



**US Army Corps  
of Engineers®**  
New York District

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# **NEW YORK AND NEW JERSEY HARBOR AND TRIBUTARTIES COASTAL STORM RISK MANAGEMENT STUDY**

## **INTEGRATED FEASIBILITY REPORT & Tier 1 ENVIRONMENTAL IMPACT STATEMENT**

### **APPENDIX E: Map Series**

#### **Sub-Appendix C: Alternative 3B Map Series**

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# Introduction

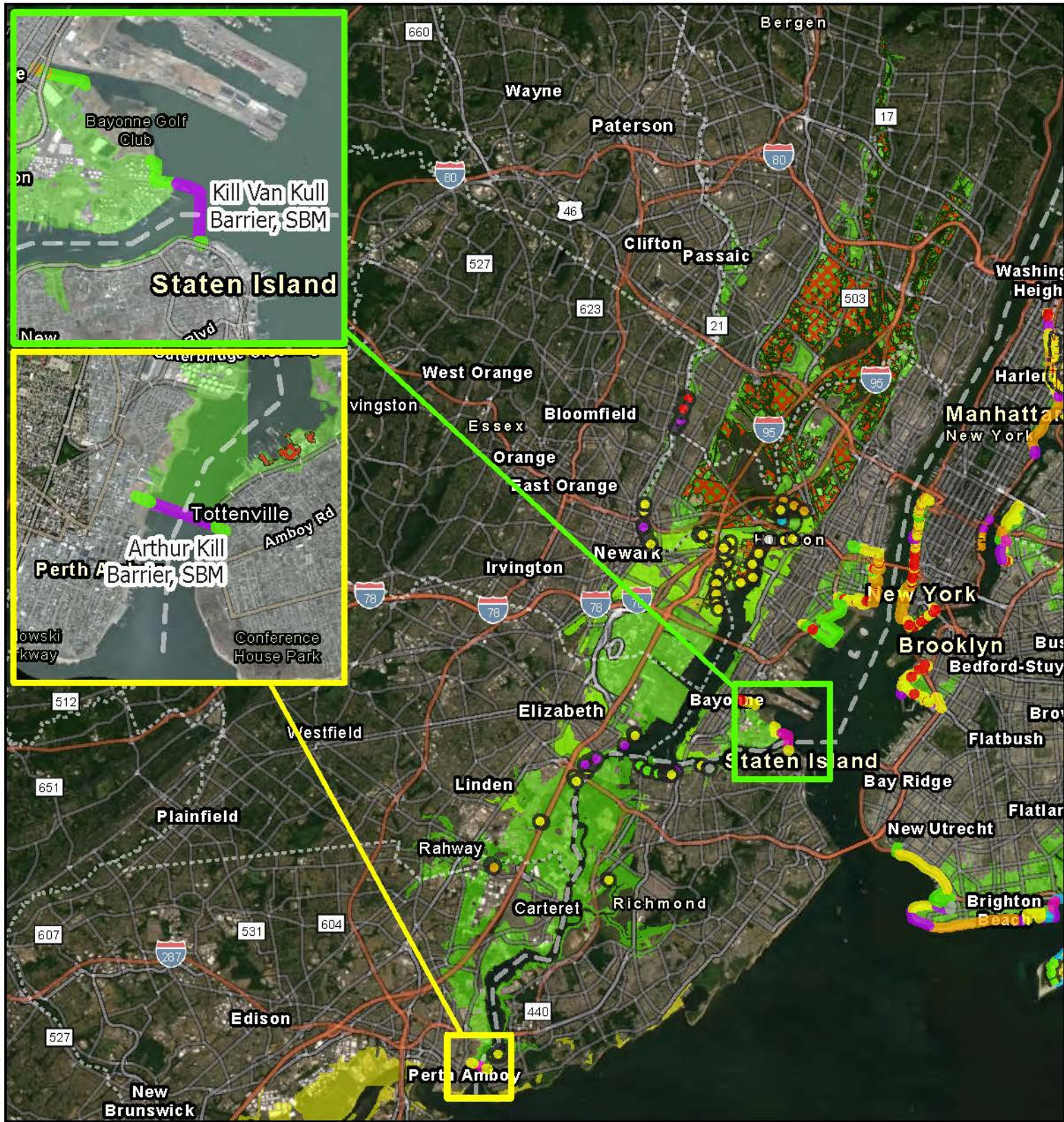
There are five sets of map series graphics contained within this appendix. Each map series displays the various features associated with that specific alternative, the location of those features, and the specific measures that are a part of those features. The risk reduction areas associated with those features are also displayed.

The maps are organized by alternative and then broken down by the type of feature. Storm Surge Barriers (SSBs) and Shoreline Based Measures (SBMs) are grouped together in a set of maps, followed by a set of maps for Induced Flood-Mitigation Features (IFFs), and finally the Risk Reduction Features (RRFs) map sets. Each alternative includes these three types of features except for Alternative 5 which only includes SBMs.

Each feature and the area of reduced risk associated with it has its own map; however, it should be noted that the following specific maps represent more than one feature because they provide risk reduction to a shared area and/or are dependent on one another hydraulically:

- Alternative 2 – SSB/SBM Map Series  
Outer Harbor Barrier and associated Shoreline Based Measure  
Throgs Neck Barrier and associated Shoreline Based Measure
- Alternative 3A – SSB/SBM Map Series  
Arthur Kill Barrier and associated Shoreline Based Measure  
Verranzano Narrows Barrier and associated Shoreline Based Measure  
Throgs Neck Barrier and associated Shoreline Based Measures
- Alternative 3B – SSB/SBM Map Series  
Arthur Kill Barrier and associated Shoreline Based Measure  
Kill Van Kull Barrier and associated Shoreline Based Measure
- Alternative 2 and Alternative 3A – IFF Map Series  
Eastchester Bay IFF  
Throgs Neck IFF
- Alternative 2, Alternative 3A, and Alternative 3B – RRF Map Series  
Kearny Point RRF  
S. Kearny Point RRF





Legend		
Alt3b Reduced Risk Areas	SSB, Reinforced Dune	RRF, Road Raising
SSB/SBM Reduced Risk Areas	SSB, Seawall	RRF, Tide Gate
RRF Reduced Risk Areas	SSB, Storm Surge Barrier	IFF, Deployable Flood Barrier
IFF Reduced Risk Areas	SSB, Tide Gate	IFF, Elevated Promenade
Alt3b Features/Measures	RRF, Berm	IFF, Floodwall
IFF_RRF_SBM, Feature	RRF, Bulkhead	IFF, Levee
SBM, Deployable Flood Barrier	RRF, Deployable Flood Barrier	IFF, Reinforced Dune
SBM, Elevated Promenade	RRF, Floodwall	IFF, Seawall
SBM, Floodwall	RRF, Navigable Gate	IFF, Storm Surge Barrier
SBM, Levee	RRF, Revetment	IFF, Tide Gate

