SIXTH FIVE-YEAR REVIEW REPORT FOR UNIVERSAL OIL PRODUCTS SUPERFUND SITE EAST RUTHERFORD, NEW JERSEY

Prepared by

U.S. Environmental Protection Agency
Region 2
New York, New York

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Pat Evangelista, Director
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Date

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LIST OF ABBREVIATIONS & ACRONYMS

ACO	Administrative Consent Order
ARAR	Applicable or Relevant and Appropriate Requirement
BCSA	Berry's Creek Study Area
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
EPA	United States Environmental Protection Agency
FYR	Five-Year Review
ICs	Institutional Controls
IRM	Interim Remedial Measure
mg/kg	Milligram per Kilogram
mg/L	Milligram per Liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NJDEP	New Jersey Department of Environmental Protection
NJSEA	New Jersey Sports and Exhibition Authority
NPL	National Priorities List
NTCRA	Non-Time-Critical Removal Action
O&M	Operation and Maintenance
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenys
ppm	Part per Million
PRP	Potentially Responsible Party
RAO	Remedial Action Objectives
RD	Remedial Design
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
SVOCs	Semivolatile Organic Compounds
TBC	To be considered
TDS	Total dissolved solids
TEVE	Thermally Enhanced Vapor Extraction
UOP	Universal Oil Products
VISL	Vapor Intrusion Screening Levels
VOC	Volatile Organic Compounds

I. INTRODUCTION

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in FYR reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency (EPA) is preparing this FYR report pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Contingency Plan (NCP) (40 CFR Section 300.430(f)(4)(ii)), and considering EPA policy.

This is the sixth FYR for the Universal Oil Products (UOP) Superfund Site. The triggering action for this statutory review is the completion date of the previous FYR. The FYR has been prepared due to the fact that hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

The Site consists of three operable units, one of which is addressed in this FYR. This five-year review addresses Operable Unit 1 (OU1) which is generally described as the uplands portion of the Site. Operable Unit 2 (OU2) addresses the former lagoons, waterways and wetlands. The OU2 interim remedy is currently designed but remedial action has not begun and therefore OU2 is not included in this review. A future OU3 Record of Decision (ROD) will select a final remedy for the Site as appropriate.

The UOP Superfund Site FYR was led by Brandon Holsten, EPA Remedial Project Manager (RPM). EPA participants included: Dr. Lora Smith-Staines, human health risk assessor, Dr. Abigail DeBofsky, ecological risk assessor and Sabrina Gonzalez, hydrogeologist. Dylan Zaliwski of the New Jersey Department of Environmental Protection (NJDEP) was informed about the review and was consulted during development of the FYR. Honeywell International, Inc. was notified of the initiation of the five-year review and participated in the FYR Site visit. The review began on 8/27/2025.

Site Background

The UOP Superfund Site consists of an approximately 75-acre site located in the Borough of East Rutherford, Bergen County, New Jersey (Figure 1). The Site, once a chemical facility, is in an urban/industrial area, and a portion of the Site is within the Hackensack Meadowlands District, which is administered in part by the New Jersey Meadowlands Commission. The UOP property is surrounded by undeveloped tidal marshes, highways, and commercial and light industrial properties. Berry's Creek, a tidal tributary of the Hackensack River, is located along the eastern border of the UOP Site. The closest residential area is approximately one-half mile to the west. The Site is zoned for commercial and industrial development.

OU1 is the former location of industrial operations conducted by Union Ink Company and the former Trubek Laboratories, Inc. (Trubek). In the early 1930s, a factory was constructed west of the New Jersey Pascack Valley Railroad tracks. The Union Ink Company manufactured printing inks, lacquers, enamels,

coatings, and silk-screening inks from 1930 to 1945. In 1932, Trubek began operation of an aroma chemical laboratory that produced components for the fragrance and flavorings industries.

In 1955, Trubek acquired Truland Chemical and Engineering Co., Inc. (Truland) of Union, NJ and began development of the area east of the New Jersey Pascack Valley railroad tracks to accommodate the purchase. Trubek constructed and began operating a wastewater treatment plant and two wastewater holding lagoons by 1956.

The Universal Oil Products Company acquired title to the Site in 1963 and operated a solvent recovery facility and wastewater treatment facility. Between 1956 and 1971, seepage from the wastewater lagoons and routine handling of products and wastes resulted in the release of various hazardous substances to the upland soils and groundwater and the tidal marshes and waterways. About 4.5 million gallons of waste solvents and solid chemical wastes were dumped into two unlined lagoons during this time, which resulted in contamination of soils, surface water and groundwater.

Universal Oil Products Company was renamed UOP, Inc. in 1975. Between 1975 and 1979, The Signal Companies acquired UOP. In 1979, UOP became a subsidiary of the Signal Companies, a corporate predecessor of Honeywell International Inc. and subsequently ceased operations at the Site. UOP is currently a wholly owned subsidiary of Honeywell. The property west of New Jersey Transit Pascack Valley Line is owned by Honeywell. NJSEA owns the property east of the New Jersey Transit Pascack Valley Line.

The Universal Oil Products Site was placed on the National Priorities List (NPL) on September 8, 1983.

SIXTH FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Universal Oil Products (UOP)		
EPA ID: NJD002005106		
Region: 2	**State:** NJ	**City/County:** East Rutherford, Bergen County
SITE STATUS		
NPL Status: Final		
Multiple OUs? Yes	**Has the site achieved construction completion?** No	
REVIEW STATUS		
Lead agency: EPA		
Author name (Federal or State Project Manager): Brandon Holsten		
Author affiliation: USEPA, Region 2		
Review period: 8/27/2025 - 3/10/2026		
Date of site inspection: 2/10/2026		

Type of review: Statutory
Review number: 6
Triggering action date: 3/10/2021
Due date *(five years after triggering action date)*: 3/10/2026

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

A Remedial Investigation/Feasibility Study (RI/FS) for OU1, conducted in the early 1990s by the potentially responsible party under NJDEP oversight, found that soils at the Site were contaminated with polychlorinated biphenyls (PCBs) and polycyclic aromatic hydrocarbons (PAHs) and presented unacceptable human health carcinogenic risk levels up to 4.4 $x10^{-4}$. In addition to the baseline risk assessment, some other factors indicated that human health and the environment may potentially be affected at the Site. EPA performed an independent risk evaluation for 1,1,2,2- tetrachloroethane (1,1,2,2-TCA) and found that some Site soils fell within the 10^{-4} to 10^{-6} risk range. After completion of the risk assessment, additional samples were taken for lead which found that some of the samples were a magnitude greater than previously measured, with a maximum level of 14,100 parts per million (ppm) lead being detected which exceeded EPA and NJDEP guidelines. Volatile organic compounds (VOCs) were found in some Site soils as well as shallow groundwater at the Site.[1] The OU1 RI/FS concluded that contamination had not affected the deeper potable aquifer due to separation from the shallow aquifer by 100 feet of varved clay, a vertical hydraulic gradient tending to be upward, and a lack of dense non-aqueous phase liquid.

The Seep/Sewer Investigation evaluated the migration of VOCs and Semivolatile Organic Compounds (SVOCs) in shallow groundwater to surface water via groundwater seeps related to the various sewer networks present at the UOP Site. This study determined that relatively high levels of VOCs were present in the sewer system and were discharging to Ackermans Creek. The study also demonstrated that while SVOCs were present in the groundwater, migration to the sewer system and stream was minimal.

In addition to human health risks, the risks to the environment were considered. A preliminary survey of terrestrial plants and wildlife on the Site was conducted in October 1988. The survey of terrestrial animals and both woody and herbaceous vegetation indicated no differences between study and reference areas that might be associated with environmental impact. Based on the results of the preliminary survey, it was determined that no further studies were warranted.

Response Actions

Investigations conducted by the potentially responsible party under NJDEP oversight, completed in May 1985, provided sufficient information for NJDEP to direct the potentially responsible party (PRP) to perform a removal action for contamination at the waste lagoons (Area 3). Contaminated media in the

[1] Groundwater at the Site exists in two units. The upper unit consists of a layer of fill on top of an organic layer called meadow mat. This unit is isolated horizontally by the on-site surface waters and is generally brackish. In 1996, New Jersey designated this shallow aquifer at the site as Class III-B, non-potable and hydraulically connected to a saline water body.

lagoons included water, waste sludges, and sediments. The removal action was conducted in 1990 by the PRP with state oversight pursuant to the May 23, 1986 Administrative Consent Order (ACO) with New Jersey. The ACO required the excavation of all contaminated materials off site. The lagoons were dredged or excavated to the underlying clay and the berm between the two lagoons removed, resulting in one larger lagoon. No backfill was placed. This action was completed in August 1990.

OU1 includes the upland areas of the UOP Site (see Figure 1), which was divided into six areas (Areas 1, 1A, 2, 3, 4, and 5) during the RI/FS. Areas 1, 1A, 2 and 5 were included in the September 1993 OU1 ROD which addressed the threats due to contaminated soils and shallow groundwater (referred to as "leachate" in the ROD) in these upland areas. The remedial actions selected in the OU1 ROD include final actions for PCB, PAH and lead contaminated soils, and an interim action for VOC contamination in soils and shallow groundwater. The designations of Areas 1, 1A, 2, 3, 4 and 5, as well as the term "leachate" for shallow groundwater, are not currently utilized for characterizing the Site, and are included in this FYR to allow for understanding of past decisions and actions as described in historic documents. The major components of the selected remedy include the following:

For PCB/PAH-contaminated soils:

- Excavation and on-site treatment by thermal desorption of approximately 6,800 cubic yards of highly contaminated soil. Contaminated soils with PCB concentrations greater than 25 ppm or PAH concentrations greater than 29 ppm must be treated to below 10 ppm PCB and below 20 ppm PAH, placed on site, and covered. Soil cover must be at least 2 feet in depth.
- Soil cover for contaminated soils with PCB concentrations less than 25 ppm (4.9 acres). All soils above remediation goals established in the ROD must be covered. Soil cover must be at least 2 feet in depth.
- Institutional controls (deed restrictions) to prevent direct contact with remaining contamination.

