencing indicators due to the layered interplay of factors and dynamics"[19] Categories for preexisting indicators can be: demographics, housing security, food security, mobility, health, emergency services, employment, public services and utilities, environmental hazards, social services, policies, culture, etc. Outcome indicators to demonstrate successful adaptation and equitable preservation of values are: infrastructure, economic development, food security, housing health care services, emergency management, inclusive decision making and planning, policies, wellness, culture. "This set of indicators should be used to spark an in depth analysis at the local level of what are the factors that truly make the local residents vulnerable to the effects of climate change and what variables must be evaluated to declare success in implementing equity based adaptation planning."[20]

The NAACP Environmental and Climate Justice Program (ECJP)[21] outline several issues to analyze equity in climate adaptation plans based on the extent and inclusivity of the engagement process: community leadership on the team, engagement of all community members, assessment of local vulnerabilities and assets, analyze/ address systemic issues (race, gender, economic, etc.), transparency, place-based solutions, resilience indicators human impacts in addition to infrastructure, aspirational goals for true resilience (housing, food security, etc.), community-based decision making systems in the development and implementation of the plan.

The NAACP action tool kit highlights resilience indicators as a tool to embed equity into the planning process and at the same time, an instrument to analyze it. Cross-reference indicators can reveal international relationships. Per each indicator group for assessment the action tool kit proposes "process and outcomes indicators" to evaluate actions implemented. Example below:

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[19] Equity in Climate Adaptation Planning: Resilience Indicators, 2016, NAACP

[20] Ibid.

[21] Our Communities, Our Power: Advancing Resistance and Resilience in Climate Change Adaptation - Action Toolkit, 2019, NAACP

Table 24: Process and Outcome Indicators

Indicator	Measurement and Units
Reestablishment of public transit systems	X public transit systems restored X public transit systems X public transit routes *Identify the location of new and restored construction *Maps should include analysis of access to key services and activities
Established alternative transportation methods (e.g. bicycle and pedestrian infrastructure, car-sharing, carpooling, etc.)	X number of bicycle and pedestrian paths X miles of bicycle and pedestrian paths X bike-share programs X number of bike-share locations X car-share programs X number of car-share pickup locations X community carpooling programs X HOV lanes *Map the locations of alternative transportation infrastructure *Maps should include analysis of access to key services and activities
Disaster-damaged roads and bridges repaired	Total miles of road system and bridges needing repairs owing to disaster impacts
Public transportation availability and	X% of population served (disaggregate by key demographics and/or geographic locations)

2. Spectrum of Engagement Ownership

An example for an institutional organizational change is the establishment of the Providence Racial and Environmental Justice Committee (REJC) as part of the City's climate justice work. The establishment of the committee is part of the City's commitment to collaborative governance. REJC had an agreement with the city on a community centered process focused on the co-development of policies. At the core of the REJC practice was to provide the space for communities to access decision making, resources, and power. The Spectrum tool was employed as an indicator on the process and the place where the City would like to be at the end of it. Reaching number 4 – collaborative was the goal. "collaborative governance in climate justice asks that government, institutions and corporations be accountable for their role in contributing to and addressing the climate challenge. In order to create long term sustainability and equity in Providence, structural and systems change is required."[22] In 2018, Providence and REJC received a grant from the Urban Sustainability Directors Network (USDN) to explore their collaborative governance.

The Spectrum, developed as part of this process, provides a guide for progress in the institutional transformation towards equitable governance. "Community-based organizations play a critical role in cultivating community capacity to participate in and lead decision-making processes that meet community needs and maximize community strengths. Staff and elected officials within local government have essential roles to play in helping to facilitate

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[22] Climate Justice Plan Final Report, 2019, Providence

systems changes to increase community voice and decrease disproportionate harms caused to low-income communities and communities of color."[23]

To evaluate progress in the racial equity and environmental justice grant program in four cities the USDN[24] used the Spectrum of Engagement Ownership tool. Similarly, to the use of the spectrum in the decision-making protocol, the objective of the spectrum here is to compare intentions to the outcomes. This evaluation exercise focuses on the following indicators: commitment to the model, community, and capacity and organizing, community and city resourcing, city capacity and equity training, influence of committee to achieve policy & systems change, trust and relationship building, principles & practices to ensure equity at every step.

Snapshot from the model below – the full table is available on p. 85 in the cited document.

Stance Towards Community	0 IGNORE	1 INFORM	2 CONSULT	3 INVOLVE	4 COLLABORATE	5 DEFER TO
Impact	*Marginalization*	*Placation*	*Tokenization*	*Voice*	*Delegated Power*	*Community Ownership*
Descriptions	*Impacted communities are systematically disenfranchised from decision-making processes that affect them*	*Governmental agencies and/or NGOs provide impacted communities with information related to the impacts*	*Periodically, impacted communities are asked to provide input into options or decisions within frameworks already established by local government*	*Increasingly more frequently, processes are established to ensure impacted communities have genuine influence over key decisions affecting them*	*Community-based institutions and local government agencies form authentic partnerships to ensure capacity of impacted communities to co-define the problems affecting them and co-design solutions for long-term viability*	*Multiple stakeholder coalitions work together to build capacity for community-driven planning to develop and implement community-derived solutions that generate community assets and significantly close equity gaps*

4. <u>Recommended actions for an equitable climate planning</u>

The following section will outline references for strategies to build the relationships and framework vital to resilience. These components provide space for multidisciplinary and cross-sector collaboration. These are selected components from the NACRP report - Community-Driven Climate Resilience Planning: A Framework. The resource table below adapted from the report.