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**Alternative 3B - SSB/SBMs**

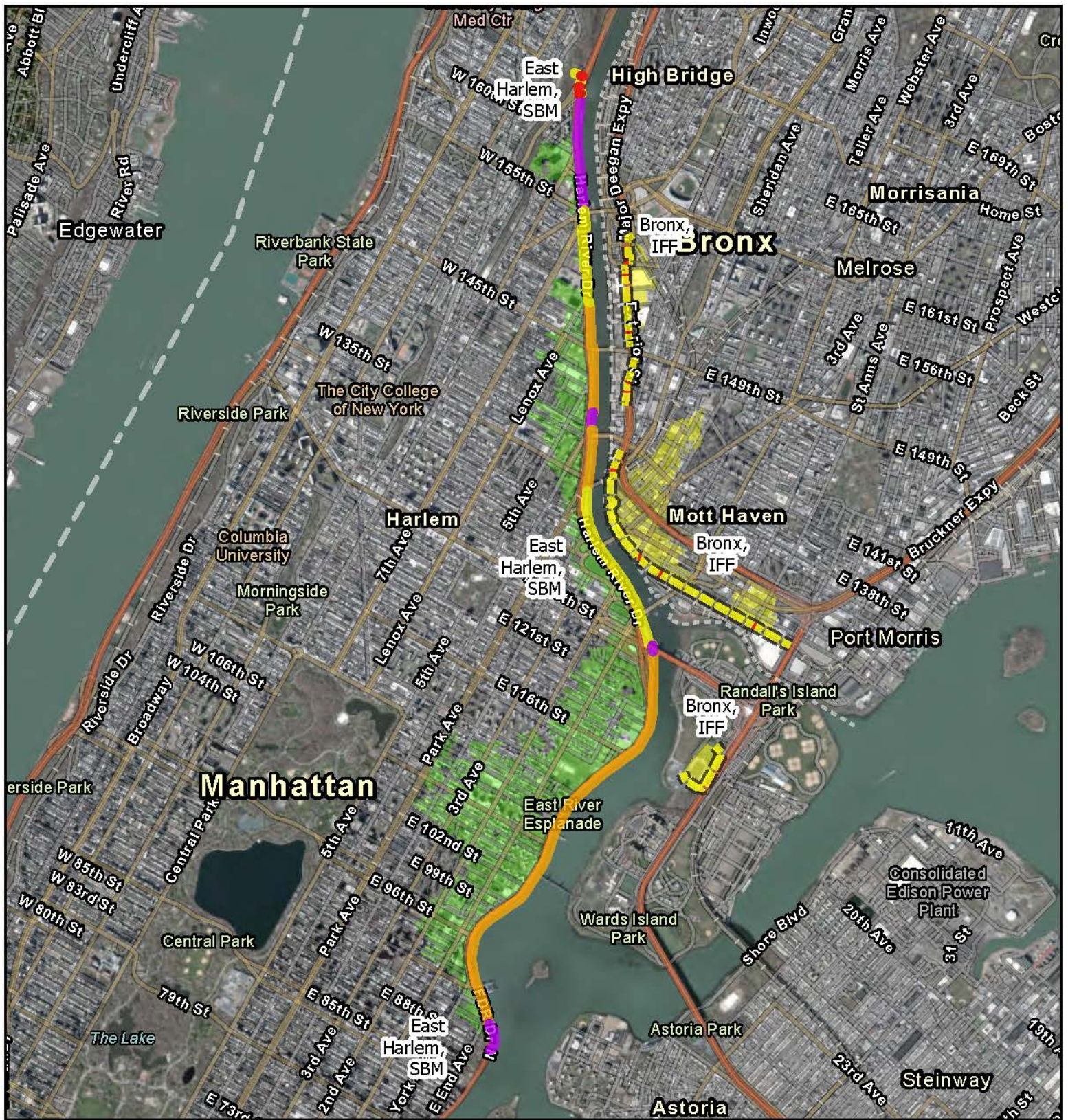
Feature Name: Arthur Kill & Kill Van Kull

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0 20000 Feet

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#### Legend

##### Alt3b Features/Measures

- SBM, Deployable Flood Barrier
- SBM, Elevated Promenade
- SBM, Floodwall
- SBM, Seawall

- IFF, Deployable Flood Barrier
- IFF, Floodwall

##### Alt3b Reduced Risk Areas

- SSB/SBM Reduced Risk Areas
- IFF Reduced Risk Areas

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#### Alternative 3B - SSB/SBMs