For VOC-contaminated soils:

- Excavation and on-site treatment by thermal desorption of approximately 7,000 cubic yards of soil with VOC concentrations above the remediation goal of 1,000 ppm total VOCs, and placement of treated soils on site.
- On-site thermal desorption will also be used to treat contaminated soils associated with storm sewers on site.

For lead-contaminated soils:

- Soil cover/impermeable cap (3.7 acres) for all soil above the remediation goal of 600 ppm of lead.
- Institutional controls (deed restrictions) to prevent direct contact with remaining contamination.

For VOC-contaminated leachate (shallow groundwater):

- Leachate collection from trenches and pits;
- On-site treatment of an estimated 5.6 million gallons of leachate exceeding remediation goals identified in the ROD; and
- Discharge of treated effluent to groundwater. The areas delineated for leachate treatment are based on delineation criteria of 10 milligrams per liter (mg/l) of total VOCs or 1 mg/l of individual VOCs.

Remedial Action Objectives (RAOs) were not specifically identified in the OU1 ROD. As documented in the 2022 ROD Amendment (see below for more information), the purpose of the remedial action selected in OU1 was to minimize or eliminate dermal contact with contaminated soils and minimize or eliminate leaching of contaminants through the soil and into underlying shallow groundwater or to surface water. At the time of the OU1 ROD, the remediation goals, displayed below in Table 1, were developed using the New Jersey Soil Cleanup Criteria, which were subsequently superseded by the promulgated New Jersey Soil Remediation Standards.

Table 1: Remediation Goals for Soils (OU1 ROD)	
Contaminant	Cleanup Goal (mg/kg)
Benzo(b)fluranthene	4
Benz(a)anthracene	4
Benzo(a)pyrene	0.66
Benzo(k)fluoranthene	4
Chrysene	40
Dibenz(ah)anthracene	0.66
Indeno(1,2,3-cd)pyrene	4
PCBs	2
Lead	600
VOCs	1000
1,1,2,2-Tetrachloroethane	21*

*The current New Jersey Soil Remediation Standard for 1,1,2,2- Tetrachloroethane (1,1,2,2-TCA) is 3 mg/kg for nonresidential direct contact. Please see the response to Question B for additional information.

The remedial action described in the ROD addressed known soil contamination, and shallow groundwater in the OU1 upland areas. As discussed above, the selected remedial alternative for OU1 was identified as an interim remedy, specifically with regard to whether the VOC-contaminated soil treatment and leachate removal were sufficient to protect the surface water quality of Ackermans Creek and groundwater. A final decision for VOC-contaminated soil and shallow groundwater was determined in the 2022 ROD Amendment.

The 1993 remedy was amended in 1998 due to inefficiencies in the operation of the thermal desorption unit to address PCB and PAH contaminated soils. This unit was also the source of odor complaints from workers at an adjoining property. In December 1998, a ROD Amendment was issued. The major components of the modified remedy are as follows:

- Approximately 6,200 tons of remaining soils with concentrations greater than the remedial action goals for PCBs and PAHs will be excavated;
- Soils with carcinogenic PAHs above the remediation goals will be disposed off-site; Soils with PCB concentrations at or above 50 ppm will be disposed of in a Toxic Substances Control Act-permitted landfill;

- Soils with PCB concentrations above 2 ppm but below 50 ppm will be disposed of in a Resource Conservation and Recovery Act Subtitle D permitted landfill.

An ESD in April 1999 changed the remedy technology for VOC-contaminated soils from thermal desorption to Thermally Enhanced Vapor Extraction (TEVE).

In 2022, EPA issued a ROD Amendment for OU1 that selected no further remedial action for the shallow groundwater discharging to the surface water at OU1 of the Site and adding an institutional control to address the potential for vapor intrusion in new construction at OU1.

In 2007, an interim remedial measure (IRM) was conducted by NJDEP in accordance with New Jersey site remediation guidelines along the proposed path of a commuter rail right-of-way through the Site because, after completion of the rail line, soils and sediments in that right-of-way would no longer be accessible. This interim action consisted of excavation and off-site disposal of contaminated soil and sediment under areas where the railroad tracks would be supported by pilings, and burial of contamination under clean soil (effectively capping) in areas where the railroad track would be elevated on soil embankments. The New Jersey Pascack Valley rail line opened in 2009, and is active for specific events at the Meadowlands Sports complex.

NJDEP was the lead agency for the Site from 1982 to 2008. In July 2008, EPA assumed the role of lead agency. In September 2010, EPA and Honeywell, a PRP for the Site, entered into a Settlement Agreement to complete the RI/FS activities for OU2 and to perform an Engineering Evaluation/Cost Analysis (EE/CA) for a Non-Time-Critical Removal Action (NTCRA) to address PCB, mercury and chromium contamination for the berms of the lagoon and the surrounding area. The NTCRA included excavation and off-site disposal of the lagoon berms and sediment followed by the placement of a 1-foot layer of sand on the bottom of the excavated area. The NTCRA Action Memo was issued in 2012 and the NTCRA was completed in 2013. In 2019, EPA issued a ROD for OU2 that selected an interim remedy for the waterways and an ESD for the OU2 ROD was signed in February 2023. As discussed in the introduction, OU2 is not included in this FYR.

In 2024, EPA finalized the deletion of a 17-acre soils portion of OU1 as EPA determined that the response actions that have been taken are protective of public health and the environment.

Status of Implementation

Remedial construction under the 1993 ROD began in March 1996 and most of the physical construction work was completed by 1999. As of the date of the December 1998 ROD amendment, approximately 8,200 tons of the 14,400 tons of PCB/PAH contaminated soil on the Site had been treated by thermal desorption. During implementation, the PRP proposed several adjustments to the remedy, including lowering the thermal treatment goal for PCBs to less than the 2 ppm that was memorialized in the ROD, and placement of all treated materials beneath a multimedia cap. As these would provide additional protection, they were accepted by NJDEP and EPA. The soil that was treated, as well as less contaminated PCB/PAH soil, was placed in an on-site containment area along with lead contaminated soil.

Because of the problems with the thermal desorption system, the PRP chose to investigate other treatment options for the VOC-contaminated soils. In June 1998, a pilot test was conducted on the

remaining 2,000 cubic yards of VOC-contaminated soil using a TEVE system. Final soil sample results demonstrated that TEVE successfully treated the VOC-contaminated soils to the remediation goals in the ROD and this change was documented in the 1999 ESD.

A collection system for shallow groundwater was installed in the upland areas. Over 2,800 linear feet of collection trenches, along with sumps and underground piping were installed. Once extracted, the water was conveyed to the water treatment plant, where it was treated with granular activated carbon. Treated water was discharged on site. A total of approximately 7 million gallons of shallow groundwater was extracted and treated. Groundwater collection and treatment started in 1996 and was completed in December 1998.

There are two Remedial Action Reports for OU1; one for the upland areas east of the Pascack Valley Rail Line which includes Areas 1, 1A, 5 and the shallow groundwater interim remedial action, and another for an area west of the rail line, known as Area 2. The Remedial Action Report for Area 2 documented work completed including excavation of approximately 9,300 cubic yards of PCB/PAH contaminated soil and approximately 300 cubic yards of VOC-contaminated soil; thermal treatment of approximately 4,000 cubic yards of excavated soils; placement of excavated soils above remediation goals but below thermal treatment goals within the on-site containment area covered by a multi-media cap; installation of groundwater collection trenches and collection and treatment of approximately 2 million gallons of groundwater. NJDEP and EPA found several deficiencies in the implementation of the remedial action, which the PRP was required to address. Among these were findings of high PCB levels in post-excavation soil samples along the railroad right-of-way, requiring further delineation, excavation, and off-site disposal. In September 2001, the PRP submitted a revised Remedial Action Report for Area 2 which addressed the actions it took in response to the NJDEP and EPA concerns. In November 2004, NJDEP informed the PRP that NJDEP and EPA considered the remedial activities in Area 2 to have been conducted and completed in accordance with the 1993 ROD, 1998 ROD Amendment and 1999 ESD. The Area 2 Remedial Action Report - Addendum was submitted in July 2006 to describe remedial activities associated with the redevelopment that occurred in Area 2. A Supplemental Addendum to the Remedial Action Report for Area 2 was submitted in August 2008 to address some of EPA's concerns with respect to the potential for vapor intrusion.

According to the Remedial Action Report for Areas 1, 1A and 5, work completed includes: excavation of approximately 27,000 cubic yards of soils primarily contaminated with PCBs and PAHs, approximately 13,000 cubic yards of VOC-contaminated soil, and 15,000 cubic yards of lead contaminated soil; thermal treatment of approximately 10,500 cubic yards of excavated soil; installation of groundwater collection trenches and collection and treatment of approximately 4.8 million gallons of groundwater; placement of excavated soils above remediation goals but below thermal treatment goals within the on-site multi-media containment area; and construction of a multi-media cap over excavated soils. The Remedial Action Report for Areas 1, 1A, and 5 was approved on August 29, 2013.

As a result of the requirements resulting from the seep/sewer investigation, all process, sanitary and storm sewers on site were cleaned or excavated. All manholes were sealed. Sediments removed from all sewers, as well as all excavated materials, were placed within the on-site containment area. As necessary to meet remediation goals, sediments were thermally treated along with the excavated upland soils prior to placement in the containment area.

Under the remedy, the Site will be kept secure, and hazardous substances at the Site will be contained and prevented from leaving the properties via engineering controls, including the cap. All upland site perimeters are enclosed by a security fence. Access to the Site via the unfenced portion of the site perimeter is limited by the marshes and tidal channels. In addition, the containment area is enclosed by a fence to prevent unauthorized access. A monitoring program, consisting of cap maintenance and inspection activities, is currently in place to determine the effectiveness of the remedy. NJDEP has required the establishment of deed notices for areas of the Site where contamination remains. Deed notices are currently in place for the Site. The OU1 remedy is fully implemented and portions of the Site have been returned to commercial and transportation use.