Outcomes	Activities	Resources
Pre-planning collaborative process development		
Whole systems approach to resilience planning – all	+ Host resident conversations at community-based institutions, such as schools, faith-based spaces, service organizations, and base-building organizations to ground development of the planning model in strategic conversations and to	+ [Community Planning, Center for Earth, Energy and Democracy (CEED)](#)

[23] Ibid.
[24] From Community Engagement to Ownership Tools for the Field with Case Studies of Four Municipal Community-Driven Environmental & Racial Equity Committees, by USDN

stakeholders represented	engage a wide range of stakeholders, experiences, and perspectives.	+ Guide to Equitable, Community-Driven Climate Preparedness Planning, a parallel tool for local government audience, Urban Sustainability
	+ Identify barriers to participation among residents of vulnerable communities.	
	+ Build capacity of stakeholders to participate in leadership roles throughout the planning process and create processes that integrate community leadership throughout.	
	+ Form committees that cut across sectors.	
Plan to organize around implementation and existing efforts	+ In the planning model, include resources and time for building capacity of residents and cultivating a network of local expertise that is accountable to community values.	+ Dare to Change: Environmental Leadership for Climate Justice, Sustainable Communities and a Deep Green Economy, MSC
	+ Identify economic and social justice issues impacting climate vulnerability, and actively engage key allies among community leaders and base-building groups already addressing these issues.	+ Oakland Climate Action Coalition Committees
	+ Take a whole systems approach to connecting between issues	+ The People's Movement Assembly Organizing Toolkit, PMA
	+ Map existing efforts and opportunities for residents to impact local and regional policy. Advocate for the voices of residents at local and regional decision-making tables.	
	+ Host participatory issue forums linking relevant issues, such as affordable housing and climate resilience Identify and cultivate political leverage points for the needs and interests of vulnerable and impacted communities.	
	+ Create new decision-making tables.	
	+ Base-building groups assess their organizing models through a community resilience lens and agree on changes in their practices and approaches.	

Power Building		
Community-driven planning processes serve to forge new alliances and increase the willingness and capacity of community-based institutions to take leadership in whole systems approaches to climate resilience. This approach recognizes the scale and complexity of the problem of responding to climate change in the urban context. The key to building this kind of power lies in cultivating an engaged constituency ready to tell their stories.		
Resident leaders have the capacity to	+ Resource community organizing and leadership development efforts as essential components of resilience planning and solutions implementation.	+ SOUL Manual - Youth Organizing for Community Power manual, SOUL

effectively advocate at the local, regional, and statewide levels.	+ Cultivate relationships with regional and statewide climate justice coalitions that can help facilitate learning and engagement that links local, regional, and statewide issues. + Create multiple and potentially sustained opportunities for cross-pollination and learning among place-based efforts. + Support an ongoing space for strategy development by a diverse set of leaders. + Systematically cultivate the capacity and national profile of key leaders who can carry the ethos and lessons of the place-based work into a variety of settings.	+ [Stepping Into Power: A Leadership Academy Curriculum for Boys and Men of Color, Alliance for Boys and Men of Color, Health Happens Here, MSC (see page 32-33 can substitute scenario for Climate Justice)](#) + [A Community Guide to Environmental Decision-Making in the City of Minneapolis, Center for Earth, Energy and Democracy (CEED)](#)
Cross-sector coalitions cultivate the power necessary to influence public policy at local, regional and statewide levels.	+ Create a resilience hub or identify an anchor organization (respected among stakeholders) with the capacity to effectively convene a diverse group and facilitate coalition-building efforts, track data, and coordinate trainings for stakeholders. + Spend time actively building cross community understanding, shared values, and meaningful opportunities for mutual support among coalition members by cultivating the conditions for deep collaboration and movement-building. + Link socially just climate resilience to other movements and communities of practice. Connect systematically with allies. + Map strategic entry points that best position coalitions for long-term wins. + Resource and engage base-building organizations. + Conduct power-mapping sessions that identify the primary influencers of decision-makers and develop power-building strategies that increase the influence of the coalition on targets. decision-makers. + Engage in integrated climate voter engagement.	Local coalitions: + [Oakland Climate Action Coalition (OCAC)](#) + [New York City Environmental Justice Alliance (NYC-EJA)](#)
Visioning		
Defining the goals of the plan with the community are essential for social cohesion, sense of purpose, expanding community driven ideas		
Community galvanized around a future	+ Treat visioning sessions as educational opportunities to explore:	+ [Roadmap to Resilience, Climate Adaptation and Resilience Enhancement](#)

| that stakeholders want to build together. | causes and consequences of climate vulnerability, examples of community-derived climate resilience solutions and models, and opportunities to share personal stories and identify shared values.
+ Use culturally relevant and responsive pedagogy to develop a shared definition of resilience that reflects the unique assets and challenges of the community, as well as latest thinking by climate justice thought leaders.
+ Engage intergenerational and cross-sector stakeholders in multi-media visioning sessions.
+ Emphasize community visions to inspire participation and support.
+ Create opportunities throughout planning to revisit the vision to ensure that efforts are in alignment and continue to inspire stakeholders.
+ Examine dominant narratives of "success" and "progress" and work together to redefine community success and advancement.
+ Translate the vision into metrics and indicators of local resiliency and use the metrics to assess and celebrate the progress of the community-driven planning coalition.
+ Advocate for community-derived metrics and indicators to be adopted into municipal climate resiliency plans. | Program (CARE), Communities for a Better Environment
+ Equity in Climate Adaptation Planning: Resilience Indicators, NAACP
+ Measuring What Matters: Neighborhood Research for Economic and Environmental Health and Justice in Richmond, North Richmond, and San Pablo, Pacific Institute and seven local partner organizations |

