Environmental Resources Management

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700 W. Virginia Street Suite 601 Milwaukee, WI 53204 414-289-9505 414-289-9552 (fax)

July 24, 2009

Natalia Minkel-Dumit Gonzales Saggio & Harlan LLP 225 East Michigan Street Milwaukee, WI 53202

And

Nancy Ryan Wisconsin Department of Natural Resources 2300 N. Dr. Martin Luther King, Jr. Drive Milwaukee, WI 53212-3128

RE: Remedial Action Bid Proposal Submittal Express Cleaners, 3941 North Main Street, Racine, WI WDNR FID#252010000; BRRTS #02-52-547631

Dear Ms. Minkel-Dumit and Ms. Ryan:

Environmental Resources Management (ERM) is pleased to provide the enclosed remedial action bid proposal for the Express Cleaners site located at 3941 North Main Street, Racine, Wisconsin. This bid has been prepared in response to a July 9, 2009 letter from Gonzalez Saggio & Harlen, LLP on behalf of the Ehrlich Family Limited Partnership to provide environmental remediation services in accordance with Wisconsin Administrative Code NR Chapter 169 and the Dry Cleaner Environmental Response Fund (DERF) program.

ERM believes that we are the most qualified firm to successfully provide remedial services because of our:

- Demonstrated technical expertise for the required scope of services;
- Experience working and negotiating with regulatory agencies to receive approval for cost-effective activities;
- Committed team members comprised of local personnel to perform the technical work at competitive rates; and
- Innovative approaches to complex issues including experience with leading edge investigation and remedial technologies.

If you have any questions or require additional information, please feel free to contact me at (414) 289-9505.

Sincerely,

David C. Dusing

Ken Potrykus Wisconsin Operations Manager

David C. Dusing Midwest Managing Partner







# **Bid Proposal Response for Remedial Action**

Express Cleaners/ Ehrlich Family Limited Partnership 3941 N. Main Street, Racine, WI WDNR FID #252010000; BRRTS #02-52-547631

Delivering sustainable solutions in a more competitive world

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## **ERM** Capabilities

ERM has the experience, expertise, and capabilities to develop and implement comprehensive, sole-source, costeffective solutions to difficult environmental remediation problems. Since 1990, we have saved our clients over \$1.5 billion.

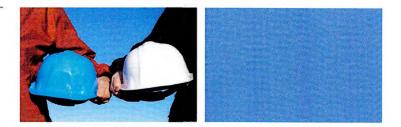
ERM's business focuses strongly on the cleanup of industrial sites of all types. We have performed the full scope of remedial services at over 1,100 sites under federal regulatory programs encompassing every USEPA Region, and over 3,000 project sites under state-led programs. ERM's breadth of experience includes:

- Over 3,500 site assessments encompassing a diverse range of geological settings and contaminants;
- Over 3,000 remediation engineering assignments, including some with extensive bench and pilot testing of new technologies;
- Remedial design for projects with a constructed value of over \$1 billion, encompassing virtually every commercially available technology, as well as ERM's licensed, patented, and registered technologies; and
- Construction management for over \$60 million in remedial action annually.

ERM is accustomed to working with complex, multifaceted objectives and has the experience to proceed according to project-specific objectives and strategy. We do not follow a "one size fits all" concept.

#### **ERM's Wisconsin Operations**

ERM's Wisconsin operations were founded in 1991 and has offices in Milwaukee and Appleton. We have exceptional experience with the Wisconsin Department of Natural Resources (WDNR) and Region 5 of the US Environmental Protection Agency (USEPA) requirements.



Our local team has strong relationships with local corporate leaders, legal firms, and service suppliers/subcontractors; and extensive knowledge of the region (geologic/ hydrogeologic conditions, air, waters and lands issues). ERM's long-term presence in Wisconsin and our active role in developing innovative approaches to environmental issues have led to ERM's solid local reputation and credibility.

Our Wisconsin staff is highly experienced and multidisciplined. Over half of the staff has greater than 15 years in environmental consulting for industrial clients.

Locally, the ERM staff has successfully completed similar types of services such as:

- Recorded over 150 site closures granted by Wisconsin Department of Natural Resources (WDNR)
- Assisted communities such as Milwaukee, Kenosha, Racine, Cudahy, West Allis, Sheboygan, Plymouth, Manitowoc, and Two Rivers with brownfield redevelopments.
- Guided and assisted a number of local communities with identifying and securing state and/or federal financial assistance for brownfield developments.
- Completed the first WDNR accepted risk-based site closure in Wisconsin (chlorinated compound release in Green Bay, Wisconsin).

#### **ERM Environmental Restoration Capabilities**

#### Project Management/Monitoring Project Budgets

Effective communication, ability to listen, and sound leadership through experience are attributes of a great project manager. ERM trains their project managers in these skills to enhance their business acumen abilities. Our project managers think beyond client satisfaction, align individual staff with project objectives, and foster a culture of team work. ERM also has the accounting tools to track budgets on a weekly basis. Our project managers are trained to monitor these budgets and work with accountants for accounting integrity.

#### **Risk Assessment and Cleanup Level Development**

ERM's risk assessments emphasize site-specific analyses and avoid reliance on generic exposure scenarios or default exposure assumptions. Our approach provides realistic estimates of potential risk and prevents the derivation of overly conservative cleanup levels, while still ensuring the development of a defensible analysis and the protection of human health and the environment. Our focused, realistic analyses frequently result in significant reductions in project costs and risk-based closure for a wide variety of sites.

#### **Risk-Based Remediation and Cost Control**

Risk-based remediation:

- Is an effective means of reducing the potential threat from historical releases, while controlling overall expenditures;
- Focuses on achieving a level of risk reduction, rather than specific cleanup levels in the affected media; and
- Recognizes that controlling exposures to affected media reduces risks as effectively as removing the contaminants from the media.

Beyond direct risk control measures, use of innovative insitu technologies can also reduce both overall costs and the potential for worker or off-site resident exposure.

#### Feasibility Study/ Remedial Alternatives Evaluation

Based on site investigation data and analysis, ERM develops feasibility studies to select the most appropriate remediation alternative and then designs the selected remedy. ERM's approach to remedial investigation and feasibility studies of remedial alternatives ensures the consideration and application of appropriate and innovative technologies (such as recycling, bioremediation, and in-situ technologies etc.). Consistent with the objectives to balance cost, risk, and residual liability, we emphasize permanent solutions where appropriate technology exists, and recommend containment when no acceptable remedial technology is available or where cost dictates such an approach.

#### **Remedial Design**

ERM has experience with nearly all types of soil and groundwater contaminants. We have designed and built, or provided construction management, for virtually every type of conventional soil and groundwater remediation systems for treating soil and groundwater contamination in Wisconsin. We have designed both traditional and innovative methods or processes for source control, on-site and off-site treatment, and in-situ or ex situ treatment. Long-term remedial goals are always kept in focus to provide appropriate systems that will yield the best results in the shortest time and at the lowest overall project costs. Innovative technologies and approaches are continuously evaluated/developed and gauged against existing methodologies resulting in utilization of the most effective and efficient cleanup methods possible.

#### **Remedial System Construction**

ERM has the in-house capability to construct or modify remediation systems. ERM's projects have ranged from small-scale pilot studies utilizing mobile treatment equipment to the full-scale design, construction, and operation of multi-million dollar soil and water treatment systems. ERM implements these projects using our OSHAcertified field engineering and construction crews, supported by ERM's management and technical resources.

ERM offers several basic approaches to remediation system construction projects that recognize the unique issues and challenges. ERM provides clients with highquality engineering, planning, and construction services while meeting budgets and deadlines.

#### Project Team / Key Personnel

ERM and our subcontractors proposed for this remedial approach have unique attributes that bring added value to the Ehrlich Family Limited Partnership (Ehrlich Family); Passionate Customer Commitment, Operational Excellence, and Business Acumen. The combination of these factors allows us to deliver proactive risk identification, reduction and retirement of risks, costeffectiveness, regulatory compliance, and all other services and outcomes that meet your needs.

#### Passionate Customer Commitment

Regardless of project scope, size, or site, our goal is to establish and maintain a standard of performance excellence that provides you with the services you need, when you need them, and where you need them. This focus means understanding and aligning our resources with your goals and objectives. Our businesses and services are built around the belief that real economic benefits – such as reduced costs and increased productivity  are gained through outstanding performance. We continually demonstrate these traits through work already performed with our existing base of local clients and repeat customers. This is evidenced by our repeat customer base.