IC Summary Table

Table 2: Summary of Planned and/or Implemented ICs

Media, engineered controls, and areas that do not support UU/UE based on current conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
Soils	Yes	Yes	Upland areas	To prevent residential exposure and protect the cap.	Deed Restriction (2/18/2019)
Soils/Groundwater/ Indoor Air	Yes	Yes	Entire OU1 Area	To prevent future indoor air impacts from potential vapor intrusion	Block 104 Deed Restriction (6/9/2023); Block 105.01 Deed Restriction (2/11/2026)

Systems Operations/Operation & Maintenance

The PRP conducts routine maintenance of the site including mowing and grubbing the capped area, and filling any areas that may show signs of erosion or damage from burrowing animals. Inspections are conducted semi-annually and include the capped area, drainage structures, and security fences and locks. In the last five years, inspections indicated that the cap has remained intact and maintenance activities preserving the integrity of drainage structures and fencing have been maintained. There are no cleanup process operations or sampling currently ongoing.

Potential Site impacts from severe weather events have been assessed, and the performance of the remedy may be impacted by the following expected effects in the region and near the Site: changes in flooding and coastal inundation, as documented in Appendix D. Three examples of extreme storm events in recent history are Hurricane Irene in August 2011, Superstorm Sandy in October 2012, and Hurricane Ida in August 2021. The Site and remedy were inspected after these three events, and no damage to the cap or any other component of the remedy was observed. Progress reports covering the semiannual inspections are submitted as a requirement of the ACO between UOP and New Jersey. While the PRP has been performing regular inspections and maintenance, the O&M plan has not been finalized. The final O&M plan for the Site needs to be developed and approved to establish formal requirements for inspecting, operating, and maintaining the remedy in the future. While site

inspections have occurred following significant storm events, the development of the final O&M plan should include the development of a severe weather preparedness plan and require site inspections following significant storm events as performance of the remedy may be impacted due to these expected effects.

III. PROGRESS SINCE THE LAST REVIEW

This section includes the protectiveness determinations and statements from the last FYR as well as the recommendations from the last FYR and the current status of those recommendations.

Table 3: Protectiveness Determinations/Statements from the 2021 FYR

OU #	Protectiveness Determination	Protectiveness Statement
1	Short-term Protective	The remedies for OU1 are currently protective of human health and the environment in the short term because all exposure pathways have been addressed. In order to be protective in the long term, the PRP must conduct monitoring and evaluate the potential for groundwater discharge containing VOCs to surface water so that a final decision related to VOC-contaminated shallow groundwater can be made. In addition, ICs to prevent future air impacts from potential vapor intrusion need to be included in the final decision document for OU1.

Table 4: Status of Recommendations from the 2021 FYR

OU #	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
1	Groundwater discharge to surface water was not evaluated in the OU1 remedial investigation.	Conduct monitoring and evaluate potential for groundwater discharge containing VOCs to surface water so final decision related to VOC contaminated shallow groundwater can be made.	Completed	Monitoring and evaluation conducted as part of the OU2 RD. Based on the findings of this study, a no further action final remedy was selected for shallow groundwater in 2022 ROD Amendment.	9/23/2022
1	VOCs in soil and groundwater were not evaluated in the OU1 remedial investigation for vapor intrusion.	ICs to require vapor intrusion controls for new construction are needed.	Completed	A final decision document was issued in 2022 requiring ICs to prevent future air impacts from potential vapor intrusion. ICs, in the form of a Deed Notice, were established to require vapor intrusion controls for new construction.	Block 104, Lot 1.01 & 1.02 completed 6/9/2023 Block 105.01, Lot 8 completed 2/11/2026

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Involvement & Site Interviews

On July 21, 2025 EPA Region 2 posted a notice on its website indicating that it would be reviewing site cleanups and remedies at Superfund sites in New York, New Jersey, and the U.S. Virgin Islands, including the Universal Oil Products Site. The announcement can be found at the following web address: https://www.epa.gov/superfund/R2-fiveyearreviews.

In addition to this notification, the EPA Community Involvement Coordinator for the Site, Maya Greally, posted a public notice on the EPA site webpage https://www.epa.gov/superfund/universal-oil and provided the notice to East Rutherford by email on February 19th with a request that the notice be posted in municipal offices and on the village/town webpages. This notice indicated that a Five-Year Review would be conducted at UOP to ensure that the cleanup at the Site continues to be protective of human health and the environment. Once the FYR is completed, the results will be made available at the following repository/ies East Rutherford Memorial Library, 143 Boiling Springs Avenue, East Rutherford, New Jersey 07073. In addition, the final report will be posted on the following website: https://www.epa.gov/superfund/universal-oil. Efforts will be made to reach out to local public officials to inform them of the results.

Data Review

As stated previously, O&M currently consists of site inspections and vegetative monitoring and will continue to be implemented for OU1. There is no sampling ongoing. Therefore, no data was collected as part of this FYR.

Site Inspection

The inspection of the Site was conducted on 2/10/2026. In attendance were Brandon Holsten, Lora Smith, Abbey States, Sabrina Gonzalez, Josh Smeraldi, and Alice Yeh from EPA Region 2. Also in attendance were Dylan Zaliwski from NJDEP, Milena Cunningham of GES (Honeywell consultant), and Chris Engler of Arcadis (Berry's Creek Group consultant). The purpose of the inspection was to assess the protectiveness of the remedy.

The Site was observed to be secured and in good condition. The soil cover/cap installed to isolate the PAH/PCB- and lead-contaminated soils was not able to be observed during this site inspection due to significant snow cover on the Site. The chain-link fence that surrounds OU1 and the cap/cover was in good condition with no breaks or holes in the fencing observed but a few maintenance items were noted such as a downed sign at the entrance of the property, which is being addressed. An additional site inspection will be performed to confirm the condition of the cap and regular site inspections will continue in the subsequent five-year review period.

V. TECHNICAL ASSESSMENT

QUESTION A: Is the remedy functioning as intended by the decision documents?

As a result of the implementation of the remedy set out in the 1993 ROD, 1998 ROD Amendment and 1999 ESD, the highly contaminated soils above PAH, PCB, and VOC cleanup goals (see Table 1) were treated and placed into an on-site landfill or were sent off site for disposal. Excavated areas were backfilled with clean fill. Approximately 7 million gallons of shallow groundwater (leachate) were collected and treated from 1996 until the end of 1998. VOC contamination in shallow groundwater that remained was evaluated as part of the OU2 RD to ensure that the remedial actions taken were sufficient to protect the surface water quality of Ackermans Creek and groundwater. The groundwater discharge monitoring study was completed in 2022 and based on the findings of this study, a no further action final remedy was selected for shallow groundwater in the 2022 OU1 ROD Amendment.

Site inspections are completed semiannually to perform routine maintenance to the OU1 clay cap and confirm the permanent chain-link fencing that surrounds the containment area and locking gate is protective and prevents trespassing. Institutional controls are in place to limit future use of the property and to protect and ensure the integrity of the cap. The deed restriction for the portion of the Site east of the Pascack Valley Line was effective as of 2/18/2019. The deed restrictions for vapor intrusion controls were effective for Block 104 as of 6/9/2023 and Block 105.01 as of 2/11/2026, which represents all the areas requiring deed restrictions for vapor intrusion controls. All components of the remedy for OU1 are operating and functioning as intended by the decision documents and the PRP is conducting O&M activities to ensure the remedy remains protective; however, a final O&M plan needs to be developed and approved to establish formal requirements for inspecting, operating, and maintaining the remedy in the future.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

Human Health Risk Assessment
While the 1988 OU1 human health risk assessment was conducted prior to the EPA Risk Assessment Guidance for Superfund (RAGS), the process that was used remains valid. The potentially exposed populations identified for OU1 included: adolescent trespassers, adult commercial workers, and construction workers. These populations continue to be representative of current Site use. No new populations have been identified.

The contaminants identified as part of the 1993 OU1 upland soils ROD were: PCBs, carcinogenic PAHs, VOCs, and lead. At that time, the remedial goals were developed using the New Jersey Soil Cleanup Criteria, which have since been superseded by the promulgated New Jersey Soil Remediation Standards. While some of these values, such as the value for 1,1,2,2-TCA, may have changed since the time of the ROD, they are within an order of magnitude and in most cases only a factor of two greater than current standards. In addition, the remedial goals identified in the 1993 OU1 ROD remain within the acceptable risk range of 10^{-4} to 10^{-6} and continue to be valid. Finally, since contaminated soils in OU1 were treated and capped or excavated with a clean fill cap placed, the direct contact pathways have been interrupted

and prevents exposure. The institutional control to prohibit disturbance of the cap has been filed which will prevent future direct contact from occurring.

The ROD indicates that: "This selected remedy will reduce contamination at the UOP Site to within acceptable levels," however, no RAOs were identified in the OU1 ROD. Based on the ROD, it is inferred that the purpose was to minimize or eliminate dermal contact with contaminated soils and minimize or eliminate leaching of contaminants through the soil and into underlying groundwater or to surface water. As previously noted, the dermal contact pathway is incomplete. The remedial actions also served to eliminate the leaching of contaminants to groundwater, though groundwater is designated as Class-IIIB, non-potable.

Soil vapor intrusion is evaluated when soils and/or groundwater are known or suspected to contain VOCs. Several VOCs were identified above vapor intrusion screening levels in historical groundwater samples in the vicinity of the OU1 buildings including 1,4-dichlorobenzene, 1,2-dichlorobenzene, benzene, chlorobenzene, ethylbenzene, trichloroethene, and vinyl chloride. The previous FYR evaluated the potential for vapor intrusion for the commercial buildings in Area 2 (Lowe's Home Improvement and a Chili's restaurant) of the Site. The findings concluded that a vapor barrier was installed in the Lowe's building and that the vapor intrusion pathway was incomplete within the Chili's restaurant.

