# ALTERNATIVE 1

**Resist alignment which provides highest level of storm surge risk reduction benefits with waterfront structures.**

**CHARACTERISTICS:**

- Provides greatest level of coastal flood risk reduction benefits
- Potentially least amount of transportation network (roadway and parking) disruption
- Highest cost and complexity to construct compared to the other alternatives
- Most impact on existing waterfront views/access

## Legend:

**Resist**

- Gate - Sliding
- Gate - Swinging
- Deployable
- Landscape
- Berm
- Raised Path
- Flood Barrier
- Elevated Walkway

**Delay, Store, & Discharge**

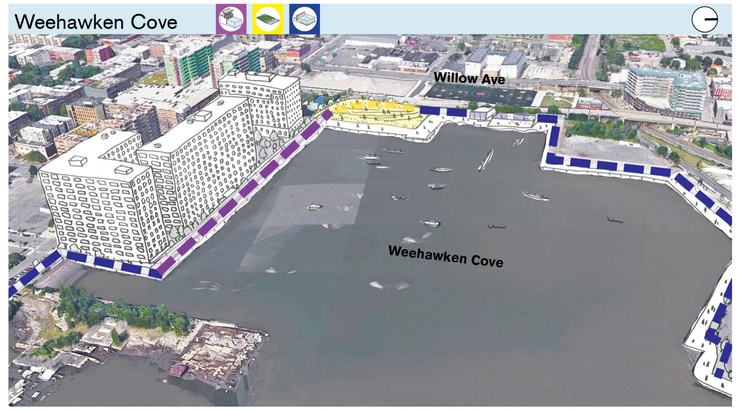
- Stormwater Tank
- Stormwater Tank Bump-out
- Multipurpose Stormwater Facilities
- Pumps

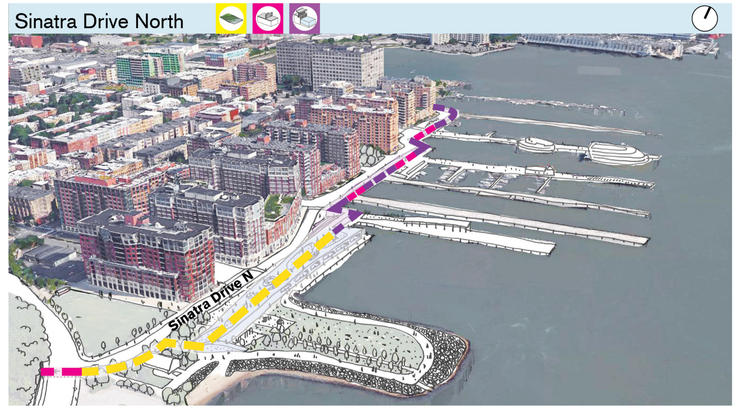
- Existing Structure
- Municipal Boundaries
- Study Area
- Preliminary FEMA 100 Year Flood Plain

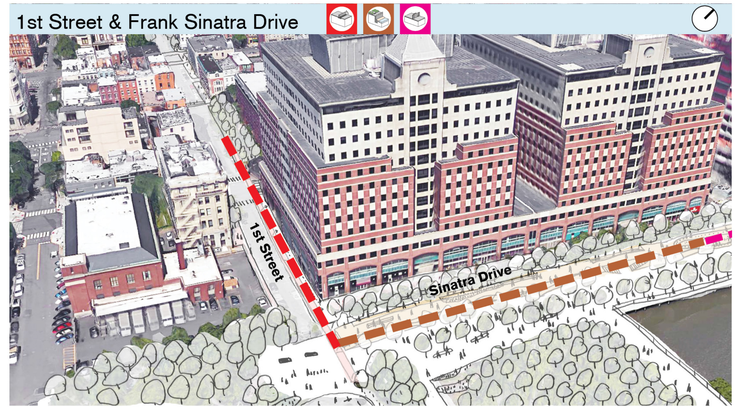
* Approximate Structure Height to meet FEMA Certification and 2075 sea level rise.

