



RESILIENT NJ RESILIENT RARITAN RIVER AND BAY COMMUNITIES

APPENDIX I:

RESILIENT TRANSFORMATION OF CONTAMINATED SITES & BROWNFIELDS

August 12, 2022

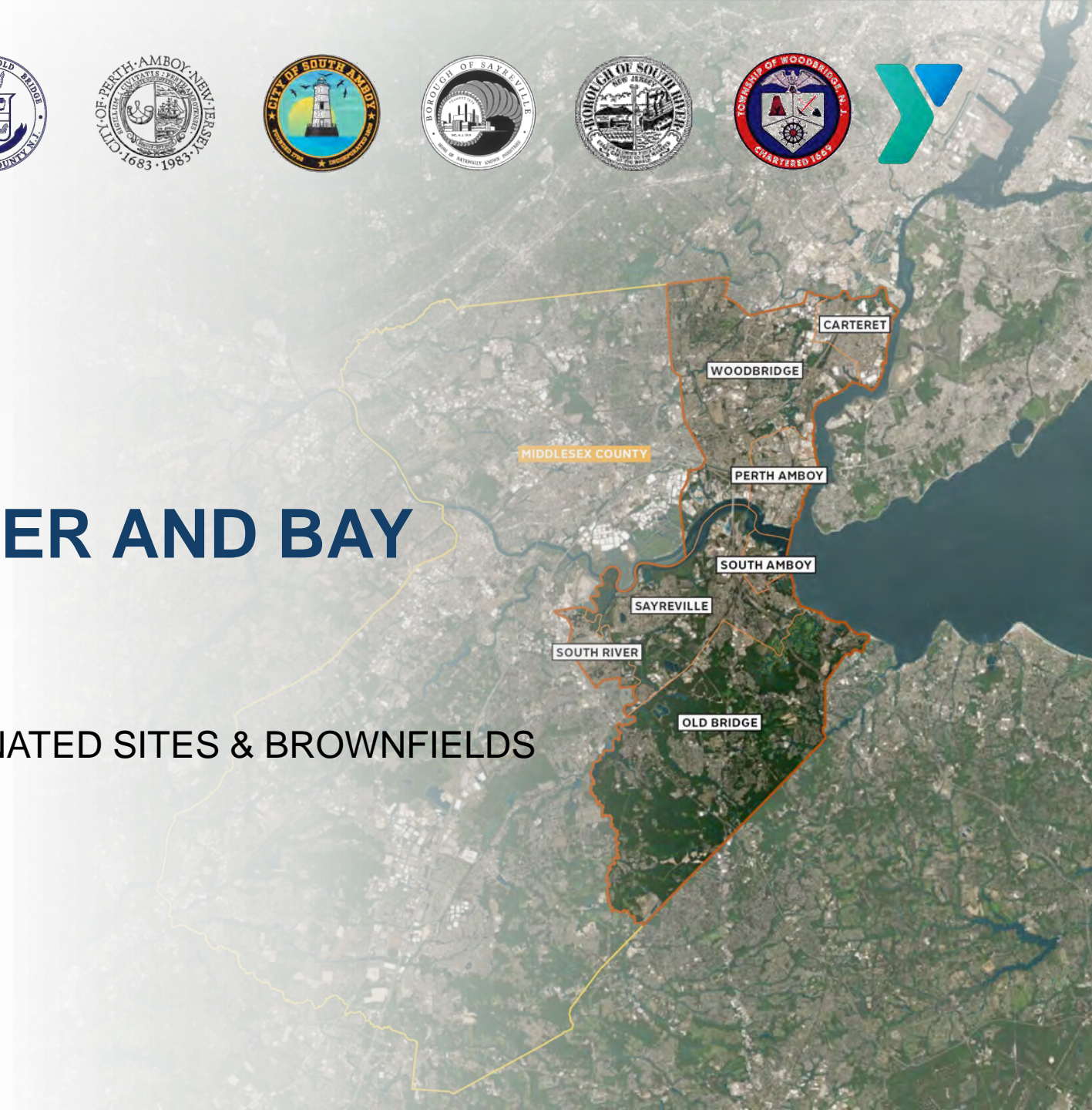


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WHAT DO WE WANT TO ACCOMPLISH UNDER RNJ AS IT RELATES TO CONTAMINATED SITES?

GOAL #1: IDENTIFY CONTAMINATED SITES AT HIGHEST CONCERN FROM A RESILIENCE PERSPECTIVE

GOAL #2: IDENTIFY REMEDIATED SITES WHERE RISK MAY REMAIN DUE TO A CHANGING CLIMATE CONTEXT (I.E., GROUNDWATER)

GOAL #3: CREATE A PIPELINE FOR RESILIENT TRANSFORMATION BY IDENTIFYING SITES AND GUIDELINES FOR:



POTENTIAL ACTION PLAN RECOMMENDATIONS

WHO?	NEAR TERM PRIORITIES	LONGER TERM ACTION ITEMS
STATE	<ul style="list-style-type: none"> Expand the brownfields inventory across the state, beyond CCI municipalities (which are the only municipalities included as of June 2022) Continue data improvements to Known Contaminated Site List and other state-managed databases to provide more complete information on resilience-related factors (e.g. expanding available information or accuracy on contaminant type and extents, remedial design type, site status). Continue improvements to keep the database up-to-date, and consider creating a process to incorporate local knowledge of sites into the database Coordinate and align state funding programs to accelerate resilient transformation of contaminated sites. Consider: <ul style="list-style-type: none"> Collaborating in the development of guidelines and requirements a site might follow to flow through the process Funding and supporting resilient transformation of high priority sites under RNJ banner 	<ul style="list-style-type: none"> Conduct a statewide climate-related risk assessment for contaminated and remediated sites to understand the magnitude of risk and make the potential case for further investment. As part of the assessment, consider including: <ul style="list-style-type: none"> A study of the impacts of climate-related hazards such as groundwater rise on risks posed by various types of site contamination Through continued engagement with appropriate program, advancement of the criteria developed and summarized herein for prioritization of sites for risk and opportunity, and application of the criteria to create a pipeline of sites prioritized for action Exploration of higher standards for contaminated sites to consider climate change impacts in remedial design
COUNTY	<ul style="list-style-type: none"> Support refinement of the prioritization methodologies presented herein and support municipalities in confirming high risk and high opportunity sites for action 	<ul style="list-style-type: none"> Support implementation by partnering on funding pursuits Support advocacy for increased funding and action to address resilience-related needs around contaminated sites
LOCAL	<ul style="list-style-type: none"> Support refinement of the prioritization methodologies presented herein and confirm high risk / opportunity sites Advance catalyst resilient transformation projects at high risk / opportunity publicly owned contaminated sites / brownfields 	<ul style="list-style-type: none"> Engage private property owners to explore partnership opportunities for resilient transformation of privately owned sites
YMCA / OTHER NGOS	<ul style="list-style-type: none"> Support documentation of impacts on people from the presence of contaminated sites to advocate for and inform statewide risk assessment 	<ul style="list-style-type: none"> Participate in partnerships to advance resilient transformation of sites Support advocacy for increased funding and action to address resilience-related needs around contaminated sites

METHODOLOGY

RISK METHODOLOGY

Definition: We are using “risk” to describe sites that are not yet remediated or have residual contaminants in place and are exposed to flooding. They **could* pose potential hazards to health or ecosystems due to impacts of climate change, based on the nature and extents of contamination. Risks could manifest through spreading of surface-level contamination in floodwaters, spreading of subsurface contamination with groundwater rise, or damage to engineered controls due to storms or other climate events

The methodology presented herein only applies to “un-remediated” sites, or sites that are “Pending” or “Active” (No Further Action or Response Action Outcome NOT yet issued), because insufficient data are available to classify sites that have been remediated (see hypothesis characterization for more detail).



Variables considered in risk prioritization:

- Flood exposure
- Community exposure
- Social vulnerability index
- Contaminant type

Information that could be valuable to understand risk but is not widely available across the known contaminated sites:

- Concentrations of contamination
- Extents of contamination (we have through deed notices and classification exception areas, but this is only applies to a portion of the sites and is only for sites further along in the remediation process)

**more research is needed in this field*

OPPORTUNITIES METHODOLOGY

Definition: We are using “opportunity” to describe sites that *may* be optimal for possible remediation and transformation into open space or economic / community assets based on a variety of factors such as proximity to residential areas or setting in areas lacking green space or areas ripe for economic development

Two categories of opportunity prioritization:



Open space, green space, general community benefits
(we are using green space as a shorthand for this category)

- Site status
- Flood exposure
- Community exposure
- Inclusion in the brownfields inventory
- *Social vulnerability index*
- *Distance from green space*
- *Redevelopment area*



Economic development

- Site status
- Flood exposure
- Community exposure
- Inclusion in the brownfields inventory
- *Presence in US Dept. of Treasury Opportunity Zone*
- *Presence in an Urban Enterprise Zone (UEZ)*

*Italics are factors that differ
between the two categories
of prioritization*

Information not factored into calculations but that can support prioritization qualitatively:

- Site ownership (public vs. private)
- Parcel size
- Site complexity (single-phase vs. multi-phase contamination – received feedback that this could go either way)
- Whether the site is an operational business or inactive (area for potential additional information needs)

DATASETS

Categorization uses the **Known Contaminated Site List** dataset, with information linked from:

- The [brownfields inventory](#)*
- Classification exception areas (**contaminants present**, CEA depth)
- Deed restriction areas (depth [vertical extent in feet of contamination found within the boundary], use of engineered cap & its thickness in feet, **contaminants present**)

Information on **contaminant type** is available through the classification exception area (CEA) and deed notice databases for ~300 of ~500 sites in the Known Contaminated Site List for this region. In the risk prioritization, a contaminant flag is applied to sites that have a known presence of the top 10 contaminants on the [Substance Priority List](#).

Site status is also determined from this dataset, with the following ranking applied:

Pending = 3 (**Earlier stage of planning**)

Active = 2

Active – RAP or Active – Post Rem = 1



*Brownfields inventory only applies to Perth Amboy as of May 2022

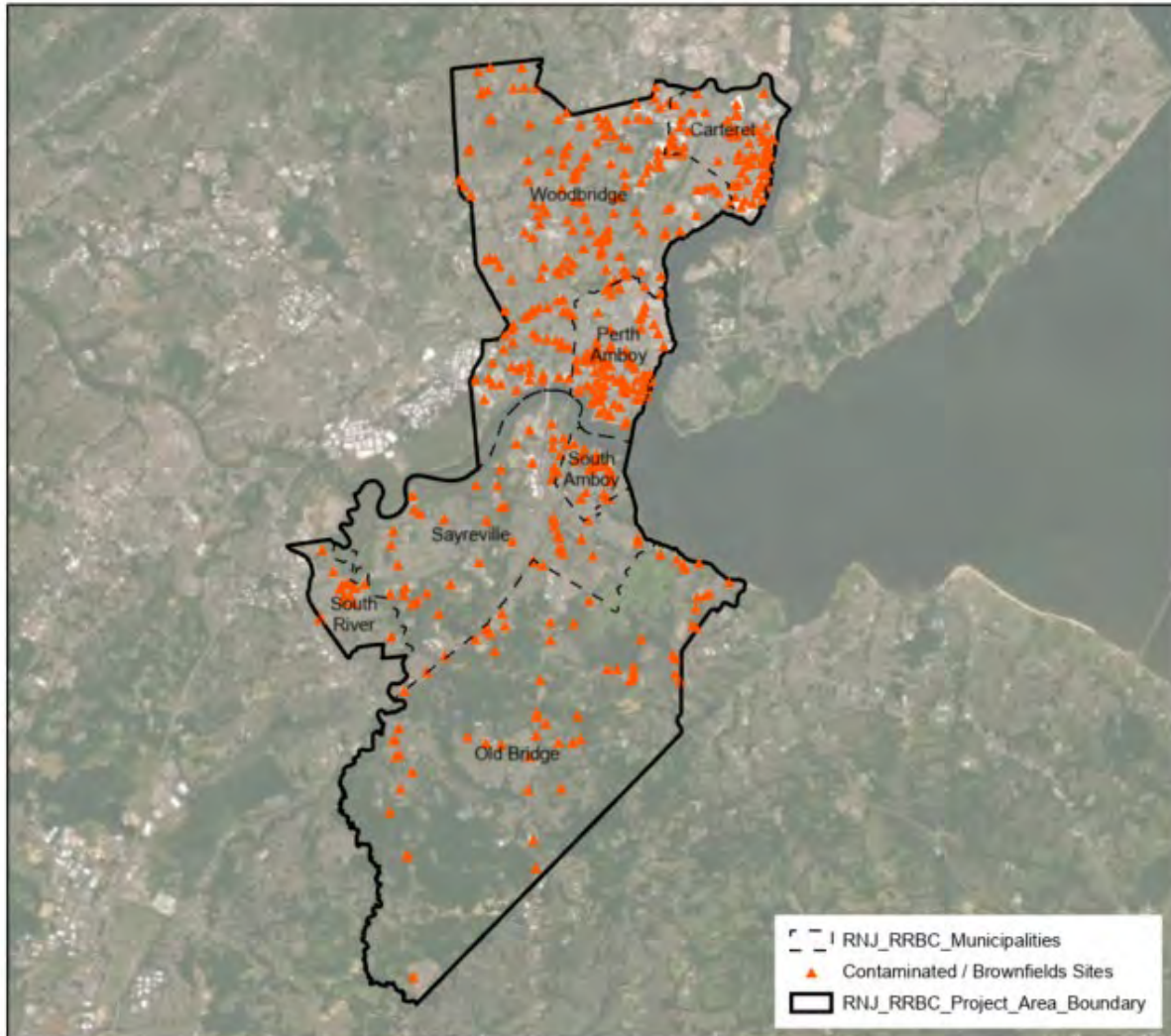
DATASETS, CONT'D

- **Existing green space:** to represent green space, we are using the NJDEP database [State, Local, and Nonprofit Open Space of New Jersey](#), with impervious surfaces removed (impervious surface data is [Middlesex County 2015 layer by NJDEP](#))
 - **Data processing:** Areas in proximity to green space were identified by applying a ¼ mile buffer to the green space dataset. Areas outside this buffer are considered to be lacking green space
- **Social vulnerability:** [CDC ATSDR social vulnerability index](#) at the census tract level (2018)
- **Redevelopment areas:** Redevelopment areas from the [state database](#) were combined with redevelopment area maps that were created in coordination with the municipalities for Resilient RRBC
- **Opportunity zones:** [Opportunity zones layer produced by HUD](#)
- **Urban Enterprise Zones:** [UEZ layer produced by NJ DCA](#)
- **Flood exposure:** see later slide
- **Community exposure:** see later slide