Because some residual VOCs exist in the groundwater and the Site may be developed in the future, any additional construction in the vicinity of shallow groundwater VOC contamination needs to be done with consideration of the potential for vapor intrusion (e.g., inclusion of a vapor barrier). Deed restrictions for vapor intrusion for Block 104 Lot 1.01 and 1.02 were enacted in 2023 and Block 105.01 Lot 8 in 2026 to ensure the long term protectiveness of the remedy. Although water level measurements indicated that groundwater flow in the area is generally towards the south/southeast surface water bodies, the 2010 shallow groundwater study did not delineate contamination beyond the site boundaries and the northern extent of shallow groundwater VOC contamination remains uncertain. A warehouse was constructed in 2020 off-site along the northern boundary of UOP within Block 105.01. The building incorporated a vapor mitigation system, and several rounds of post-installation soil gas and indoor air sampling confirm the system's protectiveness against any potential remaining shallow groundwater VOC contamination.

Groundwater and surface water in the area of OU1 are not used for potable purposes. Groundwater discharge to surface water was evaluated in 2022 as part of the OU2 RD. Chlorobenzene, 1,2-dichlorobenzene, and 1,4-dichlorobenzene were detected above project action limits, and only chlorobenzene exceeded NJ's maximum contaminant limit for drinking water. Recreational exposure to surface water in the streamlands is unlikely due to the commercial development in the area, but surface water maximum VOC concentrations were conservatively evaluated for potential current and future exposure. All VOC concentrations were below screening levels calculated for adult and child recreators (assuming 50 days/year exposure, a cancer risk of 10^{-6}, and a hazard quotient of 1); therefore, exposure to surface water VOCs are not currently a human health concern.

Ecological Risk Assessment

Although only a preliminary survey on the potential impacts to terrestrial plants and wildlife was conducted in 1998, which predates the establishment of the EPA Ecological Risk Assessment Guidance for Superfund, a risk evaluation was conducted in 2018 to evaluate the potential ecological impacts from

current Site conditions. In the 2018 "Updated Ecological Risk Evaluation for a portion of OU1 (Uplands), Universal Oil Products, Operable Unit 1, East Rutherford, New Jersey," it was determined that risk from exposure to soil was low, and food web modeling showed no unacceptable risk. Additionally, the habitat is of fair quality, due to its small size (approximately 2 acres) and presence of rubble and pavement throughout the vegetated areas. Because of the presence of industrial and commercial activities around the Site, species adapted to human activity dominate the area, rather than species protected by the Endangered Species Act. Finally, future land use of this area includes redevelopment of the property and construction of warehouses on the Site. Therefore, it can be concluded that soil exposure would not likely result in adverse effects to ecological receptors in OU1 of the UOP Site and the remedy remains protective.

QUESTION C: Has any **other** information come to light that could call into question the protectiveness of the remedy?

No new information has come to light that could call into question the protectiveness of this remedy. There have been no physical changes to the Site that would adversely affect the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations
OU(s) without Issues/Recommendations Identified in the Five-Year Review:
OU1

There are no issues and recommendations included in this FYR.

OTHER FINDINGS

In addition, the following are suggestions that were identified during the FYR and may further improve management of O&M, but do not affect current and/or future protectiveness:

- Due to significant snow cover during the site inspection, an additional in-person inspection will be performed to confirm the condition of the cap and regular site inspections will continue in the subsequent five-year review period.
- Although the PRP is performing routine maintenance activities, the development of the final O&M plan is needed as it describes the requirements for inspecting, operating, and maintaining the remedy to ensure the remedy continues to perform as intended. The final O&M plan should include the development of a severe weather preparedness plan and require site inspections following significant storm events as this will further improve the remedy's resilience. It is expected a final EPA-approved O&M plan will be in place by December2027.

VII. PROTECTIVENESS STATEMENT

Protectiveness Statement(s)	
Operable Unit:1	*Protectiveness Determination:* Protective
Protectiveness Statement: The remedies for OU1 are protective of human health and the environment.	

VIII. NEXT REVIEW

The next FYR report for the Universal Oil Products Superfund Site is required five years from the completion date of this review.

APPENDIX A – REFERENCE LIST

Table 6: Documents, Data, and Information Reviewed in Completing the Five-Year Review	
Document Title	**Submittal Date**
Record of Decision	September 1993
ROD Amendment	December 1998
Explanation of Significant Differences	April 1999
First Five-Year Review Report	September 2001
Second Five-Year Review Report	October 2006
Uplands Groundwater Report for the UOP Site	March 2011
Third Five-Year Review Report	September 2011
Fourth Five-Year Review Report	September 2016
Fifth Five-Year Review Report	March 2021
Memorandum - Evaluation of Shallow Groundwater Concentrations against EPA's Vapor Intrusion Screening Levels	July 2022
Memorandum – Consideration of NJDEP's Reclassification of Class III-B Aquifer at UOP Site	July 2022
Semi Annual Report (Q1/Q2 2022)	July 2022
Groundwater Discharge Monitoring Study Report	September 2022
Record of Decision Amendment	September 2022
Semi Annual Report (Q3/Q4 2022)	December 2022
UOP Block 104 Env. Deed Notice	June 2023
Semi Annual Report (Q1/Q2 2023)	June 2023
Site-Specific Justification for the Partial Deletion from the National Priorities List of the Universal Oil Products Superfund Site	July 2023
Semi Annual Report (Q3/Q4 2023)	December 2023
Semi Annual Report (Q1/Q2 2024)	August 2024
Semi Annual Report (Q3/Q4 2024)	January 2025
Semi Annual Report (Q1/Q2 2025)	July 2025

APPENDIX B – SITE CHRONOLOGY

Site Chronology

Table 7 – Site Chronology

Event	Date
Trubeck Laboratories developed the uplands portion of the site and operated an aroma and fragrance laboratory	1932 to 1979
Trubeck began operating a solvent recovery facility	1955
Trubeck constructed a wastewater treatment plant	1956
Started to utilize two on-site wastewater lagoons	1959
Universal Oil Products (a division of Signal Companies) acquired the property and facilities	1963
The wastewater treatment plant and wastewater lagoons ceased operations	1971
All remaining operations at the facility were closed	1979
UOP became a division of the Signal Companies	1979
All structures, except for the concrete building slabs and the pedestrian bridge across the NJ Transit tracks, were demolished	1980
The UOP Site was added to the National Priorities List (NPL)	1983
An Administrative Consent Order (ACO) was issued by NJDEP for conducting investigations at the UOP Site	1983
Allied Corporation merged with Signal Companies to form AlliedSignal	1984
A second ACO was issued for completing investigations and to conduct a feasibility study	1986
EPA released the Record of Decision of OU1 which addressed uplands soils and leachate. Called for thermal desorption for highly contaminated soils and placement of those treated soils into an on-site cap. Soil cover for less contaminated soils, collection and treatment of leachate (groundwater).	1993
ROD Amendment released by EPA. Treatment option for PCB/PAH contaminated soils was changed from vapor extraction to off-site disposal	1998
Pilot studies were conducted on treating VOC-contaminated soils with thermally enhanced vapor extraction	1998
EPA issued an Explanation of Significant Differences which changed the treatment for VOC-contaminated soils from thermal desorption to thermally enhanced soil vapor extraction.	1999
AlliedSignal became Honeywell International, Inc.	1999
First five-year review issued.	September 28, 2001
NJDEP approved completion of remedial activities for Area 2.	2004

Development of Area 2 initiated. Construction of home center, restaurant and strip mall. During construction, approximately 50,000 cubic yards of contaminated material were excavated and disposed of off-site or stockpiled predominantly on Area 5.	2005
Characterization of contamination under proposed Meadowlands rail alignment	Nov 2005 to Jan 2006
Soil originally from Area 2 (Lowes and strip mall), removed for off-site disposal	2006
Second five-year review issued	September 29, 2006
IRM for material underlying Meadowlands rail alignment	2007
EPA takes lead agency role	2008
Administrative Settlement Agreement and Order on Consent for completing RI/FS for OU2 and to perform NTCRA	September 27, 2010
Third Five-Year Review issued	September 26, 2011
Action Memo for NTCRA	July 12, 2012
NTCRA	Aug 2012 to Mar 2013
RAR for OU1, Areas 1, 1A and 5 Approval	August 29, 2013
NTCRA completion	September 26, 2013
Fourth Five-Year Review	September 27, 2016
Eco Risk Evaluation Report Reviewed	October 31, 2018
Deed restriction filed	February 18, 2019
OU2 ROD	August 12, 2019
AOC for ROD 2 RD signed	May 19, 2020
Vapor Intrusion Study Report Reviewed	Nov 19, 2020
Fifth Five-Year Review	March 10, 2021
Letter of Request for Partial Deletion of Area 2, OU1	August 3, 2021
Groundwater Discharge Monitoring Report Reviewed	July 7, 2022
Evaluation of Shallow GW against EPA's VISLs	July 18, 2022
Consideration of NJDEP's Reclassification of Class III-B Aquifer	July 18, 2022
ROD Amendment for OU1	September 28, 2022
ESD for OU2	February 9, 2023
Deed restriction filed Block 104 Lots 1.01 and 1.02	June 9, 2023
EPA proposes partial deletion of OU1 soils	August 16, 2023
Partial Deletion finalized	February 16, 2024
RD for OU2 finalized	September 30, 2025
Deed restriction filed for Block 105.01 Lot 8	February 11, 2026

APPENDIX C – FIGURES

Figure 1:

Figure 2:

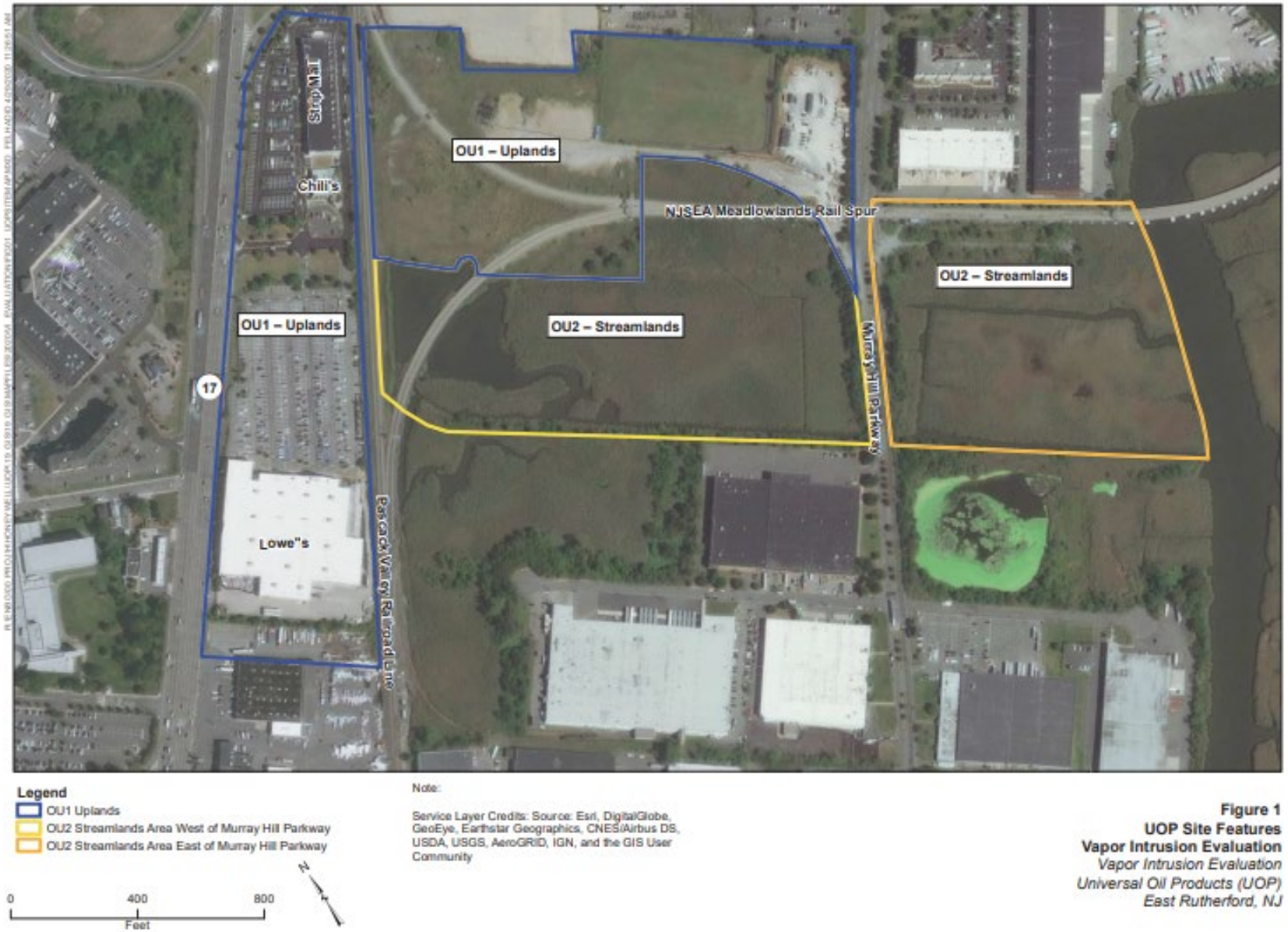


Figure 1
UOP Site Features
Vapor Intrusion Evaluation
Vapor Intrusion Evaluation
Universal Oil Products (UOP)
East Rutherford, NJ

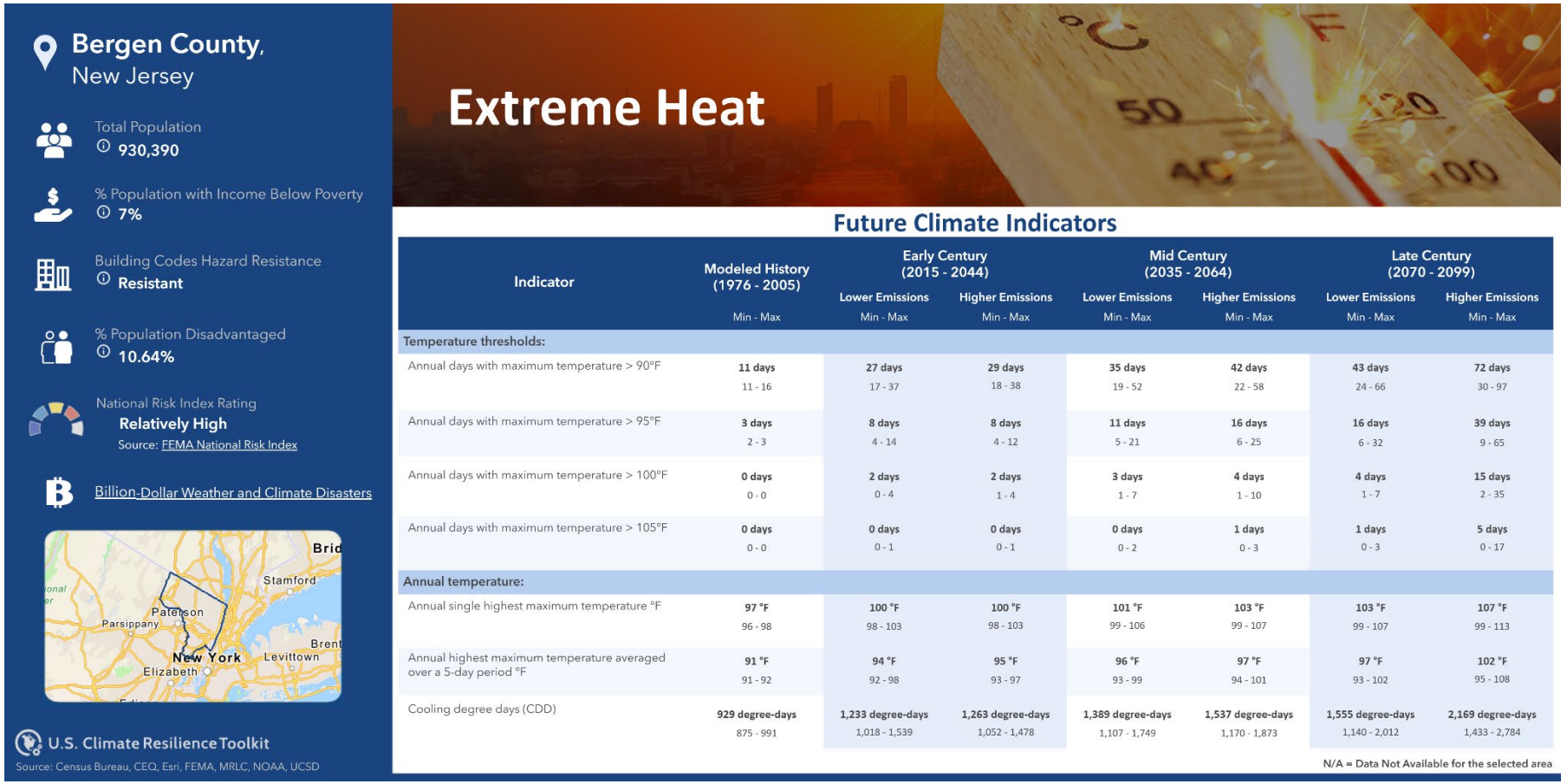
APPENDIX D – REMEDY RESILIENCE

In line with regional practice, two tools were utilized to assess the remedy resilience of UOP. The first tool used to assess UOP was the *CMRA* tool which examined five hazards for the county in which UOP falls. According to this tool, the National Risk Index Rating for extreme heat and flooding is "Relatively High." For extreme heat, there is a projected increase of days per year with maximum temperatures >100°F, as seen in Figure 1. Increases in heat are not expected to impact the remedy, as the multi-media cap does not rely on vunerable materials, asphalt for example, that could be negatively impacted by heat. Flooding, in Figure 2, shows an increase in annual days with precipitation over one inch. Drought and wildfire, two additional hazards evaluated by this tool, each have a National Risk Index Rating of "Very Low." Figures 3 and 4, respectively, show a slight increase in days per year with precipitation and an increase in average annual total precipitation. The final hazard evaluated by this tool, coastal inundation, had a National Risk Index Rating of "Very High" as shown in Figure 5, with the percent of the county impacted by global sea level rise by mid-century (2035-2064) of 1% and late-century (2070-2099) of 2%. Figures 1 through 5 are the findings from the *CMRA* tool and can be found below.

Flooding and coastal inundation were further evaluated using the *NOAA Sea Level Rise Viewer* tool. The Site is geographically located within the watershed that forms the Berry's Creek Study Area, which is an operable unit of the Ventron/Velsicol Superfund Site and the OU2 waterways of UOP are connected to Berry's Creek which is hydraulically connected/drains into the Hackensack River. Based on the proximity of the capped area to Berry's Creek, flooding may be experienced as time passes. Figure 6 shows the Site, and the capped area is marked with a red star, at current conditions. Figure 7 shows the area with a 3-foot sea level rise and Figure 8 highlights the shallow coastal flooding areas prone to high tide flooding at the Site. Each of these figures show that sea level rise to this degree is unlikely to significantly affect the capped area at OU1 since it is at a higher elevation. In addition, the cap structure could withstand a temporary inundation and would shed the water away from OU1 as the flood waters receded, due to its sloped design. Potential damage to OU1 would likely be limited to scouring of the surficial layer of the cap which could be repaired easily.