#### **Operational Excellence**

Ehrlich Family will receive an ERM culture that demands operational excellence and continual improvement. Our operational excellence process creates alignment and performance in the Ehrlich Family-ERM partnership while simplifying operations through:

- Sharing of resources, technology, best practices, and management tools
- Reducing the "learning curve" on new project phases.
- Allowing continuous elimination of non-value-added activities and maintaining a "lean" organization.
- Creating an agile organization that responds efficiently and promptly.
- Providing high-quality project execution.

#### ERM Team

Ken Potrykus, who is located in ERM Milwaukee, WI office, will serve as Program Manager and Primary Point of Contact.

Mr. Potrykus has been a program/project manager on several dry cleaner remediation projects. He is proficient at program management in regards to product consistency, client satisfaction and involvement, financial budgeting, and regulatory liaison. Mr. Potrykus will bring this type of passion, experience, and expertise to the contract.

Mr. Potrykus will be supported by ERM's staff in the Milwaukee, WI office. ERM has the Wisconsin licensed/certified engineering and geology staff to complete any potential tasks to get the Express cleaners site remediated and closed. We have exceptional experience geologic/hydrogeologic conditions of southeastern Wisconsin and WNDR regulatory requirements. ERM's long-term presence in Wisconsin and our active role in developing innovative approaches to site closures for dry cleaner and other chlorinated solvent sites have led to reputation and credibility with the WDNR. Carl Stay, P.E. and P.G. located in ERM's Milwaukee, WI office, will serve as the project's lead engineer and hydrogeologist. Mr. Stay has 18 years experience as an engineer and hydrogeologist in the environmental consulting and remediation industry. Mr. Stay is very experienced with Wisconsin Administrative Code, PECFA requirements, project finance awareness, and innovative investigative and remedial technologies. His experience includes working with a multiple number of contaminants and appropriate remedial technologies. Mr. Stay brings a high degree of experience and knowledge that will drive the project to a success.

Tanya Gregg, Staff Geologist, also located in ERM's Milwaukee, WI office, has over two years of experience in contaminated site investigation and remediation experience in Wisconsin, Michigan, Minnesota, Illinois, and Iowa. Her experience includes investigation techniques of soils, bedrock, surface/storm waters, processing residues. Ms. Gregg has performed remedial design investigations in support of selecting and implementing a variety of remedial technologies to address chlorinated solvent contamination in soil and groundwater. She is also experienced with executing insitu technologies such as chemical oxidation and emulsified oil supplementation.

Commodity services will be contracted for drilling, geoprobing, laboratory, concrete cutting, removal/replacement, and remedial chemical oxidation injection services. ERM will contract these commodity service providers, oversee their activities, and responsible for their performance.

ORIN Remediation Technologies, Inc. (ORIN) is the selected contractor to assist ERM with site remedial activities. ORIN is an environmental contractor specializing in the application of treatment chemistries that render organic and inorganic contaminants nonhazardous in a safe and cost effective manner. They bring the technical capabilities and experience to effectively and efficiently address the site contaminants.

## **Project Understanding**

#### **Project Understanding**

ERM understands that Ehrlich Family Limited Partnership (Ehrlich Family) owns the commercial building at 3921-3941 North Main Street, Racine, Wisconsin. For 20 years, a dry cleaner business has occupied the northern unit (3941 North Main Street) of the site's structure. Express Cleaners has occupied the northern unit for the previous three years.

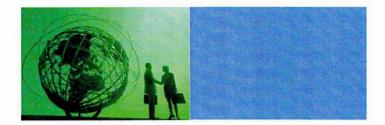
Evaluations of the property's environmental quality/condition have been conducted since 2006. Phase I and II Environmental Site Assessments (ESAs) were completed by Gabriel Environmental Services in March and April, 2006. Their results indentified tetrachloroethene (PCE) concentrations exceeding regulatory enforcement standards in subsurface soil samples. Subsequent site investigations in accordance with Wisconsin Administrative Code NR 700 series were completed by Northern Environmental in June 2007, August 2007 (SC Johnson investigation), May 2008, January 2009, and June 2009. Based on the results, remedial actions for the site are warranted.

The Ehrlich Family is seeking financial reimbursement through the State's Dry Cleaner Environmental Fund (DERF) program. To comply with program requirements, the Ehrlich Family has requested environmental restoration bids for future remediation at the Site.

The following is ERM's understanding of the site relative to existing environmental conditions. This understanding has been developed based on the files provided to ERM from Gonzalez Saggio & Harlan, LLP.

#### Site Conceptual Model

Based upon our understanding of site environmental conditions taken from previous investigations, the Site is underlain by shallow fill and organic loam deposits overlying an eolian silty sand with thickness ranging between 5 feet on the east and 9 feet on the west. The fill and loam deposits are underlain by a silty clay unit of



unknown thickness that slopes gently downward to the west.

The water table, as measured in Site monitoring wells, appears to slope away from a local north-south trending groundwater divide that is situated just east of the building. The eastern gradient is approximately 0.003 and the western gradient is approximately 0.03. The dominant groundwater flow direction is to the west, evidenced by the footprint of the contaminant plume. Slug test data indicates that the sand has an hydraulic conductivity of 2.1E-04 cm/sec, and assuming an aquifer porosity of 25%, the average linear groundwater velocity is estimated to be approximately 26 feet per year to the west.

VOCs detected in Site soils and groundwater are primarily associated with tetrachloroethene (PCE) and its degradation products trichloroethene (TCE) and dichloroethene (DCE). The greatest concentrations of PCE are located beneath the eastern portion of the dry cleaners and beneath the asphalt area east of the building. Typical wastes generated at dry cleaner facilities include spent solvents, filters and sludge. At many sites, these wastes were commonly discharged in dry wells or sewers, stored in leaky containers or discarded in dumpsters. Although no history of Site-specific product and waste handling practices are available, the Site conceptual model assumes that historic handling of dry cleaning solvents resulted in their release to the underlying soils and the downward migration into groundwater. VOCs continue to migrate through advective and diffusive transport processes to other locations at the Site, including unsaturated soils, and result in the contaminant footprint depicted in published Site maps and cross-sections.

#### Site Investigation Objectives

ERM understands that the Ehrlich Family expects an accurate assessment of the extent of VOCs in the soil, and groundwater, will be the basis of a remediation plan that obtains closure for the Site in the most cost-effective and timely manner. Additional Site investigation activities required by WDNR are necessary to confirm the treatment areas, the contaminant mass, and soil characteristics/chemistry.

The following remedial tasks will be completed during the site investigation:

- Collect soil samples near B13/MW-8 to define the extent (vertical and horizontal) of contamination.
- Install two additional wells to define the extent of shallow groundwater: one south and one west (across North Main Street);
- Conduct two groundwater monitoring events, and sample for volatile organic compounds (VOCs). Create groundwater flow maps for each sampling event. Collect samples for bench scale treatability testing.

The results of the Site investigation will be used to develop and prepare a remedial action options evaluation (RAOE) report and select an optimal remedial option action plan to be submitted to the Wisconsin Department of Natural Resources (WDNR) for their approval. A preliminary evaluation of remedial options by ERM suggests that in-situ chemical oxidation followed by monitored natural attenuation is an appropriate and cost-effective approach to reducing VOCs at the Site. Finally, a sub-slab vapor mitigation system will be installed to protect human health in building-occupied spaces.

#### **Cleanup Objectives**

ERM assumes that soil cleanup objectives will include an evaluation to non-industrial standards for the protection of human health. Groundwater cleanup objectives will reference the Wisconsin Administrative Code Chapter NR 140 Groundwater Enforcement Standards and Preventive Action Limits. Active remediation (i.e.: chemical oxidation) is anticipated to greatly reduce the contaminant concentrations. However, natural attenuation will be employed to reduce concentrations to achieve the remedial objectives.

#### Remediation

ERM's selected remedial action for soil and groundwater will be in accordance with NR 722 (WAC) and will take into consideration potential property re-development, property use and the length of time to achieve the remedial objectives. The development of the RAOE will take into consideration not only the cost-effectiveness but also the property owner's time schedule, if any, for new development. However, the most cost-effective remedial action may not be the timeliest.