OTHER DATASETS THAT COULD BE INCORPORATED BUT HAVE NOT YET BEEN

- [NJ Overburdened Communities database](#) could be incorporated into risk and opportunity prioritization
- Gas stations, auto body shops & dry cleaners datasets (all available from NJDEP) could be incorporated into risk prioritization

CONTAMINATED SITES INVENTORY



Municipality	# Sites
Carteret Boro	70
Old Bridge Twp	63
Perth Amboy City	86
Sayreville Boro	54
South Amboy City	22
South River Boro	18
Woodbridge Twp	183
Total	496

The inventory consists of the Known Contaminated Sites List, with information linked from other datasets as listed previously

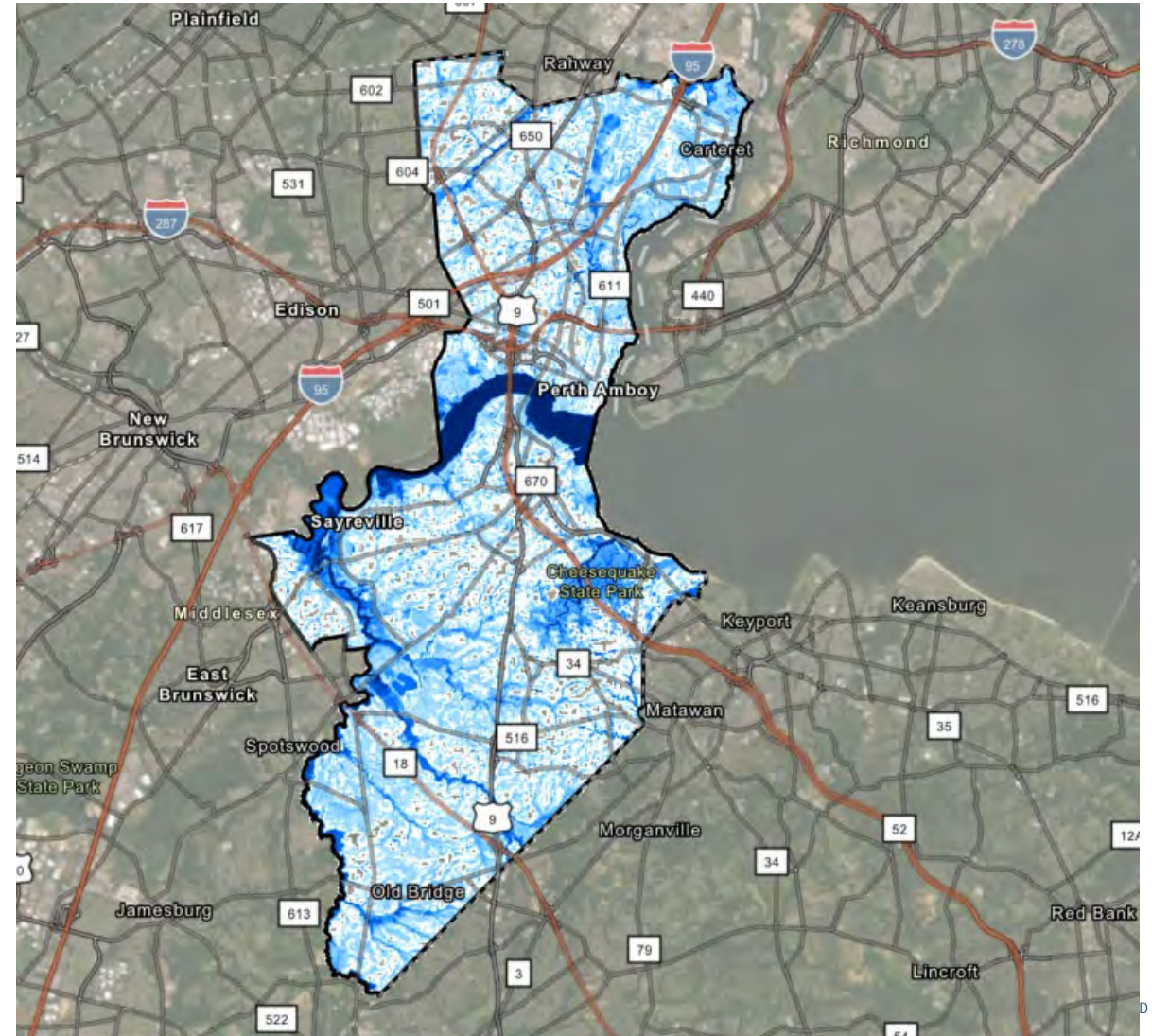
DATA: FLOOD EXPOSURE

ASSUMPTION: HIGHER EXPOSURE = HIGHER RISK

This methodology uses the 6 modeled flood scenarios that were created for the RNJ program. Flood exposure is scaled based on a composite raster layer that combines the 6 scenarios (includes current and future rainfall flooding, future tidal flooding, storm surge flooding).

The composite flood raster layer ranges in value from 0 to 120. The flood exposure value for each contaminated site is determined by averaging the value across the parcel or at the site's point location.

Darker blue is higher exposure



DATA: COMMUNITY EXPOSURE

ASSUMPTION: HIGHER EXPOSURE = HIGHER RISK AND HIGHER OPPORTUNITY



Population within a ½ mile of the site is used to represent community exposure using the below ranking:

- Population < 500 = 1
- Population >= 500, <1,000 = 2
- Population >=1,000, <1,500 = 3
- Population >=1,500 = 4 (higher population = higher community exposure)

Darker red is more population / greater community exposure of the sites in the inventory

CAVEATS

A NOTE ON DATA LIMITATIONS

The Known Contaminated Site List is the most extensive of the available datasets. The dataset overlaps with several others that are available, including chromate sites and brownfield development areas. Due to existing overlap and some inconsistencies, the layers were not merged, which means there may be some sites missing from the combined inventory.

*The Known Contaminated Site List has its own inherent limitations. For example, the database includes only **known** sites. There may be other sites with contamination that are not yet included in the list because they have not yet been documented through existing processes. The list is also highly fluid and is updated on NJDEP's website daily. See next slide for additional caveats.*

Additionally,

- This is based only on currently accessible and best available data for contaminated sites and other datasets
- Data may be out of date
- Data do not currently consider other economic, social, and environmental factors for decision making

DRAFT
PRIORITIZATION OF
UNREMEDiated SITE
RISK BASED ON BEST
AVAILABLE DATA

PRELIMINARY PRIORITIZED RISK INVENTORY

Darker red is higher risk.

Yellow highlights the top 10 listed on the next slide.

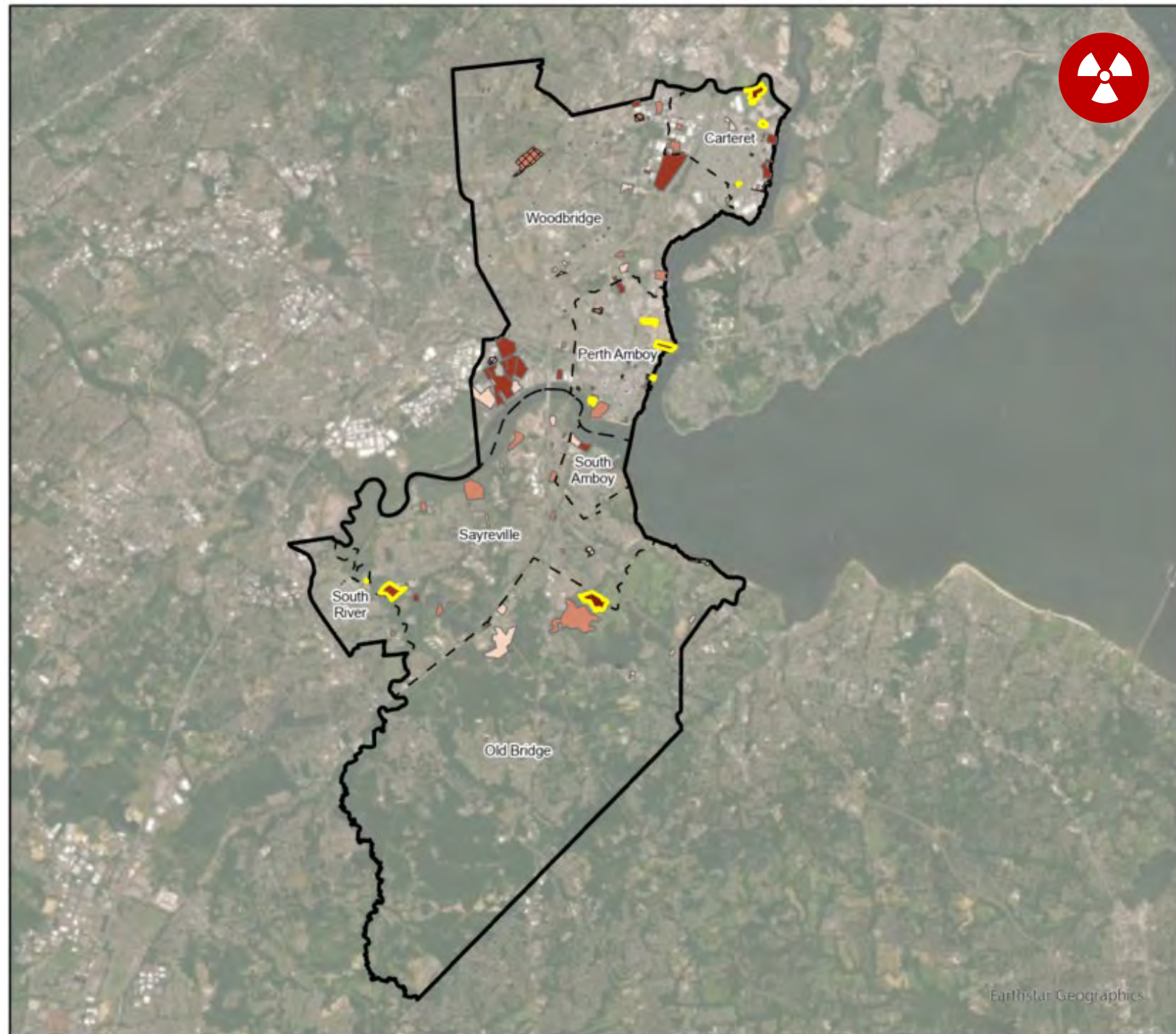
Hatched sites are publicly owned.

THE BASICS

The inventory includes ~500 contaminated sites and brownfields.

Information about contamination is available for ~300 of the sites

This prioritization only includes un-remediated sites (sites with status Pending or Active in the Known Contaminated Sites List)



HYPOTHESIS PRELIMINARY RISK CATEGORIZATION – UNREMEDIED SITES



TOP 10 SITES - REGIONWIDE

PI_NAME	ADDRESS	PI_NUMBER	MUNICIPALITY	POPULATION WITHIN 1/2 MILE	CONTAINS TOP CONTAMINANTS IN PRIORITY LIST?	FLOOD EXPOSURE	SVI	PARCEL AREA (AC)	PUBLICLY OWNED?	RISK SCORE (4 is max possible)
DUANE MARINE FORMER	26 WASHINGTON ST	G000003106	Perth Amboy City	642	Yes	29.35071	0.90	2.82		2.64
CAMELOT @ CARTERET PARCEL F	88 ROOSEVELT AVE	743616	Carteret Boro	677	Yes	15.53547	0.77	1.70		2.40
RAHWAY ARCH PROPERTIES	300 SALT MEADOW RD	G000007844	Carteret Boro	112	Yes	24.47818	0.89	45.02		2.34
CORNUCOPIA CRUISE LINES INC	401 RIVERVIEW DR	650859	Perth Amboy City	423	Yes	12.41979	0.95	7.06		2.30
PROFESSIONAL CHEMICALS INCORPORATED*	BROWNS LN	G000009337	South River Boro	338	Yes	28.78367	0.77	0.73		2.26
E PORT PERTH AMBOY REDEVELOPMENT	960 980 1000 HIGH ST	264235	Perth Amboy City	180	Yes	10.80444	0.90	14.47		2.24
KINDER MORGAN LIQUIDS TERMINAL LLC	920 HIGH ST	588364	Perth Amboy City	192	Yes	10.75579	0.90	29.83		2.24
GLOBAL SANITARY LANDFILL	ERNSTON RD	G000003352	Old Bridge Twp	335	Yes	30.8434	0.70	72.12		2.20
KINDER MORGAN LIQUIDS TERMINALS	99 LAFAYETTE ST	G000004646	Carteret Boro	139	Yes	6.444486	0.89	8.76		2.19
VIKING TERMINAL COMPANY	JERNEES MILL RD	G000008610	Sayreville Boro	171	Yes	26.0885	0.69	56.43		2.15

*The Professional Chemicals Incorporated site is currently owned by an operating paving company. Remediation is ongoing as of July 2022 as per the Borough of South River.