Potential site impacts from severe weather events have been assessed, and the performance of the remedy may be impacted due to these expected effects. Specifically, the site may be impacted by sea level rise and flooding events, which could negatively impact the cap at the Site. There are three examples of extreme storm events in recent history that impacted the Site including, Hurricane Irene in August 2011, Superstorm Sandy in October 2012, and Hurricane Ida in August 2021. The Site and remedy were inspected after these three events, and no damage to the cap or any other component of the remedy was observed. The final O&M plan for the Site needs to be developed and approved to establish formal requirements for inspecting, operating, and maintaining the remedy in the future. While site inspections have occurred following significant storm events, the development of the final O&M plan should include the development of a severe weather preparedness plan and require site inspections following significant storm events as this will further improve the remedy's resilience.

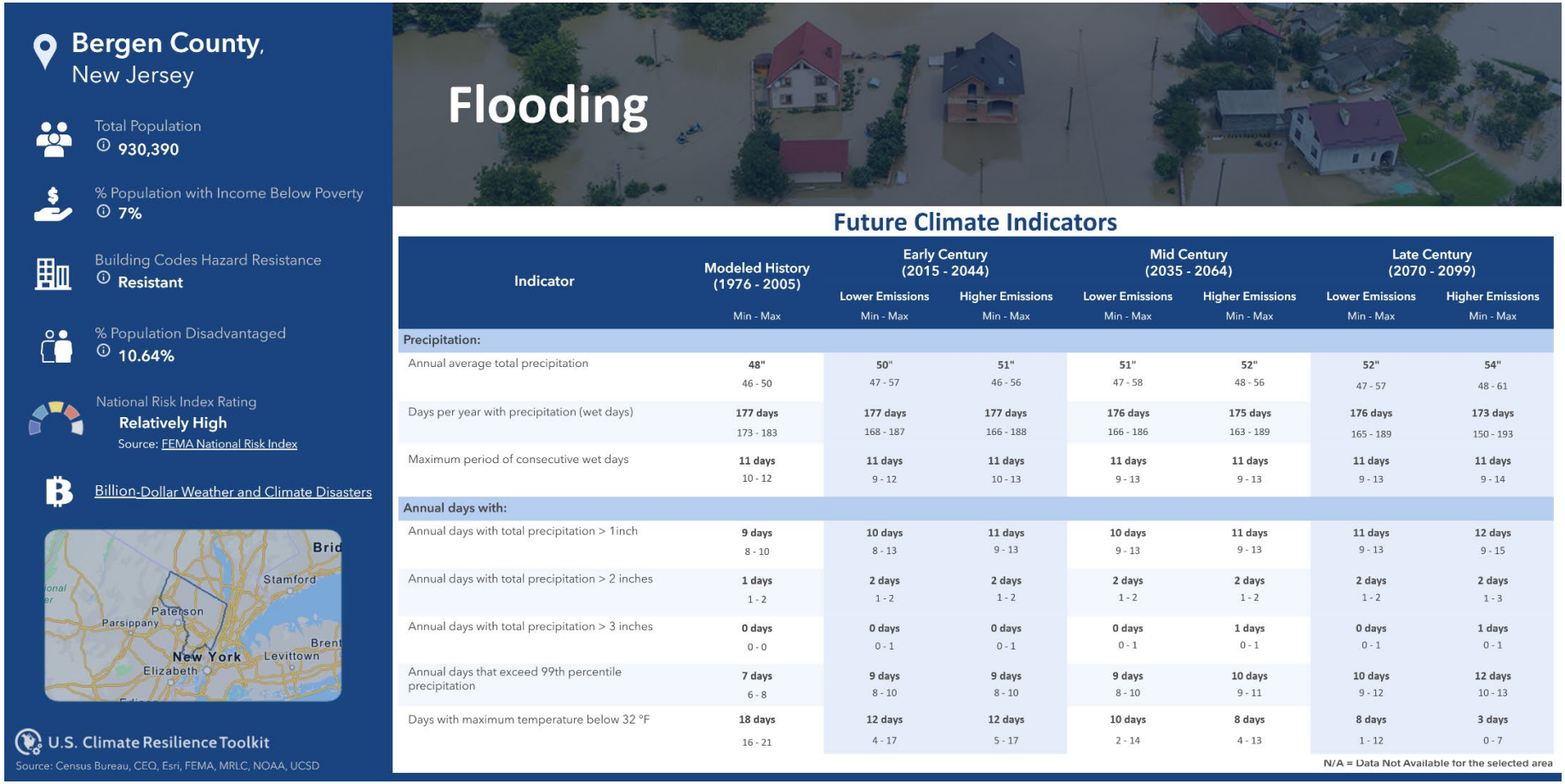
Figure 1:



Indicator	Modeled History (1976 - 2005)	Early Century (2015 - 2044)		Mid Century (2035 - 2064)		Late Century (2070 - 2099)	
		Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions
	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max
Temperature thresholds:							
Annual days with maximum temperature > 90°F	**11 days** 11 - 16	**27 days** 17 - 37	**29 days** 18 - 38	**35 days** 19 - 52	**42 days** 22 - 58	**43 days** 24 - 66	**72 days** 30 - 97
Annual days with maximum temperature > 95°F	**3 days** 2 - 3	**8 days** 4 - 14	**8 days** 4 - 12	**11 days** 5 - 21	**16 days** 6 - 25	**16 days** 6 - 32	**39 days** 9 - 65
Annual days with maximum temperature > 100°F	**0 days** 0 - 0	**2 days** 0 - 4	**2 days** 1 - 4	**3 days** 1 - 7	**4 days** 1 - 10	**4 days** 1 - 7	**15 days** 2 - 35
Annual days with maximum temperature > 105°F	**0 days** 0 - 0	**0 days** 0 - 1	**0 days** 0 - 1	**0 days** 0 - 2	**1 days** 0 - 3	**1 days** 0 - 3	**5 days** 0 - 17
Annual temperature:							
Annual single highest maximum temperature °F	**97 °F** 96 - 98	**100 °F** 98 - 103	**100 °F** 98 - 103	**101 °F** 99 - 106	**103 °F** 99 - 107	**103 °F** 99 - 107	**107 °F** 99 - 113
Annual highest maximum temperature averaged over a 5-day period °F	**91 °F** 91 - 92	**94 °F** 92 - 98	**95 °F** 93 - 97	**96 °F** 93 - 99	**97 °F** 94 - 101	**97 °F** 93 - 102	**102 °F** 95 - 108
Cooling degree days (CDD)	**929 degree-days** 875 - 991	**1,233 degree-days** 1,018 - 1,539	**1,263 degree-days** 1,052 - 1,478	**1,389 degree-days** 1,107 - 1,749	**1,537 degree-days** 1,170 - 1,873	**1,555 degree-days** 1,140 - 2,012	**2,169 degree-days** 1,433 - 2,784

N/A = Data Not Available for the selected area

Figure 2:



Future Climate Indicators

Indicator	Modeled History (1976 - 2005)	Early Century (2015 - 2044)		Mid Century (2035 - 2064)		Late Century (2070 - 2099)	
		Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions
	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max
Precipitation:							
Annual average total precipitation	**48"** 46 - 50	**50"** 47 - 57	**51"** 46 - 56	**51"** 47 - 58	**52"** 48 - 56	**52"** 47 - 57	**54"** 48 - 61
Days per year with precipitation (wet days)	**177 days** 173 - 183	**177 days** 168 - 187	**177 days** 166 - 188	**176 days** 166 - 186	**175 days** 163 - 189	**176 days** 165 - 189	**173 days** 150 - 193
Maximum period of consecutive wet days	**11 days** 10 - 12	**11 days** 9 - 12	**11 days** 10 - 13	**11 days** 9 - 13	**11 days** 9 - 13	**11 days** 9 - 13	**11 days** 9 - 14
Annual days with:							
Annual days with total precipitation > 1inch	**9 days** 8 - 10	**10 days** 8 - 13	**11 days** 9 - 13	**10 days** 9 - 13	**11 days** 9 - 13	**11 days** 9 - 13	**12 days** 9 - 15
Annual days with total precipitation > 2 inches	**1 days** 1 - 2	**2 days** 1 - 2	**2 days** 1 - 2	**2 days** 1 - 2	**2 days** 1 - 2	**2 days** 1 - 2	**2 days** 1 - 3
Annual days with total precipitation > 3 inches	**0 days** 0 - 0	**0 days** 0 - 1	**0 days** 0 - 1	**0 days** 0 - 1	**1 days** 0 - 1	**0 days** 0 - 1	**1 days** 0 - 1
Annual days that exceed 99th percentile precipitation	**7 days** 6 - 8	**9 days** 8 - 10	**9 days** 8 - 10	**9 days** 8 - 10	**10 days** 9 - 11	**10 days** 9 - 12	**12 days** 10 - 13
Days with maximum temperature below 32 °F	**18 days** 16 - 21	**12 days** 4 - 17	**12 days** 5 - 17	**10 days** 2 - 14	**8 days** 4 - 13	**8 days** 1 - 12	**3 days** 0 - 7

N/A = Data Not Available for the selected area

Figure 3:

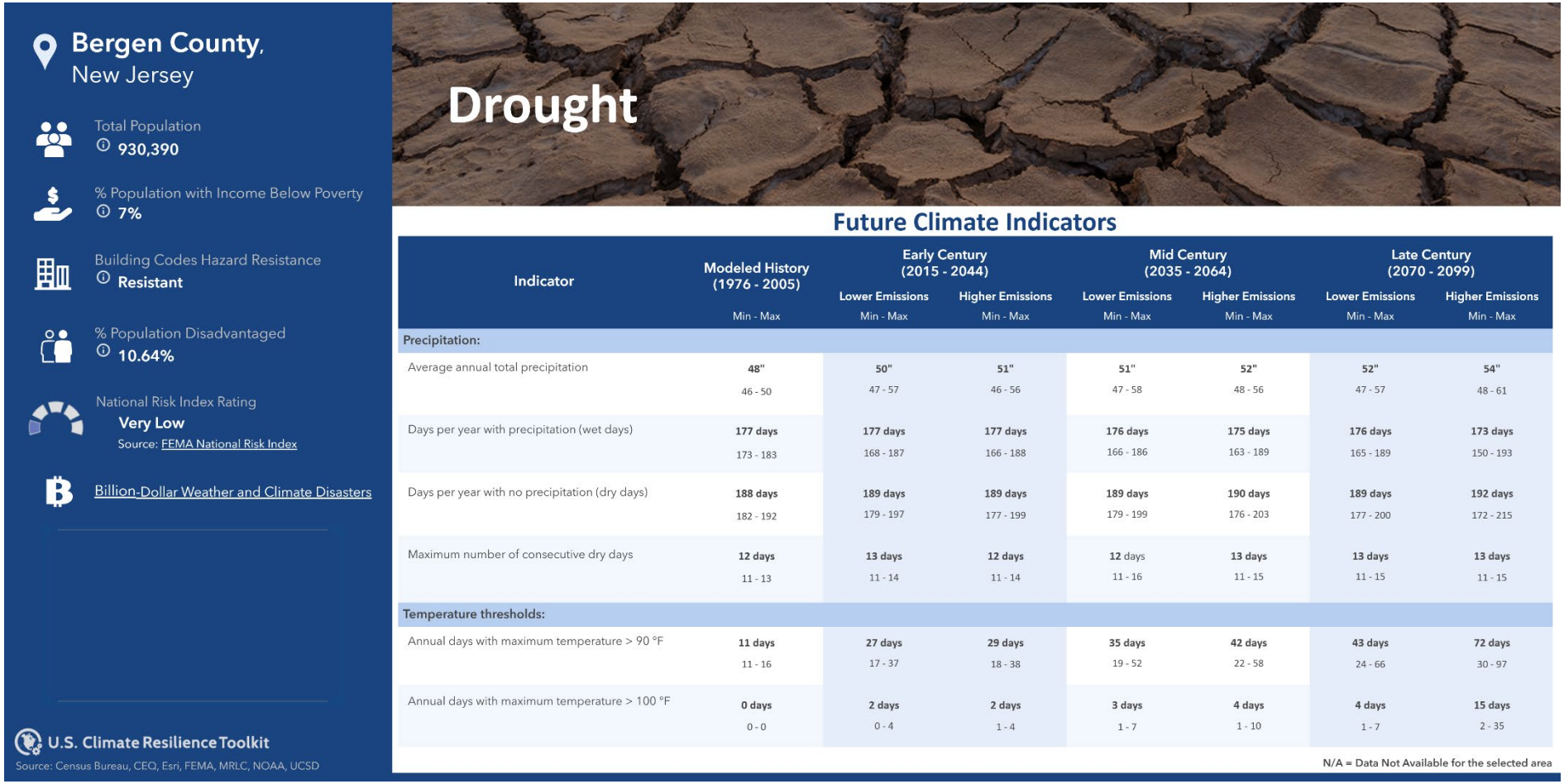

Bergen County,
New Jersey
Total Population
930,390
% Population with Income Below Poverty
7%
Building Codes Hazard Resistance
Resistant
% Population Disadvantaged
10.64%
National Risk Index Rating
Very Low
Source: FEMA National Risk Index
Billion-Dollar Weather and Climate Disasters
U.S. Climate Resilience Toolkit
Source: Census Bureau, CEQ, Esri, FEMA, MRLC, NOAA, UCSD
Drought
Future Climate Indicators
Indicator
Modeled History (1976 - 2005)
Min - Max
Early Century (2015 - 2044)
Lower Emissions
Min - Max
Higher Emissions
Min - Max
Mid Century (2035 - 2064)
Lower Emissions
Min - Max
Higher Emissions
Min - Max
Late Century (2070 - 2099)
Lower Emissions
Min - Max
Higher Emissions
Min - Max
Precipitation:
Average annual total precipitation
48"
46 - 50
50"
47 - 57
51"
46 - 56
51"
47 - 58
52"
48 - 56
52"
47 - 57
54"
48 - 61
Days per year with precipitation (wet days)
177 days
173 - 183
177 days
168 - 187
177 days
166 - 188
176 days
166 - 186
175 days
163 - 189
176 days
165 - 189
173 days
150 - 193
Days per year with no precipitation (dry days)
188 days
182 - 192
189 days
179 - 197
189 days
177 - 199
189 days
179 - 199
190 days
176 - 203
189 days
177 - 200
192 days
172 - 215
Maximum number of consecutive dry days
12 days
11 - 13
13 days
11 - 14
12 days
11 - 14
12 days
11 - 16
13 days
11 - 15
13 days
11 - 15
13 days
11 - 15
Temperature thresholds:
Annual days with maximum temperature > 90 °F
11 days
11 - 16
27 days
17 - 37
29 days
18 - 38
35 days
19 - 52
42 days
22 - 58
43 days
24 - 66
72 days
30 - 97
Annual days with maximum temperature > 100 °F
0 days
0 - 0
2 days
0 - 4
2 days
1 - 4
3 days
1 - 7
4 days
1 - 10
4 days
1 - 7
15 days
2 - 35
N/A = Data Not Available for the selected area

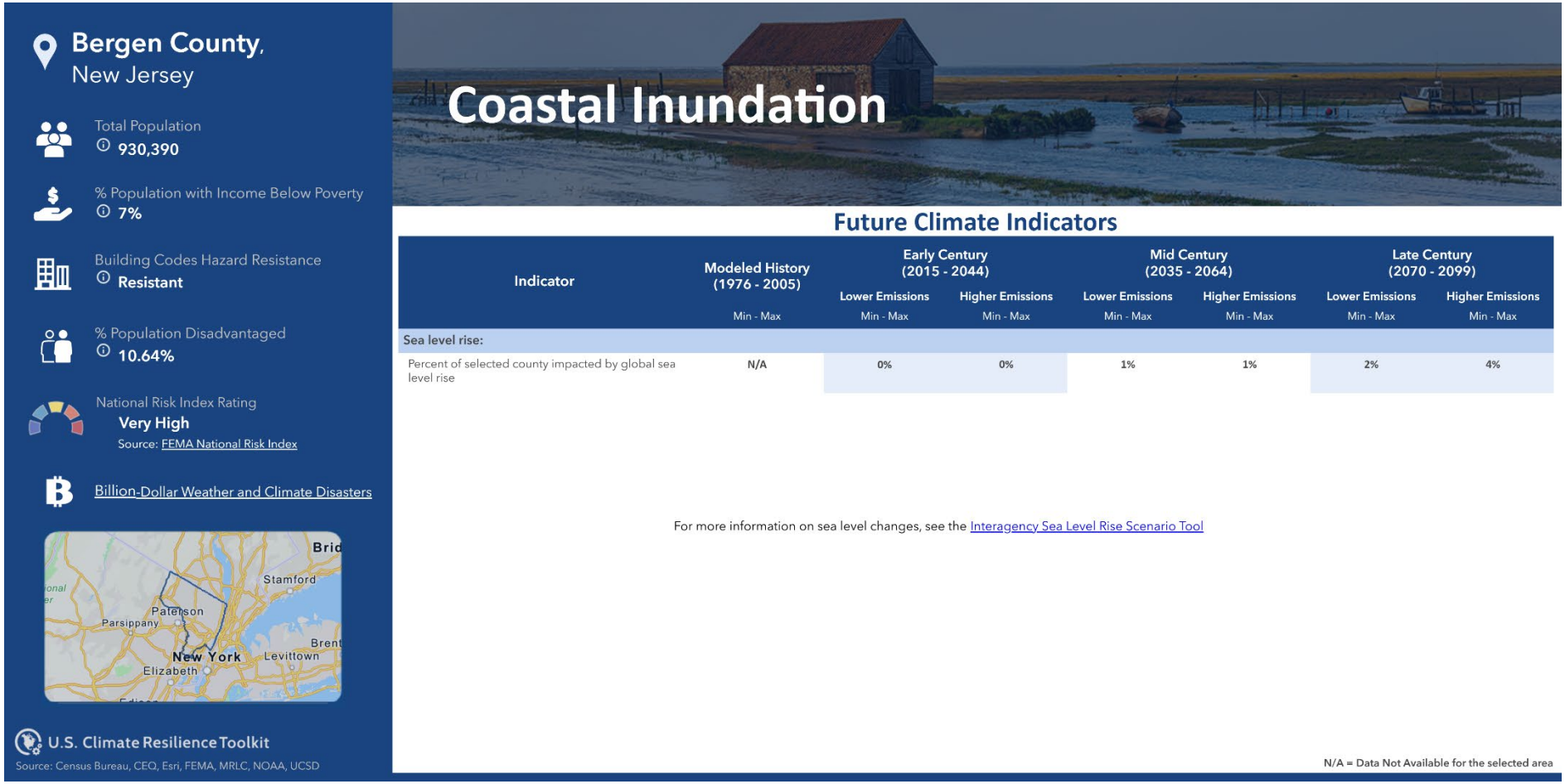
Figure 4:

Future Climate Indicators

Indicator	Modeled History (1976 - 2005)	Early Century (2015 - 2044)		Mid Century (2035 - 2064)		Late Century (2070 - 2099)	
		Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions
	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max
Precipitation:							
Days per year with no precipitation (dry days)	**188 days** 182 - 192	**189 days** 179 - 197	**189 days** 177 - 199	**189 days** 179 - 199	**190 days** 176 - 203	**189 days** 177 - 200	**192 days** 172 - 215
Maximum number of consecutive dry days	**12 days** 11 - 13	**13 days** 11 - 14	**12 days** 11 - 14	**12 days** 11 - 16	**13 days** 11 - 15	**13 days** 11 - 15	**13 days** 11 - 15
Days per year with precipitation (wet days)	**177 days** 173 - 183	**177 days** 168 - 187	**177 days** 166 - 188	**176 days** 166 - 186	**175 days** 163 - 189	**176 days** 165 - 189	**173 days** 150 - 193
Temperature thresholds:							
Annual days with maximum temperature > 90°F	**11 days** 11 - 16	**27 days** 17 - 37	**29 days** 18 - 38	**35 days** 19 - 52	**42 days** 22 - 58	**43 days** 24 - 66	**72 days** 30 - 97
Annual days with maximum temperature > 100°F	**0 days** 0 - 0	**2 days** 0 - 4	**2 days** 1 - 4	**3 days** 1 - 7	**4 days** 1 - 10	**4 days** 1 - 7	**15 days** 2 - 35