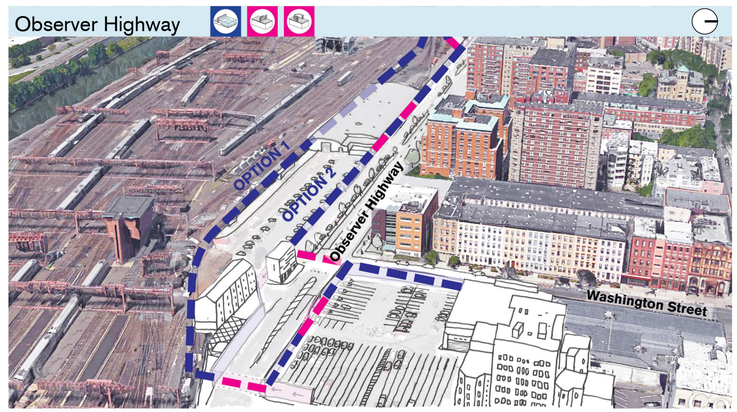
N 0' 400' 800' 1,600'

State of New Jersey Department of Environmental Protection


| | |
|---|---|
| **Flood Risk Reduction** | |
| Percent of Population with Coastal Storm Surge Risk Reduction Benefits | 98% |
| Potential to Adapt to Higher Coastal Flood Event [≥ 500yr and Sea Level Rise] | ● |
| Rainfall | ● |
| **Built Environment** | |
| View Corridors | ● |
| Waterfront Access | ● |
| Potential Community Benefits | ● |
| Connectivity/ Circulation | ● |
| Environmental Justice Populations | ● |
| **Construction/ Maintenance & Operation** | |
| Constructability | ● |
| Construction Duration | ● |
| Maintenance and Operation for Overall System | ● |
| **Environmental Impacts** | |
| Potential Hazardous Waste Sites (Resist Only) | 34 |
| Wetlands | Yes |
| Essential Fish Habitat | Yes |
| Threatened and Endangered Species | Yes |
| Army Corp. Permits | Yes |
| Historic Properties | Yes |
| Archaeological Resources | ● |
| **Benefit/Cost Analysis** | |
| Benefits | Highest |
| Costs | High |
| Benefit/Cost Ratio | ● |

# ALTERNATIVE 2

## (2/18) DRAFT IDEAS FOR DISCUSSION PURPOSES ONLY

**Resist alignment which provides storm surge risk reduction benefits using public right-of-way.**

**CHARACTERISTICS:**

- Does not impact waterfront views or existing waterfront access
- Less costly to construct compared to Alternative 1
- May require reduction in space along Washington Street for structure footprint
- May have impact on roadway/ traffic flow on 15th Street


**Legend:**

**Resist**

- Gate - Sliding
- Gate - Swinging
- Deployable
- Landscape
- Berm
- Raised Path
- Flood Barrier
- Elevated Walkway

**Delay, Store, & Discharge**

- Stormwater Tank
- Stormwater Tank Bump-out
- Multipurpose Stormwater Facilities
- Pumps

- Existing Structure
- Municipal Boundaries
- Study Area
- Preliminary FEMA 100 Year Flood Plain

* Approximate Structure Height to meet FEMA Certification and 2075 sea level rise.

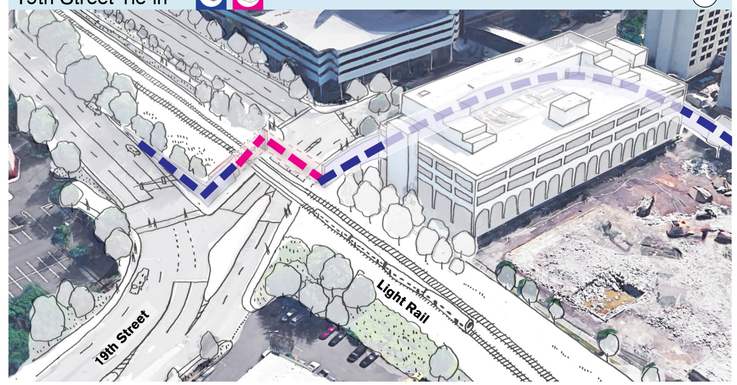
N

0' 400' 800' 1,600'