**DRAFT OPPORTUNITIES
PRIORITIZATION BASED
ON BEST AVAILABLE
DATA**

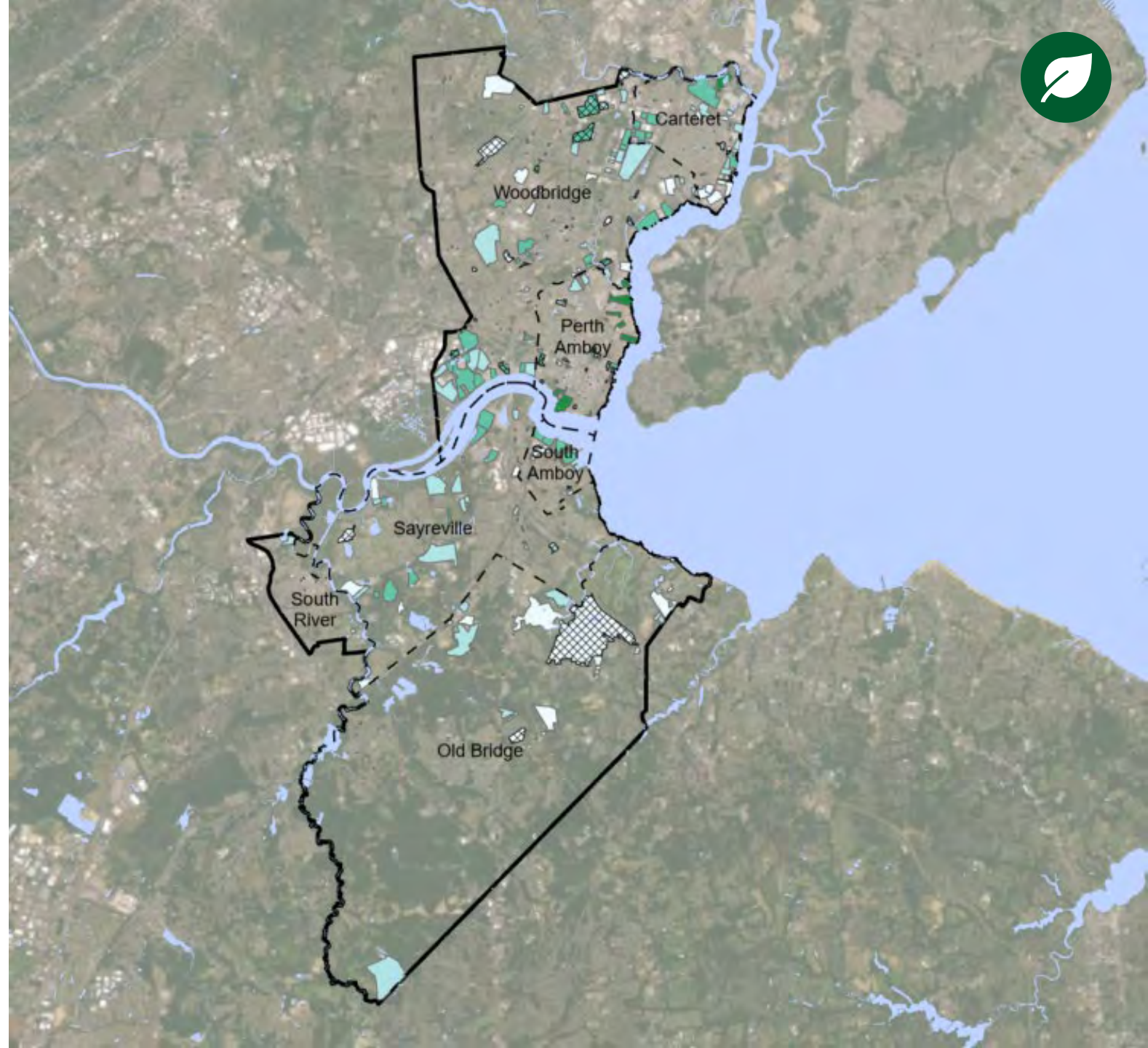
PRELIMINARY PRIORITIZED INVENTORY - GENERAL

Darker green is higher opportunity for
GENERAL RESILIENCE.

Hatched sites are publicly owned.

THE BASICS

The inventory includes ~500
contaminated sites and brownfields.



HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY - GENERAL



TOP 10 SITES – REGIONWIDE (ALL ARE PERTH AMBOY)

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWNFIELD?	SVI	GREEN SPACE PROXIMITY	WITHIN REDEVELOPMENT AREA?	PARCEL AREA (AC)	PUBLICLY OWNED?	GENERAL RESILIENCE OPP SCORE (7 is max possible)
PERTH AMBOY MUNICIPAL COMPLEX	HIGH ST & FAYETTE ST	13604	Perth Amboy City	Active	3.435986	1097		10.90	Far	Yes	0.62	Public property	5.34
VICTORY CENTER LLC	PATERSON ST	643058	Perth Amboy City	Active	7.979175	510		10.95	Far	Yes	6.60		5.18
VOPAK TERMINAL PERTH AMBOY	1 STATE ST	3927	Perth Amboy City	Active	9.23997	107		10.90	Far	Yes	13.76		4.89
ASARCO INC PERTH AMBOY	1160 STATE ST	3619	Perth Amboy City	Active	0	247		10.90	Far	Yes	2.42		4.81
MELS CLOTHING APPAREL	199 227 SHERIDAN ST	208870	Perth Amboy City	Active	72.47273	634		00.95	Far	Yes	2.17		4.72
LANDINGS AT HARBORSIDE LLC	385 RECTOR ST	252322	Perth Amboy City	Active	10.34466	1072		10.90	Near	Yes	0.64		4.40
GILLAND PROPERTY	FRONT & COMMERCE STS	G000041060	Perth Amboy City	Active	35.21739	987		10.90	Near	Yes	1.24		4.36
244 NEW BRUNSWICK AVENUE	244 NEW BRUNSWICK AVE	708051	Perth Amboy City	Active	5	1325		10.90	Far	No	1.46	Public school property	4.36
500 MARKET ASSOC	500 MARKET ST	25545	Perth Amboy City	Active	15	666		00.95	Far	Yes			4.24
CO STEEL RARITAN	225 ELM ST	23002	Perth Amboy City	Active	15	655		00.95	Far	Yes	53.84		4.24



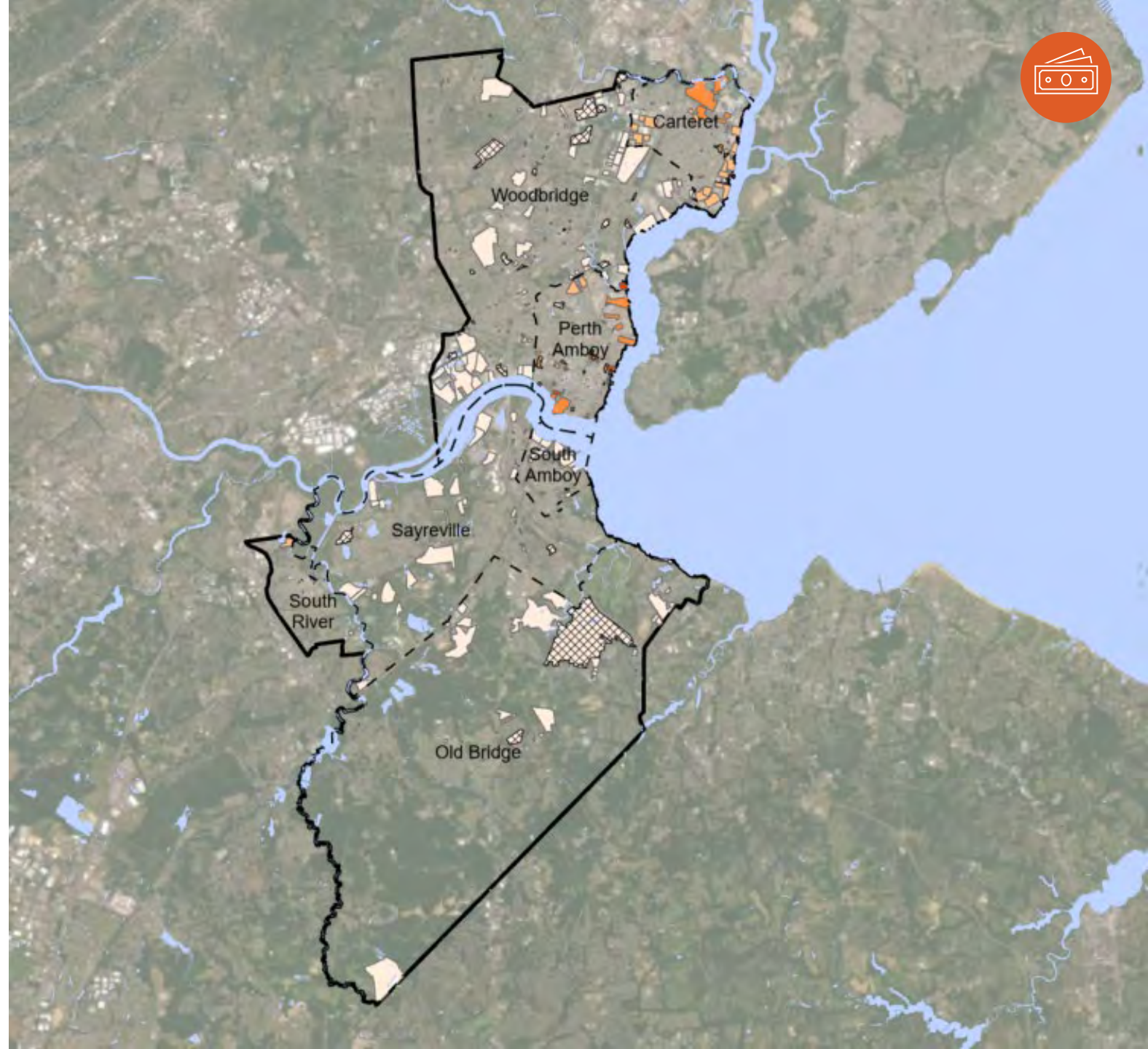
PRELIMINARY PRIORITIZED INVENTORY - ECONOMIC

Darker orange is higher ECONOMIC opportunity.

Hatched sites are publicly owned.

THE BASICS

The inventory includes ~500 contaminated sites and brownfields.



HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY - ECONOMIC



TOP 10 SITES – REGIONWIDE (ALL ARE PERTH AMBOY)

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWN FIELD?	WITHIN UEZ?	WITHIN OPPORTUNITY ZONE?	PARCEL AREA (AC)	PUBLICLY OWNED?	ECONOMIC OPP SCORE (6 is max possible)
LANDINGS AT HARBORSIDE LLC	385 RECTOR ST	252322	Perth Amboy City	Active	10.34466	1072	1	Yes	Yes	0.64		4.50
GILLAND PROPERTY 244 NEW BRUNSWICK AVENUE	FRONT & COMMERCE STS 244 NEW BRUNSWICK AVENUE	G000041060	Perth Amboy City	Active	35.21739	987	1	Yes	Yes	1.24		4.46
TRI STATE SHIP REPAIR & DRY DOCK CORP FORMER	244 NEW BRUNSWICK AVE 390 FRONT ST	708051	Perth Amboy City	Active	5	1325	1	Yes	Yes	1.46	Public school property	4.46
		25320	Perth Amboy City	Active	15.09854	905	1	Yes	Yes	0.56		4.29
500 HIGH STREET	500 HIGH ST	G000003461	Perth Amboy City	Active	14.19718	811	1	Yes	Yes	0.41		4.28
PERTH AMBOY COAL & OIL CO INC	900 STATE ST	10567	Perth Amboy City	Active	13.7092	596	1	Yes	Yes	1.56		4.28
VICTORY CENTER LLC	PATERSON ST	643058	Perth Amboy City	Active	7.979175	510	1	Yes	Yes	6.60		4.23
DYNAMIC PAINTING CORPORATION	1019 STATE ST	G000011152	Perth Amboy City	Active	20	350	1	Yes	Yes	0.06		4.08
VOPAK TERMINAL PERTH AMBOY	1 STATE ST	3927	Perth Amboy City	Active	9.23997	107	1	Yes	Yes	13.76		3.99
VIRA INSIGHT LLC	1 BUCKINGHAM AVE	G000000322	Perth Amboy City	Active - RAP	12.41443	611	1	Yes	Yes	7.33		3.94