Problem Definition		
How the community defines the problem greatly influences the solutions put forth. Whole systems analysis leads to comprehensive solutions that encourage collaboration across disciplines.		
Stakeholders understand the root causes of climate vulnerability and structural inequities that result in disproportionate climate impacts.	+ Use media and storytelling to put forth a human-centered, whole systems understanding of climate vulnerability and structural inequities that put communities in danger. + Identify and analyze dominant narratives that contribute to climate vulnerability. + Create collaborative spaces to identify structural root causes and key culprits, drawing on analysis by climate justice leaders. + Assess local climate vulnerability. + Cultivate the practice of deep listening.	+ Community Messaging, Gulf South Rising + Neighborhood Knowledge for Change: The West Oakland Environmental Indicators Project, Pacific Institute + Clearing the Air: Reducing Diesel Pollution in West Oakland, Pacific Institute, West Oakland Environmental Indicators

	+ Create visuals depicting the analysis of root causes and share them widely. + Come back to these tools periodically to adjust analysis as needed and ensure climate solutions are accompanied by systems change efforts that address root causes of climate vulnerability.	Project (WOEIP), and Coalition for West Oakland Revitalization (CWOR) + Climate Inequality, Center for Earth, Energy and Democracy (CEED) + Community Resilience Toolkit 2.0, Rooted in Resilience (RIR)

Vulnerability assessment		
Community-Driven Resilience Planning involves participatory processes to engage neighbors in assessing their climate vulnerability and resiliency assets. Investments in community capacity to assess climate vulnerability and resilience assets is a significant and essential contribution to climate preparedness.		
Community assets and threats identified by residents inform solution development.	+ Conduct resident-driven resilience assessments. + Engage in participatory action research. + Research the history of inequity and unsustainable development practices in the community, city, or region. + Research and explore the natural diversity, ecological systems and threats of the region.	+ Summary: Participatory Action Research, PFCC + Equity-Centered Capacity Building, ECCBN, school systems change lens applicable to resilience efforts + Equity-Centered Capacity Building, Equity-Centered Capacity Building Network (ECCBN) school systems change lens applicable to resilience efforts
Community Assessment activities serve to increase resident engagement in community-driven climate resilience planning and solutions implementation.	+ As resident leaders and community-based institutions carry out assessments, focus on relationship building with neighbors, schools, service-providers, faith-based groups, and other potential participants in the evolving resiliency strategy. + Invite assessment participants to ongoing forums, workshops, and advocacy opportunities related to the effort. + Develop indicators and benchmarks to measure progress towards cultivating the conditions for implementation.	

Solutions Development		
The transformation of existing systems and new systems can create buy in and a sense of ownership		
Solutions are strategic, meet real community needs, activate community	+ Design and implement collaborative youth leadership fellowships dedicated to research and development of climate resiliency solutions. + Assess the proposed solutions against community-derived criteria. The criteria are informed by an	+ Community-Scale Solutions, Center for Social Inclusion (CSI) + Movement Generation Curriculum Manual:

assets, scalable, democratic, support systems change goals, work to achieve balance with regional ecological systems, and help to achieve equity.	understanding of terms, such as equity, asset-based, scalable, participatory, and ecologically regenerative at the local and regional levels. Identify a set of principles or strategic questions to guide this assessment process. + Base-building organizations and resident leaders host solutions development and assessment salons engaging multiple stakeholders in critical dialogue and evaluation. + Research triple bottom line solutions and approaches coming out of similar cities. Engage stakeholders in workshops to assess and tweak solutions to meet local conditions. + Identify opportunities for small wins that build momentum towards full adoption of the plan (e.g. getting resilience-based community benefits agreements adopted into development plans) throughout the planning and implementation process.	[Ecological Justice: A Call To Action, MG](#)
Pilot projects deliver near-term results and showcase viability of solutions to build public support and influence decision-makers.	+ Work with CBOs and practitioners from relevant sectors to implement pilot projects. + Engage multiple stakeholders in participatory assessments of pilot projects and publicize results. + Invite decision-makers to special events showcasing pilot projects. + Partner with local media outlets and/or engage independent media strategy to tell the story of pilot projects and their impact. + Research and develop community-driven financing models that complement local assets.	
Evaluate and monitor the process		
Tools in place to ensure core principles and practices developed during planning process persist into the public planning processes and implementation phases.	+ Establish multi-stakeholder working groups and/or committees to promote and monitor accountability, and to implement equity goals where community leaders have seats and decision-making power. + Develop checklists and practices designed specifically for city planners and local decision-makers to support them in upholding the visions, values and solutions developed by leaders and organizations of vulnerable and impacted communities.	+ [A Framework for Local Action on Climate Change: 9 Ways Mayors Can Build Resilient and Just Cities, by Cathleen Kelly of Center for American Progress, Cecilia Martinez of Center for Earth, Energy and Democracy (CEED), and Walker Hathaway-Williams (UC Berkeley PhD Student)](#)

	+ Develop a set of recommendations to ensure that RFPs are written to meet the needs of vulnerable communities. + Document lessons learned during community-driven planning process with regards to most responsive and effective equity practices for ensuring resident participation and power. + Translate lessons learned into a set of principles and protocols for public officials to create the conditions for adequate community engagement and decision-making during public processes.	+ [Racial Equity Evaluation Tool, Equity Matters, featured in Urban Sustainability Directors Network's Guide to Equitable Community-Driven Climate Preparedness Planning](#)

Chapter 4:
Virtual engagement - adapting outreach with COVID19

COVID19 and the impact on engagement - Review of lessons learned and best practices for remote community engagement as a response to the Covid19 pandemic.