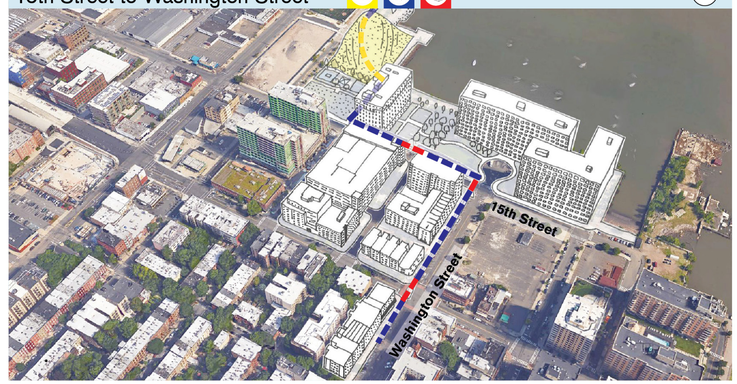
2015 Preliminary FEMA 100-Yr Floodplain



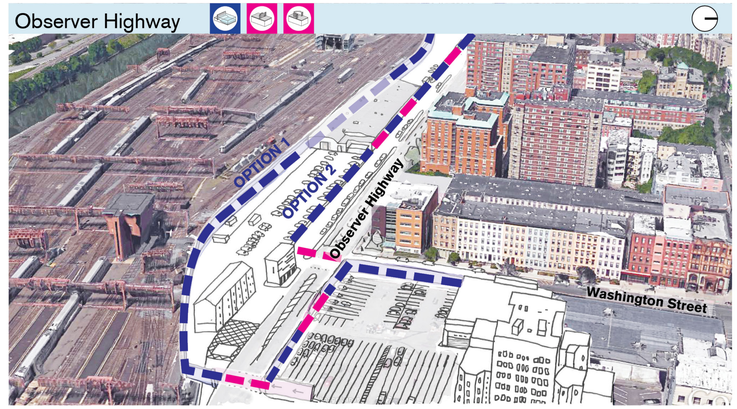
19th Street Tie-in



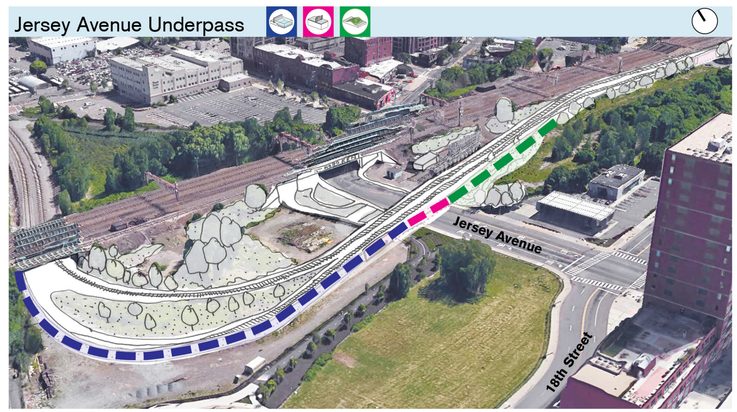

15th Street to Washington Street




Observer Highway




Jersey Avenue Underpass




| | |
|---|---|
| **Flood Risk Reduction** | |
| Percent of Population with Coastal Storm Surge Risk Reduction Benefits | 86% |
| Potential to Adapt to Higher Coastal Flood Event [≥ 500yr and Sea Level Rise] | |
| Rainfall | |
| **Built Environment** | |
| View Corridors | |
| Waterfront Access | |
| Potential Community Benefits | |
| Connectivity/ Circulation | |
| Environmental Justice Populations | |
| **Construction/ Maintenance & Operation** | |
| Constructability | |
| Construction Duration | |
| Maintenance and Operation for Overall System | |
| **Environmental Impacts** | |
| Potential Hazardous Waste Sites (Resist Only) | 38 |
| Wetlands | No |
| Essential Fish Habitat | No |
| Threatened and Endangered Species | No |
| Army Corp. Permits | No |
| Historic Properties | Yes |
| Archaeological Resources | |
| **Benefit/Cost Analysis** | |
| Benefits | High |
| Costs | Lower |
| Benefit/Cost Ratio | |

# ALTERNATIVE 3

**Resist alignment which provides storm surge risk reduction benefits using alleyway easement.**

**CHARACTERISTICS:**

- Does not impact waterfront views or existing waterfront access
- Less costly to construct and maintain compared to Alternative 1
- Reduced traffic and circulation impacts compared to Alternative 2 by using alleyway for portion of alignment
- May enhance the urban design and existing use of public space within the alleyway
- May require reduction in space along Washington Street for structure footprint


## Legend:

**Resist**

- Gate - Sliding
- Gate - Swinging
- Deployable
- Landscape
- Berm
- Raised Path
- Flood Barrier
- Elevated Walkway

**Delay, Store, & Discharge**

- Stormwater Tank
- Stormwater Tank Bump-out
- Multipurpose Stormwater Facilities
- Pumps

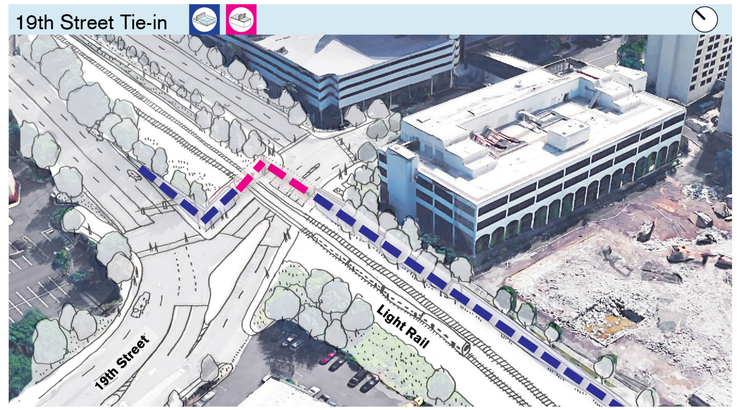
- Existing Structure
- Municipal Boundaries
- Study Area
- Preliminary FEMA 100 Year Flood Plain