## **Project Approach**

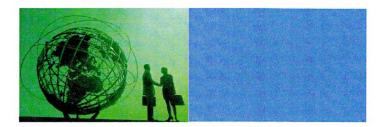
#### **Project Approach**

ERM has reviewed the provided information and understands the project's remedial objectives. The overall closure strategy involves contaminant mass reduction in the high concentration portion of the plume via in-situ chemical oxidation (ISCO) followed by monitored natural attenuation to document that the plume is stable or decreasing in concentration. We have developed an approach to;

- Complete the site investigation to further characterize the groundwater contaminant degree and extent;
- Document a remedial option evaluation and system design;
- Implement an active remedial approach to address the contaminant mass in vapor, soil, and groundwater on and off the property to protect human health and the environment;
- Construct a vapor mitigation system within the onsite structure;
- Confirm the success of the active remediation system through groundwater natural attenuation monitoring; and
- Document remedial activities and follow-up monitoring to request a case closure within a reasonable timeframe.

The scope of work was developed in accordance with NR 169 and 700 series, WAC.

## Task 1 – Supplemental Site Investigation Activities ERM proposes to complete remedial investigation activities outlined in the March 4, 2009 and July 9, 2009 letters from Mr. William Scott of Gonzalez, Saggio & Harlan LLP, to Mr. John Roberts of ERM. Specifically, ERM will complete two soil borings in the vicinity of MW8/B13 to characterize the



extent of soil contamination and to construct two ground water monitoring wells, one south of MW8 and one west of MW8 across North Main Street. These two wells will be labeled MW14 and MW15, respectively.

ERM assumes that right-of-way access will not be a hindrance to the installation of the western well. ERM will contract with a private utility locator to identify the subsurface utilities at the site. Once the soil borings and monitoring wells have been completed, ERM will conduct one full round of ground water monitoring of all 15 existing wells and the two new wells for a total of 17 wells. Included in the monitoring event, ERM will collect a sample duplicate and a field blank for quality assurance purposes. These samples will be submitted for analysis of volatile organic compounds (VOCs).

ERM assumes that all purge water generated by sampling activities will be able to be discharged to the City of Racine public sewer system. Additionally, soil wastes generated during site investigation activities are assumed nonhazardous for disposal purposes.

## Task 2 – Supplemental Site Investigation Report and Remedial Option Evaluation Report

ERM proposes to summarize and submit to the WDNR the supplemental site investigation results in a letter report. ERM will also submit to the WDNR a remedial action options evaluation with a matrix table describing the remedial options considered and the optimal remedial approach for the Site. For purposes of this proposal, ERM conducted a preliminary assessment of current remedial options that may be applicable to this Site. After consideration of the different approaches, ERM proposes to implement ISCO using a combination of direct-push technology outside the building and an infiltration gallery gravity-feed system constructed immediately underneath the building's concrete slab. The chemical oxidant proposed for this project is sodium permanganate (permanganate). This oxidant has a proven track record and has been used in numerous remedial actions in the dry cleaning industry.

Further, ERM proposes to mitigate potential vapors underneath the building through a sub-slab depressurization system that utilizes the already constructed infiltration gallery as the network of vapor collection pipes. The selected remedial option will also be optimized following sustainability guidelines now being considered by WDNR.

The site's hydrogeology and location with respect to utility lines and nearby surface water bodies indicate a need to assess the potential risks of an in-situ type remedy, which is typical for dry cleaner sites. ERM employs a risk review process for all in-situ remedies to identify all potenatial hazards and risks, and identifies approaches to address each prominent hazards and risks. The risk review will be conducted as part of the remedial options evaluation so any new site data will be considered. The final remedial approach and technology will be adjusted (if necessary) to account for the risk review findings.

#### Task 3 - Remedial Design Report

ERM will prepare a remedial design report with specific reference to the ISCO approach and vapor mitigation system. This report will detail the design and implementation of the ISCO and vapor mitigation remedy. The report will also include the results of a tracer test performed to determine the potential for migration of injection materials to site utility lines. The report will be submitted to the WDNR for their consideration and approval.

Task 4 – Remedial Action Implementation (ISCO) ERM proposes to implement the ISCO as two project components: The first component utilizes direct-push technology to inject permanganate into a uniformly spaced array of points located east, north, and west of the existing building, focusing on the area defined by the unsaturated soil PCE concentrations greater than 100 micrograms per kilogram (ug/kg). The second component utilizes the construction and use of an infiltration gallery constructed beneath the building's concrete floor. These two ISCO components will be completed concurrently with the exterior direct-push portion being started first, followed by the interior infiltration gallery injection work within a day.

Prior to implementing this approach, ERM recommends a total oxidant demand (TOD) test as well as a bench scale treatability study be performed prior to full-scale remedial implementation. ERM recommends that the initial bench scale treatability study be performed using an unsaturated soil sample from the most contaminated zone within the treatment plume to determine the TOD as well as most effective treatment chemistry dosage. The bench scale testing would allow ERM to evaluate the most cost effective chemistry ratio and dosage volume.

When a bench-scale study is performed using site soils, an accurate TOD and proper chemical loading can be calculated. If the bench-scale study is not performed, the chemical loading could be too high, resulting in higher cost, or if too low, resulting in inadequate destruction of site COC.

#### Direct Push Approach

ERM will inject permanganate through a series of direct push injection points in a manner that will cover the targeted area of concern. Geoprobe injection treatment will start at the bottom of each boring location and proceed with occasional lifts of the rod to ensure complete treatment coverage through the saturated contaminated zones. The proper amount of permanganate will be administered according to the subsurface and known contamination characteristics at each injection location. The total volume, pressure, and rate of treatment chemistry injection will be monitored by ERM and amended according to field conditions in order to ensure maximum injection effectiveness. Immediately after the completion of each injection point, the borehole will be backfilled and hydrated using granular bentonite to prevent subsequent injected permanganate short circuiting.

The permanganate solution will be prepared using specialized injection equipment. The solution will be mixed and temporarily staged in dedicated containment tanks prior to injection. Multiple tanks will be mixed and used during the injection, which enables work to proceed steadily and efficiently. The treatment chemistry will be pumped into the formation using air-driven, chemically resistant pumps. The rate, pressure, and volume will be monitored using chemically resistant pressure gages and inline electronic flow meters.

#### Infiltration Gallery

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In order to address the unsaturated zone soil contamination beneath the existing building, ERM proposes to install a shallow infiltration gallery immediately beneath the building's concrete slab. The gallery will be constructed with perforated pipe laterals connected to a common header that will be used to gravity feed permanganate into the subsurface. Laterals will be constructed by first saw-cutting the concrete floor to expose an approximately 8-inch wide trench. Concrete and soil will be removed such that the bottom of the trench will be approximately 8-10 inches below grade. A thin gravel bed will be prepared over which a perforated schedule 40 polyvinyl chloride (PVC) pipe will be placed. Additional gravel and a filter fabric will be installed over which concrete will be poured to complete the installation. ERM assumes that concrete and soil wastes be characterized as non-hazardous waste for disposal purposes. generated during construction of the infiltration gallery will

Once the gallery has been constructed, a solution of permanganate will be prepared and injected into the common header pipe. The gallery will be charged with no more than 4-inches of liquid to prevent upwelling of permanganate through cracks or joints in the building's concrete floor. The gravity feed system will enable permanganate to contact unsaturated soil contaminants while migrating to the water table. Once at the water table, the remaining permanganate will continue to oxidize residual dissolved contaminants.

The gallery may be used for future permanganate injections, if needed. Once the initial application has been completed, the gallery will be connected to a sub-slab depressurization blower to mitigate residual soil vapors and prevent vapor migration into the buildings occupied space.

During the injection process, ERM will adhere to a strict health, safety and risk-review protocol to help prevent inadvertent, uncontrolled leaks or spills.

### Task 5 - Remedial Action Implementation (Vapor Mitigation)

ERM proposes to utilize the aforementioned infiltration gallery as the soil vapor mitigation system. Once the permanganate injection activity has been concluded, ERM will connect the gallery to a radon-gas type blower assembly. This will provide for a highly effective vapor mitigation system while reducing the cost by designing and installing a system of multiple purposes. For this proposal ERM assumes that the building slab sub base material is a typical gravel material and that a system sized for 250 cubic feet per minute will be adequate. The proposed cost of this system includes electrical work by a certified electrician.