Virtual engagement needs to leverage technology platforms and visual clarity to provide an accessible experience and create space for people to voice their opinions and suggestions. The public health crisis hit the Chelsea community extremely hard, and it is important to leave space to discuss current challenges and needs. As mentioned in the executive summary the original strategy for outreach was reassessed to an asynchronistic structure with emphasis on ongoing meetings and conversations with community and faith leaders.

1. Assessing engagement in time of crisis
    A tool developed by Marian Urquilla from StrategyLift can help adjust engagement strategy for a project under crisis.[25]
    It assumes that the conditions will change after the pandemic and some goals and objectives will need to adapt to new conditions (market, funding, etc.).

Organization: Neighborhoods Forward, a community organization in Big City
Guiding Question: What will it take to ensure that our city's disinvested neighborhoods have the resources they need to weather this crisis and thrive in the future?

Current Priority—Still Relevant—Continues Forward (with modified approach)
- Facilitators training (make virtual; split into four modules)
- Community development projects implementation (need to review and assess which can still go forward)
- Financial training for neighborhood lead organizations (shift orientation to virtual and do individualized workshops for each lead organization; integrate cashflow analysis and scenario planning for downsizing)
- Fundraising for Investment Fund (need to reset case statement; should we direct 1/3 of funds to COVID-response?)

Pause & Resume when crisis "over" (assuming a 6-18 month delay—high uncertainty)
- Gala Event
- Funders' Neighborhoods Tour
- Faith community luncheon
- All career internships

Emerging Priority or Existing but Newly Prioritized (because of current conditions)
- Help fundraise for and staff emergency feeding centers
- Recruit virtual and in-person (not at-risk) volunteers to support benefits enrollment support and food delivery
- Neighborhood-level communications strategy (support to neighborhood hubs' social media strategy)
- Virtual check-ins with all collective impact partners, prioritize faith community members (group and individual sessions) to reset expectations, and recruit for crisis response lead roles
- Organize "virtual groundbreaking" for new community center
- Reset/expand online fundraising strategy

Unknown Status/Approach (need more data, too much in flux to know)
- Policy Roundtable (appetite for non-emergency priorities?)
- Ballot initiative for permanent funding for Affordable Housing Trust Fund

Honor and Let Go (not going to happen)
- South African learning exchange

StrategyLift 2020

2. Local interest to virtual engagement

    In the spring of 2020 MyRWA performed a survey among its community to identify and assess the convenience and proficiency of community members to use zoom for virtual calls. The results of this survey showed the need for accessibility and availability of materials.

___

[25] https://centerforcommunityinvestment.org/blog/reimagining-strategy-context-covid-19-crisis-triage-tool

1. Receiving slides and materials before or after the presentation is helpful.

2. Clear captioning and diagrams can help people with hearing problems.

3. One location with necessary links

4. Best way to reach out folks without internet is by mail or flyers

5. Partial readiness for in person event if outdoors in small groups while observing social distancing.

6. Entire visual presentations are highly graphical and completely bilingual.

7. Some webinar platforms (such as Zoom) offer options for simultaneous translation

8. Share instructions for joining the call

9. Provide an optional call-in number

10. Provide a location with free Wi-Fi access that also allows for social distancing

3. <u>Participations and drawing attention</u>

Distribution channels:
As outlined in detail above in **Chapter 2, Pathways for outreach**, this process strives to build a robust community network and facilitate communication channels between local leaders and the City. The flow chart and table of existing community meetings will provide a tool to share information and draw people to public workshops.

So far, as part of this process the team organized a series of outreach activities while using the City social media channels, the City's website, GreenRoots' and MyRWA's social media and email network. The success was limited to the fall outdoor in-person event.

The distribution channels identified the can expand participation:

1. Strategies between social media and community groups

2. Outreach through youth and students

3. Posters and flyers in public places and Joining ongoing events. While most in person events have been canceled during the pandemic. Many activities are still operating to ensure that people have access to resources and supports. Utilizing gatherings that are happening in person can help people meet people where they are. (appendix: attached examples from the IER Coastal clean up event)

4. Mailers and flyers
Sharing introductory material about climate change and impacts for the Chelsea community. Mailing information to people's homes is still an effective way to reach many groups. Mailers are often used to share information, but they may also include a survey for people to respond to a few questions. This approach may have a lower response rate than online survey mechanisms.

5. Media - TV and radio networks

Building continuous participation

- Emphasize continuous outreach with participating community members for long term buy in. Reach out to participants from previous workshops/events.
- Consider compensating community members for their participation, and plan for this in your budget.

4. <u>Standards for materials and content</u>

Accessibility

Materials shared online as part of a self-guided participation exercise (survey etc.) or in a live virtual forum should be coherent and bilingual. Illustrations and font size need to account for accessibility.