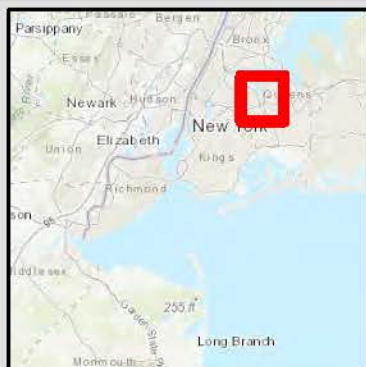
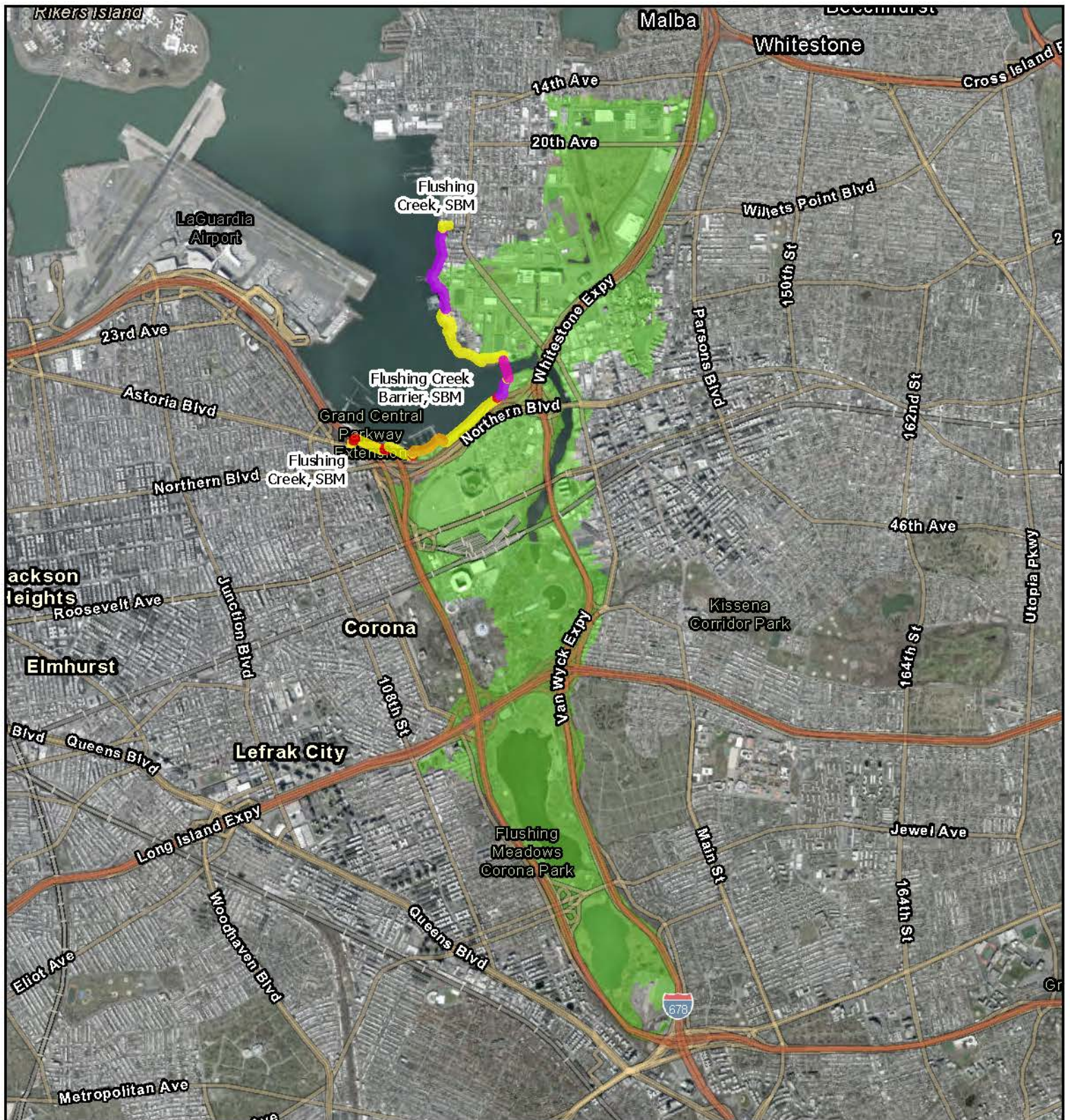
Feature Name: East Harlem SBM

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#### Legend

##### Alt3b Features/Measures

- SBM, Deployable Flood Barrier
- SBM, Elevated Promenade
- SBM, Floodwall
- SBM, Seawall
- SBM, Storm Surge Barrier

##### Alt3b Reduced Risk Areas

- SSB/SBM Reduced Risk Areas

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#### Alternative 3B - SSB/SBMs

Feature Name: Flushing Creek

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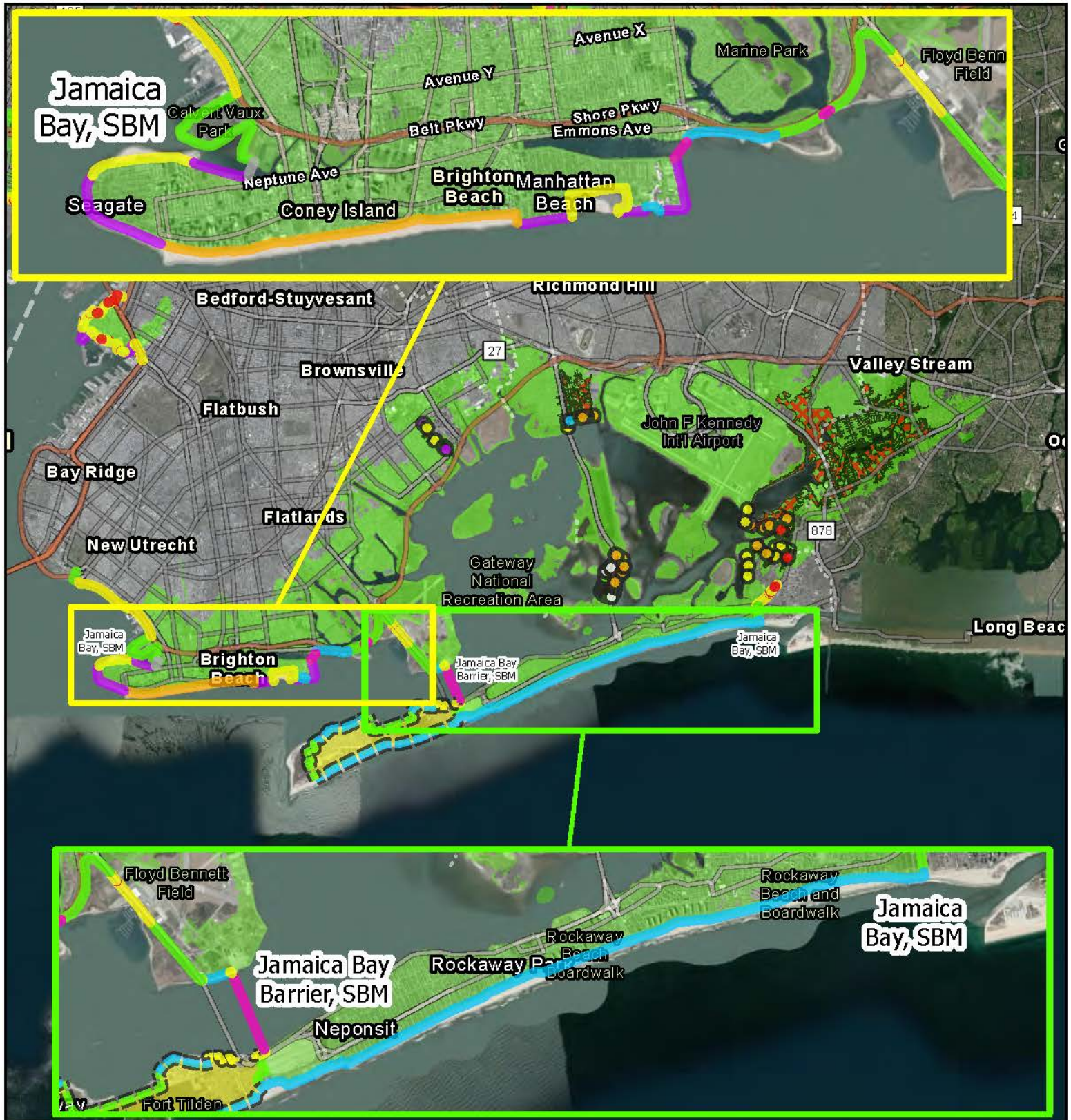