APPENDICES

**A: PRELIMINARY
PRIORITIZATIONS BY
CATEGORY, BY MUNICIPALITY
(BASED ON BEST AVAILABLE
DATA)**

UNREMEDIATED SITE RISK

HYPOTHESIS PRELIMINARY RISK CATEGORIZATION – UNREMEDiated SITES



TOP 10 SITES – CARTERET

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	POPULATION WITHIN 1/2 MILE	CONTAINS TOP CONTAMINANTS IN PRIORITY LIST?	FLOOD EXPOSURE	SVI	PARCEL AREA (AC)	PUBLICLY OWNED?	RISK SCORE (4 is max possible)
CAMELOT @ CARTERET PARCEL F	88 ROOSEVELT AVE	743616	Carteret Boro	677	Yes	15.53547	0.77	1.70		2.40
RAHWAY ARCH PROPERTIES	300 SALT MEADOW RD	G000007844	Carteret Boro	112	Yes	24.47818	0.89	45.02		2.34
KINDER MORGAN LIQUIDS TERMINALS	99 LAFAYETTE ST	G000004646	Carteret Boro	139	Yes	6.444486	0.89	8.76		2.19
FORMER WHITE CASTLE BAKERY	110 RASKULINECZ RD	593244	Carteret Boro	245	Yes	6.303922	0.75	3.43		2.06
351 ROOSEVELT AVE	351 ROOSEVELT AVE	G000035194	Carteret Boro	173	Yes	15.45943	0.50	5.28		1.88
KINDER MORGAN LIQUID TERMINALS LLC	78 LAFAYETTE ST	238937	Carteret Boro	145	Yes	12.53184	0.50	20.55		1.86
AGRICO CHEMICAL COMPANY	OFF ROOSEVELT AVE	G000004565	Carteret Boro	119	Yes	11.2526	0.50	28.88		1.85
MAGRUDER COLOR CO	48 LEFFERT ST	248832	Carteret Boro	264	Yes	8.870648	0.50	1.75		1.83
SGS NORTH AMERICA INC	20 LAFAYETTE ST	207849	Carteret Boro	332	Yes		0.50	0.56		1.75
NOE STREET POND PROPERTIES	13 17 19 NOE ST	749237	Carteret Boro	650		29.01113	0.89	1.46	Public property	1.63

HYPOTHESIS PRELIMINARY RISK CATEGORIZATION – UNREMEDiated SITES



TOP 10 SITES – OLD BRIDGE

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	POPULATION WITHIN 1/2 MILE	CONTAINS TOP CONTAMINANTS IN PRIORITY LIST?	FLOOD EXPOSURE	SVI	PARCEL AREA (AC)	PUBLICLY OWNED?	RISK SCORE (4 is max possible)
GLOBAL SANITARY LANDFILL	ERNSTON RD	G000003352	Old Bridge Twp	335	Yes	30.84	340.70	72.12		2.20
EVOR PHILLIPS LEASING COMPANY	3336 BORDENTOWN AVE	G000004877	Old Bridge Twp	22	Yes	22.70	3420.29	5.73		1.73
NAPPI TRUCKING CORP NORTHERN PARCEL	528 MORRISTOWN RD	3916	Old Bridge Twp	111		52.35	940.56	18.38		1.24
SOMMERS LANDFILL	CHEESEQUAKE RD & RTES 9 & 34	G000008820	Old Bridge Twp	223		26.07	4240.70	234.27		1.16
29 ELLEN HEATH DRIVE	29 ELLEN HEATH DR	G000024347	Old Bridge Twp	89		36.93	6170.56	5.02		1.11
STRATFORD APARTMENTS	RTE 9 N	19075	Old Bridge Twp	106		15.09	7020.67	22.74		1.05
CHEESEQUAKE STATE PARK	300 GORDON RD	3804	Old Bridge Twp	48		29.11	8450.56	811.73	Public property	1.05
OLD BRIDGE TWP PUBLIC WORKS GARAGE	1 OLD BRIDGE PLZA	11531	Old Bridge Twp	158		11.59	7930.67	39.66	Public property	1.02
BP	2401 RT 9 N	21927	Old Bridge Twp	319		9.43	07690.67	0.66		1.00
RARITAN MARINA LLC	1707 HWY 35 S	2946	Old Bridge Twp	77		50.18	8210.32	3.88		0.99

HYPOTHESIS PRELIMINARY RISK CATEGORIZATION – UNREMEDIED SITES



TOP 10 SITES – PERTH AMBOY

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	POPULATION WITHIN 1/2 MILE	CONTAINS TOP CONTAMINANTS IN PRIORITY LIST?	FLOOD EXPOSURE	SVI	PARCEL AREA (AC)	PUBLICLY OWNED?	RISK SCORE (4 is max possible)
DUANE MARINE FORMER	26 WASHINGTON ST	G000003106	Perth Amboy City	642	Yes	29.3507	10.90	2.82		2.64
CORNUCOPIA CRUISE LINES INC	401 RIVERVIEW DR	650859	Perth Amboy City	423	Yes	12.4197	90.95	7.06		2.30
E PORT PERTH AMBOY REDEVELOPMENT	960 980 1000 HIGH ST	264235	Perth Amboy City	180	Yes	10.8044	40.90	14.47		2.24
KINDER MORGAN LIQUIDS TERMINAL LLC	920 HIGH ST	588364	Perth Amboy City	192	Yes	10.7557	90.90	29.83		2.24
ENGLERT INC	1200 AMBOY AVE	623041	Perth Amboy City	174	Yes	12.0809	0.79	15.70		2.14
MELS CLOTHING APPAREL	199 227 SHERIDAN ST	208870	Perth Amboy City	634		72.4727	30.95	2.17		2.05
INDIVIDUALIZED SHIRTS	581 CORTLANDT ST	G000013200	Perth Amboy City	1587		17.4672	40.90	3.74		2.04
TED'S SERVICE STATION	662 PEN ST	10150	Perth Amboy City	1502		250.82				2.03
IGNACIO CRUZ EARLY CHILDHOOD CENTER	601 CORTLANDT ST	237986	Perth Amboy City	1565		9.5384	620.90	4.80	Public school property	1.98
218 (222) NEW BRUNSWICK AVENUE	218 222 NEW BRUNSWICK AVE	252011	Perth Amboy City	1259		15.6140	40.90	0.10		1.78

HYPOTHESIS PRELIMINARY RISK CATEGORIZATION – UNREMEDiated SITES



TOP 10 SITES - SAYREVILLE

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	POPULATION WITHIN 1/2 MILE	CONTAINS TOP CONTAMINANTS IN PRIORITY LIST?	FLOOD EXPOSURE	SVI	PARCEL AREA (AC)	PUBLICLY OWNED?	RISK SCORE (4 is max possible)
VIKING TERMINAL COMPANY	JERNEES MILL RD	G000008610	Sayreville Boro	171	Yes	26.0885	0.69	56.43		2.15
SAYREVILLE LANDFILL	JERNEE MILL RD	134979	Sayreville Boro	47	Yes	7.398942	0.69	9.31		2.00
FORMER AMOCO SERVICE STATION #5148	RT 9 & 35 N	159669	Sayreville Boro	132	Yes	11.13527	0.64	0.39		1.98
INSUL-COUSTIC DIVISION CELOTEX CORPORATION	JERNEES MILL RD	9600	Sayreville Boro	90		30.77851	0.69	21.66		1.19
SJSA ASSOCIATES, LLC AKA LIBERTY REPAIR	444 Hartle Street	928857	Sayreville Boro	166		22.87122	0.69	2.66		1.13
NL IND FORMER OAK ST WATER TREATMENT PLANT	CROSS AVE & OAK ST	582223	Sayreville Boro	138		27.53659	0.64	16.85		1.12
THE PLACE AT SAYREVILLE	100 BLASZKA TER	932669	Sayreville Boro	230		27.33418	0.64	13.16		1.12
PROPOSED WAWA FOOD MARKET & FUELING STATION	969 Route 9	829719	Sayreville Boro	251		32.75781	0.59	3.79		1.11
SAYREVILLE GENERATING STATION	RIVER RD & MAIN ST	9963	Sayreville Boro	106		26.76017	0.64	41.69		1.11
GREEN TREE CHEMICAL TECH INC	50 S MINISINK AVE	2836	Sayreville Boro	49		20.64269	0.69	32.97		1.11



HYPOTHESIS PRELIMINARY RISK CATEGORIZATION – UNREMEDIED SITES



TOP 10 SITES – SOUTH AMBOY

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	POPULATION WITHIN 1/2 MILE	CONTAINS TOP CONTAMINANTS IN PRIORITY LIST?	FLOOD EXPOSURE	SVI	PARCEL AREA (AC)	PUBLICLY OWNED?	RISK SCORE (4 is max possible)
PIER 7 DEVELOPMENT GROUP	101 LOWER MAIN ST	G000044786	South Amboy City	123	Yes	25.95523	0.33	19.67		1.79
SOUTH AMBOY SEWAGE TRT PLANT	S ROSEWELL & GEORGE STS	13662	South Amboy City	164		70.16099	0.33	35.47		1.16
WAS TERMINAL	ROSEWELL ST	134794	South Amboy City	137		60.89667	0.33	9.76		1.09
428 JOHN ST	428 JOHN ST	166471	South Amboy City	516			0.55			1.05
148 N ROSEWELL STREET	148 N ROSEWELL ST	576271	South Amboy City	209		12.6963	0.55	0.23		0.90
119 GEORGE STREET	119 GEORGE ST	657916	South Amboy City	232			0.55	0.05		0.80
CONRAIL & MCKEAN PROPERTY	MAIN ST	132954	South Amboy City	105		24.38707	0.33	4.11		0.78
FORMER SOUTH AMBOY LANDFILL	101 MAIN ST	764758	South Amboy City	105		20.37027	0.33	23.52		0.75
FORMER AMBOY AGGREGATES	175 MAIN ST	692089	South Amboy City	104		15.85332	0.33	37.56		0.71
E H WERNER GENERATING STATION	135 MAIN ST	9964	South Amboy City	87		15.42075	0.33	29.41		0.71



HYPOTHESIS PRELIMINARY RISK CATEGORIZATION – UNREMEDIED SITES



TOP SITES – SOUTH RIVER

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	POPULATION WITHIN 1/2 MILE	CONTAINS TOP CONTAMINANTS IN PRIORITY LIST?	FLOOD EXPOSURE	SVI	PARCEL AREA (AC)	PUBLICLY OWNED?	RISK SCORE (4 is max possible)
PROFESSIONAL CHEMICALS INCORPORATED	BROWNS LN	G000009337	South River Boro	338	Yes	28.78367	0.77	0.73		2.26
MAIN ST & GORDON ST GW CONTAMINATION	MAIN ST & GORDON ST	771679	South River Boro	574			0.73			1.23
PRIDE CLEANERS & TAILORS	93 99 MAIN ST	792290	South River Boro	549			0.73	0.26		1.23
81 85 MAIN STREET (STRIP MALL)	81 91 MAIN ST	G000035153	South River Boro	526			0.73	0.51		1.23
SOUTH RIVER BP	258 OLD BRG TPKE	968	South River Boro	552			0.65	0.26		1.15
WHITEHEAD INDUSTRIAL	411 WHITEHEAD AVE	775227	South River Boro	244		24.81337	0.65	4.33		1.11
2 JUNE STREET	2 June Street	945416	South River Boro	268		7.563253	0.73	0.10		1.05

HYPOTHESIS PRELIMINARY RISK CATEGORIZATION – UNREMEDIED SITES



TOP 10 SITES - WOODBRIDGE

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	POPULATION WITHIN 1/2 MILE	CONTAINS TOP CONTAMINANTS IN PRIORITY LIST?	FLOOD EXPOSURE	SVI	PARCEL AREA (AC)	PUBLICLY OWNED?	RISK SCORE (4 is max possible)
COLONIAL PIPELINE COMPANY INCORPORATED	400 BLAIR RD	G000003495	Woodbridge Twp	225	Yes	18.7268	0.72	177.01		2.12
ALPHA ASSOCIATES INC	2 AMBOY AVE	281802	Woodbridge Twp	165	Yes	28.92847	0.59	4.76		2.08
TWIN BRIDGE INCORPORATED	1000 RIVERSIDE DR	G000041281	Woodbridge Twp	10	Yes	20.84022	0.65	53.76		2.07
WELDON CONCRETE CORP*	119 SMITH ST	702293	Woodbridge Twp	236	Yes	13.35714	0.71	12.43		2.07
M & T CHEMICALS INCORPORATED	WOODBIDGE AVE & RANDOLPH AVE	G000004372	Woodbridge Twp	154	Yes	9.615556	0.72	11.55		2.05
WOODBIDGE ENERGY CENTER	1070 RIVERSIDE DR	G000001659	Woodbridge Twp	13	Yes	15.79944	0.65	147.35		2.03
MCKESSON CHEMICAL COMPANY	160 ESSEX AVE E	G000003338	Woodbridge Twp	239	Yes	4.286367	0.72	4.74		2.00
PMC SPECIALTIES	350 RIVERSIDE DR	G000002706	Woodbridge Twp	15	Yes	8.143011	0.65	13.30		1.97
19 PETROLEUM PRAXAIR INCORPORATED	1090 RTE 1 N	G000041138	Woodbridge Twp	462	Yes	3.285714	0.65	0.60		1.93
PLANT 868	200 RIVERSIDE DR	G000015133	Woodbridge Twp	10	Yes		30.65	45.59		1.93

*Status of Weldon Concrete Corp. remediation needs to be confirmed

**OPPORTUNITY:
GENERAL (OPEN
SPACE, GENERAL
RESILIENCE)**

HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY – GENERAL



CARTERET, PUBLICLY OWNED

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWNFIELD?	SVI	GREEN SPACE PROXIMITY	WITHIN REDEVELOPMENT AREA?	PARCEL AREA (AC)	PUBLICLY OWNED?	GENERAL RESILIENCE OPP SCORE (7 is max possible)
DEPARTMENT OF PUBLIC WORKS	339 ROOSEVELT AVE	18721	Carteret Boro	Active	15.53549	623		00.50	Near	Yes	2.93	Public property	2.80
CARTERET WATERFRONT DEVELOPMENT	100 MIDDLESEX AVE	G000039039	Carteret Boro	Active	24.51271	74		00.50	Near	Yes	9.13	Public property	2.62
CARTERET BORO SEWERAGE PLANT	339 ROOSEVELT AVE	33136	Carteret Boro	Active - RAP	7	623		00.50	Near	Yes	2.93	Public property	2.40
NOE STREET POND PROPERTIES	13 17 19 NOE ST	749237	Carteret Boro	Active	29.01113	650		00.89	Near	No	1.46	Public property	2.30
CARTERET BORO	278 282 PERSHING AVE	31733	Carteret Boro	Active - RAP	24.39355	555		00.89	Near	No	8.15	Public property	1.93



HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY – GENERAL



TOP 10 SITES – CARTERET, PRIVATELY OWNED

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWNFIELD?	SVI	GREEN SPACE PROXIMITY	WITHIN REDEVELOPMENT AREA?	PARCEL AREA (AC)	PUBLICLY OWNED?	GENERAL RESILIENCE OPP SCORE (7 is max possible)
RAHWAY ARCH PROPERTIES	300 SALT MEADOW RD	G000007844	Carteret Boro	Active	24.47818	112		00.89	Far	Yes	45.02		4.01
OXFORD SUPERCONDUCTING TECHNOLOGY	600 MILIK ST	G000004105	Carteret Boro	Active	16.87769	139		00.75	Far	Yes	9.15		3.81
120 RASKULINECZ ROAD	120 Raskulinecz Road	835742	Carteret Boro	Active	14.83721	185		00.75	Far	Yes	4.78		3.79
BALL GLASS CONTAINERS	50 BRYLA ST	14167	Carteret Boro	Active	13.35611	166		00.75	Far	Yes	32.94		3.78
CARTERET BOROUGH SANITARY LANDFILL	ROOSEVELT AVE & DRIFTWAY	162763	Carteret Boro	Active - RAP	36.72368	151		00.89	Far	Yes	140.86		3.78
CREW TOWING	2500 BLAIR RD	230341	Carteret Boro	Active	11.65497	189		00.75	Far	Yes	1.34		3.77
700 FEDERAL BLVD	700 FEDERAL BLVD	618009	Carteret Boro	Active	9.280084	154		00.75	Far	Yes	23.00		3.75
FBC PROPERTIES	1500 1600 BLAIR RD	663172	Carteret Boro	Active	8.516205	175		00.75	Far	Yes	3.70		3.74
FORMER WHITE CASTLE BAKERY	110 RASKULINECZ RD	593244	Carteret Boro	Active	6.303922	245		00.75	Far	Yes	3.43		3.72
200 FEDERAL BLVD	200 FEDERAL BLVD	917183	Carteret Boro	Active	5.803485	160		00.75	Far	Yes	3.87		3.72

HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY – GENERAL



OLD BRIDGE, PUBLICLY OWNED

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWNFIELD?	SVI	GREEN SPACE PROXIMITY	WITHIN REDEVELOPMENT AREA?	PARCEL AREA (AC)	PUBLICLY OWNED?	GENERAL RESILIENCE OPP SCORE (7 is max possible)
CHEESEQUAKE STATE PARK	300 GORDON RD	3804	Old Bridge Twp	Active	29.11845	48		00.56	Near	No	811.73	Public property	1.72
OLD BRIDGE TWP PUBLIC WORKS GARAGE	1 OLD BRIDGE PLZA	11531	Old Bridge Twp	Active	11.59793	158		00.67	Near	No	39.66	Public property	1.69
RARITAN BAY SLAG	LAURENCE HARBOR SEAWALL	514709	Old Bridge Twp	Active	13.14013	109		00.32	Near	No	14.96	Public property	1.35
FORMER HI-LO BUS SERVICE INC	120 MARLBORO RD	33634	Old Bridge Twp	Active	0	268		00.41	Near	No	0.35	Public property	1.33
FURMAN BLVD SITE	FURMAN BLVD	657263	Old Bridge Twp	Active - RAP	5.862275	202		00.32	Near	No	0.23	Public property	0.95

HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY – GENERAL



TOP 10 SITES – OLD BRIDGE, PRIVATELY OWNED

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWNFIELD?	SVI	GREEN SPACE PROXIMITY	WITHIN REDEVELOPMENT AREA?	PARCEL AREA (AC)	PUBLICLY OWNED?	GENERAL RESILIENCE OPP SCORE (7 is max possible)
GLOBAL SANITARY LANDFILL	ERNSTON RD	G000003352	Old Bridge Twp	Active	30.8434	335		00.70	Far	No	72.12		2.87
STRATFORD APARTMENTS	RTE 9 N		Old Bridge 19075 Twp	Active	15.09702	106		00.67	Far	No	22.74		2.72
BP	2401 RT 9 N		Old Bridge 21927 Twp	Active	9.430769	319		00.67	Far	No	0.66		2.67
7 PORSCHE DRIVE	7 PORSCHE DR		Old Bridge 595987 Twp	Active	3.95122	235		00.56	Far	No	0.89		2.51
ADVANTAGE ENVIRONMENTAL CORPORATION	395 RT 34		Old Bridge 558939 Twp	Active	0	152		00.56	Far	No	4.95		2.47
OLD BRIDGE TWP RACEWAY PARK INC	230 PENSION RD		Old Bridge 14433 Twp	Active	13.56168	39		00.43	Far	No	254.59		2.46
FIBER CHEMICAL CORPORATION	BIONDI AVE	G000004560	Old Bridge Twp	Active	25.74094	214		00.32	Far	No	8.24		2.45
FORMER REBEL ONE PROPERTY	OLD WATER WORKS RD		Old Bridge 19296 Twp	Active	27.31933	16		00.29	Far	No	6.48		2.44
THE OAKS AT GLENWOOD	ASTER CIR		Old Bridge 917124 Twp	Active	22.24909	12		00.29	Far	No	142.41		2.39
GETTY 00304	RT 9 & HARTLES LN		Old Bridge 1705 Twp	Active - RAP	13.36364	172		00.70	Far	No	0.64		2.39



HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY – GENERAL



TOP 10 SITES – PERTH AMBOY, PUBLICLY OWNED

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWN FIELD?	SVI	GREEN SPACE PROXIMITY	WITHIN REDEVELOPMENT AREA?	PARCEL AREA (AC)	PUBLICLY OWNED?	GENERAL RESILIENCE OPP SCORE (7 is max possible)
PERTH AMBOY MUNICIPAL COMPLEX	HIGH ST & FAYETTE ST	13604	Perth Amboy City	Active	3.435986	1097		10.90	Far	Yes	0.62	Public property	5.34
244 NEW BRUNSWICK AVENUE	244 NEW BRUNSWICK AVE	708051	Perth Amboy City	Active	5	1325		10.90	Far	No	1.46	Public school property	4.36
RARITAN RIVERFRONT PARK	555 RIVERVIEW DR	815443	Perth Amboy City	Active	41.09123	312		00.95	Far	Yes	2.71	Public property	4.21
MECHANIC ST REALTY CORP (FORMER)	60 WASHINGTON ST	9453	Perth Amboy City	Active	10.37028	952		00.90	Near	Yes	6.09	Public school property	3.15
GENERAL CABLE CORPORATION FORMER	40 50 WASHINGTON ST	G000027673	Perth Amboy City	Active	5.290278	852		00.90	Near	Yes	2.98	Public property	3.11
PERTH AMBOY DEPARTMENT OF PUBLIC WORKS	599 FAYETTE ST	22672	Perth Amboy City	Active	28.97535	493		00.95	Near	Yes	13.05	Public property	3.11
PERTH AMBOY BD OF ED HIGH SCHOOL	901 959 CONVERY BLVD	G000037717	Perth Amboy City	Active	25.74683	414		00.79	Near	Yes	11.71	Public school property	2.92
IGNACIO CRUZ EARLY CHILDHOOD CENTER	601 CORTLANDT ST	237986	Perth Amboy City	Active	9.538462	1565		00.90	Near	No	4.80	Public school property	2.64
EDWARD J PATTEN SCHOOL- FORM JE HURLEY LUM CO	500 CHARLES ST	2639	Perth Amboy City	Active	14.98233	1440		00.90	Near	No	6.13	Public school property	2.44
SEAMAN AVENUE ELEMENTARY SCHOOL (PROPOSED)	489 SAYRE AVE	5540	Perth Amboy City	Active	16.80157	1260		00.76	Near	No	3.53	Public school property	2.31

HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY – GENERAL



TOP 10 SITES – PERTH AMBOY, PRIVATELY OWNED

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWNFIELD?	SVI	GREEN SPACE PROXIMITY	WITHIN REDEVELOPMENT AREA?	PARCEL AREA (AC)	PUBLICLY OWNED?	GENERAL RESILIENCE OPP SCORE (7 is max possible)
VICTORY CENTER LLC	PATERSON ST	643058	Perth Amboy City	Active	7.979175	510		10.95	Far	Yes	6.60		5.18
VOPAK TERMINAL PERTH AMBOY	1 STATE ST	3927	Perth Amboy City	Active	9.23997	107		10.90	Far	Yes	13.76		4.89
ASARCO INC PERTH AMBOY	1160 STATE ST	3619	Perth Amboy City	Active	0	247		10.90	Far	Yes	2.42		4.81
MELS CLOTHING APPAREL	199 227 SHERIDAN ST	208870	Perth Amboy City	Active	72.47273	634		00.95	Far	Yes	2.17		4.72
LANDINGS AT HARBORSIDE LLC	385 RECTOR ST	252322	Perth Amboy City	Active	10.34466	1072		10.90	Near	Yes	0.64		4.40
GILLAND PROPERTY	FRONT & COMMERCE STS	G000041060	Perth Amboy City	Active	35.21739	987		10.90	Near	Yes	1.24		4.36
500 MARKET ASSOC	500 MARKET ST	25545	Perth Amboy City	Active	15	666		00.95	Far	Yes			4.24
CO STEEL RARITAN	225 ELM ST	23002	Perth Amboy City	Active	15	655		00.95	Far	Yes	53.84		4.24
TRI STATE SHIP REPAIR & DRY DOCK CORP FORMER	390 FRONT ST	25320	Perth Amboy City	Active	15.09854	905		10.90	Near	Yes	0.56		4.19
500 HIGH STREET	500 HIGH ST	G000003461	Perth Amboy City	Active	14.19718	811		10.90	Near	Yes	0.41		4.18



HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY – GENERAL



SAYREVILLE, PUBLICLY OWNED

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWNFIELD?	SVI	GREEN SPACE PROXIMITY	WITHIN REDEVELOPMENT AREA?	PARCEL AREA (AC)	PUBLICLY OWNED?	GENERAL RESILIENCE OPP SCORE (7 is max possible)
MORGAN ORDNANCE DEPOT	ERNSTON RD (RTE 35 & CHEESQUAKE RD)	G000008582	Sayreville Boro	Active	14.837	236		00.59	Far	No	13.89	Public school property	2.63
SAYREVILLE BORO MUNICIPAL BUILDINGS	167 MAIN ST		Sayreville Boro	Active	17.99484	264		00.20	Near	No	38.45	Public property	1.27



HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY – GENERAL



TOP 10 SITES – SAYREVILLE, PRIVATELY OWNED

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWNFIELD?	SVI	GREEN SPACE PROXIMITY	WITHIN REDEVELOPMENT AREA?	PARCEL AREA (AC)	PUBLICLY OWNED?	GENERAL RESILIENCE OPP SCORE (7 is max possible)
THE PLACE AT SAYREVILLE	100 BLASZKA TER	932669	Sayreville Boro	Active	27.33418	230		00.64	Far	Yes	13.16		3.78
GREEN TREE CHEMICAL TECH INC	50 S MINISINK AVE	2836	Sayreville Boro	Active	20.64269	49		00.69	Far	Yes	32.97		3.78
SAYREVILLE SEAPORT ASSOCIATES	OFF MAIN ST	743154	Sayreville Boro	Active	18.36409	75		00.64	Far	Yes	35.80		3.71
SAYREVILLE LANDFILL	JERNEE MILL RD	134979	Sayreville Boro	Active	7.398942	47		00.69	Far	Yes	9.31		3.67
SAYREVILLE ECONOMIC REDEVELOPMENT AGENCY	CHEVALIER AVE	18025	Sayreville Boro	Active	12.56855	63		00.64	Far	Yes	61.72		3.66
MIDDLESEX COUNTY FIRE ACADEMY	FIRE ACADEMY DR	23790	Sayreville Boro	Active	11.81073	64		00.64	Far	Yes	27.11		3.65
HORSESHOE ROAD SUPERFUND SITE	HORSESHOE RD	G000004887	Sayreville Boro	Active	9.599906	75		00.64	Far	Yes	5.80		3.63
AES RED OAK POWER PLANT	832 RED OAK LN	573361	Sayreville Boro	Active - RAP	15.79654	55		00.69	Far	Yes	64.02		3.40
PFIZER INCORPORATED	JERNEE MILL RD	27205	Sayreville Boro	Active - RAP	0	46		00.69	Far	Yes	9.31		3.27
FULTON'S LANDING INDUSTRIAL DEVELOPMENT	850 Main Street	927520	Sayreville Boro	Active	10.18029	246		00.23	Far	Yes	8.24		3.23

HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY – GENERAL



SOUTH AMBOY, PUBLICLY OWNED

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWNFIELD?	SVI	GREEN SPACE PROXIMITY	WITHIN REDEVELOPMENT AREA?	PARCEL AREA (AC)	PUBLICLY OWNED?	GENERAL RESILIENCE OPP SCORE (7 is max possible)
241 GORDON STREET	241 GORDON ST	519357	South Amboy City	Active - RAP	19.42067	329		00.55	Far	No	1.52	Public property	2.29



HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY – GENERAL



TOP 10 SITES – SOUTH AMBOY, PRIVATELY OWNED

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWNFIELD?	SVI	GREEN SPACE PROXIMITY	WITHIN REDEVELOPMENT AREA?	PARCEL AREA (AC)	PUBLICLY OWNED?	GENERAL RESILIENCE OPP SCORE (7 is max possible)
PIER 7 DEVELOPMENT GROUP	101 LOWER MAIN ST	G000044786	South Amboy City	Active	25.95523	123		00.33	Far	Yes	19.67		3.46
CONRAIL & MCKEAN PROPERTY	MAIN ST	132954	South Amboy City	Active	24.38707	105		00.33	Far	Yes	4.11		3.45
FORMER SOUTH AMBOY LANDFILL	101 MAIN ST	764758	South Amboy City	Active	20.37027	105		00.33	Far	Yes	23.52		3.42
E H WERNER GENERATING STATION	135 MAIN ST	9964	South Amboy City	Active	15.42075	87		00.33	Far	Yes	29.41		3.37
200 210 SOUTH BROADWAY	210 SOUTH BROADWAY	513848	South Amboy City	Active	0	199		00.33	Far	Yes			3.25
1000 SCHINDLER DRIVE	1000 SCHINDLER DR	916071	South Amboy City	Active	0	130		00.33	Far	Yes	37.56		3.25
NJ TRANSIT RAIL OPERATION	MAIN & AUGUSTA STS	G000005525	South Amboy City	Active - RAP	20.73679	151		00.33	Far	Yes	6.11		3.08
SOUTH AMBOY SEWAGE TRT PLANT	S ROSEWELL & GEORGE STS	13662	South Amboy City	Active	70.16099	164		00.33	Near	Yes	35.47		2.83
WAS TERMINAL	ROSEWELL ST	134794	South Amboy City	Active	60.89667	137		00.33	Near	Yes	9.76		2.75
148 N ROSEWELL STREET	148 N ROSEWELL ST	576271	South Amboy City	Active	12.6963	209		00.55	Near	Yes	0.23		2.57

HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY – GENERAL



TOP SITES – SOUTH RIVER, PRIVATELY OWNED

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWNFIELD?	SVI	GREEN SPACE PROXIMITY	WITHIN REDEVELOPMENT AREA?	PARCEL AREA (AC)	PUBLICLY OWNED?	GENERAL RESILIENCE OPP SCORE (7 is max possible)
SOUTH RIVER BP	258 OLD BRG TPKE		South River 968Boro	Active	0	552		00.65	Far	No	0.26		2.82
NORTHEND INDUSTRIAL PARK	BRICK PLANT RD		South River 172623Boro	Active - RAP	40.67202	98		00.73	Far	No	19.69		2.66
PROFESSIONAL CHEMICALS INCORPORATED	BROWNS LN	G000009337	South River Boro	Active	28.78367	338		00.77	Near	No	0.73		1.93
MAIN ST & GORDON ST GW CONTAMINATION	MAIN ST & GORDON ST		South River 771679Boro	Active	0	574		00.73	Near	No			1.90
PRIDE CLEANERS & TAILORS	93 99 MAIN ST		South River 792290Boro	Active	0	549		00.73	Near	No	0.26		1.90
81 85 MAIN STREET (STRIP MALL)	81 91 MAIN ST	G000035153	South River Boro	Active	0	526		00.73	Near	No	0.51		1.90
WHITEHEAD INDUSTRIAL	411 WHITEHEAD AVE		South River 775227Boro	Active	24.81337	244		00.65	Near	No	4.33		1.78
2 JUNE STREET	2 June Street		South River 945416Boro	Active	7.563253	268		00.73	Near	No	0.10		1.71
BANK OF AMERICA	25 MAIN ST	G000034869	South River Boro	Active - RAP	26	439		00.77	Near	No			1.57

Note that there are no publicly owned sites on the Known Contaminated Site List in South River (that have not already been remediated) based on the best available information

HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY – GENERAL



TOP 10 SITES - WOODBRIDGE, PUBLICLY OWNED

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWNFIELD?	SVI	GREEN SPACE PROXIMITY	WITHIN REDEVELOPMENT AREA?	PARCEL AREA (AC)	PUBLICLY OWNED?	GENERAL RESILIENCE OPP SCORE (7 is max possible)
CLOVERLEAF PLAZA	1032 RT 1 N		Woodbridge Twp	Active	27.82559	402		00.65	Far	Yes	6.88	Public property	3.80
WOODBIDGE DEVELOPMENTAL CENTER	1275 1289 RAHWAY AVE		Woodbridge Twp	Active	14.38726	368		00.72	Far	Yes	58.95	Public property	3.75
EAST JERSEY STATE PRISON	RAHWAY AVE		Woodbridge Twp	Active	13.32223	286		00.72	Far	Yes	82.20	Public property	3.74
DEPARTMENT OF PUBLIC WORKS	225 SMITH ST		Woodbridge Twp	Active	15.62795	112		00.65	Far	Yes	14.75	Public property	3.70
INDUSTRIAL HIGHWAY CORPORATION	RIVERSIDE DR & MAC LN	G000031991	Woodbridge Twp	Active	8.241692	14		00.65	Far	Yes	12.88	Public property	3.64
TUSCAN GAS STATION (FORMER)	805 PORT READING AVE		Woodbridge Twp	Active	8.764523	218		00.50	Far	Yes	0.46	Public property	3.49
HESS MUTTON HOLLOW	MUTTON HOLLOW RD		Woodbridge Twp	Active	26.13758	322		00.36	Far	Yes	4.34	Public property	3.49
TUSCAN S/S (FORMER)	815 PORT READING AVE		Woodbridge Twp	Active	6.869565	255		00.50	Far	Yes	0.34	Public property	3.48
CP CHEMICALS INC	28 WOODBRIDGE CREEK		Woodbridge Twp	Active - RAP	8.853165	59		00.59	Far	Yes	14.13	Public property	3.25
STERN TOWERS	55 BROOK ST		Woodbridge Twp	Active	17.41938	532		00.85	Near	Yes	1.04	Public property	3.16

HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY – GENERAL



TOP 10 SITES - WOODBRIDGE, PRIVATELY OWNED

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWNFIELD?	SVI	GREEN SPACE PROXIMITY	WITHIN REDEVELOPMENT AREA?	PARCEL AREA (AC)	PUBLICLY OWNED?	GENERAL RESILIENCE OPP SCORE (7 is max possible)
MR JOHN PORTABLE SANIT UNITS	200 SMITH ST		Woodbridge 2923Twp	Active	31.75547	122		00.65	Far	Yes	4.79		3.83
THE PROCTER & GAMBLE MFG CO	100 ESSEX AVE E		Woodbridge 509Twp	Active	21.2876	232		00.72	Far	Yes	6.78		3.81
LUMURED CORP FORMER	292 SMITH ST E		Woodbridge 11432Twp	Active	4.943227	487		00.85	Far	Yes	0.54		3.81
CYPRESS TRANSPORT COMPANY INC	112 NEW BRUNSWICK AVE		Woodbridge 10166Twp	Active	22	407		00.71	Far	Yes	1.35		3.81
POLEX TIRE AND AUTO CENTER	95 TO 97 NEW BRUNSWICK AVE		Woodbridge 22378Twp	Active	20.8069	389		00.71	Far	Yes	2.91		3.80
85 NEW BRUNSWICK AVENUE	85 NEW BRUNSWICK AVE		Woodbridge 697748Twp	Active	19.27868	412		00.71	Far	Yes	4.85		3.78
WELDON CONCRETE CORP*	119 SMITH ST		Woodbridge 702293Twp	Active	13.35714	236		00.71	Far	Yes	12.43		3.73
WOODBIDGE ENERGY CENTER	1070 RIVERSIDE DR	G000001659	Woodbridge Twp	Active	15.79944	13		00.65	Far	Yes	147.35		3.70
PRIDE SOLVENTS & CHEMICAL CO NJ	211 RANDOLPH AVE		Woodbridge 30319Twp	Active	7.22817	199		00.72	Far	Yes	4.30		3.69
HAROLD & BARBARA PRANG	51 N BRUNSWICK AVE		Woodbridge 7880Twp	Active	6.388889	475		00.71	Far	Yes	2.82		3.68

*Status of Weldon Concrete Corp. remediation needs to be confirmed



RARITAN RIVER AND
BAY COMMUNITIES

OPPORTUNITY: ECONOMIC DEVELOPMENT

HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY - ECONOMIC



TOP 10 SITES – CARTERET

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWN FIELD?	WITHIN UEZ?	WITHIN OPPORTUNITY ZONE?	PARCEL AREA (AC)	PUBLICLY OWNED?	ECONOMIC OPP SCORE (6 is max possible)
RACESTAR HUNGARIAN REFORMED CHURCH	743 ROOSEVELT AVE	6741	Carteret Boro	Active	10	565	0	Yes	Yes	0.14		3.25
RAHWAY ARCH PROPERTIES	175 PERSHING AVE	G000010039	Carteret Boro	Active	0	675	0	Yes	Yes			3.17
130 WASHINGTON AVENUE	300 SALT MEADOW RD	G000007844	Carteret Boro	Active	24.47818	112	0	Yes	Yes	45.02		3.12
KM PHOENIX HOLDINGS	130 WASHINGTON AVE	513235	Carteret Boro	Active - RAP	31.4268	859	0	Yes	Yes	0.46		3.10
ALDO DESIGN GROUP	760 ROOSEVELT AVE	3400	Carteret Boro	Active	9.699487	228	0	Yes	Yes	31.32		3.00
KINDER MORGAN LIQUIDS TERMINALS	35 Hayward Avenue	797381	Carteret Boro	Active	8.812936	329	0	Yes	Yes	1.18		2.99
MYSTIC BULK CARRIERS TANKER ROLLOVER AMOCOTE	99 LAFAYETTE ST	G000004646	Carteret Boro	Active	6.444486	139	0	Yes	Yes	8.76		2.97
LEFFERTS STREET LLC	INDUSTRIAL AVE & DRIFTWAY ST	135450	Carteret Boro	Active	5	211	0	Yes	Yes			2.96
CARTERET BOROUGH SANITARY LANDFILL	24 LEFFERTS ST	743665	Carteret Boro	Active	0	326	0	Yes	Yes	0.52		2.92
	ROOSEVELT AVE & DRIFTWAY	162763	Carteret Boro	Active - RAP	36.72368	151	0	Yes	Yes	140.86		2.89



HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY – ECONOMIC



TOP 10 SITES – OLD BRIDGE

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWN FIELD?	WITHIN UEZ?	WITHIN OPPORTUNITY ZONE?	PARCEL AREA (AC)	PUBLICLY OWNED?	ECONOMIC OPP SCORE (6 is max possible)
NAPPI TRUCKING CORP NORTHERN PARCEL	528 MORRISTOWN RD	3916	Old Bridge Twp	Active	52.3594	111	0	No	No	18.38		1.35
RARITAN MARINA LLC	1707 HWY 35 S	2946	Old Bridge Twp	Active	50.18821	77	0	No	No	3.88		1.33
29 ELLEN HEATH DRIVE	29 ELLEN HEATH DR	G000024347	Old Bridge Twp	Active	36.93617	89	0	No	No	5.02		1.22
STATE INDUSTRIAL PRODUCTS	21 INDUSTRIAL DR	734641	Old Bridge Twp	Active	32.69307	262	0	No	No	2.13		1.19
GLOBAL SANITARY LANDFILL	ERNSTON RD	G000003352	Old Bridge Twp	Active	30.8434	335	0	No	No	72.12		1.17
CHEESEQUAKE STATE PARK	300 GORDON RD	3804	Old Bridge Twp	Active	29.11845	48	0	No	No	811.73	Public property	1.16
FORMER REBEL ONE PROPERTY	OLD WATER WORKS RD	19296	Old Bridge Twp	Active	27.31933	16	0	No	No	6.48		1.14
SOMMERS LANDFILL	CHEESEQUAKE RD & RTES 9 & 34	G000008820	Old Bridge Twp	Active	26.07424	223	0	No	No	234.27		1.13
FIBER CHEMICAL CORPORATION	BIONDI AVE	G000004560	Old Bridge Twp	Active	25.74094	214	0	No	No	8.24		1.13
EVOR PHILLIPS LEASING COMPANY	3336 BORDENTOWN AVE	G000004877	Old Bridge Twp	Active	22.70342	22	0	No	No	5.73		1.11

HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY – ECONOMIC



TOP 10 SITES – PERTH AMBOY

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWN FIELD?	WITHIN UEZ?	WITHIN OPPORTUNITY ZONE?	PARCEL AREA (AC)	PUBLICLY OWNED?	ECONOMIC OPP SCORE (6 is max possible)
LANDINGS AT HARBORSIDE LLC	385 RECTOR ST	252322	Perth Amboy City	Active	10.34466	1072	1	Yes	Yes	0.64		4.50
GILLAND PROPERTY 244 NEW BRUNSWICK AVENUE	FRONT & COMMERCE STS	G000041060	Perth Amboy City	Active	35.21739	987	1	Yes	Yes	1.24		4.46
TRI STATE SHIP REPAIR & DRY DOCK CORP FORMER	244 NEW BRUNSWICK AVE	708051	Perth Amboy City	Active	5	1325	1	Yes	Yes	1.46	Public school property	4.46
	390 FRONT ST	25320	Perth Amboy City	Active	15.09854	905	1	Yes	Yes	0.56		4.29
500 HIGH STREET	500 HIGH ST	G000003461	Perth Amboy City	Active	14.19718	811	1	Yes	Yes	0.41		4.28
PERTH AMBOY COAL & OIL CO INC	900 STATE ST	10567	Perth Amboy City	Active	13.7092	596	1	Yes	Yes	1.56		4.28
VICTORY CENTER LLC	PATERSON ST	643058	Perth Amboy City	Active	7.979175	510	1	Yes	Yes	6.60		4.23
DYNAMIC PAINTING CORPORATION	1019 STATE ST	G000011152	Perth Amboy City	Active	20	350	1	Yes	Yes	0.06		4.08
VOPAK TERMINAL PERTH AMBOY	1 STATE ST	3927	Perth Amboy City	Active	9.23997	107	1	Yes	Yes	13.76		3.99
VIRA INSIGHT LLC	1 BUCKINGHAM AVE	G000000322	Perth Amboy City	Active - RAP	12.41443	611	1	Yes	Yes	7.33		3.94

HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY - ECONOMIC



TOP 10 SITES – SAYREVILLE

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWN FIELD?	WITHIN UEZ?	WITHIN OPPORTUNITY ZONE?	PARCEL AREA (AC)	PUBLICLY OWNED?	ECONOMIC OPP SCORE (6 is max possible)
JOHN B MOORE CORPORATION	RT 9 & GSP	G000001768	Sayreville Boro	Active	36.74523	306	0	No	No	8.40		1.22
PROPOSED WAWA FOOD MARKET & FUELING STATION	969 Route 9	829719	Sayreville Boro	Active	32.75781	251	0	No	No	3.79		1.19
INSUL-COUSTIC DIVISION CELOTEX CORPORATION	JERNEES MILL RD	9600	Sayreville Boro	Active	30.77851	90	0	No	No	21.66		1.17
234 ERNSTON RD OIL SPILL	234 ERNSTON RD	902050	Sayreville Boro	Active	29.74387	304	0	No	No	0.21		1.16
NL IND FORMER OAK ST WATER TREATMENT PLANT	CROSS AVE & OAK ST	582223	Sayreville Boro	Active	27.53659	138	0	No	No	16.85		1.15
THE PLACE AT SAYREVILLE	100 BLASZKA TER	932669	Sayreville Boro	Active	27.33418	230	0	No	No	13.16		1.14
SAYREVILLE GENERATING STATION	RIVER RD & MAIN ST	9963	Sayreville Boro	Active	26.76017	106	0	No	No	41.69		1.14
VIKING TERMINAL COMPANY	JERNEES MILL RD	G000008610	Sayreville Boro	Active	26.0885	171	0	No	No	56.43		1.13
E I DUPONT DENEMOURS & CO	250 CHEESEQUAKE RD	8222	Sayreville Boro	Active	23.34144	180	0	No	No	150.51		1.11
SJSA ASSOCIATES, LLC AKA LIBERTY REPAIR	444 Hartle Street	928857	Sayreville Boro	Active	22.87122	166	0	No	No	2.66		1.11

HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY – ECONOMIC



TOP 10 SITES – SOUTH AMBOY

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWN FIELD?	WITHIN UEZ?	WITHIN OPPORTUNITY ZONE?	PARCEL AREA (AC)	PUBLICLY OWNED?	ECONOMIC OPP SCORE (6 is max possible)
SOUTH AMBOY SEWAGE TRT PLANT	S ROSEWELL & GEORGE STS	13662	South Amboy City	Active	70.16099	164	0	No	No	35.47		1.50
WAS TERMINAL	ROSEWELL ST	134794	South Amboy City	Active	60.89667	137	0	No	No	9.76		1.42
428 JOHN ST	428 JOHN ST	166471	South Amboy City	Active	0	516	0	No	No			1.17
PIER 7 DEVELOPMENT GROUP	101 LOWER MAIN ST	G000044786	South Amboy City	Active	25.95523	123	0	No	No	19.67		1.13
CONRAIL & MCKEAN PROPERTY	MAIN ST	132954	South Amboy City	Active	24.38707	105	0	No	No	4.11		1.12
SOUTH AMBOY COAL GAS (PSE&G)	200 S FELTUS ST	G000005447	South Amboy City	Active - RAP	34.36025	533	0	No	No	1.65		1.12
FORMER SOUTH AMBOY LANDFILL	101 MAIN ST	764758	South Amboy City	Active	20.37027	105	0	No	No	23.52		1.09
FORMER AMBOY AGGREGATES	175 MAIN ST	692089	South Amboy City	Active	15.85332	104	0	No	No	37.56		1.05
E H WERNER GENERATING STATION	135 MAIN ST	9964	South Amboy City	Active	15.42075	87	0	No	No	29.41		1.05
148 N ROSEWELL STREET	148 N ROSEWELL ST	576271	South Amboy City	Active	12.6963	209	0	No	No	0.23		1.02

HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY – ECONOMIC



TOP SITES – SOUTH RIVER

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STATUS	FLOOD EXPOSURE	POPULATION WITHIN 1/2 MILE	BROWN FIELD?	WITHIN UEZ?	WITHIN OPPORTUNITY ZONE?	PARCEL AREA (AC)	PUBLICLY OWNED?	ECONOMIC OPP SCORE (6 is max possible)
MAIN ST & GORDON ST GW CONTAMINATION	MAIN ST & GORDON ST	771679	South River Boro	Active	0	574	0	No	Yes			2.17
PRIDE CLEANERS & TAILORS	93 99 MAIN ST	792290	South River Boro	Active	0	549	0	No	Yes	0.26		2.17
81 85 MAIN STREET (STRIP MALL)	81 91 MAIN ST	G000035153	South River Boro	Active	0	526	0	No	Yes	0.51		2.17
2 JUNE STREET	2 June Street	945416	South River Boro	Active	7.563253	268	0	No	Yes	0.10		1.98
NORTHEND INDUSTRIAL PARK	BRICK PLANT RD	172623	South River Boro	Active - RAP	40.67202	98	0	No	Yes	19.69		1.92
SOUTH RIVER BP PROFESSIONAL CHEMICALS INCORPORATED	258 OLD BRG TPKE	968	South River Boro	Active	0	552	0	No	No	0.26		1.17
	BROWNS LN	G000009337	South River Boro	Active	28.78367	338	0	No	No	0.73		1.16
WHITEHEAD INDUSTRIAL	411 WHITEHEAD AVE	775227	South River Boro	Active	24.81337	244	0	No	No	4.33		1.12
BANK OF AMERICA	25 MAIN ST	G000034869	South River Boro	Active - RAP	26	439	0	No	No			0.80



HYPOTHESIS PRELIMINARY PRIORITIZED INVENTORY – ECONOMIC



TOP 10 SITES – WOODBRIDGE

PI_NAME	ADDRESS	PI_NUMBER	MUNIC	STAT US	FLOOD EXPOSURE	POPULATIO N WITHIN 1/2 MILE	BROWN FIELD?	WITHIN UEZ?	WITHIN OPPORTUNITY ZONE?	PARCEL AREA (AC)	PUBLICLY OWNED?	ECONOMIC OPP SCORE (6 is max possible)
RACEWAY WOODBIDGE	87 WEST POND RD & LAUREAL ST	302862	Woodbridge Twp	Active	35.84849	602	0	No	No	1.12		1.47
EMERSON QUIET KOOL CORP	400 WOODBINE AVE	3072	Woodbridge Twp	Pending	16.06144	483	0	No	No	14.13		1.38
STERN TOWERS	55 BROOK ST	17205	Woodbridge Twp	Active	17.41938	532	0	No	No	1.04	Public property	1.31
MERRILL COUNTY PARK	CHAIN-O-HILLS RD & GREEN ST	G000027139	Woodbridge Twp	Active	45.23274	343	0	No	No	92.27	Public property	1.29
TOP QUALITY, INC.	399 Pearl Street	972502	Woodbridge Twp	Active	11.63626	525	0	No	No	0.36		1.26
82 ELM AVENUE	82 ELM AVE	745189	Woodbridge Twp	Active	11.5	547	0	No	No	0.23		1.26
CROSSROAD CENTER LP	143 US Highway 1 South	841254	Woodbridge Twp	Active	11.23823	544	0	No	No	0.85		1.26
EXXON	1611 OAKTREE RD	9149	Woodbridge Twp	Active	10	582	0	No	No	0.97		1.25
US GAS MOREY LARUE	834 KING GEORGE RD	32874	Woodbridge Twp	Active	9.518519	530	0	No	No	0.19		1.25
LAUNDRY & DRY CLEANING	108 MAIN ST	620025	Woodbridge Twp	Active	7.773148	556	0	No	No	0.18		1.23



B: DEFINITIONS

DEFINITION OF SITES AND AREAS

CONTAMINATED SITE DEFINITIONS

- ***Known Contaminated Sites***: The Known Contaminated Sites in New Jersey report is produced by NJDEP in response to N.J.S.A. 58:10-23.16-17 that requires preparation of a list of sites affected by hazardous substances. It also satisfies the Site Remediation Program's obligations under the New Jersey New Residential Construction Off-Site Conditions Disclosure Act (N.J.S.A 46:3C1 et seq.).
 - This list of Known Contaminated Sites may include sites where remediation is either currently under way, required but not yet initiated **or has been completed**.
 - Quarterly and annual reports are static and subject to update. Live databases by county and municipality are available at: <https://www.state.nj.us/dep/srp/kcsnj/>
 - Database can be searched by remedial status (Pending, Active, Active – RAP, Active – Post-Rem), description of contaminant source, and level of complexity.

Possible State data recommendation: Note that the data does not include the **method** of remediation. Having this data would be helpful to track performance against climate related hazards over time, as well as identify sites with potential risk to groundwater rise, etc.

DEFINITION OF SITES AND AREAS

BROWNFIELD DEFINITIONS

- ***Brownfields***: Any former or current commercial or industrial site, currently vacant or underutilized and on which there has been, or there is suspected to have been, a discharge of a contaminant. (Source: Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-1 et seq.)
- ***Brownfield Development Areas (BDAs)***: Under the Brownfields Development Area (BDA) approach, NJDEP works with selected communities affected by multiple brownfields to design and implement remediation and reuse plans for these properties simultaneously. Designation as a BDA will not affect or limit in any way the utilization or application of New Jersey's other brownfield or remediation programs on properties within a BDA.
- ***How are Brownfields Identified?*** "The New Jersey Brownfields Redevelopment Task Force was created by the State Legislature, pursuant to the Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-23. It consists of seven State representatives and six public representatives. The Task Force is required to 'prepare and update an inventory of Brownfields sites in the State,' N.J.S.A. 58:10B-23b., and 'actively market sites on the inventory to prospective developers,' N.J.S.A. 58:10B-23c. The NJ Brownfields "Site Mart" is that official State inventory of Brownfields properties. Nomination procedures and inventories are located at: <https://www.njbrownfieldsproperties.com/>

DEFINITION OF SITES AND AREAS

CONTAMINATED SITE ATTRIBUTES

- **Known Contaminated Sites Attributes:** Live NJDEP database can be sorted by attributes:
 - **Description of contaminant source and case status.**
 - A: Sites with on site source(s) of contamination.
 - B: Sites with an unknown source(s) of contamination.
 - C: Sites closed with Institutional Control(s)*.
 - **Level of Site Complexity**:**
 - A: Emergency action/stabilization.
 - B: Single phase remedial action; single contamination affecting only soils.
 - C: Known or unknown source releases to soil and/or groundwater (three subcategories)
 - D: Multi-phased remedial action; multiple sources/releases to multi-media, including ground water.
 - **Status**
 - Pending: Site where contamination has been identified but a formal evaluation of the extent of the contamination has yet to be performed.
 - Active: Active SRP case - remediation is ongoing
 - Active - Post Rem: Restricted Use or Limited Restricted Use NFA/RAO case where the Remedial Action Permit has not yet been issued
 - Active – RAP: Restricted Use or Limited Restricted Use NFA/RAO case with an associated Remedial Action Permit

The data do not specify the controls in place (possible data improvement recommendation**). An example of institutional controls would be a CEA, restricted residential (e.g., no single-family homes or single owner lots allowed). Control rests with the site development owner or homeowner association.*

***Note, site complexity does not affect possible reuse*

DEFINITION OF SITES AND AREAS

Classification Exception Area (CEA)

- **CEA Definition:** NJDEP may designate a groundwater CEA only when constituent standards are not or will not be met:
 1. Due to natural ground water quality (i.e., high salinity);
 2. Due to localized effects of a permitted discharge (e.g., effluent limits above the constituent standards with discharge outside the plume/capture zone);
 3. If the area is part of a pollution remedy conducted pursuant to an ACO or other Department oversight mechanism or program;
 4. And an Alternate Concentration Limit has been approved pursuant to the New Jersey Pollutant Discharge Elimination System (NJPDES).
- **GIS Mapping of CEAs:** This data layer identifies those Known Contaminated Sites or sites on the Site Remediation Program (SRP) Comprehensive Site List where groundwater contamination has been identified and, where appropriate, the NJDEP has established a Classification Exception Area (CEA). Access at: <https://www.nj.gov/dep/gis/geoweb splash.htm>

C: HYPOTHESIS CATEGORIZATION

*How could we categorize if all data
were available?*

RISK CATEGORIZATION – UNREMEDIED SITES

Sites with status “Active” (undergoing remediation) or “Pending” (evaluation not yet performed) in NJDEP databases

- **Factors to consider**
 - High Risk: Potential for unremediated sites to release contaminants of significant concern to air, surface water or groundwater due to flood inundation and erosion of existing soil and shorelines under:
 - **Type of contamination**
 - *Available for ~300 of ~500 sites in the Known Contaminated Site List by pulling information from the CEA and Deed Notice databases
 - Suggest: align with the Agency for Toxic Substances and Disease Registry [Substance Priority List \(SPL\)](#). Based on 2019 rank (most recent publicly available), the top 5 substances are arsenic, lead, mercury, vinyl chloride, and polychlorinated biphenyls (PCBs)
 - **Extent**
 - Exposure (nearby population)
 - Current projected flood hazards
 - Future predicted storm and flood hazards with SLR
 - Moderate Risk: Sites lacking significant potential for release of contaminants of concern (e.g., historic fill sites, interim covered sites, deep groundwater contamination) due to floods and SLR
 - Lower Risk: BDAs with no known soil contaminants but may not meet unrestricted soil use standards and groundwater standards

Items that are not currently mapped in the data

RISK CATEGORIZATION – REMEDIATED SITES

*Sites with status “Active – RAP” (Remedial Action Permit) or “Active – Post Rem” in NJDEP databases**

- **Factors to consider**

- High Risk: Sites with approved remedies that did not adequately design for resilience, as evidenced by recent impacts on remedial controls from high-energy storms and flooding
- Moderate Risk: Sites where periodic inspections of engineering and institutional controls revealed minor storm or flood damage.
- Lower Risk: Sites with resilient remedial controls but may not meet future resilience requirements based on predicted SLR.
- Lowest Risk: Sites remediated to unrestricted use conditions, which will never require future remediation with predicted SLR.