### Task 6 - First Year of Post-Active Remediation Groundwater Monitoring

ERM will conduct the first year of post active remediation groundwater monitoring which will involve 4 rounds of quarterly groundwater sampling and analysis. This monitoring will begin after the observed oxidant concentrations in monitoring wells have dropped to less than 100 mg/L. For each round of sampling in the first year all 17 site monitoring wells will be sampled and analyzed for volatile organic compounds (VOCs) per WDNR specified analytical methods. Additionally, for the first two monitoring rounds samples will also be analyzed for dissolved metals. ERM will collect a sample duplicate and a field blank for quality assurance purposes during each monitoring round. Wells will be sampled via all appropriate methods. ERM assumes that all purge water generated by sampling activities will be able to be discharged to the City of Racine public sewer system, as is the case with the City of Milwaukee.

### Task 7 - Remedial Action Results Report and First Year of Groundwater Monitoring Report

ERM will prepare for parallel submission to WDNR a report providing the results of the remedial action and a report of

the first year of groundwater monitoring. These reports will follow WDNR guidelines for content.

### Task 8 – Second Year of Post-Active Remediation Groundwater Monitoring

ERM will conduct the second year of post active remediation groundwater monitoring which will involve two rounds of semi-annual groundwater sampling and analysis. For both rounds of sampling in the second year it is assumed that approximately half of the monitoring wells, or 8 wells, will not need to be sampled due to sufficient data from the first year monitoring efforts indicating a sufficient understanding of groundwater conditions in those wells. All sampled wells will be analyzed for VOCs. ERM will collect a sample duplicate and a field blank for quality assurance purposes during each monitoring round. As with the first year groundwater monitoring, ERM assumes that all purge water generated by sampling activities will be able to be discharged to the City of Racine public sewer system, as is the case with the City of Milwaukee.

#### Task 9 - Case Closure Request Report

ERM will prepare a case closure request report per WDNR guidelines. This closure report will outline the case for closure of the site which ERM assumes will be the appropriate course of action at the end of the two year groundwater monitoring period based on anticipated results of the proposed remedial action. It is anticipated that closure of the site will be contingent upon a deed restriction for the impacted property soil and groundwater.

#### **Project Scheduling**

ERM understands that the Ehrlich Family wishes to select a contractor as soon as possible and expects a remedial action plan within a mutually satisfactory timeframe. Finally, ERM understands that timely approvals of submitted documents to the WDNR are expected and will not inhibit implementation of the remedy. ERM estimates that the active remedial activities can be implemented within six months of consultant selection and authorization, dependent upon accessibility, weather, or other unforeseen time constraints.

ERM anticipates the project scheduling as depicted on the following page.

#### **Access and Permits**

ERM expects that all reasonable efforts to thoroughly access buildings and lands will be accommodated by the Ehrlich Family and others. ERM further expects that entry access, permits, local ordinances and approvals, where necessary, will be made on a timely basis and will not inhibit ERM's ability to meet the Ehrlich Family's expected timeline.

#### Sustainability

The WDNR's Remediation and Redevelopment Program recently embarked on a new initiative called Wisconsin's Initiative for Sustainable Cleanups (WISC). The emphasis of the WDNR initiative is to apply sustainable technologies in site remediation to save energy, reduce greenhouse gases and minimize waste through reuse and recycling. The goal of the WISC program is to optimize remedies that are protective of public health, safety and the environment to make them economically sound and more sustainable to meet long-term needs and protect valuable state resources. The initiative is also committed to employing sustainable technologies which will help Wisconsin contribute solutions to global climate change concerns. The WDNR is currently in the process of developing guidance documents for consultants to use when designing and implementing sustainable remedial actions.

ERM is a global leader in identifying and implementing sustainable business solutions for our clients. As such, we are actively engaged in the emerging practice of incorporating sustainability concepts into the design and implementation of new and existing remedial actions. ERM personnel are at the forefront of sustainable remediation through their participation in workgroups with members from industry, regulatory agencies, and consultants that are evaluating sustainable approaches to remediation. An example of one of the sustainable features included in our conceptual remedial plan for the Site is the dual use of the permanganate infiltration gallery/vapor collection system.

# Specific Information in Accordance with WAC NR 169

The following information is provided to specifically comply with the DERF, Remedial Action Bid Checklist (form RR-756, July 2006).

#### NR 169.23 (2)(d) - Sealed Bids

ERM has included a sealed bid with this submittal. Table 1 provides a cost breakdown relative to each specific project tasks, as defined in the previous section of this proposal, and total project costs. A copy of ERM's Contract Term and Conditions are provided in Appendix A.

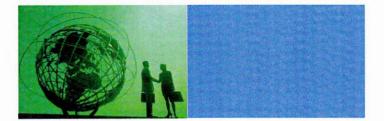
### NR 169.23(3)(b) - Statement of Consultant's Ability

ERM has reviewed all provided information and has developed an approach to meet all site objectives. We have the expertise, experience, and capabilities to design a suitable remedial actions response. ERM staff will provide accurate technical reviews, plans, and designs; effectively oversee construction and operation of the remedial system; and monitor and document all site activies in an ethical, timely and professional manner. All work will be completed or overseen by Wisconsin-certified professionals

## NR 169.23(6)(a) - Technical and Economic Feasibility Evaluation of Remedial Alternatives

ERM completed a technical and economic feasibility evaluation of remedial alternatives for the Site in accordance with WAC NR 722. Various technologies were compared based on the following criteria:

- Ability of the option to meet the remedial objectives (effectiveness);
- Implementability of the remedial alternative;
- Fiscal commitment of the remedial alternative; and
- Time requirement to achieve remedial objectives.



Appendix B contains documentation associated with the evaluation of remedial alternatives.

Based on these comparisons, ERM has selected in-situ chemical oxidation (ISCO) using sodium permanganate to address soil and groundwater contamination, a passive vapor mitigation system to address potential contaminant vapors beneath the existing building, and subsequent groundwater monitoring to evaluate the contaminant plume response to the ISCO injection and subsequent natural attenuation potential.

#### NR 169.23 (6)(b) - Remedy for Closure

ERM has selected ISCO using sodium permanganate to address soil and groundwater contaminants to achieve site closure in accordance with WAC NR 726. This technology has been proven to successfully and significantly reduce chlorinated solvent concentrations in similar settings. Success is dependent upon design of appropriate concentrations through bench-scale total oxidant demand (TOD) testing and treatability study. Once the TOD has been determined, the appropriate concentration of sodium permanganate will be applied in the following manner:

- Installation of a shallow infiltration gallery underneath the existing building to gravity-feed sodium permanganate into subsurface vadose zone soils (contaminant source) and groundwater.
- Application of sodium permanganate into subsurface soils and groundwater outside the building using direct-push technology. Injection will occur on an approximately 10-foot grid spacing within the previously determined 100 ug/kg unsaturated soil PCE concentration footprint. Approximately 100 direct-push injection points will be utilized to apply the chemical oxidant to the subsurface.

 To confirm actual extent of sodium permanganate influence in the aquifer, groundwater samples from all monitoring wells will be sampled immediately after injection and after three and six months. A colometric analysis field kit will be used to determine permanganate concentrations in the water samples.

Once field screening confirms the permanganate has been consumed in the aquifer, two years of groundwater monitoring will be implemented to verify effectiveness of ISCO. Monitoring will include one full year of quarterly monitoring and semiannual monitoring of selected wells during the following year.

It appears that vapor intrusion may be an issue for the existing onsite structure. To mitigate soil vapors beneath the building, the constructed infiltration gallery will be connected to a sub-slab depressurization blower to collect contaminant vapors. The discharge will be directed to a stack that will extend above the roof line. Should additional chemical oxidant need to be applied beneath the building, the gallery can be disconnected from the blower and re-used for injection.

The proposed approach provides a comprehensive plan to address the highest concentrations at the site. The ISCO approach focuses on direct application of chemical oxidant that can immediately destroy contamiants of concern (COCs) upon contact and substantially reduce residual concentrations of COCs. Mitigation of indoor air vapors resulting from sub-slab contaminants is addressed through the use of the designed and constructed infiltration gallery and depressurization blower system. Further detailed discussions of the proposed approach is provided in the prior section (Task 4 and 5).

### NR 169.23(6)(c) - Itemized List of Consultant and Contract Services

The following is a description and list of consultant and contract services for this proposed scope of work.

