



STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
This contract authorizes the professional services contractor to provide professional services.
(Authority: Public Act 431 of 1984, as amended)

CONTRACT FOR PROFESSIONAL SERVICES: Indefinite Scope – Indefinite Delivery
Design Build Tank and Soil Services

THIS CONTRACT, authorized this 10th day of June in the year two-thousand and twenty-two (2022), by the Director, Department of Technology, Management and Budget, BETWEEN the STATE OF MICHIGAN acting through the STATE FACILITIES ADMINISTRATION, DESIGN AND CONSTRUCTION DIVISION of the DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET, 3111 West St. Joseph Street, Lansing, Michigan, hereinafter called the Department, and

Environmental Resources Group LLC
28003 Center Oaks Court, Suite 1066
WWixom, MI 48393

the Prime Professional Services Contractor, hereinafter called the Design Build Entity (DB Entity),

WHEREAS the Department proposes securing design build services for the following project:

Indefinite-Scope, Indefinite-Delivery Contract No. 009133

Department of Technology, Management and Budget
State Facilities Administration, Design and Construction Division
2022 Design Build Services for Tank and Soil Removal Indefinite-Scope, Indefinite Delivery Contract (ISID) for Gaylord District
Various State Departments and Facilities
Various Site Locations, Michigan

NOW THEREFORE, the State of Michigan and the DB ENTITY in consideration of the covenants of this Contract agree as follows:

The State of Michigan has accepted the DB Entity's offer to provide the goods or services in accordance with the Design Build Contract's terms and specifications.

The DB Entity agrees to supply the goods or services at the price and on this contract's terms and conditions, and to assume and perform all the covenants and conditions required of the Contractor. The State of Michigan agrees to pay the DB Entity the Contract Price for the supply of the goods or services and the performance of the DB Entity's covenants.

The DB Entity shall provide the design and construction services on an as-needed basis at Various State/Client Agencies within the various locations as defined by the State of Michigan, in strict accordance with the contract and subsequent ISID assignments.

The State of Michigan shall compensate the DB ENTITY for providing services as outlined in the terms and conditions of this Contract and any subsequent ISID assignment.

This ISID contract will remain in effect for two (2) years from the date of this contract award plus an option of one (1) additional year but may be unilaterally terminated by the State of Michigan, at any time, for cause or its convenience, by written notification of the State of Michigan, to the DB Entity.

This contract does not warrant or imply to the DB Entity entitlement to perform any specific percentage (%) amount of compensation, work, or projects during the life of the contract.

The DB Entity is not to provide any design or construction services or incur any expenses until individual ISID projects are assigned to this contract and approved by the State of Michigan.

PLEASE NOTE: For this Design Build ISID contract, your permanent assigned ISID Contract Number, as noted above, must be provided on all correspondence and documents

The DB ENTITY shall provide the professional services for the Project in the sequence outlined in this Contract in accordance with the Department's approved and attached Appendix II - Project/Program Statement and be solely responsible for such services. The DB ENTITY services shall be performed in strict accordance with this Contract.

IN WITNESS, WHEREOF, each of the parties has caused this Design Build ISID Contract for Minor Projects to be executed by its duly authorized representatives on the dates shown beside their respective signatures, with the Contract to be effective upon the date on which the DB ENTITY received a copy executed by the authorized State of Michigan representative(s) by regular, registered, or certified mail or by delivery in person.

FOR THE PROFESSIONAL:

CV0052614

SIGMA Vendor Number

Environmental Resources Group, LLC

Firm Name

RITZM

Signature

6/22/2022

Date

President

Title

FOR THE STATE OF MICHIGAN:

Aiden Plank

Director, DTMB, SFA, Design & Construction

June 30, 2022

Date

NOW THEREFORE, the Department and the DB ENTITY, in consideration of the covenants of this Contract, agree as follows:

WHEREAS this Contract constitutes the entire agreement between the parties, any Contract Modification of this Contract and the Department's approved and attached Project/Program Statement must be in writing, signed by duly authorized representatives of the parties, and shall be in such format and detail as the State may require. No Contract Modification may be entered into to compensate the DB ENTITY for correcting, or for responding to claims or litigation for, the DB ENTITY's Contract Documents, design errors, omissions, or neglect on the part of the DB ENTITY.

The definition of terms and conditions of this Contract are described and outlined in the following Articles and attached appendices.