N/A = Data Not Available for the selected area

Figure 5: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Stamford
Paterson
Parsippany
New York
Elizabeth
Levittown
U.S. Climate Resilience Toolkit
Source: Census Bureau, CEQ, Esri, FEMA, MRLC, NOAA, UCSD
Coastal Inundation
Future Climate Indicators
Indicator
Modeled History (1976 - 2005)
Min - Max
Early Century (2015 - 2044)
Lower Emissions Min - Max
Higher Emissions Min - Max
Mid Century (2035 - 2064)
Lower Emissions Min - Max
Higher Emissions Min - Max
Late Century (2070 - 2099)
Lower Emissions Min - Max
Higher Emissions Min - Max
Sea level rise:
Percent of selected county impacted by global sea level rise
N/A
0%
0%
1%
1%
2%
4%
For more information on sea level changes, see the Interagency Sea Level Rise Scenario Tool
N/A = Data Not Available for the selected area

Figure 6:


Sea Level Rise Viewer
State Highway 17, East Rutherford, NJ, 07072, USA
Sea Level Rise
Local Scenarios
Mapping Confidence
Marsh Migration
High Tide Flooding
WATER LEVEL
10ft
9.5ft
9ft
8.5ft
8ft
7.5ft
7ft
6.5ft
6ft
5.5ft
5ft
4.5ft
4ft
3.5ft
3ft
2.5ft
2ft
1.5ft
1ft
MHHW
East Rutherford
Wildcat Way
Ann St
Van Winkle St
Orchard St
Stanley St
State Highway 17
Paterson Plank Rd
20th St
Broad St
Meadowlands Rail Line
Ackermans Creek Tributary
TD Bank
Staples
More Resources for Your Community

Figure 7:

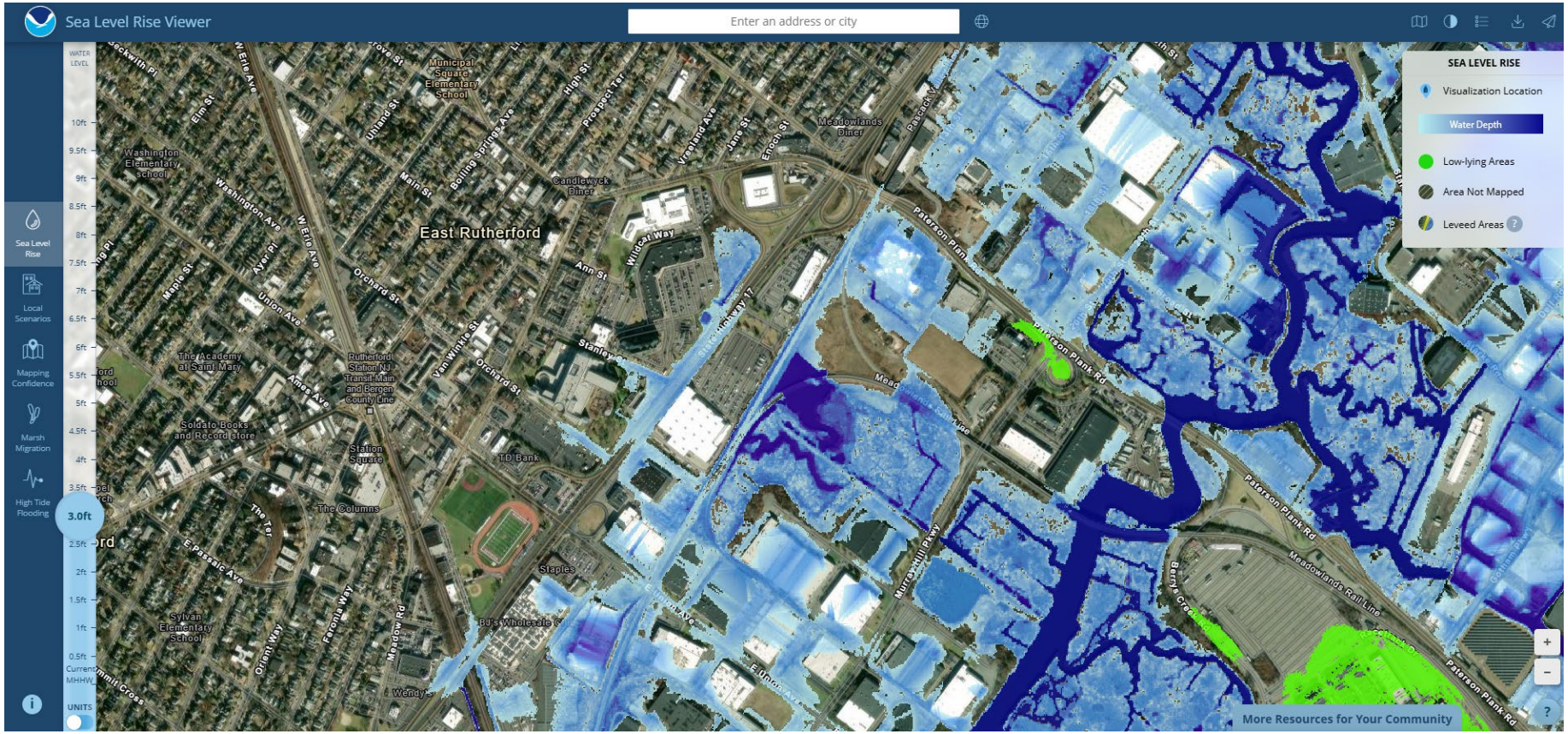
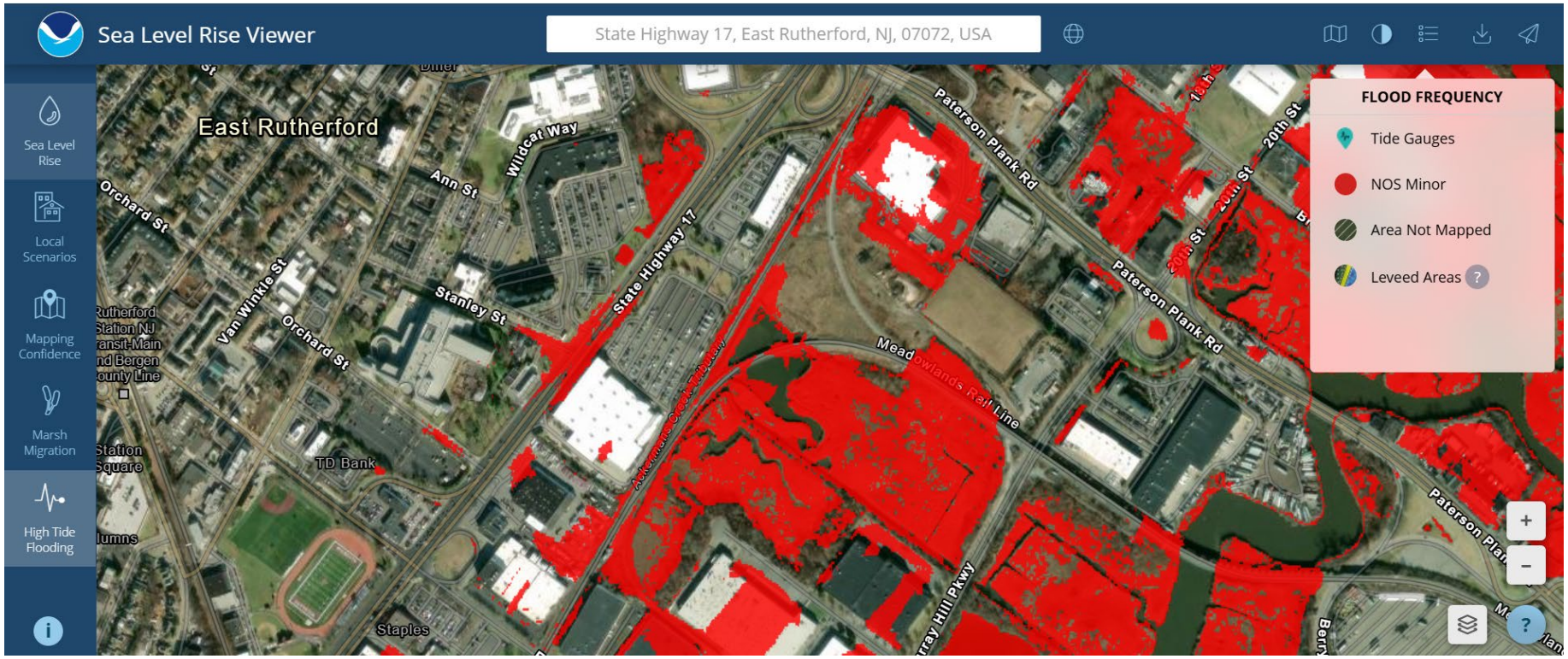

Sea Level Rise Viewer
Enter an address or city
SEA LEVEL RISE
Visualization Location
Water Depth
Low-lying Areas
Area Not Mapped
Leveed Areas
East Rutherford
Sea Level Rise
Local Scenarios
Mapping Confidence
Marsh Migration
High Tide Flooding
3.0ft
UNITS
More Resources for Your Community

Figure 8:


Sea Level Rise Viewer
State Highway 17, East Rutherford, NJ, 07072, USA
Sea Level Rise
Local Scenarios
Mapping Confidence
Marsh Migration
High Tide Flooding
East Rutherford
Wildcat Way
Ann St
Orchard St
Van Winkle St
Stanley St
State Highway 17
Paterson Plank Rd
20th St
Meadowlands Rail Line
TD Bank
Staples
Murray Hill Pkwy
FLOOD FREQUENCY
Tide Gauges
NOS Minor
Area Not Mapped
Leveed Areas