<u>ERM</u> – Environmental Resources Management- the environmental consultant leading the project. ERM will manage all aspects and contractors of the project including;

- Completion of the remedial investigation describing the extent of soil and ground water contamination;
- Design of remedial approach and document submittal;
- Oversee remedial approach construction and implementation;
- Conduct post-remedial groundwater monitoring collection and documentation to monitor remediation progress; and
- Closure report documentation.

<u>Remediation Subcontractor</u> – The remediation subcontractor will be contracted by ERM to provide material and services associated with the ISCO activities. Subcontractor will conduct the TOD testing and determine the volume of sodium permanganate to address the soil and groundwater contaminants. The subcontractor will then perform the injection of permanganate through the infiltration gallery beneath the building footprint and through direct push (geoprobe) services outside the building.

<u>Drilling Services</u> – A drilling service provider will be contracted by ERM to construct the initial groundwater monitoring wells to complete the subsequent site investigation activities, and provide geoprobing services associated with the ISCO injection event outside the building footprint.

<u>Laboratory Services</u> – A laboratory service provider will be contracted by ERM to provide analytical services throughout the project. The laboratory will be a State of Wisconsin certified laboratory.

<u>Concrete Services</u> – A construction service provider will be contracted by ERM to provide concrete cutting, removal and

replacement services associated with the infiltration gallery work.

<u>Utility Locator</u> – A private utility locator will be contracted by ERM to provide subsurface utility locations. This will ensure that any subsurface work will not adversely encounter any of the subsurface utilities.

<u>Disposal Services</u> – A disposal service provider will be contracted by ERM to provide appropriate soil, concrete, and if necessary, groundwater transportation and disposal services.

NR 169.23(6)(d) - Remedial Action Pilot Test Estimate Due to the presence of buried utilities beneath the Site and in the adjacent right-of-way underlying North Main Street, ERM proposes to conduct a tracer study to determine the presence, if any, of preferential flow paths. This test is critical in evaluating risks associated with the use of strong oxidizing chemicals such as permanganate when implementing ISCO. The estimated cost of the tracer study is \$4,000.

A total oxidant demand (TOD) test will be performed prior to full-scale remedial implementation. An unsaturated and saturated soil sample from within the contaminant zone will be submitted to a testing laboratory for determining TOD. This information will be used to determine a cost effective chemistry ratio and dosage volume. The estimated cost for the TOD bench-scale test is \$4,100.

#### NR 169.23(6)(e) - Total Cost Estimate

ERM has provided a detailed list for the total cost of consultant and contractor services in Table 1 contained within the sealed bid . The total cost includes subtotals for each component of the remedial action plan.

#### NR 169.23(6)(f) - Hours and Cost per Units

ERM has provided an estimated price per hour for every service and a total estimated cost for all services broken down in Table 2 contained within the sealed bid. This price includes the estimated hours of service provided. ERM understands that the Ehrlich Family expects the remedial action plan to be implemented within a mutually satisfactory timeframe.

#### NR 169.23(9)(a) - Consultant Certification Statement

ERM's remedial approach/action for the contaminated soil and groundwater will be in accordance with WAC NR 700 series. Upon WDNR request, ERM will provide documents and records of contract services. ERM did not prepare the proposal in collusion with any other consultant bidding on this project.

#### NR 169.23 (9)(b)(1) - Certification of Insurance

A copy of ERM's Certificate of Insurance is provided in Appendix C. We comply with all of the requirements as set forth in the regulation except for the maximum deductible requirement of \$25,000/claim. ERM's deductible is \$250,000/claim. Included in Appendix C is a statement from a company Principal stating that ERM has the financial responsibility for specific requirement of \$25,000/claim.

#### **General Terms and Conditions**

- 1. <u>Definitions</u>. In these General Terms and Conditions (the "Terms"), the following definitions apply:
  - 1.1 "Client" means the party entering into the Contract with ERM, directly or through a representative;
  - 1.2 "Contract" means the Proposal and the Terms, as either may be modified or supplemented in writing in accordance with Sections 17.4 and 18;
  - 1.3 "ERM" means the ERM company providing Services;
  - 1.4 "Party" means ERM or Client, as indicated by the context;
  - 1.5 "Project" means the tasks stated in the Proposal and all additional tasks performed by ERM in connection with Services;
  - 1.6 "Proposal" means the document(s) issued by ERM in which ERM describes and offers to perform Services for Client, including, without limitation, the assumptions, conditions and limitations relating to the Project;
  - 1.7 "Section" means an enumerated section of the Terms;
  - 1.8 "Services" means any work performed or to be performed by ERM under the Contract, and includes all ERM work product; and
  - 1.9 "Site" means any site upon which or in relation to which Services may be performed.
- 2. <u>Proposal</u>. The Proposal is firm for 30 days from its date. Unless expressly stated otherwise in the Proposal, the fees, costs and schedules in the Proposal constitute ERM's estimated probable cost and time for Services. The estimated probable cost is not a guaranteed maximum or not-to-exceed price. ERM shall inform Client if it determines at any time that a material change to the nature, time or extent of Services is required or advisable. No material change will be made without Client's consent except pursuant to Section 3.
- 3. Force Majeure: Emergencies. ERM's price and schedule are subject to equitable adjustments for delays caused by Client's failure to provide any required approval or suitable Site access or by occurrences or circumstances beyond ERM's reasonable control, such as fires, floods, earthquakes, strikes, riots, war, terrorism, threat of terrorism, acts of God, acts or regulations of a governmental agency, emergency, security measure or other circumstances, including, without limitation, unusual weather conditions ("Force Majeure"). If ERM determines in its sole discretion, based on circumstances surrounding a Project, that the health or safety of its personnel or its subcontractors' personnel is or may be at risk in performing Services, such circumstances will constitute a Force Majeure, and ERM will have the right to take any measure it deems necessary to protect personnel at Client's expense. If its is impracticable for ERM to obtain authorization from Client in an emergency affecting the health or safety of persons, the environment, or property, ERM may, at its discretion, act to prevent threatened damage, injury or loss at Client's expense.
- 4. Labor Rates.
  - 4.1 For Projects charged on a time-and-material or cost-reimbursable basis, labor, costs and expenses will be billed to Client as indicated in the Proposal or in schedules attached to the Terms. ERM labor rates apply to (i) full-time, part-time, temporary and seconded employees of ERM and its affiliates, (ii) temporary employees whose direct compensation is paid by a temporary staffing agency and (iii) staff consultants.
  - 4.2 Labor rates stated in the Proposal or in attached schedules are subject to periodic adjustment by ERM. If labor rates are not stated in the Proposal, ERM's standard labor rates at the time of Services apply.
  - 4.3 If ERM personnel are called or subpoenaed for depositions, examinations or court appearances in any dispute arising out of a Project, ERM's participation constitutes Services (unless ERM is a named party in the dispute), and Client shall pay ERM at its then-effective labor rates for the type of Service plus costs.
  - 4.4 If Services covered by the Proposal are subject to taxes or fees (except income taxes), such costs will be charged to the Project and reimbursed by Client. A handling and administrative charge will be added to all third-party Project expenses.
- 5. Invoices and Payment. Within 5 business days of Client's delivery to ERM of a signed acceptance of the Proposal, Client will pay the amount stated in the Proposal as ERM's initial retainer for Project fees and expenses. Except as otherwise specified in the Proposal, Client will pay each invoice within 30 days of its date. All fees quoted are exclusive of goods and services, value added or similar taxes, which will be charged separately. Vendor and subcontractor costs will be invoiced at those parties' standard or negotiated rates, plus mark-ups as provided in the Proposal. Certain vendors and subcontractors offer ERM trade or volume discounts, rebates or other special pricing arrangements that may not be passed through to Client or reflected in invoices. Client must make all payments in United States currency by direct transfer to the ERM bank account identified in the invoice. Client is not entitled for any reason to make any deduction or withhold any sum by way of set-off from the amounts payable to ERM. Interest will be charged on unpaid balances beginning 30 days from the invoice date at the lesser of 1.5% per month or the maximum rate permissible under law. ERM will apply payments first to any accrued interest, then to unpaid balances. Upon 2 business days' notice, ERM may suspend Services without liability until all past due amounts, including accrued interest, have been paid in full. If ERM takes legal action to enforce payment and prevails, Client shall reimburse ERM for all collection and legal costs. Client shall pay ERM for Services

rendered regardless of whether Services are intended in whole or in part to benefit a third party.