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Legend		
Alt3b Reduced Risk Areas	SBM, Reinforced Dune	RRF, Road Raising
SSB/SBM Reduced Risk Areas	SBM, Seawall	RRF, Tide Gate
RRF Reduced Risk Areas	SBM, Storm Surge Barrier	IFF, Deployable Flood Barrier
IFF Reduced Risk Areas	SBM, Tide Gate	IFF, Elevated Promenade
Alt3b Features/Measures	RRF, Berm	IFF, Floodwall
IFF_RRF_SBM, Feature	RRF, Bulkhead	IFF, Levee
SBM, Deployable Flood Barrier	RRF, Deployable Flood Barrier	IFF, Reinforced Dune
SBM, Elevated Promenade	RRF, Floodwall	IFF, Seawall
SBM, Floodwall	RRF, Navigable Gate	IFF, Storm Surge Barrier
SBM, Levee	RRF, Revetment	IFF, Tide Gate

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**Alternative 3B - SSB/SBMs**

Feature Name: Jamaica Bay

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0 10000 Feet

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#### Legend

##### Alt3b Features/Measures

- SBM, Deployable Flood Barrier
- SBM, Elevated Promenade
- SBM, Floodwall
- SBM, Levee

— SBM, Seawall

○ RRF, Floodwall

##### Alt3b Reduced Risk Areas

- SSB/SBM Reduced Risk Areas
- ✕ RRF Reduced Risk Areas

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##### Alternative 3B - SSB/SBMs

Feature Name: New Jersey along  
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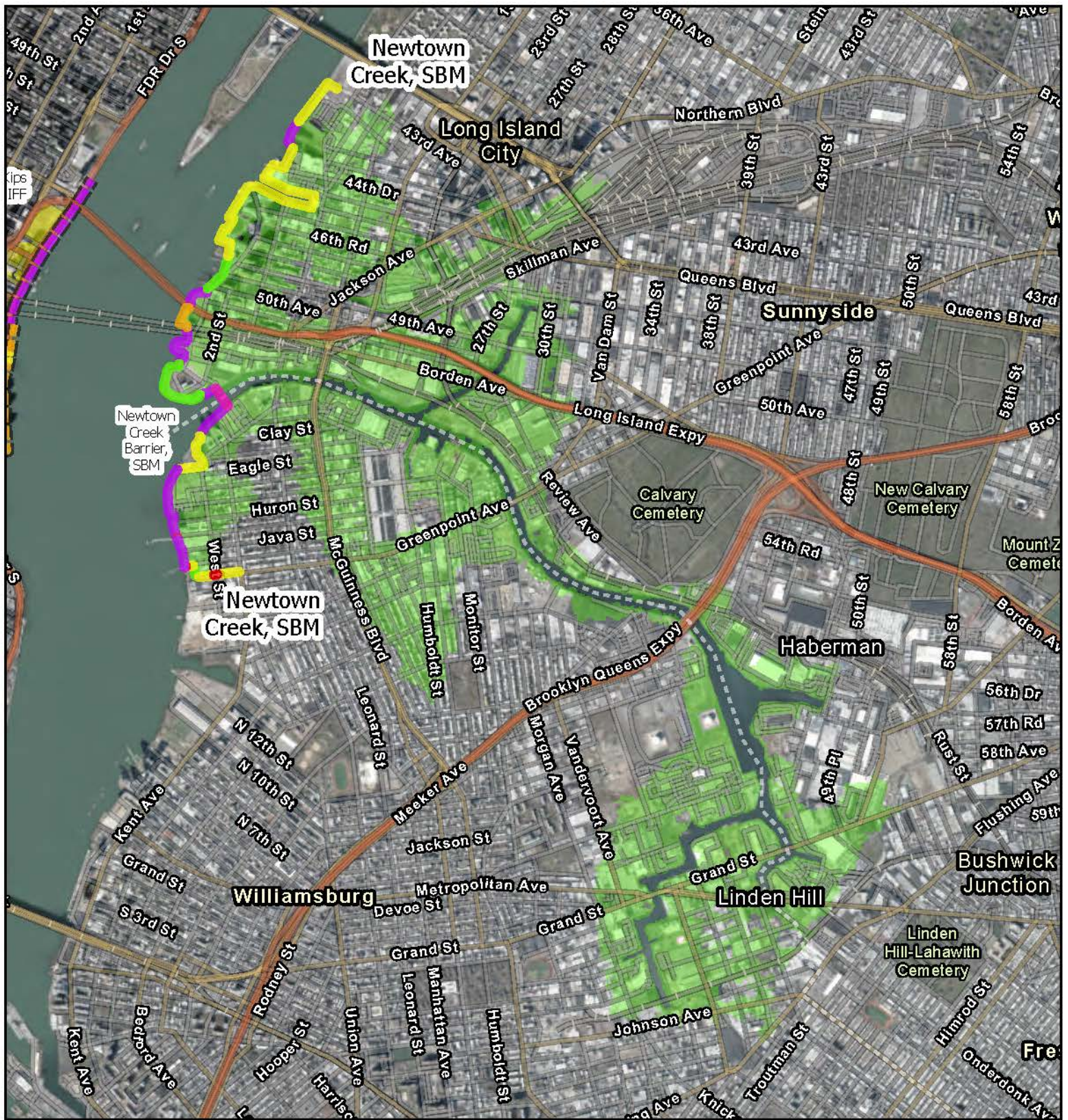


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#### Legend

##### Alt3b Features/Measures

- SBM, Deployable Flood Barrier
- SBM, Elevated Promenade
- SBM, Floodwall
- SBM, Levee
- SBM, Seawall
- SBM, Storm Surge Barrier

- IFF, Elevated Promenade
- IFF, Floodwall
- IFF, Seawall

##### Alt3b Reduced Risk Areas

- SSB/SBM Reduced Risk Areas
- IFF Reduced Risk Areas

#### NEW YORK - NEW JERSEY HARBOR & TRIBUTARIES STUDY

#### Alternative 3B - SSB/SBMs

Feature Name: Newtown Creek

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0 2000 Feet



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#### Legend

##### Alt3b Features/Measures

- SBM, Floodwall
- SBM, Levee
- SBM, Reinforced Dune
- SBM, Seawall
- SBM, Storm Surge Barrier
- IFF, Deployable Flood Barrier

