

CONCORD CHEMICAL SITE, Block 1186, Lot 25 - ENVIRONMENTAL REMEDIAL ACTION COST ESTIMATE
CAMDEN, NEW JERSEY
JANUARY 6, 2023
Alternative No. 2 - Monitored Natural Attenuation (MNA)

Task ID	Task	Duration/Units	Est Cost
1	Detailed Source Area Evaluation		
	Hydraulic Conductivity Testing	2-days	\$ 5,000
	Data Evaluation	3-weeks	\$ 6,500
	Project Management	Lump Sum	\$ 2,000
		<i>sub-total</i>	\$ 13,500
2	Permitting & Planning; Workplans and Bid Specifications		
	Develop Full-Scale Remedial Action Workplan (RAW)	8-weeks	\$ 5,000
	Develop Bid Specification for Remediation Contractors	4-weeks	\$ 5,000
	Solicit Bids, Respond to questions, Evaluate bids	6-weeks	\$ 1,500
		<i>sub-total</i>	\$ 11,500
3	Groundwater Monitoring		
	Groundwater Sampling (8 wells)	8 Sampling Events	\$ 64,400
	Haz Waste disposal (purge water, 2 drums per event)	16 drums	\$ 6,000
	Data & Project Management	Lump Sum	\$ 15,200
		<i>sub-total</i>	\$ 86,000
4	Reporting: Remedial Action Report; Performance Monitoring Reports		
	Report Preparation	Lump Sum	\$ 22,000
		<i>sub-total</i>	\$ 22,000
		sub-TOTAL	\$ 133,000
		Subtotal plus 20% contingency	\$ 159,600

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Alternative No. 3 - Enhanced Natural Attenuation (ENA)

Task ID	Task	Duration/Units	Est Cost
1	Detailed Source Area Evaluation & Remediation Design Characterization, Pilot Studies for Final Remedial Design		
	Geophysical Screening & Post-Demo Site evaluation	2 days	\$ 7,500
	Source Area, Soil Characterization	4-days	\$ 22,620
	Source Area, Groundwater Characterization	2-days	\$ 9,310
	Laboratory Bench Study Analysis of Source Area Samples	8-weeks	\$ 30,000
	Site-wide Baseline Groundwater Sampling Event	3-days	\$ 12,450
	Haz Waste disposal (purge water)	1-day	\$ 2,500
	Hydraulic Conductivity Testing	2-days	\$ 5,000
	Data Evaluation	3-weeks	\$ 10,000
	Project Management	Lump Sum	\$ 15,000
		<i>sub-total</i>	\$ 114,380
2	Permitting & Planning; Workplans and Bid Specifications		
	Develop Full-Scale Remedial Action Workplan (RAW)	8-weeks	\$ 20,000
	Develop Bid Specification for Remediation Contractors	4-weeks	\$ 35,000
	Solicit Bids, Respond to questions, Evaluate bids	6-weeks	\$ 5,000
	Permitting (SESC Plan, PBR, etc.)	12-weeks	\$ 15,000
	Construction Coordination & Planning	12-weeks	\$ 15,000
		<i>sub-total</i>	\$ 90,000
3	Remediation		
3-A	Source Area Excavation & Site Prep		
	Mobilization	1-day	\$ 15,000
	Excavation of soil from Kettle Room, Elevated Pad (i.e. "hot spot")	8-days	\$ 60,000
	T&D excavated soil to disposal facility as Hazardous Waste	2-days	\$ 350,000
	DNAPL removal via passive or active extraction (if necessary)	Lump Sum	\$ 54,260
	Restoration of Hot Spot Excavation	5-days	\$ 67,000
	Preparation of Surface Area of Proposed Injection Area	4 days	\$ 10,000
	T&D excavated soil to disposal facility as Non-Hazardous Waste	4-days	\$ 9,900
	Restoration of Injection Area Excavation	2-days	\$ 15,400
	Perimeter Air Monitoring	23-days	\$ 15,000
	On-site Remediation Engineer & Support	23-days	\$ 34,500
	Project Management & Administration	Lump Sum	\$ 29,000
		<i>sub-total</i>	\$ 660,060
3-B	Remediation, Enhanced Natural Attenuation via In-Situ Reductive Dechlorination with EZVI		
	Cost of Products & Injection Equipment	Lump Sum	\$ 154,808
	On-site Remediation Engineer	15 days	\$ 26,250
	Project Management	Lump Sum	\$ 28,000
		<i>sub-total</i>	\$ 209,058
		<i>sub-total</i>	\$ 869,118
4	Performance Monitoring		
	Groundwater Sampling (8 wells)	8 Sampling Events	\$ 64,400
	Haz Waste disposal (purge water, 2 drums per event)	16 drums	\$ 6,000
	Data & Project Management	Lump Sum	\$ 15,200
		<i>sub-total</i>	\$ 85,600
5	Reporting: Remedial Action Report; Performance Monitoring Reports		
	Report Preparation	Lump Sum	\$ 50,000
		<i>sub-total</i>	\$ 50,000
		sub-TOTAL	\$ 1,209,098
			\$ 1,450,917