This Contract provides two (2) distinct types of DB ENTITY services. These professional services may be coordinated and combined, or used singularly, depending upon the flexibility required by the Project.

The two (2) distinct types of DB ENTITY services for this Contract are defined as follows:

I. DESIGN SERVICES

Provide complete architectural and engineering design/build, specialized study services, or other professional services. The design work activities will be performed either by the DB ENTITY or through their Consultant(s).

The DB ENTITY's design work may be provided by either the DB ENTITY's office staff, or a third-party consultant procured by either the State of Michigan or the DB ENTITY. The Department may also elect to use a design/build approach combining the design and construction orders to provide an integrated, expedient, delivery approach.

Design and Construction Consultant (DB ENTITY) Services: The following Phase description(s) outline the DB ENTITY design services that may be included to accomplish the scope of work.

PHASE 100 - ENVIRONMENTAL INVESTIGATION/STUDY SERVICES

Provide complete and comprehensive Environmental Investigation/Study Deliverables to meet the requirements of the Project/Program Statement. Upon completion of all field investigation, assessment, research, review and/or oversight, prepare a complete report with an executive summary, and in such detail, as the Project Director may prescribe. The services under this phase may include but not be limited to coordination, environmental assessments, drilling, field sampling/oversight, data/document review/management, feasibility study, and reporting as described in the Project/Program Statement. Project reports must be in accordance with Department/Client/Agency requirements and as outlined in the Project/Program Statement but shall include, as a minimum and as appropriate, the following items: (1) Problem; (2) Conclusion; (3) Recommendations; and (4) Discussion, details, and documentation.

PHASE 300—SCHEMATIC DESIGN

Prepare Schematic Design Deliverables consistent with the Project/Program Statement. The deliverables shall consist of conceptual remediation system, drawings, outline specifications, a Schematic Construction Cost Estimate, other related documentation, and shall diagrammatically depict the areas, scales, and relationships of the functions.

The services under this phase may include but not be limited to coordination, construction codes and design reviews, civil/site staging investigation, schematic design and utilities review, drafting, and project cost/proposed construction schedule, as required by the Department/Client/Agency and as outlined in the Project/Program Statement. Acceptance of the Schematic Design by the Department/Client/Agency does not limit subsequent inclusion of minor, but essential, schematic or design details whose necessity and arrangement may best become apparent during subsequent Phases of the Project design. Revise design as necessary and obtain approval from the Department/Client/Agency.

PHASE 400—DESIGN DEVELOPMENT

Prepare Design Development Deliverables based on the Owner-accepted Schematic Design to depict the intent of the designed remediation system(s). The deliverables shall consist of draft drawings and specifications, Construction Cost Estimates, and other related documentation to clearly establish the complete basis for further detail into final design drawings/specifications. The deliverables shall further define the Project by fixing and describing the Project size, character, site relationships, and other appropriate elements including the environmental, civil, structural, architectural, mechanical, electrical, and safety systems. The services under this phase may include but not be limited to coordination, draft drawings/specifications, site specific staging investigation, structural calculations, and preliminary environmental/architectural/engineering design development/reviews of drawings/specifications, as required by the Department/Client/Agency and as outlined in the Project/Program Statement.

PHASE 500—CONSTRUCTION DOCUMENTS AND BIDDING DOCUMENTS

Prepare Construction Documents that revise, refine, amplify, and depict, in detail, the Project. The documents shall set forth, in detail, quality levels of and requirements for the construction, and shall consist of final drawings/specifications that comply with applicable regulatory and construction code requirements, enacted at the time of completion of the one hundred percent (100%) Construction Documents. Prepare Bidding Documents in Phases/Bid packages appropriate to the Project requirements and funding. Incorporate the current edition of DTMB "DCSPEC" or "50KSPEC", as adopted and modified by the State of Michigan. The Construction Documents shall contain all information necessary to bid and construct the Project. The services under this phase may include but not be limited to coordination, final drawings/specifications and bidding documents, civil/site staging design, final structural calculations, final environmental/architectural/engineering design development/reviews of drawings/specifications, construction testing program, hazardous materials, health and safety risks, final design correction procedures, design and construction budget, construction codes/permits and construction schedule, as required by the Department/Client/Agency and as outlined in the Project/Program Statement.