- IFF, Floodwall
- IFF, Levee
- IFF, Reinforced Dune

##### Alt3b Reduced Risk Areas

- SSB/SBM Reduced Risk Areas
- IFF Reduced Risk Areas

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##### Alternative 3B - IFFs

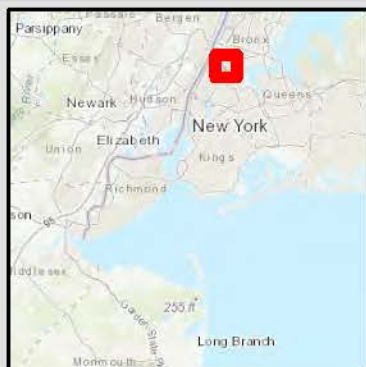
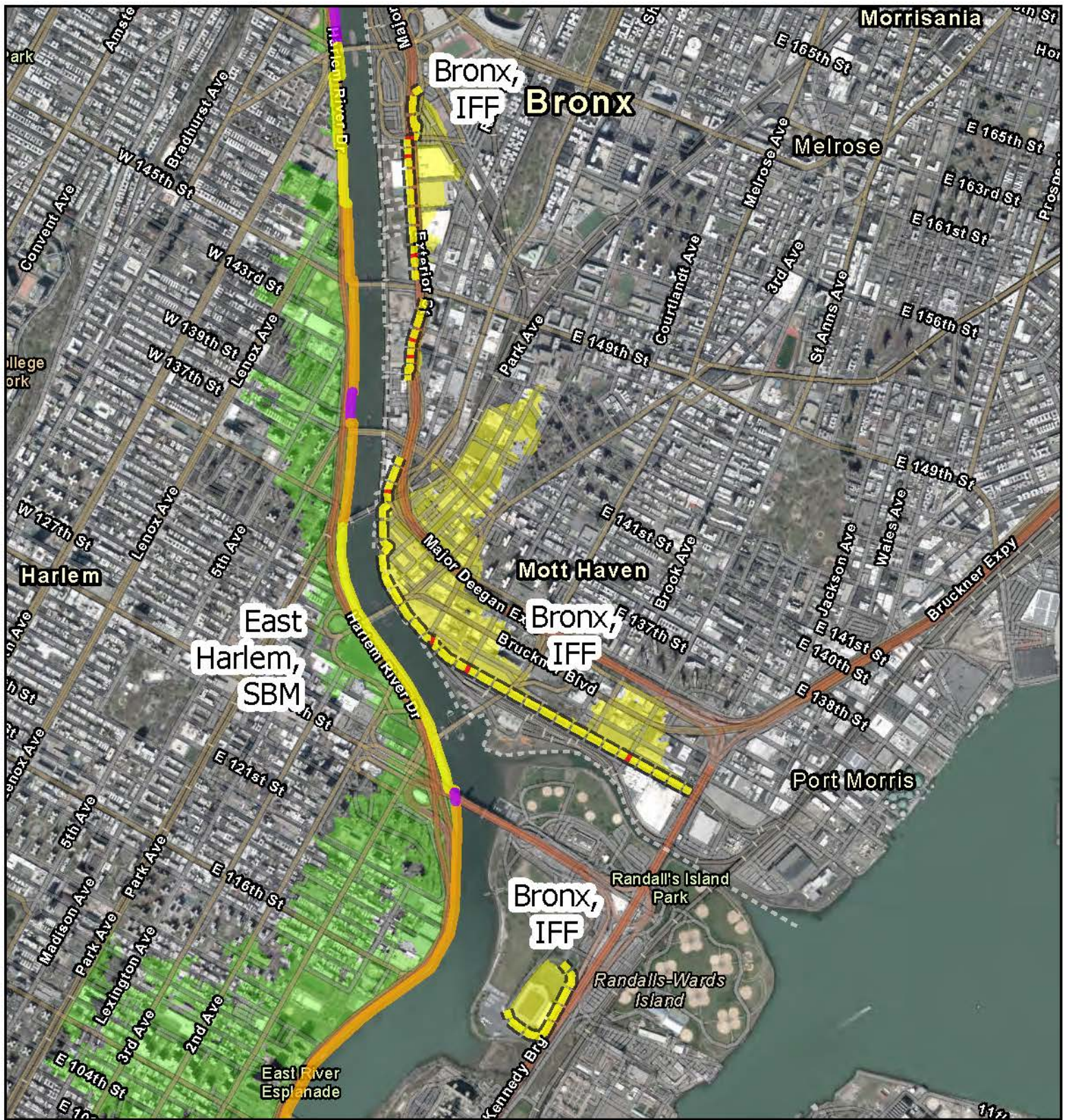
Feature Name: Breezy Point  
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0 2000 Feet



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#### Legend

Alt3b Features/Measures

SBM, Elevated Promenade

SBM, Floodwall

SBM, Seawall

IFF, Deployable Flood Barrier

IFF, Floodwall

Alt3b Reduced Risk Areas

SSB/SBM Reduced Risk Areas

IFF Reduced Risk Areas

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#### Alternative 3B - IFFs

Feature Name: Bronx

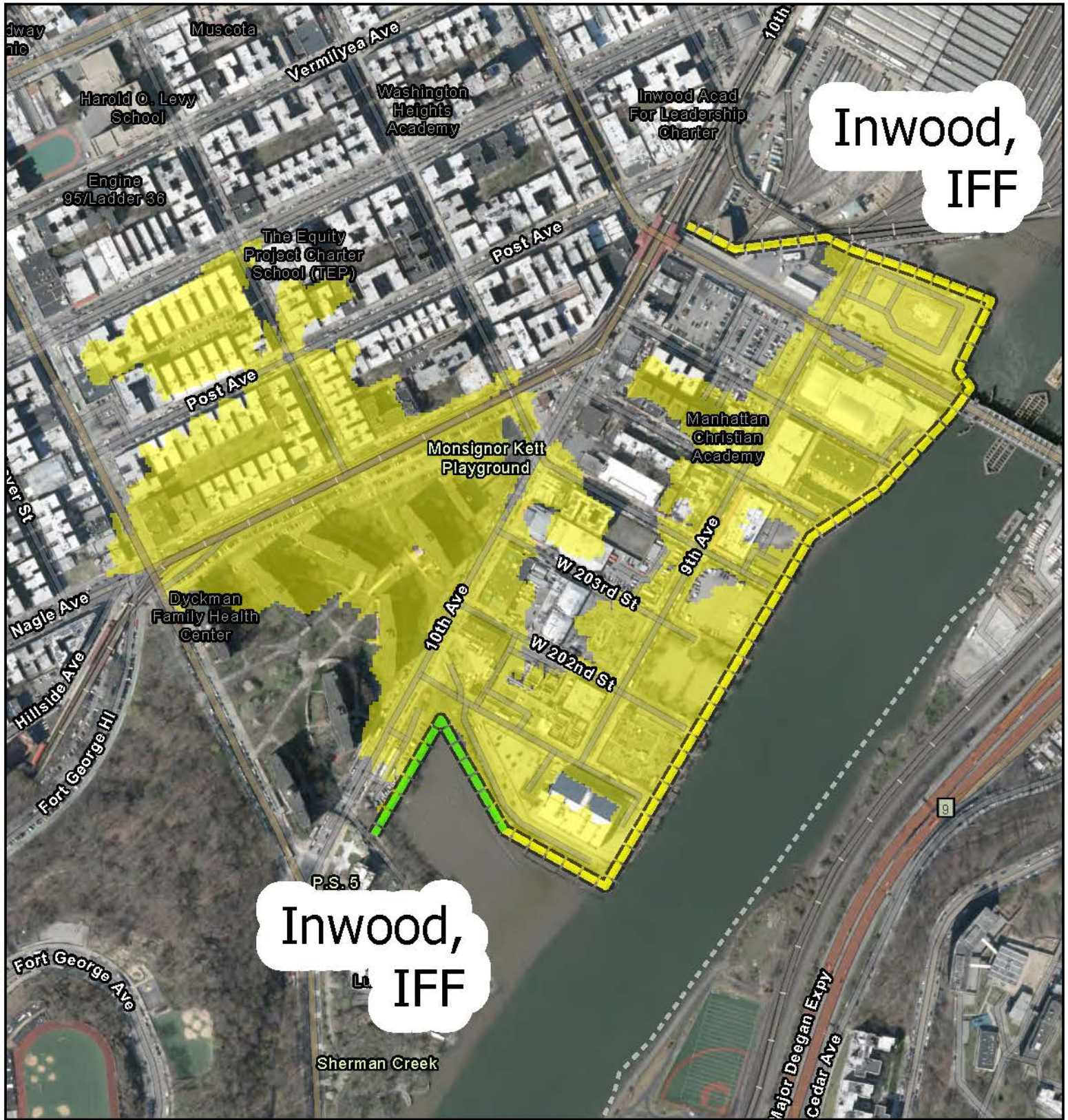
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0 2000 Feet