Termination. The Contract may be terminated for cause and work on the Project stopped 6. by written notice from either Party (i) upon breach by the other Party of a material obligation under the Contract, (ii) if the other Party goes into bankruptcy, is liquidated or is otherwise unable to pay its debts as they become due or (iii) if the other Party resolves to appoint or has appointed for it an administrator, receiver or other similar officer for any part of the Party's business, property or assets. Any termination for cause will be effective only if the terminated Party is given (a) at least 10 calendar days' written notice of termination, (b) opportunity for consultation with the terminating Party before the termination date if breach is claimed, and (c) reasonable opportunity to cure the breach to the extent it can be cured. The foregoing notwithstanding, if Client fails to pay any invoice within 2 business days of its due date, ERM may terminate the Contract and stop work on any Project immediately upon dispatch of notice to Client. Client may terminate the Contract for its convenience upon 2 business days' written notice to ERM, in which event Client shall pay all fees and expenses for Services accrued to the termination date and ERM's reasonable costs resulting from termination, including, without limitation, demobilization costs, as detailed in a final invoice. This Section does not limit ERM's rights to seek recovery for claims, costs, losses or liability resulting from a breach by Client.

#### 7. Insurance.

- 7.1 ERM shall maintain policies of insurance for the following types of coverage, each with a limit of liability of US\$1,000,000 (except for Workers' Compensation or equivalent coverage): Workers' Compensation or equivalent coverage as required under applicable statute; Employer's Liability; Comprehensive General Liability; Comprehensive Automobile Liability; Professional Errors and Omissions and Contractor's Pollution Liability.
- 7.2 Upon written agreement of the Parties, ERM may procure and maintain additional insurance coverage or increased policy limits at Client's expense.
- 8. Indemnification.
  - 8.1 ERM shall indemnify Client, its affiliates and their respective directors, officers and employees (individually, a "Client Indemnitee" and collectively, "Client Indemnitees") from and against all liability, claims, suits, losses, damages and costs, including reasonable attorney's fees (collectively, "Damages"), arising out of the Contract, to the extent Damages are caused by the negligence or willful misconduct of ERM.
  - 8.2 Client shall indemnify ERM, its affiliates and their respective directors, officers, employees and contractors (individually, an "ERM Indemnitee" and collectively, "ERM Indemnitees") from and against all Damages arising out of the Contract, to the extent Damages are caused by the negligence or willful misconduct of Client.
  - 8.3 No ERM Indemnitee will be liable to a Client Indemnitee or any third party for the creation, existence or release of any type of hazardous or toxic waste, material, chemical, compound or substance, or any other type of environmental hazard, contamination or pollution, whether latent or patent, or the violation of any law or regulation relating thereto, existing at a Site prior to commencement of the Services ("Pre-Existing Condition"), and Client shall indemnity and defend ERM Indemnitees from all Damages sustained in connection with a Pre-Existing Condition except to the extent the Pre-Existing Condition is exacerbated by the negligence or willful misconduct of an ERM Indemnitee.
- 9. Standard of Care; Limitation of Liability.
  - 9.1 ERM shall exercise the degree of care and skill ordinarily exercised under similar circumstances at the same time by consulting, construction or construction management professionals performing substantially similar services at the same or similar locality as the Site. Except for the foregoing warranty, or condition, express or implied, as to the quality or nature of Services is given or accepted by ERM, and all other representations, warranties, conditions and terms are excluded to the fullest extent permitted by law.
  - 9.2 If Services include (i) estimating the cost or potential cost of remediation, (ii) estimating the cost of compliance, or (iii) assessing the type, concentration, nature or quantity of any substance, waste or condition at, on or in a Site or structure, based on information provided by Client or a third party or on representative sampling or inspection of any Site or structure conducted by ERM, ERM will prepare such estimate or assessment based upon its experience and, in some instances, the application of a method for estimating or assessing conditions based on representative or random sampling or inspection. Due to the nature of such Services, including, without limitation, the potential for the estimate or assessment to be based on incomplete or inaccurate information or anomalous samples, ERM does not warrant or guarantee the accuracy of any such estimate or assessment.
  - 9.3 IN NO EVENT WILL A CLIENT INDEMNITEE BE LIABLE TO AN ERM INDEMNITEE OR AN ERM INDEMNITEE BE LIABLE TO A CLIENT INDEMNITEE, OR ANYONE CLAIMING BY, THROUGH OR UNDER A CLIENT INDEMNITEE OR ERM INDEMNITEE, INCLUDING, WITHOUT LIMITATION, INSURERS, FOR ANY LOST, DELAYED OR DIMINISHED PROFITS, REVENUES, BUSINESS OPPORTUNITIES OR PRODUCTION OR FOR ANY INCIDENTAL, SPECIAL,

INDIRECT, FINANCIAL, CONSEQUENTIAL OR ECONOMIC LOSSES OR DAMAGES OF ANY KIND OR NATURE WHATSOEVER, HOWEVER CAUSED.

- 9.4 IN NO EVENT WILL AN ERM INDEMNITEE BE LIABLE TO A CLIENT INDEMNITEE OR ANYONE CLAIMING BY, THROUGH OR UNDER IT, INCLUDING WITHOUT LIMITATION, INSURERS, FOR ANY AMOUNT IN EXCESS OF US\$250,000 IN THE AGGREGATE. ERM WILL HAVE NO LIABILITY FOR A CLAIM OR DEMAND IF CLIENT FAILS TO INITIATE LEGAL PROCEEDINGS WITHIN 12 MONTHS OF ITS NOTICE OF THE CLAIM TO ERM. CLIENT RELEASES ERM INDEMNITEES FROM ANY DAMAGES SUSTAINED BY CLIENT IN EXCESS OF THE AMOUNT STATED IN THIS SECTION 9.4, AND FROM ANY CLAIM OR DEMAND NOT MADE WITHIN THE TIME FRAME STATED IN THIS SECTION 9.4.
- 9.5 The provisions of this Section 9 will (i) apply to the fullest extent allowed by law whether liability is claimed or found to be based in contract (including breach of warranty or contract), tort (including negligence or negligent misrepresentation), equity, strict liability or otherwise, and (ii) survive the completion of Services and the expiration, cancellation or termination of the Contract. The provisions of Sections 9.3 and 9.4 will be enforceable as a separate agreement if necessary.
- 9.6 Client acknowledges and agrees that the price for Services set forth in the Proposal, subject to adjustment pursuant to the Contract, has been negotiated in consideration of the Parties' agreement to limit certain of ERM's liabilities. Accordingly, Client acknowledges and agrees that the provisions of this Section 9 satisfy any requirement of reasonableness under any law applicable to the Contract and to any claims relating to, or arising in connection with, the Contract.
- 10. <u>Containment and Disposal</u>. If any hazardous or toxic waste, material, chemical, compound or substance or any waste regulated by local, state or federal law, including, without limitation, any sampling materials such as drill cuttings and fluids or asbestos (the "Waste") are encountered by ERM or result from ERM's performance, ERM will appropriately containerize the Waste and either (i) leave the containerized Waste on Site for proper disposal by Client or (ii) using a manifest signed by Client as generator, assist with transportation of Waste to a location selected by Client for disposal. Client acknowledges that at no time does ERM assume authority over the transportation or disposal of, or title to, or the risk of loss associated with, the Waste. Client agrees to indemnify and defend ERM from any and all liability (including, without limitation, any liability derived from any state or federal "Superfund" law), claims, damages, suits, losses, penalties, fines or expenses (including attorneys' fees) in any way related to ERM's assistance with the storage, transportation or disposal of the waste, except to the extent such liability, claims, damages, suits, losses, penalties, fines or expenses result from ERM's gross negligence or willful misconduct.
- 11. <u>Client Responsibilities</u>. Client must provide all reasonable assistance required by ERM in connection with Services, including, without limitation, any assistance specified in the Proposal. In particular, Client will provide ERM with the following, as applicable:
  - 11.1 Reasonable ingress to and egress from the Site for ERM and its subcontractors and their respective personnel, equipment and vehicles.
  - 11.2 Clean, secure and unobstructed space at the Site for ERM's and its subcontractors' equipment and vehicles.
  - 11.3 Specifications (including, without limitation, facility schematics, Site schematics, engineering drawings and plot plans) detailing the construction of underground and aboveground facilities located at the Site that pertain to ERM's scope of work or are necessary to enable ERM to perform Services and complete the Project successfully.
  - 11.4 Approval of each specific location for boring, drilling, excavation or other intrusive work and identification of concealed or underground utilities, structures, obstructions, obstacles or sensitive conditions before ERM commences work at the location. If Client does not identify the location of the concealed and underground items or approve each location of intrusive work, Client shall indemnify and defend ERM against any harm or injury arising out of or related to contact with such hazards.
  - 11.5 Client's selection of any hazardous waste transporter and disposal facility and Client's arrangements for execution of the waste generator portion of any bill of lading, waste manifest, waste profile and related documents.
  - 11.6 All information related to the Project in Client's possession, custody or control reasonably required by ERM.