See report and recommendations in link https://tyndall.ac.uk/datavisuals

Science based and local focused graphics for mapping vulnerabilities and spatial impact (i.e flood maps, sections with human scale, explanation and probability, depth and timelines)

Vocabulary

Common language and familiar ideas should be used to illustrate the issues. Connect the content with local issues and community interests – focus on public health and intersectional issues.

Storytelling

Most people understand the world through anecdotes and stories, rather than statistics and graphs. Building conversations, questions, and workshops around a personal narrative – emphasizing the individual/family experience

Bilingual engagement

All the materials presented should be bilingual. Workshops, presentations, and forums need simultaneous translation in the absence of time to have two events in each language. Provide space to voice opinions and participants to get to know each other.

5. <u>Available platforms and outreach activities:</u>

	Platforms	Opportunities	Challenges
Virtual forum	Zoom	Frequently used and may be more familiar for participants. Offers live audio translation and captioning of presentations. Offers breakout rooms, multiple-choice polling, "raise hand" feature, and a shared whiteboard. Additionally, participants can annotate materials shared using the "share screen" function and use reactions like giving a thumbs-up. Meetings can be recorded and shared online afterwards.	Encouraging participation; seeing all participants, particularly during large meetings; accessibility and ease of use, requires access to wifi and devices.
	Gotomeeting	Offers share screen feature. Meetings can be recorded and shared online afterwards.	Need a paid account.

	Cisco Webex	Free version available. Offers share-screen feature and emoji reactions. Meetings can be recorded and shared online afterwards.	Need a paid account for features like recording
	Microsoft Teams	Offers breakout rooms, multiple-choice polling, "raise hand" feature, and a shared whiteboard. Includes an option for "Teams Live" events, which are designed for large audiences but do not allow participants to use their audio. Meetings can be recorded and shared online afterwards.	Does not offer live audio translation. Cannot insert an image to the shared whiteboard. Teams is less frequently used and may be unfamiliar for participants.
	Google Meets	Free version available. Offers captioning, translation, breakout rooms, "raise hand" feature, shared whiteboard, and polling. Meetings can be recorded and shared online afterwards.	Need a paid account for some features, including breakout rooms, polls, and Q&A
	PowerPoint	Familiar and user-friendly. Presentations can be designed to be highly visual. Offers live translation and captioning during presentations.	Limited image editing and graphic design capabilities.
Collaborative Tools	Slido	Engaging polling and Q&A platform that offers features like word cloud polls, and upvoting questions.	May not be accessible for all users. Requires opening an additional web browser on computer or phone and typing in a meeting code.
	Miro	Visual, collaborative online brainstorming tool	Requires a paid account.
Online Surveys	Google forms	Free, accessible, export of results	Limit questions to acceptable timeframes
	Microsoft Forms	Quick to create surveys and quizzes. Includes answer options like multiple choice, ranking, and short answer.	Limited text and image editing capabilities.
Alternative	Outdoor events	In person educational activities	Public health concerns, Covid-19 restrictions, may not be accessible or inclusive for those with transportation and scheduling limitations
Social Media	Facebook	Social-focus, and can include videos, images, and text. No character limit. Conducting a meeting over Facebook Live may be more accessible for some residents than platforms like Zoom. Comments section offers an opportunity to field questions and have a discussion.	Limited to people with social media accounts.

	Twitter	News-focused.	280-character limit.
	Instagram	Image focused, can include basic text.	Needs high quality images to capture a reader's attention. 2,200 character limit
	TikTok	Platform for short videos, more commonly used by younger residents.	May not be used by older residents. 150 character limit.

Chapter 5:
Preliminary outreach on concerns and priorities (Spring 2021)

1. Survey to assess concerns and priorities related to intersectional climate issues:
    A bilingual English / Spanish survey was distributed between April and June aimed at reaching a local audience and remained online for several months, in addition to using tabling to connect with a wider audience. The survey was led by All Aces in partnership with MyWRA. The City will incorporate the results of the survey into the Framework once complete.

2. Multiple small group discussions about concerns
    Following the strategies outlined in Chapter 2: Pathways for outreach, City staff met with community leaders and small groups to discuss the objectives of the work and assess concerns and priorities from their respective communities.

    Equipping local leadership with the resources and knowledge to spread awareness of climate change and impacts to vulnerable populations is paramount within the City of Chelsea's initiatives to prepare our community for harsher climate conditions, severe flooding events, poor air quality, and reducing greenhouse gas emissions. Therefore, we have included a section of our Equitable Climate Resilient Framework to include survey responses from our community leadership across faith-based organizations, non-profit organizations, environmental justice communities, and social services agencies.

    The city shared a questionnaire with community leaders from the following organizations:
    -   Chelsea Business Foundation
    -   Healthy Chelsea (Chelsea MGH)
    -   Saint Luke's
    -   Chelsea Housing Authority
    -   Senior Center
    -   GreenRoots
    -   La Colaborativa de Chelsea
    -   The Neighborhood Developers (TND)
    -   North Suffolk Community Health
    -   Luz de Cristo / SELAH
    -   CAPIC
    -   Salvation Army

    The list of questions:
    a. What kinds of social services to you provide to your community?
    b. What do you think is one of the most needed services that you provide?
    c. How will these needs be amplified by extreme weather and climate impacts?
    d. Has extreme weather already affected your communities? If so, how?
    e. Do you feel that your space is an appropriate place to discuss climate change, why or why not?
    f. Do you have conversations with your community about extreme weather/climate change? If you do, what specific items to you discuss?
    g. Would you be willing to participate in a collection of Community Leaders in the near future to continue discussing these types of topics?

