Table 6-2
Cost Summary of Remedial Alternatives
Riverside Industrial Park Superfund Site
Newark, New Jersey

	Total Capital Cost	Annual O&M
Waste		
1 – No Action	$0	$0
2 – Removal and Off-Site Disposal	$1,798,211	$0
Soil/Fill		
1 – No Action	$0	$0
2 – Institutional Controls and NAPL Removal	$303,322	$8,125
3 – Institutional Controls, Engineering Controls, and NAPL Removal	$11,140,405	$75,000
4 - Institutional Controls, Engineering Controls, Focused Removal with Off-Site Disposal of Lead, and NAPL Removal	$13,623,160	$75,000
5 - Institutional Controls, In-Situ Remediation, Engineering Controls, and NAPL Removal	$15,222,505	$68,750
Groundwater		
1 – No Action	$0	$0
2 – Institutional Controls, Site Containment and Pump and Treat	$30,590,844	$1,125,000
3 – Institutional Controls and In-Situ Remediation	$28,459,770	$131,250
4 - Institutional Controls, Pump and Treat, and Targeted Periodic In-Situ Remediation	$12,831,750	$1,500,000
Soil Gas		
1 – No Action	$0	$0
2 – Alternative 2 - Institutional Controls, Air Monitoring or Engineering Controls (existing occupied buildings) and Site-Wide Engineering Controls (future buildings)	$123,525	$31,500
3 – Institutional Controls, Site-Wide Engineering Controls (future buildings), and Air Monitoring or Engineering Controls and In-Situ Remediation of Soil/Fill (existing occupied buildings)	$4,591,968	$0
Sewer		
1 – No Action	$0	$0
2 – Removal and Off-Site Disposal	$27,981	$0

[1] The vertical barrier component of this alternative contributes approximately $1,178,000 to the total direct cost.

[2] The vertical barrier component of this alternative contributes approximately $189,000 to the total direct cost.

[3] Capital costs are based on 2020 dollars. PW assumes predesign investigations will be conducted in 2021 and const for all alternatives.

Table 6-2
Cost Summary of Remedial Alternatives
Riverside Industrial Park Superfund Site
Newark, New Jersey

Total Net Present Worth
$0
$1,580,700
$0
$356,100
$10,450,900
$12,633,300
$13,971,400
$0
$34,258,600
$20,844,800
$24,234,400
$0
$449,800
$4,050,800
$0
$24,900

ruction in 2022

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Table 6-3
Projected Durations of Remedial Alternatives
Riverside Industrial Park Superfund Site
Newark, New Jersey

	Projected Duration	
	Pre-Design Investigation and/or Testing	Remedial Design
Waste		
1 – No Action	--	--
2 – Removal and Off-Site Disposal	2 -4 month	2 -4 month
Soil/Fill		
1 – No Action	--	--
2 – Institutional Controls and NAPL Removal	1-2 months	2 -4 months
3 – Institutional Controls, Engineering Controls, and NAPL Removal	6-8 months	6-8 months
4 - Institutional Controls, Engineering Controls, Focused Removal with Off-Site Disposal of Lead, and NAPL Removal	6-8 months	6-10 months
5 - Institutional Controls, In-Situ Remediation, Engineering Controls, and NAPL Removal	8-12 months	8-12 months
Groundwater		
1 – No Action	--	--
2 – Institutional Controls, Site Containment and Pump and Treat	12-18 months	9-12 months
3 – Institutional Controls and In-Situ Remediation	6-10 months	6-8 months
4 - Institutional Controls, Pump and Treat, and Targeted Periodic In-Situ Remediation	12-18 months	9-12 months
Soil Gas		
1 – No Action	--	--
2 – Alternative 2 - Institutional Controls, Air Monitoring or Engineering Controls (existing occupied buildings) and Site-Wide Engineering Controls (future buildings)	<1 month	1-2 months
3 – Institutional Controls, Site-Wide Engineering Controls (future buildings), and Air Monitoring or Engineering Controls and In-Situ Remediation of Soil/Fill (existing occupied buildings)	4 -6 months	4-6 months
Sewer		
1 – No Action	--	--
2 – Removal and Off-Site Disposal	1 month	1-2 months

Notes:

1. Repair of the bulkhead under the Soil/Fill Alternatives 4 and 5 contributes approximately $3,600,000 to the total direct cost.
2. Schedule includes time for regulatory reviews and modifications
3. For Soil Gas Alternative 3, it is anticipated that additional rounds of injection would be delayed for 2 to 5 years depending on reag

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Table 6-3
Projected Durations of Remedial Alternatives
Riverside Industrial Park Superfund Site
Newark, New Jersey

On-Site Remedial Action
-- 1-2 months
-- 1 -2 months 6-10 months 8-12 months 8-12 months
-- 12-18 months 9-12 months (first round of injections only) 8-10 months (not including targeted injections)
-- 1-2 months 4-6 months (initial round of injections)
-- <1 month

ents.

