Example Scope of Work Outline and Cost Estimate

SCAP requires a general site-specific outline of proposed work and not-to-exceed costs for staff to evaluate if the proposed project will meet the regulatory directives at an appropriate cost. SCAP staff will request a detailed cost estimate if the project is approved for funding. A template for the detailed cost estimate is provided on the main SCAP webpage under the "Resources" section.

Task No.	Task Description	Estimated Cost
1	**Site Characterization Work Plan** **(Objective: address RWQCB 13267 requirement)**	**$15,000**
	*Workplan with detailed procedures for tasks listed below to define the extent of contaminants in soil, soil vapor & groundwater. * Review of historical dry cleaning facility documents, sanborn maps, aerial photographs * Complete utility line survey to locate on-site and off-site utilities that may act as preferential pathways to contaminant flow. * Inspect two on-site monitoring wells to confirm integrity.	
2	**Passive Soil Vapor Survey** **(Objective: idenitify on-site/off-site source areas)**	**$40,000**
	* Install up to 35 passive soil vapor samples on site and off site to the east in alley near sewer line. * Base sample grid near former dry cleaning machine, sump, chemical storage area(s) drains and utilitiy lines.	
3	**CPT/MIP Soil and Groundwater Investigation** **(Objective: characterize and delineate soil and groundater conditions in identified source areas- assume up to thre source areas)**	**$75,000**
	* Install up to 15 borings for CPT/MIP assessment and soil and groundwater sampling to depths up to 100 feet. * Borings to be located on-site and off-site in estimated downgradient direction of groundwater flow. * Collect up to 50 soil samples for EPA Method 8260 analysis. * Collect up to 30 depth-discrete groundwater samples.	
4	**Subslab and Indoor Air Sampling** **(Objective: to assess indoor air quality in subject building and two adjacent buildings)**	**$40,000**
	* Two seasonal events of subslab and indoor air sampling in up to three buildings. * Three subslab samples per building. * Three Indoor air samples per building * Outdoor air samples for background air quality.	
5	**Soil Vapor Sampling** **(Objective: To assess soil vapor source areas)**	**$50,000**
	* Install up to 12 soil vapor well pairs at 5' and 10' below groundwter surface * Collect soil vapor samples during two seasonal events	
6	**Shallow and Deep Groundwater Monitoring Well Installations** **(Objective: to provide long term monitoring points)**	**$100,000**
	* Install up to 6 shallow wells to monitor first encounterd groundwater. * Install up to 4 deeper groundwater monitoring wells at base of water bearing zone	
7	**Comprehensive Site Characterization Report and Conceptual Site Model**	**$20,000**
	* Prepare comprehensive report summarizing the findings of Tasks 2 through 6. * Develop Conceptual Site Model with Human Health Risk Assessment. * Provide recommendations for remedial pilot testing/feasibility studies as needed.	
8	**Indoor Air Vapor Intrusion Mitigation Measures** **(Objective: contingency to mitigate Indoor air in 1 building)**	**$45,000**
	* Seal floor cracks, as needed. * Inspect and modify HVAC system to maintain positive indoor pressure, as needed. * Install portable air purifiers with granular activated carbon filters, as needed.	
9	**Groundwater Monitoring, Soil Vapor Sampling and Vapor Intrusion System Operation and Maintenance (Objective: monitor soil vapor, indoor air and groundwater conditions for two years)**	**$160,000**
	* Quarterly groundwater monitoring and sampling of 10 wells. * Semiannual soil vapor sampling. * Semiannual Indoor air/subslab sampling in one building. * Monthly vapor mitigation system operation and maintenance in one building. * Prepare 8 quarterly monitoring reports and 4 semiannual soil vapor and indoor air sampling reports.	
10	**Project Management**	**$54,500**
	* Attend JET meetings. * Liaison with SCAP Grant and RWQCB Staff. * Prepare SCAP Progress Reports. * Provide project updates and letter responses as needed.	
	Total	**$599,500**
	Estimate Project Duration (in months)	**38**

Example Scope of Work Outline and Cost Estimate

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Task 1 – Historical Document Review and Limited Phase I - $10k

- Review Sanborn and radius maps for nearby dry cleaners and other contributors
- Review historical site documents and City resources to understand utility alignments
- Review historical technical documents
- Perform sensitive receptor survey

Task 2 – Pathway Investigation and Passive Vapor Sampling - $35k

- 50 passive samplers installed and analyzed
- Site visit with utility locator to identify preferential pathways
- Includes work plan and summary report

Task 3 – Exposure Assessment and Air/Soil Gas Sampling - $55k

- Collection and analysis of three indoor air and crawl space/sub-slab samples in up to five buildings (site building and adjacent residential and commercial buildings). Thirty primary samples and three QA/QC samples for total of 33 combined air samples.
- Install and sample 12 permanent soil vapor probes (locations based on passive vapor survey data, preferential pathways, sensitive receptors, etc.).
- Includes report summarizing data to determine need for further assessment or mitigation measures

Task 4 – Contingency for Short Term Mitigation - $60k

- Includes baseline risk evaluation, additional sampling (real-time w/HAPSITE) if needed
- Implementation of mechanical controls such as sealing, venting, or HVAC adjustments at up to two buildings.

Task 5 – Source Area and Downgradient Assessment - $100k

- Four days of MIP (up to 20 soundings, plus one day of contingency), three days of Geoprobe, analysis of soil and groundwater samples
- Vertical and lateral delineation

Task 6 – Monitoring Well Installation, Development, and Initial Sampling - $45k

- Installation of 6 shallow zone wells, well survey, development and initial sampling

Task 7 – Source Area Remediation - $200k

- Limited source area excavation, evaluation and bench testing for in-situ reductive dechlorination, initiation and possible expansion of in-situ bioremediation program, possible iterative injection events
- Up to two years of performance monitoring

Task 8 – Groundwater and Soil Vapor/Indoor Air Monitoring- $40k

- Eight quarters of groundwater monitoring/sampling (6 wells) and quarterly reporting
- Four semi-annual soil vapor monitoring events (12 permanent soil vapor probes), results reported with quarterly groundwater monitoring reports
- Up to eight additional indoor air samples, as necessary.

Not-to-Exceed Project Total: $545,000

Estimated project duration: 36 months