ERM has the right to rely, without independent investigation or inquiry, on the accuracy and completeness of all information provided by, on behalf of, or at the request of Client or any governmental agency to ERM or any ERM subcontractor. Client agrees to review all Proposals, designs, schematics, drawings, specifications, reports and other required Project deliverables prepared by ERM for the accuracy and completeness of factual information provided by or on behalf of Client for inclusion and to provide ERM with any further information within Client's possession that may affect the accuracy or completeness of Services. Full payment for Services is a condition precedent to Client's rights in ERM work product. If Services involve electronic data files that are maintained by or for Client, Client is responsible for maintaining backup copies of such files. Unless otherwise expressly agreed in writing by the parties, Client is responsible for Site security.

- 12. Use of Name. Client authorizes ERM to use Client's name and a general description of the Project as a reference for prospective clients and projects.
- 13. No Third Party Reliance. Except as provided in Section 17.1, the Contract does not, and is not intended to, grant to any person other than ERM and Client any benefit, right or remedy hereunder, including the right to rely on Services. Services are performed solely for the purposes stated in the Proposal. Client's use of Services for any other purpose is at its sole risk. If a court determines, notwithstanding this Section 13, that a third party has the right to rely on Services, to the fullest extent allowable under applicable law, such reliance is subject to the limitations included in the Contract. Client agrees to indemnify, hold harmless and defend ERM Indemnitees against any claim resulting from a Client Indemnitee directly or indirectly providing ERM work product to a third party absent ERM's prior express written consent.
- 14. <u>Severability</u>. Each provision of these Terms is distinct and severable from the others. If one or more provisions is or becomes invalid, unlawful or unenforceable in whole or in part, the validity, lawfulness and enforceability of the remaining provisions (and of the same provision to the extent enforceable) will not be impaired, and the Parties agree to substitute a provision as similar to the offending provision as possible without its being invalid, unlawful or unenforceable.
- 15. <u>Governing Law; Forum</u>. The Contract is governed by the substantive laws of the jurisdiction in which ERM is formed (the "Jurisdiction"). The Jurisdiction's courts have exclusive jurisdiction and venue over all disputes arising out of the Contract, and the Jurisdiction is deemed to be the place of performance for all obligations under the Contract. The Parties waive any objection to the Jurisdiction's courts on grounds of inconvenient forum or otherwise.
- 16. <u>Interpretation</u>. Words in the singular include the plural and vice versa. Section captions are for convenience only and do not affect the meaning or construction of the Terms. A reference to a specific item as included within a general category does not exclude items of a similar nature, unless expressly stated otherwise. If any provision of the Terms is inconsistent with the Proposal, the Terms prevail.
- 17. Miscellaneous.
  - 17.1 <u>Other Parties</u>. If Client engages ERM to provide Services on behalf of or for the benefit of another party (a "Client Party"), Client represents and warrants to ERM, as a material inducement to enter the Contract, that it has the authority to bind the Client Party to the Contract and that Client's signature on, or acceptance of, the Proposal does bind the Client Party. The limitation of liability in Section 9.4 applies jointly, not severally, to Client Indemnitees, any Client Party and any third party as provided in Section 13. If ERM in its sole discretion agrees in writing to Client's request that ERM seek payment from the Client Party, Client will nevertheless retain primary responsibility for payment for Services.
  - 17.2 <u>Law Firms</u>. If Client engages a law firm, or if a law firm or other representative signs the Proposal or other documents or otherwise instructs ERM to take or refrain from taking any action, ERM is entitled to assume that the law firm or other representative has authority to so instruct ERM. If the law firm or other representative may or will rely on Services, its rights will be limited to those granted to Client in the Contract.
  - 17.3 <u>Entire Agreement</u>. Upon Client's acceptance of the Proposal, the Contract constitutes the entire understanding between the Parties and the full and final expression of such understanding, and supercedes all prior and contemporaneous agreements, representations or conditions, express or implied, oral or written.
  - 17.4 <u>Waiver; Amendment</u>. A provision of the Contract may be waived, deleted or modified only by a document signed by the Parties stating their intent to modify the Contract.
  - 17.5 <u>Survival</u>. Sections 5, 8, 9, 10, 13, 14 and 15, and all provisions of the Contract that by their nature would usually be construed to survive an expiration or termination shall survive the expiration or termination of the Contract.
  - 17.6 <u>Printed Forms</u>. Client may use its forms and agreements to administer any agreement between ERM and Client, but such use is for convenience only, and any provision therein that conflicts with the Contract is void.
  - 17.7 <u>Notices</u>. Any notice, request, demand or other communication under the Contract is acceptable if given to the persons identified in the Proposal by any of the following: personal delivery; registered or certified mail, return receipt requested and postage prepaid; internationally recognized ovemight courier, all fees prepaid; facsimile; or email.
- <u>Additional Terms</u>. Additional provisions governing ERM's performance of Services, if attached to these Terms by ERM, are made part of the Contract.