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Table 2-4
Preliminary Remediation Goals for Groundwater
L&RR Superfund Site, North Smithfield, Rhode Island

Chemical of Potential Concern[1]	Risk Based Concentrations[2]			
	Based on Target ILCR = 10-6	Based on Target ILCR 10-5	Based on Target ILCR 10-4	Based on Target HQ = 1
Copper	NC	NC	NC	5.3E+02
Lead	---	---	---	---

Notes:

1. Soil concentrations are presented in units of milligrams per kilograms(mg/kg) for chemicals of concern identified for a visitor in the Baseline Human Health Risk Assessment.
2. Risk based concentrations are a calculated value, see Table X-x for calculation.
   The soil PRGs for carcinogenic (Incremental Lifetime Cancer Risk; ILCR) are based on a risk range of 1E-06 to 1E-04 and noncarcinogenic (Hazard Quotient; HQ) based on a target hazard index of one.
3. PRGs for lead were developed using the IEUBK model. See Table X for IEUBK model outputs.
4. ARARs are based on the New Jersey nonresidential direct contact soil remediation standard.
5. The Preliminary Remediation Goal (PRG) was selected according to the following hierarchy:

Table 2-4
Preliminary Remediation Goals for Groundwater
L&RR Superfund Site, North Smithfield, Rhode Island

PRG Based on ALM Model[3]	ARARs mg/kg[4]	Selected PRGs[5]	Basis for PRG
---	4.5E+04		
	8.0E+02		

Table 2-4
Preliminary Remediation Goals for Groundwater
L&RR Superfund Site, North Smithfield, Rhode Island

Chemical of Potential Concern[1]	Risk Based Concentrations[2]			
	Based on Target ILCR = 10-6	Based on Target ILCR 10-5	Based on Target ILCR 10-4	Based on Target HQ = 1
Lead	---	---	---	---

Notes:
1. Soil concentrations are presented in units of milligrams per kilograms(mg/kg) for chemicals of concern identified for an outdoor worker in the Baseline Human Health Risk Assessment.
2. Risk based concentrations are a calculated value, see Table X-x for calculation.
The soil PRGs for carcinogenic (Incremental Lifetime Cancer Risk; ILCR) are based on a risk range of 1E-06 to 1E-04 and noncarcinogenic (Hazard Quotient; HQ) based on a target hazard index of one.
3. PRGs for lead were developed using the IEUBK model. See Table X for IEUBK model outputs.
4. ARARs are based on the New Jersey nonresidential direct contact soil remediation standard.
5. The Preliminary Remediation Goal (PRG) was selected according to the following hierarchy:

Table 2-4
Preliminary Remediation Goals for Groundwater
L&RR Superfund Site, North Smithfield, Rhode Island

PRG Based on ALM Model[3]	ARARs mg/kg[4]	Selected PRGs[5]	Basis for PRG
784	8.0E+02		

Table 2-4
Preliminary Remediation Goals for Groundwater
L&RR Superfund Site, North Smithfield, Rhode Island

Chemical of Potential Concern[1]	Risk Based Concentrations[2]			
	Based on Target ILCR = 10-6	Based on Target ILCR 10-5	Based on Target ILCR 10-4	Based on Target HQ = 1
Lead	---	---	---	---

Notes:
1. Soil concentrations are presented in units of milligrams per kilograms(mg/kg) for chemicals of concern identified for an utility worker in the Baseline Human Health Risk Assessment.
2. Risk based concentrations are a calculated value, see Table X-x for calculation.
The soil PRGs for carcinogenic (Incremental Lifetime Cancer Risk; ILCR) are based on a risk range of 1E-06 to 1E-04 and noncarcinogenic (Hazard Quotient; HQ) based on a target hazard index of one.
3. PRGs for lead were developed using the IEUBK model. See Table X for IEUBK model outputs.
4. ARARs are based on the New Jersey nonresidential direct contact soil remediation standard.
5. The Preliminary Remediation Goal (PRG) was selected according to the following hierarchy:

Table 2-4
Preliminary Remediation Goals for Groundwater
L&RR Superfund Site, North Smithfield, Rhode Island

PRG Based on ALM Model[3]	ARARs mg/kg[4]	Selected PRGs[5]	Basis for PRG
3292	8.0E+02		

Table 2-4
Preliminary Remediation Goals for Groundwater
L&RR Superfund Site, North Smithfield, Rhode Island

Chemical of Potential Concern[1]	Risk Based Concentrations[2]			
	Based on Target ILCR = 10-6	Based on Target ILCR 10-5	Based on Target ILCR 10-4	Based on Target HQ = 1
Lead	---	---	---	---

Notes:

1. Soil concentrations are presented in units of milligrams per kilograms(mg/kg) for chemicals of concern identified for an construction worker in the Baseline Human Health Risk Assessment.
2. Risk based concentrations are a calculated value, see Table X-x for calculation.
   The soil PRGs for carcinogenic (Incremental Lifetime Cancer Risk; ILCR) are based on a risk range of 1E-06 to 1E-04 and noncarcinogenic (Hazard Quotient; HQ) based on a target hazard index of one.
3. PRGs for lead were developed using the IEUBK model. See Table X for IEUBK model outputs.
4. ARARs are based on the New Jersey nonresidential direct contact soil remediation standard.
5. The Preliminary Remediation Goal (PRG) was selected according to the following hierarchy:

Table 2-4
Preliminary Remediation Goals for Groundwater
L&RR Superfund Site, North Smithfield, Rhode Island

PRG Based on ALM Model[3]	ARARs mg/kg[4]	Selected PRGs[5]	Basis for PRG
441	8.0E+02		