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## Legend

### Alt3b Features/Measures

--- IFF, Floodwall

--- IFF, Levee

Yellow Area IFF Reduced Risk Areas

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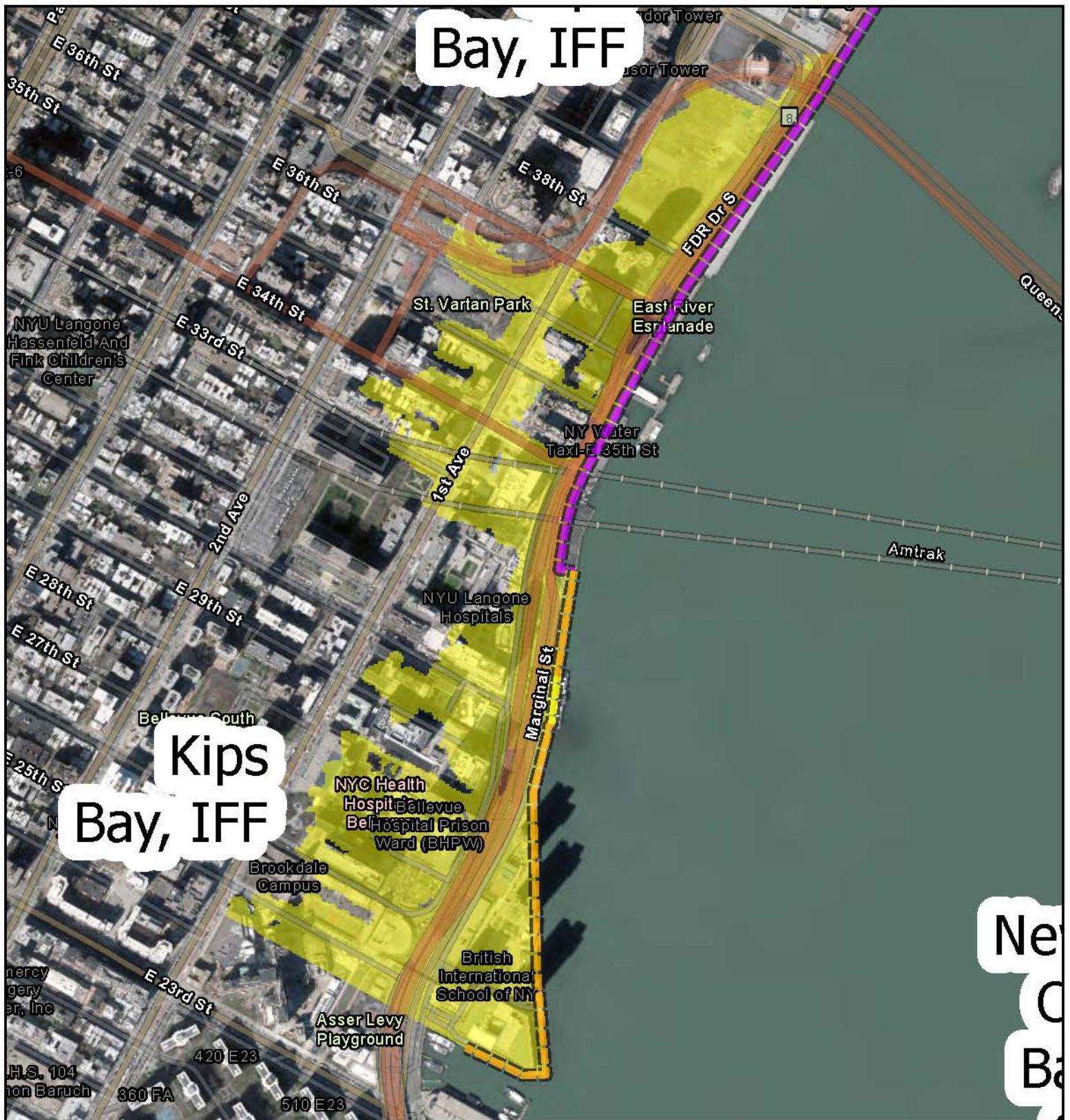
### Alternative 3B - IFFs

Feature Name: Inwood  
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### Legend

#### Alt3b Features/Measures

- IFF, Elevated Promenade
- IFF, Floodwall
- IFF, Seawall
- IFF Reduced Risk Areas

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#### Alternative 3B - IFFs

Feature Name: Kips Bay  
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### Legend

#### Alt3b Features/Measures

● RRF, Floodwall

#### Alt3b Reduced Risk Areas

■ SSB/SBM Reduced Risk Areas

■ RRF Reduced Risk Areas

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#### Alternative 3B - RRFs

Feature Name: Arthur Kill  
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### Legend

#### Alt3b Features/Measures

- RRF, Berm
- RRF, Bulkhead
- RRF, Floodwall

#### Alt3b Reduced Risk Areas

- SSB/SBM Reduced Risk Areas
- RRF Reduced Risk Areas

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### Alternative 3B - RRFs

Feature Name: Bayswater Park  
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0 200 Feet



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### Legend

#### Alt3b Features/Measures

●● RRF, Floodwall

○○ RRF, Tide Gate

#### Alt3b Reduced Risk Areas

■ SSB/SBM Reduced Risk Areas

▨ RRF Reduced Risk Areas

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#### Alternative 3B - RRFs

Feature Name: Bergen Pt SI

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0 200 Feet



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### Legend

#### Alt3b Features/Measures

● RRF, Revetment

#### Alt3b Reduced Risk Areas

SSB/SBM Reduced Risk Areas

RRF Reduced Risk Areas

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#### Alternative 3B - RRFs

Feature Name: Bridge Street Bridge  
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0 200 Feet