Remedial Option	Option Description	Application	Effectiveness (Ability to meet RO)	Implementability	Cost	Treatment Duration	Limitations	Advantages	Accepted by WDNR	Further Evaluate Technology
Freatment Alternativ	Enhanced In-Situ Bioremediation	degradation of the site contaminants. In situ treatment achieved by injecting	Highly effective in the treatment of dissolved phase CVOCs provided that the appropriate bacterial strains are available, the geochemistry is favorable and nutrients can be delivered effectively.	Technology could be implemented using readily available drilling and injection equipment. Bacterial testing has not been completed at the Site. However, the presence of daughter products (TCE & DCE) indicate that degradation processes may be taking place. Confirmatory testing is required to demonstrate anaerobic conditions and that sufficient bacteria is present for metabolisis of CVOCs.	evaluation would cost approximately \$3,000 to implement and evaluate. The remedial cost would be driven by the large aerial extent of product related contamination. The highest percentage of cost is	dependent on the presence and distribution of the needed strain of indigenous bacteria and the permeability of the soil. Possible to achieve ROs within 3 to 5 years, allowing for possible re- treatment of some areas to achieve RO.	The unknown permeability of the subsurface soils may locally inhibit the delivery of nutrients. Anaerobic degradation can generate methane as a byproduct; a consideration for the use of this technology includes providing a ventilation system in areas that are capped or covered.	The advantage of this approach is (1) the use of naturally ocurring bacteria (if present) to degrade the subsurface contaminants and (2) the ability to enhance the growth of bacteria by injection of a nutrient or carbon source that have a longer residence time in the subsurface than chemical oxidants.	YES	YES
Monitored Natural Attenuation	Monitored Natural Attenuation	Ground water monitoring to evaluate the decrease of CVOCs through the process of natural attenuation, taking advantage of the natural effects of the environment on contaminants.	Effective in meeting remedial objectives in a reasonable amount of time.	Can be easily implemented through the existing monitoring well network and the long-term evaluation of chemical trends.	Cost is relatively low to implement but long-term monitoring may be costly if MNA does not provide sufficient evidence that CVOC concentrations are stable or decreasing over a reasonable amount of time.	Duration for MNA can extend over decades, depending upon conditions at the site.	MNA is limited to the natural ability for the subsurface environment to decrease concentrations over time.	The advantage of this technology is the use of naturally occurring environmental conditions (organic carbon, bacteria, etc.).	YES	YES (may be used after active remediation has occurred)
In-situ Stripping	Air Sparge and Vapor Extraction (VE)	Insitu treatment of the adsorbed and dissolved contaminants by injecting air into subsurface saturated soils with the movement of air providing a means to strip contaminant to a vapor phase that could be captured by the VE system.	Effective in the treatment of CVOCs in saturated soil and groundwater provided that the soil permeability is sufficiently high and the treatment zone is sufficently thick to yield an effective radius of influence.	readily available equipment and techniques. The sparge points can be installed as vertical points or horizontal	The cost of the sparge system will be primarily driven by capital equipment, injection well installation, and subsurface piping installation costs. Cost range is \$50 to \$100 per cubic yard.	dependent on the permeability of the soil. Likely to achieve ROs	points. Also, preferrential pathways	This technology is flexible, allowing adjustment of air flow rates and treatment areas to focus on distinct zones based on site data.	YES	NO
RF Heating	Radio-Frequency Heating	Radio frequency heating (RFH) uses electromagnetic energy in the radio frequency band to heat media. Like microwave heating, RFH generates heat at the molecular level from within the soil/bedrock volume, rather than via less efficient conduction or convection processes. RFH is particularly efficient at heating low permeability geologic media, such as clay, silt, till or bedrock. Vapor recovery may be required using this approach.	Effective in treatment of CVOCs (including dense nonaqueous phase liquids) in both the shallow vadose and saturated zones.	accordance with OSHA and FCC requirements.	The cost of operating the full scale system ranges from \$90.00 per cubic yard to \$200.00 per cubic yard or more for high temperature systems working in a soil vapor extraction system. More cost effective when used in areas having large soil contaminant volumes.	Duration of treatment is	Cost limitations include lease costs for the RFH units and the number of probes/antennae required. Also may require the use of vapor extraction to contain volatilized constituents.	Can be deployed underneath buildings and among other obstacles and utilities. According to vendors, the technology requires no safety barriers	YES	NO
In-Situ Chemical Oxidation (ISCO)	Ozone	Insitu treatment of the soils and groundwater with the injection of ozone below the water table and within the soil matrix. Vapor recovery would be a component of this treatment approach.	Highly effective in the treatment of CVOCs regardless of whether the contaminant is adsorbed or dissolved provided that the soil permeability is sufficiently high and the treatment zone is sufficently thick to yield ar effective radius of influence.	as well as vapor permeability of the site soils. The sparge system could be installed using either horizontal or vertical injection wells.	installation, results of the oxidant demand study (which determines the mass of ozone needed), and		Permeability and thickness of the saturated soils will limit the horizontal and vertical movement of the injected ozone, which can translate to installation of additional injection points and or ability to capture the injected ozone.	Simultaneous treatment of adsorbed and dissolved phase contaminants, destructive technology, and provides flexibility (as with sparge) to change treatment area based on site conditions.	YES	NO
	Sodium Permanganate	Insitu treatment of the adsorbed and dissolved contaminants with the injection of sodium permanganate both above and below the water table.	Highly effective in the treatment of site contaminants in the vadose zone and saturated area.	The technology is implementable with readily available equipment and techniques. Permanant injection wells could be installed either vertically or horizontally. Injection can also be implemented using direct-push technologies. Bench-scale testing of soil oxidant demand and field pilot study may be required to implement full-scale.	The cost of this technology is driven by the aenal extent and vertical thickness of the treatment area(s) on site (which translates to number of injection wells and pounds of oxidant to be delivered). Cost range is \$50 to \$75 per cubic yard.	Duration of treatment is t dependent on the permeability o the soil. Possible to achieve ROs within 1 to 2 years, allowing for 1 to 2 rounds of maintenance injections.			YES	YES

## Table 1- EXPRESS DRY CLEANERS, RACINE, WISCONSIN- SUMMARY OF POTENTIAL TREATMENT TECHNOLOGIES SATURATED ZONE (Above Till)

## Table 1- EXPRESS DRY CLEANERS, RACINE, WISCONSIN- SUMMARY OF POTENTIAL TREATMENT TECHNOLOGIES SATURATED ZONE (Above Till)

Remedial Option	Option Description	Application -	Effectiveness (Ability to meet RO)	Implementability	Cost	Treatment Duration	Limitations	Advantages	Accepted by WDNR	Further Evaluate Technolog
	Sodium Persulfate	Insitu treatment of the adsorbed and dissolved contaminants with the injection of sodium persulfate both above and below the water table. Requires an additive to "activate" the persulfate radical.	Highly effective in the treatment of site	The technology is implementable with readily available equipment and techniques. The injection wells could be installed either vertically or horizontally. Injection can also be implemented using direct-push technologies. Bench-scale testing of soil oxidant demand and field pilot study may be required to implement full-scale.	vertical thickness of the treatment area(s) on site (which translates to number of injection wells and	Duration of treatment is dependent on the permeability of the soil. Possible to achieve ROs within 1 to 2 year, allowing for 1 to 2 rounds of maintenance	Low permeability soils can inhibit delivery of the oxidant, and the use of persulfate may require an activator such as caustic soda to achieve the RO. Bench-scale testing of soil oxidant demand and field pilot study may be required to implement full-scale.		YES	NO
In-Situ Chemical Reductive (ISCR) Technologies	ISCR	Insitu treatment of the adsorbed and dissolved phase contaminants with the injection of amendments to enhance the natural attenuation of the contaminants.	Effective in the treatment of the site contaminants in the oxygen-deficient saturated zone.	The technology is implementable with readily available equipment and techniques. The injection wells could be installed either vertically or horizontally. Bench scale testing would be required to identify if the site currently exhibits a reducing environment that can be augmented or enhanced.	area(s) on site (which translates to number of injection wells and pounds of amendment to be	Duration of treatment is dependent on the permeability of	Low permeability soils can inhibit delivery of the amendment, and the technology requires the presence of a reducing environment for effective implementation. Potential extend time to obtain the required regulatory review of work plans. May not be feasible due to shallow nature of contaminants on site.	Destructive technology with a long residence time.	Unknown	NO
Extraction	Pump and Treat Groundwater Gradient Control	Extraction of groundwater from single or multiple recovery wells to provide both removal of mass and gradient control of the contaminant plume.	Effective in containing the contaminant plume. Limited mass removal effectiveness, due to the expected low groundwater extraction rates.	Technology could be implemented using readily available groundwater extraction and treatment equipment.	The cost of this technology is driven by capital equipment, recovery well installation, subsurface piping installation, and operation and maintenance. O&M cost is highly dependant on the extent and duration of operation. O&M costs may be \$20K/yr. Duration 20+ years.	on-going operation of	Low permeability soils will reduce the effective radius of influence of the extraction system, and the inorganics on site may cause fouling issues with an associated ex-situ treatment such as air stripping.	Low capital cost with a long history of regulatory acceptance.	YES	NO
	ART in Well	Extraction of groundwater from single or multiple recovery wells with in-well treatment by stripping, venting, and recirculation.	Limited effectiveness, due to the expected low groundwater extraction rates as well as the high dissolved phase contaminant concentrations.	Technology could be implemented using readily available drilling and treatment equipment.	The cost of this technology is driven by capital equipment, recovery well installation, subsurface piping installation, and operation and maintenance. Cost range is unknown for horizontal wells.	on-going operation of	Low permeability soils will reduce the effective radius of influence of the ART system, and the inorganics on site may cause fouling issues with the in-well stripper and SVE components of the system.		Unknown	NO

#### Natural Attenuation

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1. Remedial Objective (RO): Removal of CVOCs in the areas of highest contaminant concentrations in the saturated zone (adsorbed and dissolved phase) to the extent praticable.

Environmental Resources Management

700 W. Virginia Street Suite 601 Milwaukee, WI 53204 414-289-9505 414-289-9552 (fax)



July 24, 2009

Natalia Minkel-Dumit Gonzales Saggio & Harlan LLP 225 East Michigan Street Milwaukee, WI 53202

And

Nancy Ryan Wisconsin Department of Natural Resources 2300 N. Dr. Martin Luther King, Jr. Drive Milwaukee, WI 53212-3128

RE: Statement of Financial Responsibility for Insurance Deductible Remedial Action Bid Proposal Submittal Express Cleaners, 3941 North Main Street, Racine, WI WDNR FID#252010000; BRRTS #02-52-547631

Dear Ms. Minkel-Dumit and Ms. Ryan:

This letter is being provided as documentation that Environmental Resources Management, Inc. (ERM) is financially capable of meeting our \$250,000 insurance deductible obligation. If a valid claim is made against ERM's insurance for issues associated with future remedial actions by ERM at the above referenced Express Cleaners project, owned by the Ehrlich Family Limited Partnership (Ehrlich Family), ERM will be capable of meeting the insurance deductible obligation.

If you have any questions or require additional information, please feel free to contact me at (414) 289-9505 or (847) 258-8970.

Sincerely,

The

Rita Harvey () Finance Director ERM North America Northern Division