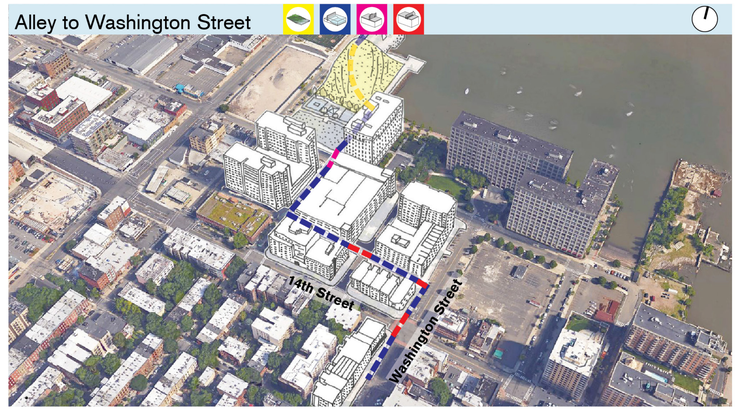
* Approximate Structure Height to meet FEMA Certification and 2075 sea level rise.

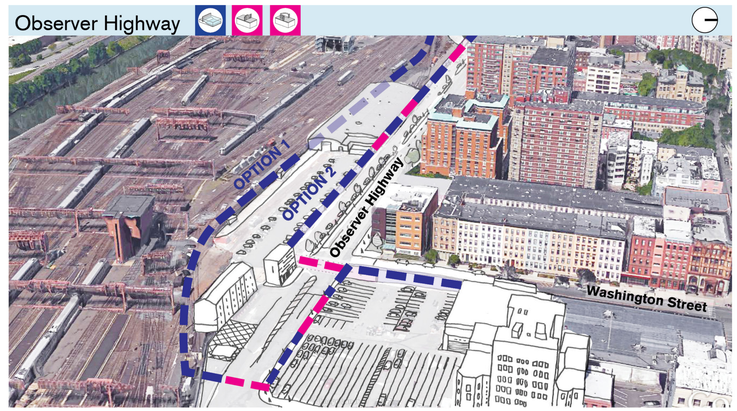
N

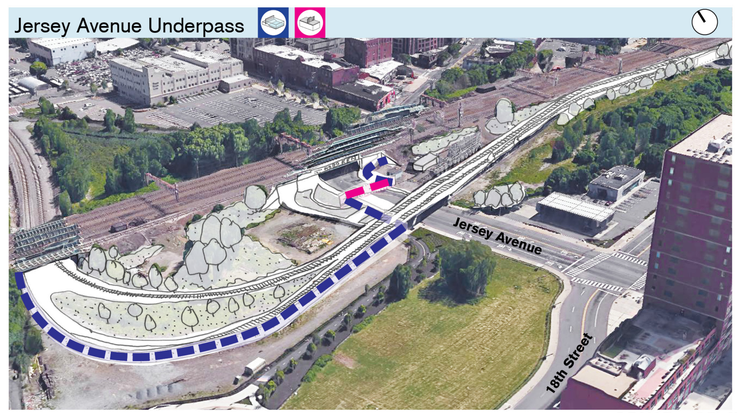
0' 400' 800' 1,600'




| | |
|---|---|
| **Flood Risk Reduction** | |
| Percent of Population with Coastal Storm Surge Risk Reduction Benefits | 85% |
| Potential to Adapt to Higher Coastal Flood Event [≥ 500yr and Sea Level Rise] | ● |
| Rainfall | ● |
| **Built Environment** | |
| View Corridors | ● |
| Waterfront Access | ● |
| Potential Community Benefits | ● |
| Connectivity/ Circulation | ● |
| Environmental Justice Populations | ● |
| **Construction/ Maintenance & Operation** | |
| Constructability | ● |
| Construction Duration | ● |
| Maintenance and Operation for Overall System | ● |
| **Environmental Impacts** | |
| Potential Hazardous Waste Sites (Resist Only) | 32 |
| Wetlands | Yes |
| Essential Fish Habitat | No |
| Threatened and Endangered Species | No |
| Army Corp. Permits | No |
| Historic Properties | Yes |
| Archaeological Resources | ● |
| **Benefit/Cost Analysis** | |
| Benefits | High |
| Costs | Lowest |
| Benefit/Cost Ratio | ● |