Checking assumptions: *We could give a higher risk score to sites known to have caps in place (through deed notice database), based on the assumption that there is higher risk from contamination left in place beneath the cap. Is this a reasonable approach?*

*A remedial action permit is required for some remediated sites following issuance of the No Further Action (NFA) / Response Action Outcome (RAO)

POSSIBLE REQUIREMENTS FOR REMEDIATION TO CONSIDER TO REDUCE RISK

- **Resilience-related requirements for remediation**
 - Consider contaminant removal and in-situ remediation vs. containment in flood prone areas to:
 - Improve land value and return on investment (supports higher value future use)
 - Mitigates future risk of releases from site to environment and receptors
 - Require future resilience measures in remedial design
 - Require redevelopment to design for resilience to climate change, particularly future predicted impacts of SLR
- **Available tools (examples)**
 - Removal or in-situ chemical destruction of relatively non-degradable contaminants
 - Enhancement of natural attenuation mechanisms to speed up remediation of biodegradable contaminants
 - Incorporation of living shorelines, wetlands, and open space in remedial cover system design and site redevelopment plans involving flood plains
 - Building designs to eliminate potential for future damage from flooding and SLR

POSSIBLE WAYS CONTAMINATED SITES COULD BE LEVERAGED TO HELP ACHIEVE RESILIENCE-RELATED GOALS

Opportunities

Design for Resilience to:

Reduce hardened surfaces
(including at vacant properties)

Increase vegetated spaces

Build/maintain sustainable shorelines

Improve stream quality

Increase public access to waterfronts

Create/enhance wildlife habitat

Restore damaged wetlands

Improve floodplain planning and
zoning

Incorporate stormwater
management

Additional example opportunities:

- Design of remedial projects to create or restore wetlands and improve stream quality
- Change current flood prone site elevation by increasing the finished grade and sloping shorelines (as opposed to sheeting/hard walls).
- Manage the flood plain elevations on site with less acreage dedicated to hardened surfaces, and improve access to vegetated waterfronts
- Require new buildings to be built above the predicted future 100-year flood elevations (e.g., occupied spaces at +14 ft, compared to existing structures as low as +6 ft.)

OPPORTUNITIES CATEGORIZATION

FACTORS TO CONSIDER

- Factors to consider for un-remediated sites
 - Stage and status of remediation (projects in planning phase represent highest immediate opportunity)
 - *Extent and source of contamination (lower contamination extent / lower risk contaminants = higher opportunity)*
 - *Cost and required actions to remediate (lower remediation costs = higher opportunity)*
 - *Some remedial actions could preclude the property from other uses, e.g. perpetual active groundwater treatment*
 - *Any existing desired use of the site (i.e., economic redevelopment) – higher opportunity where will is aligned or there are no existing plans*
 - Status as a brownfield property, within a brownfield redevelopment area, or being desirable for development / transformation
 - Location:
 - In an area lacking green space / recreational space, needing habitat restoration or wetlands
 - In a flood prone area (riverine, coastal, stormwater)
- Factors to consider for remediated sites:
 - Disposition of the site (i.e., Presence on ROSI inventory, developed site)
 - *Remaining contaminants*
 - Location:
 - In an area lacking green space
 - In a flood prone area (riverine, coastal, stormwater)

Items that are not currently mapped in the data

Possible recommendation for State: mine these data from site reports (as they are present there, but not available in the datasets) and integrate into database for use in planning

D: SOURCES

DATA AVAILABLE AND DATA SOURCES

DATA SOURCE	LAYER	RELEVANT ATTRIBUTES	ANY LIMITATIONS / NOTES / RECOMMENDATIONS
FEMA National Flood Hazard Layer	FEMA Flood Zones – GIS		Data for some areas is missing or undergoing updates
NJGIN Open Data https://njgis-newjersey.opendata.arcgis.com/	NJ Known Contaminated Sites – GIS	PI_NUMBER (site identification number), status, remediation level (complexity), CEA status, deed notice status, NPL status, category (source/status)	GIS layer updated daily on NJGIN site. Data does not contain details on contaminant type – must be obtained through associated CEA or Deed Notice using the PI_NUMBER, or Open Public Records Act (OPRA) request. Note that number of sites listed as having ongoing or lifted CEAs does not match the total number of features in the CEA layer (~4700 vs ~5700), and the same goes with deed notices (~2800 vs 3200).
NJGIN Open Data	NJ Classification Exception Areas (CEAs) – GIS	PI_NUMBER, description, restriction depth, duration, well restriction area (yes/no), contaminant type	
NJGIN Open Data	NJ Deed Notice Extents – GIS	PI_NUMBER, contaminant depth, engineering control, cap thickness, contaminant type	Details regarding engineering controls (cap type) are incomplete or missing for several sites
NJGIN Open Data	Chromate Sites in New Jersey – GIS	PI_NUMBER, site status, remedial status, CEA status, deed notice status, cap (yes/no)	
NJGIN Open Data	NJ Brownfield Development Areas (BDAs) – GIS	PI_NUMBER, site status, confirmation of contamination status	
NJGIN Open Data	NJ Site Mart Brownfields – GIS	PI_NUMBER, status, description	Data last updated in 2013, but seems to have been superseded by the other databases on this list
NJ Site Mart Webpage	NJ Site Mart Brownfield Listings	Reports include sections on owner info, taxes, operations, utilities, transportation, remediation status but fields appear to be largely blank	Individual site information (limited), searchable by county, municipality and site, as well as site nomination form. Site number does not appear to match that in the Known Contaminated Site List.
NJDEP Data Miner		Can search by site, available reports include enforcement actions, permits, inspections, land use, enforcement site visits, violations	Many reports appear blank.
NJDEP Bureau of GIS	Brownfield Inventory	PI_NUMBER, site status, opportunity zone	

LITERATURE REVIEW

Relevant Literature

SOURCE	FINDINGS / NOTES
<p>GAO-21-555T, a testimony J. Alfredo Gómez, Director, Natural Resources and Environment before the Subcommittee on Environment and Climate Change, Committee on Energy and Commerce, House of Representatives on (GAO-20-73) May 13, 2021</p>	<ul style="list-style-type: none">• Testimony discusses GAO’s October 2019 report about potential climate change effects on Superfund sites. Specifically, it summarizes: (1) what available federal data suggest about the number of nonfederal NPL sites that are located in areas that may be impacted by selected climate change effects; (2) the extent to which EPA has managed risks to human health and the environment from the potential impacts of climate change effects at nonfederal NPL sites; and (3) challenges EPA faces in managing these risks.• GAO’s 2019 report found that EPA officials had not consistently incorporated climate change information into their assessment of site-level risks because they did not always have the climate data they needed.• Four recommendations to EPA focused on providing direction to Regions on integrating information on the potential impacts of climate change effects into risk response decisions at nonfederal NPL sites.• Mapping by GAO includes vulnerable sites within the NENJ and Raritan Basin.

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Technology News and Trends, EPA 542-N-14-001 Issue No. 65, May 2014 https://clu-in.org/products/newsletters/tnandt/view_new.cfm?issue=0514.cfm	<p>Articles featured in this issue examine vulnerabilities at three National Priorities List sites, describe the effects of intense weather events at these sites, and detail adaptation measures already implemented or planned to increase the remedies' resilience to climate change impacts.</p> <p>Featured articles include: <i>Site Operations and Remedy Design: Hurricane Irene Flooding and Adaptation at the American Cyanamid Site, Raritan Basin</i></p> <p>On August 27, 2011, Hurricane Irene-associated floodwaters overtopped a 100-year flood control berm that surrounds much of the American Cyanamid site, a 435-acre National Priorities List site located along the Raritan River in Somerset County. Details on remedial system failure concerns due to the floodwaters are detailed and subsequent resilience-based changes to site management and operations were identified and implemented.</p> <p>A major goal of the next remedial design phase is to minimize loss of the site's floodwater storage capacity so that flooding of downstream communities is not exacerbated. Potential measures include constructing a natural stormwater management system and removing the site's flood control berm.</p>

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<p>Brownfield Revitalization in Climate-Vulnerable Areas, USEPA, Region 3, 2016 https://www.epa.gov/land-revitalization/brownfield-revitalization-climate-vulnerable-areas</p> <p>Slide 1 of 2</p>	<p>The U.S. Environmental Protection Agency's (EPA's) Office of Land and Emergency Management (OLEM) Land Revitalization Program developed this tool to provide communities with practical, real-world examples of regulations, incentives, projects, and programs that local governments may consider to balance economic development goals with climate resiliency needs. The tool focuses on examples of regulations, incentives, projects, and programs that:</p> <ul style="list-style-type: none">• Support revitalization of brownfields.• Mitigate stormwater and flooding impacts.• Could work in areas with low to moderate demand for development.• Can be implemented by individual communities (as compared with approaches that require multi-community or regional collaboration). This report/tool:<ul style="list-style-type: none">• Provides examples of incentives and ordinance regulations that can be implemented without public or foundation money• Summarizes relevant examples of projects, programs or approaches not directly applicable to land use regulations• Provides several additional resources for communities to explore in climate adaptation planning that have been developed by EPA

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<p>Brownfield Revitalization in Climate-Vulnerable Areas, USEPA, Region 3, 2016 https://www.epa.gov/land-revitalization/brownfield-revitalization-climate-vulnerable-areas</p> <p>Slide 2 of 2</p>	<p>Featured Example: Sims Municipal Recycling Facility (New York, NY)</p> <ul style="list-style-type: none">• The site-specific brownfield development plan incorporates multiple innovative elements that promote sustainability and resiliency:<ul style="list-style-type: none">• Stormwater is managed on-site using landscape features, bioswales, grading, and a retention pond.• The site has a 600kW solar power installation to generate its own electricity.• The city constructed three artificial reefs to mitigate the effects of the necessary dredging on the site to promote biodiversity.• All of the buildings, high voltage electrical gear, scales, and recycling gear were raised four feet above the new FIRM maps and remained dry during Hurricane Sandy.• As a public/private partnership, this facility required a \$48 million investment from NYC and a \$46 million investment from Sims. SIMs leases the facility from NYC.

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<p>Climate Smart Brownfields Manual, United States Environmental Protection Agency, Office of Land and Emergency Management (5105T), EPA 560-F-21-002, June 2021</p> <p>https://www.epa.gov/sites/default/files/2021-06/documents/final_climate_smart_brownfields_manual_6-10-21_508_complaint.pdf</p>	<p>Analysis of Brownfield Cleanup Alternatives: If during the site assessment, contamination is found to exceed risk-based cleanup requirements for proposed reuse, cleanup options should be identified and their effectiveness evaluated. To ensure that cleanups remain effective as the climate changes, EPA has added a new term and condition starting in the FY13 Cleanup and Revolving Loan Fund (RLF) grants that requires recipients to “evaluate the resilience of the remedial options in light of reasonably foreseeable changing climate conditions (e.g., sea level rise, increased frequency and intensity of flooding and/or extreme weather events, etc.).”</p> <p>An Analysis of Brownfield Cleanup Alternatives (ABCA) is required of EPA Cleanup and Revolving Loan Fund (RLF) grant recipients. The ABCA provides an excellent opportunity for brownfield communities to evaluate the resilience of the remedial options in light of reasonably foreseeable changing climate conditions (e.g., sea level rise, increased frequency and intensity of flooding and/ or extreme weather events, etc.).</p> <p>Example reference: Checklist: How To Address Changing Climate Concerns in an Analysis of Brownfield Cleanup Alternatives (ABCA)</p>

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SOURCE	FINDINGS/NOTES	
Consider Sea Level Rise During Brownfields Redevelopment, United States Environmental Protection Agency, Office of Brownfields and Land Development, December 2020 Consider sea-level rise during brownfields redevelopment (pdf) (12/2020, EPA 560-F-20-178)	<i>How does sea level rise impact coastal properties?</i> <ul style="list-style-type: none">• Causes frequent flooding and potentially permanent inundation in low-lying coastal areas.• Expands flooding during coastal storms.• Increases shoreline erosion.• Elevates groundwater levels.• Mobilizes debris and contaminants.• Impedes stormwater drainage.• Damages critical infrastructure like roads, water and wastewater systems, telecommunication, and energy supplies.• Damages buildings and other development investments.	<i>A four-step exposure screening process to understand the risks of sea level rise:</i> <ol style="list-style-type: none">1. Explore sea level rise projections for planning & design scenarios.2. Visualize potential flooding at the brownfield site and surrounding area.3. Determine impacts of potential high tides and storms.4. Incorporate findings into decisions on cleanup and redevelopment planning. Example measures are provided.