The City received responses from several organizations (Saint Luke's Church, the Chelsea Housing Authority, and Chelsea Elder Affairs). The responses point to the link between extreme weather and the need for safe and affordable housing opportunities, reaffirmed that flooding is already an issue that affects Chelsea residents today, and confirmed that these organizations see stewarding conversations about climate change and extreme weather as within their purview or aligned with their missions.

3. Engagement with CHS students

    The team put together a call for bilingual spoken word to be presented during the May 22 event. No responses were received; however, the City will advertise the opportunity again next year.

    Graphics and content for the event:

4. In Person event – clean up and introduction to City resilience work

    Public art installation took place in Spring 2021 to draw participants to climate resilience event, "Floating Fruits at the Island End River Park."

May 22 event – flyers and posters

Appendix

Glossary

a.   Climate change

Climate change refers to a significant change in the state of the climate that can be identified from changes in either the average state or variability of weather and that persists for an extended time period, usually decades, centuries, or longer.

b.   Climate vulnerability

The degree to which systems and populations are affected by adverse impacts. It is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity.

c.   Extreme event

Unexpected, unusual or unpredictable weather or flooding compared to historical or future projected distribution. Extreme events include, for example, heat waves, cold snaps, heavy rains, periods of drought and flooding and severe storms

d.   Floodplain

Any land area susceptible to being inundated by floodwaters from any source.

e.   Heat wave

A period of three consecutive days where temperatures rise above 90°F or two consecutive days over 95 degrees

f.   Redlining
From Revolutionary Power: An Activist's Guide to the Energy Transition, By Shalanda Baker, 2021:
"Redlining refers to the government-sanctioned segregation based on race and access to credit. As Richard Rothstein eloquently details in *The color of Law,* the US government created the Federal Housing Administration (FHA) in 1934 to increase housing stock around the country. The FHA refused to insure mortgages in Black communities and relied on elaborate maps that designated, in red, which communities were high risk. Black communities, even if middle class, were designated in red and therefore excluded from the federal insurance program. The FHA intentionally focused on increasing access to homeownership in White communities, including going as far as to provide subsidies to home builders in certain communities as long as the homes were not sold to Black persons. These explicitly racist policies excluded generations of Black people from accessing an essential key to wealth creation, homeownership."

Additional source for redlining and climate impacts - https://www.nationalgeographic.com/science/2020/09/racist-housing-policies-created-some-oppressively-hot-neighborhoods/

g. Resilience

The ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions.

h. Resilience indicators

"measures of vulnerability and resilience in terms of infrastructure, community/population characteristics, systems, policies, programs/services, protocols, and governance/decision making. This is not an inclusive list. Because these are examples, the indicators span the impacts of climate change including shifts in agricultural yields, sea level rise, and extreme weather."

Expanded explanation in the *"Equity in Building Resilience in Adaptation Planning"* document by NAACP 2016 https://www.naacp.org/wp-content/uploads/2016/04/Equity_in_Resilience_Building_Climate_Adaptation_Indicators_FINAL.pdf

i. social resilience

The ability of a community to cope with external stresses that result from environmental, social, and political conditions, and the ability of communities to adapt after a disaster or crisis.

j. Social infrastructure:

The set of physical places and organizations that shape human interactions

k. Storm surge

The temporary increase, at a particular locality, in the height of the sea due to extreme meteorological conditions (low atmospheric pressure and/or strong winds). The storm surge is defined as being the excess above the level expected from the tidal variation alone at that time and place.

l. Urban heat island effect (UHI)

The tendency for higher air temperatures to persist in urban areas as a result of heat absorbed and emitted by buildings and asphalt, tending to make cities warmer than the surrounding suburban and rural areas

Graphic material examples:

One-pager introduction to climate impacts for distribution:

CLIMATE RESILIENT CHELSEA

WHAT IS CLIMATE CHANGE?

Change in the average environmental conditions over a long period of time due to the increase of Carbon dioxide (CO_2) in the earth's atmosphere. More CO_2 in the atmosphere is causing harmful environmental shifts that are not healthy for humans and other species. Climate change is causing more heatwaves, more extreme weather events, higher sea levels, major rainfall, and storm pattern changes, disappearing glaciers, ocean acidification, and species extinction. These environmental changes directly translate into economic, public health, and safety issues that affect people and communities in various ways. For cities, climate change aggravates urban heat islands and increase flood risk. Equitable climate preparedness and action is a priority for the City of Chelsea.

SEA LEVEL RISE (SLR) AND COASTAL FLOODING

Chelsea is surrounded by four rivers and is low-lying along the shoreline. The Boston Harbor Flood Risk Model (BH_FRM) is one of the most detailed coastal flooding models. The model project an increase on 36" SLR by 2070. Nor'easters can cause coastal flooding, combined with SLR could have a greater impact inland

EXTREME WEATHER EVENTS

More intense and frequent storms can stress urban utility systems such as drainage and sewer systems. Intense rainfall can cause localized inland flooding. Strong winds may undermine the power and electrical infrastructure. Chelsea could have 10 days of storms with >1" of rain by 2100.

URBAN HEAT

Chelsea may have 40-90 days with temperatures above 90° by 2100 and longer heat waves. Extensive asphalt and buildings will increase the heat effect in these regions. These surfaces absorb and heat, producing hotter environments than spaces with more vegetation.

AIR POLLUTION
Hotter summers can make air quality worse. This can harm people with asthma and heart problems.