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### Legend

#### Alt3b Features/Measures

● RRF, Berm

● RRF, Bulkhead

○ RRF, Road Raising

#### Alt3b Reduced Risk Areas

■ SSB/SBM Reduced Risk Areas

■ RRF Reduced Risk Areas

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#### Alternative 3B - RRFs

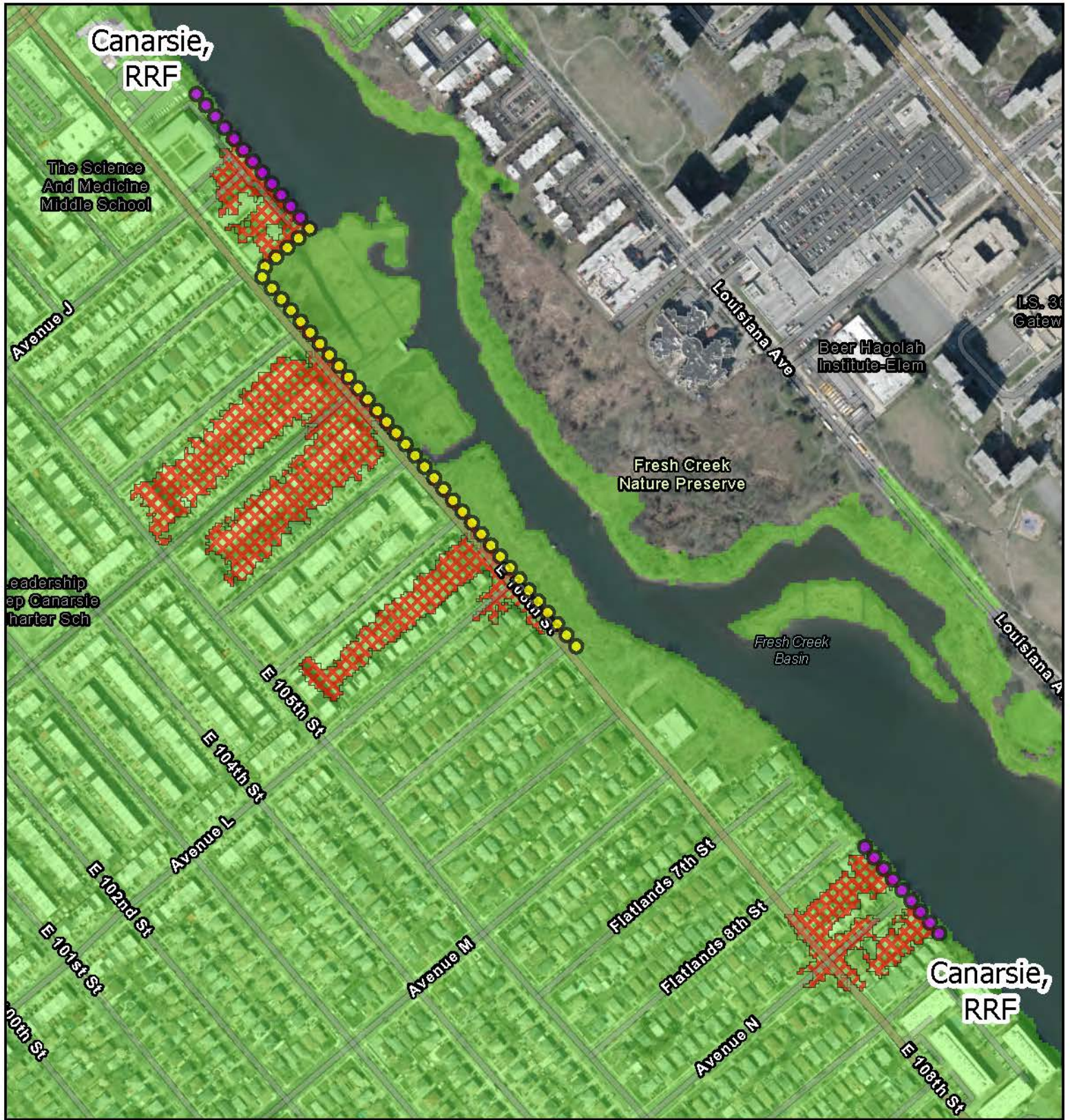
Feature Name: Broad Channel

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### Legend

#### Alt3b Features/Measures

● RRF, Floodwall

● RRF, Revetment

#### Alt3b Reduced Risk Areas

■ SSB/SBM Reduced Risk Areas

■ RRF Reduced Risk Areas

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#### Alternative 3B - RRFs

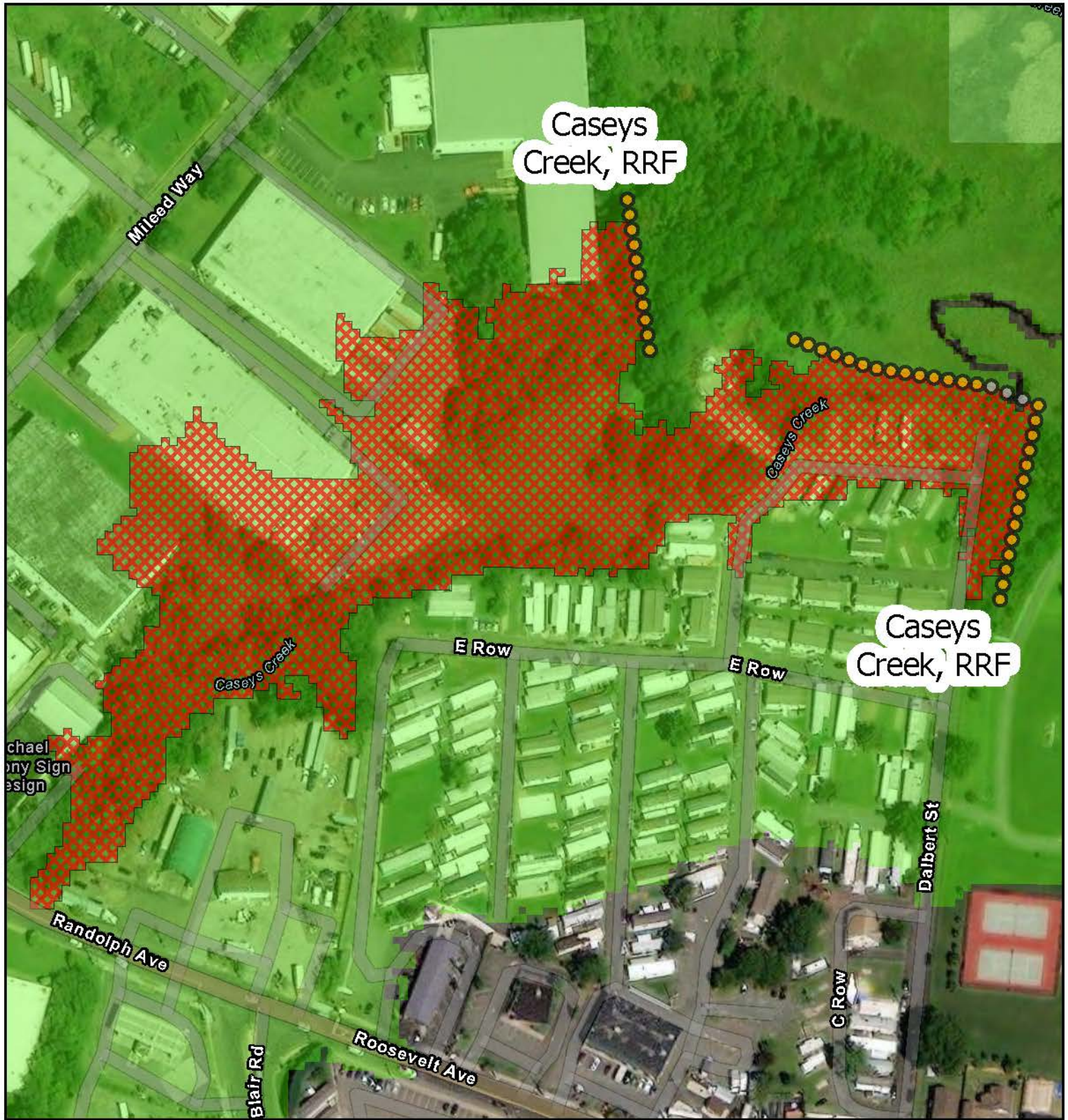
Feature Name: Canarsie

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### Legend

#### Alt3b Features/Measures

- RRF, Berm
- RRF, Tide Gate

#### Alt3b Reduced Risk Areas

- SSB/SBM Reduced Risk Areas