EXTREME RAINFALL

SOLAR RADIATION

+14.0
1' Freeboard Tolerance
100-Year Flood*****
+12.8
2070 (+36 in)
+10.0
2030 (+9 in)
+8.0
2070 High Tide +7.3
APPROXIMATE WATERFRONT ELEVATION
2030 High Tide +5.0

Example flyers and invitations for events:

**ISLAND END PARK RESILIENT DESIGN**

The City of Chelsea is working on the redesign and improvement of the Island End River Park. This project aims to address coastal flooding, improve park accessibility and placemaking, enhance the natural shoreline, and provide equitable waterfront access.

This project continues the City's efforts towards implementing the strategies recommended in previous climate resiliency studies completed in 2016 and 2018. As part of these studies, the Cities of Chelsea and Everett engaged community members, planners, landscape architects, engineers, and many others to develop strategies to improve community resilience to future climate change impacts. The City of Chelsea continues to coordinate resilience efforts along the Island end River with Everett. The latest project information will be available online and the City plans to announce opportunities for public engagement in the coming days. Materials will be available in English and Spanish.

The area surrounding the Island End River has a history of flooding during storm events and king tides and the project site falls within the 100-year flood zone. This project also considered the impact of future flooding from sea level rise during present-day, 2030, and 2070 conditions, as illustrated by the images below. To make the park resilient and protect surrounding neighborhoods, the team proposed a flood barrier at the edge of the park, rising 6'-8' above the street, and providing protection for a 100-year storm and 2070 sea level rise projections.

This project is funded by the Commonwealth of Massachusetts Municipal Vulnerability Preparedness (MVP) action grant, The Nature Conservancy, and the City of Chelsea. The project is being done in collaboration with Weston & Sampson, One Architecture & Urbanism, GreenRoots, the Mystic River Watershed Association, Woods Hole Group, and the City of Everett.

https://tinyurl.com/resilientislandend
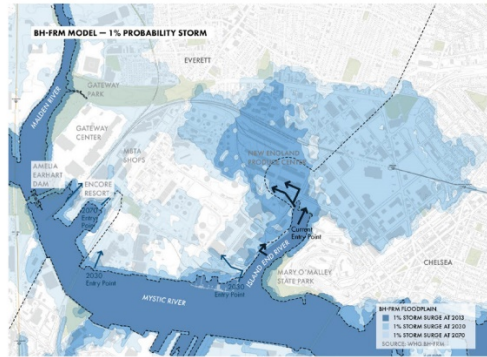
[Above] Anticipated extents of the 1% probability storm in 2013, 2030, and 2070. Mapping by One Architecture & Urbanism based on Woods Hole Group data. [Below] A comparison of flood elevations. Diagram by One Architecture & Urbanism.
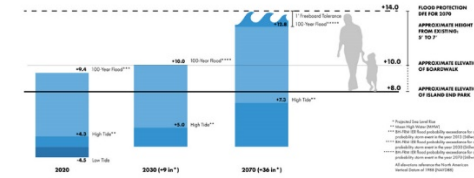
**DISEÑO RESILIENTE DE ISLAND END PARK**

La Ciudad de Chelsea está trabajando en el rediseño y mejoramiento de Island End Park. Este proyecto busca atender la inundación costera, mejorar la accesibilidad al parque, desarrollo del lugar, mejorar la orilla natural, y proveer acceso equitativo al paseo marítimo.

Este proyecto continúa los esfuerzos de la Ciudad hacia la implementación de estrategias recomendadas en previos estudios de resiliencia climática completados en el 2016 y 2018. Como parte de estos estudios, las ciudades de Chelsea y Everett trabajaron con miembros de la comunidad, planificadores, arquitectos paisajistas, ingenieros, y muchos otros para desarrollar estrategias que mejoren la resiliencia comunitaria ante futuros impactos del cambio climático. La Ciudad de Chelsea continúa coordinando esfuerzos de resiliencia a lo largo del río Island End con Everett. La información actualizada del proyecto estará disponible en línea y la ciudad planea anunciar oportunidades para participación pública en los próximos días. Los materiales estarán disponibles en inglés, español y portugués.

El área alrededor del río Island End tiene un historial de inundaciones durante eventos de tormentas y mareas rey, el sitio del proyecto cae dentro del área inundable a 100 años. Este proyecto también considera el impacto de futuras inundaciones por aumento en el nivel del mar en condiciones actuales, en el 2030, y 2070, como se ilustra en las imágenes abajo. Para hacer que el parque sea resiliente y proteger vecindarios cercanos, el equipo propuso una barrera al borde del parque, de unos 6' - 8' sobre el nivel de la calle, proveyendo protección para una tormenta de 100 años y aumento del mar proyectado para el 2070.