- RRF Reduced Risk Areas

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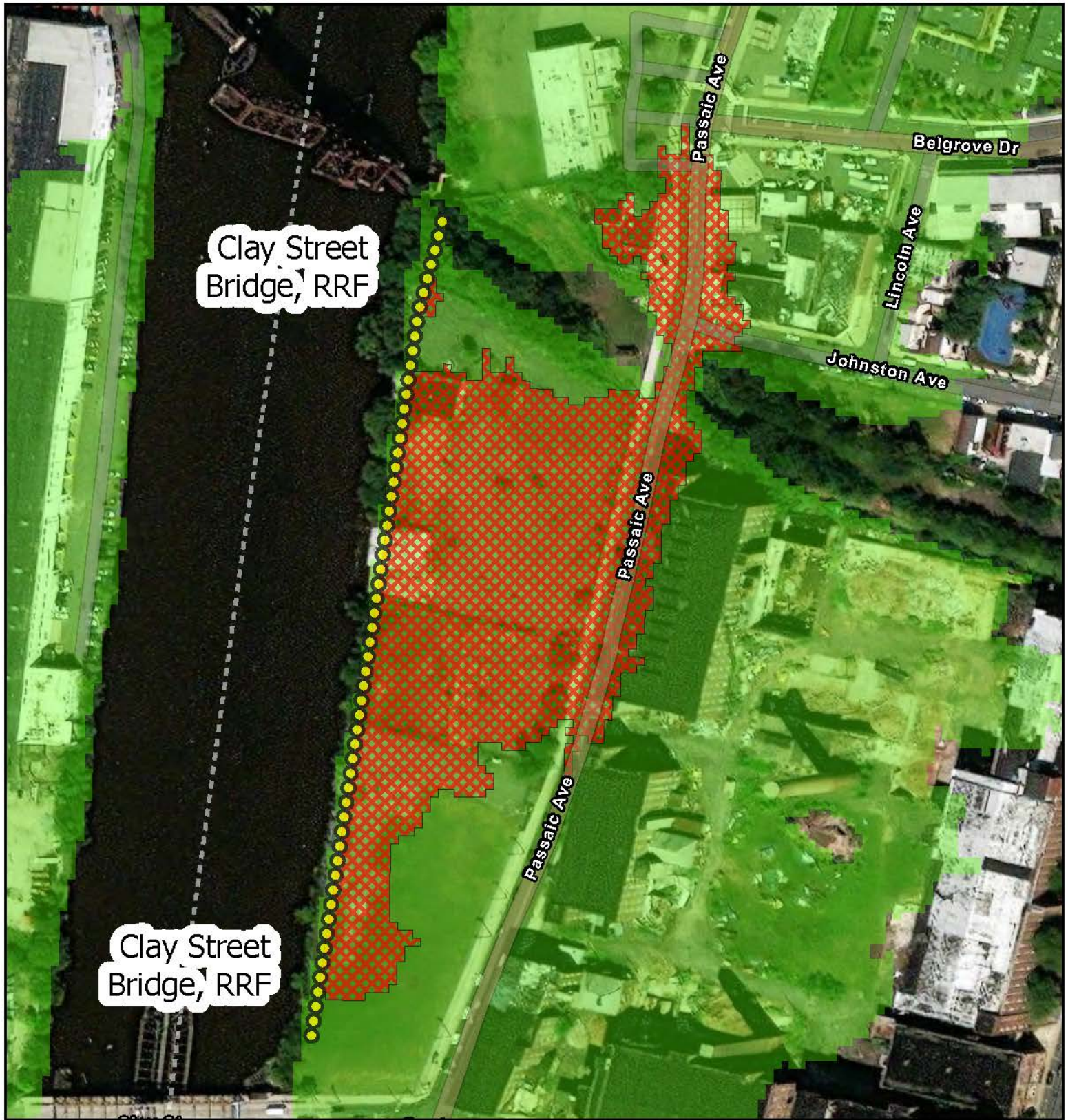
#### Alternative 3B - RRFs

Feature Name: Casey's Creek  
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### Legend

#### Alt3b Features/Measures

●● RRF, Floodwall

#### Alt3b Reduced Risk Areas

■ SSB/SBM Reduced Risk Areas

▨ RRF Reduced Risk Areas

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#### Alternative 3B - RRFs

Feature Name: Clay Street Bridge  
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### Legend

#### Alt3b Features/Measures

●● RRF, Floodwall

●● RRF, Revetment

#### Alt3b Reduced Risk Areas

■ SSB/SBM Reduced Risk Areas

▨ RRF Reduced Risk Areas

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#### Alternative 3B - RRFs

Feature Name: Dock Bridge

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