Este proyecto es financiado por subvención de acción del Commonwealth of Massachusetts Municipal Vulnerability Preparedness (MVP) Program, The Nature Conservancy, y la Ciudad de Chelsea. El proyecto se está implementando en colaboración con Weston & Sampson, One Architecture & Urbanism, GreenRoots, the Mystic River Watershed Association, Woods Hole Group, y la Ciudad de Everett.

https://tinyurl.com/resilientislandendES
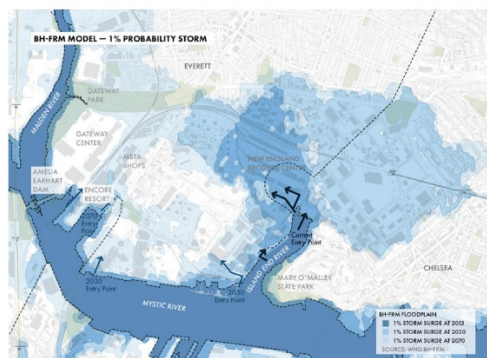
[Encima] Extensiones anticipadas de tormenta de 1% de probabilidad para 2013, 2030, y 2070. Cartografía por One Architecture & Urbanism basado en datos de Woods Hole Group. [Abajo] Comparación de elevaciones de inundación. Diagrama por One Architecture & Urbanism.
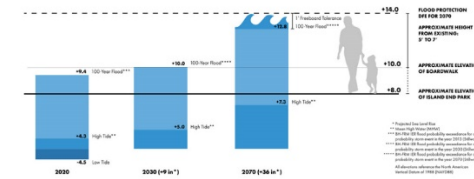
ISLAND END PARK RECOGIDO COSTERO

SEPTIEMBRE 26, 2020 12:30PM - 2:30PM
FECHA DE LLUVIA SEPTIEMBRE 27, 1:30PM - 3:30PM

Participa para descubrir la costa del río Island End y aprende sobre el plan de la Ciudad de Chelsea para mejorar Island End Park. ¡Esperamos conocerles y saber qué piensan!

¿QUÉ ESPERAR?

¡Descubre, protege y disfruta tu costa!
¡Recogido costero y caminata, todas las edades son bienvenidas!
¡Máscaras, desinfectantes, bolsas y guantes serán proveídos!
¡Concurso con tarjeta de regalo y premio!
Por favor traiga pantalones resistentes y calzado robusto.

> Precauciones para COVID-19: Manténgase a 6 pies (2 metros) de distancia, utilice máscara todo el tiempo, use desinfectante proveído antes y después de utilizar materiales. Personal estará disponible para asegurar distanciamiento social.

> **NOS ENCONTRAREMOS AQUÍ! EN LA ENTRADA AL PARQUE SOLO MANEJE DETRÁS DEL EDIFICIO COMMONCOVE!**

MARKET ST
BEACHAM ST
TER
PEOPLES UNITED BANK
JUSTIN DR
ISLAND END RIVER PARK AND WETLAND
JUSTIN DR
MARINA AT ADMIRALS HILL

Photo by Ibrahim López-Hernández, GreenRoots

Questions? Contact the Department of Housing & Community Development at 617.466.4180 or Melanie Gárate, Climate Resiliency Project Manager at the Mystic River Watershed Association (habla Español) melanie.garate@mysticriver.org

Estaremos tomando fotos del recogido costero. Estas imágenes serán utilizadas por la Ciudad de Chelsea y otros para compartir noticias sobre el proyecto Island End Park. Las imágenes podrían utilizarse en comunicados de prensa, publicidad y redes sociales.

POR FAVOR LLENE EL CUESTIONARIO CON EL ENLACE POR CÓDIGO QR

Weston & Sampson — transform your environment

Mystic River WATERSHED ASSOCIATION

Celebrating 25 Years of Fighting for Social and Environmental Justice! GreenRoots

one architecture — new york city   amsterdam

ISLAND END PARK COASTAL CLEANUP

SEPTEMBER 26, 2020 12:30PM - 2:30PM
RAIN DATE SEPTEMBER 27, 1:30PM - 3:30PM

Do you live or work in Chelsea/Everett? Please join us to discover the Island End River coastline and learn about the upcoming City of Chelsea plan to improve the Island End Park. We look forward to meeting you and hearing your thoughts!

WHAT TO EXPECT?

Discover, protect and enjoy your coastline!
Coastal cleanup and nature walk, all ages welcome!
Masks, hand sanitizer, bags and gloves will be provided.
Contest with gift cards and prizes!
Please wear long pants and sturdy shoes that can get dirty.

COVID-19 safety precautions: Stay six feet apart, wear masks at all times, use hand sanitizer provided before and after using supplies. Staff will be available to ensure people are practicing social distancing safety.

WE WILL MEET YOU HERE! AT THE PARK ENTRANCE ON JUSTIN DRIVE BEHIND THE COMMONCOVE COWORKING BUILDING.

MARKET ST
BEACHAM ST
PEOPLES UNITED BANK
JUSTIN DR
SIGNATURE BREADS, INC.
JUSTIN DR
ISLAND END RIVER PARK AND WETLAND
MARINA AT ADMIRAL'S HILL

Photo by Ibrahim López-Hernández, GreenRoots
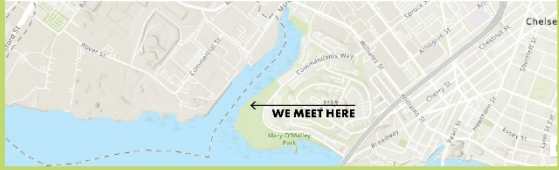
Questions? Contact the Department of Housing & Community Development at 617.466.4180 or Melanie Gárate, Climate Resiliency Project Manager at the Mystic River Watershed Association (habla Español) melanie.garate@mysticriver.org

We will be taking photos at the Coastal Cleanup event. These images will be used by the City of Chelsea to share news about the Island End Park project. Images may be used in press releases, printed publicity and published on social media.

PLEASE FILL OUT THE SURVEY LINK VIA QR CODE

Weston & Sampson
transform your environment

Mystic River
WATERSHED ASSOCIATION

Celebrating 25 Years
of Fighting for Social and
Environmental Justice!
GreenRoots

one architecture
new york city   amsterdam