PHASE 600 - CONSTRUCTION ADMINISTRATION - OFFICE SERVICES

Provide all required construction oversight administration and timely professional review and administrative services, as the circumstances of the Construction may require, allowing the successful review/implementation of the Construction Documents into a completed remedial actions/abatement measures and/or for the use intended by the Department/Client/Agency.

The services under this phase may include but not be limited to coordination, review and approval of shop drawings and submittals, reporting of construction progress, construction quality testing, construction contractor performance review, punch list procedures, claims, establishing close-out procedures and developing/review of as-built documents, as required by the Department/Client/Agency requirements, and as outlined in the Project/Program Statement.

PHASE 700 - CONSTRUCTION ADMINISTRATION - FIELD SERVICES

Provide all required Construction Oversight and Field Services, including timely inspection and professional services, as the circumstances of the Construction may require, allowing the successful review/implementation of the Construction Documents into a completed remedial action/abatement measure and/or for the use intended by the Department/Client/Agency. The services under this phase may include but not be limited to coordination, field inspections, progress meetings and final project inspection, as required by the Department/Client/Agency requirements and as outlined in the Project/Program Statement.

PHASE 900 – OPERATION AND MAINTENANCE SERVICES – REMEDIATION FACILITY

Provide all required Operation and Maintenance (O&M) Services and perform, in a safe and secure environment, all functions, including timely inspection, sampling and professional services, necessary to maintain uninterrupted, effective, and efficient facility/system components for the use intended by the Department/Client/Agency. The services under this phase may include but not be limited to coordination, general system operation/inspections, routine system/building/ground maintenance, sampling, spare replacement parts, consumable supplies, utilities, waste materials removal/treatment/disposal, non-routine emergency services, progress meetings and reporting, as required by the Department/Client/Agency requirements and as outlined in the Project/Program Statement.

II. CONSTRUCTION SERVICES

SECTION I - INSTRUCTIONS TO DB ENTITY

1. **MICHIGAN PREFERENCE CERTIFICATION:** All DB Entities and their professional partners submitting proposals shall complete the Certification of Michigan Based Business. This information will determine if a DB Entity qualifies as a "Michigan" business for purposes of application of reciprocity where applicable.

2. **SIGNATURES:** All contracts and any subsequent Assignments Bids, notifications, claims, and statements shall be signed as follows:
 - (a) **Corporations:** Signature of official shall be accompanied by a certified copy of the Resolution of the Board of Directors authorizing the individual signing to bind the corporation.
 - (b) **Partnerships:** Signature of one partner shall be accompanied by a signed copy of the legal document (e.g., Power of Attorney or partnering agreement) authorizing the individual signing to bind all partners. If Bid is signed by all partners, no authorization is required.
 - (c) **Individual:** No authorization is needed. Each signature shall be witnessed
3. **BID PRICES:** The DB Entity's Not-To-Exceed Bid and Alternate Bid prices shall include, and payment for completed Work will compensate in full for: all professional design, services, obligations, responsibilities, management, supervision, labor, materials, devices, equipment, construction equipment, general conditions, permits, patent fees and royalties, testing, inspection and approval responsibilities, warranties, temporary facilities, small tools, supplies, Bonds, insurance, taxes, mobilization, close-out, overhead and profit and all connections, appurtenances and any other incidental items of any kind or nature, as are necessary to complete the Work, in a neat, first quality, workmanlike and satisfactory manner as required to fulfill the Owner's Project requirements as described on the attached Project Description and as approved through the project design process by the Owner.
 - For each Cash Allowance item, the DB Entity shall include, within the Bid, all labor costs, construction equipment costs, insurance and Bond premiums and other general conditions costs and Fees (for both the DB Entity's and any Subcontractors) to complete Work associated with the material, equipment, or other designated item to be furnished under the Cash Allowance.
 - For each Provisionary Allowance, the DB Entity shall include, within the Bid, insurance, premiums (not recoverable as labor burden) and Bond premiums required to complete Work that may be ordered under a Provisionary Allowance.
4. **INSPECTION OF REQUEST FOR PROPOSAL AND SITE CONDITIONS:** The DB Entity shall carefully review and inspect all documents referenced and made part of this ITB, site conditions, all applicable statutes, regulations, ordinances, and resolutions addressing or relating to the goods and services under this contract. Failure to do so or failure to acquire clarifications and answers to any discovered conflicts, ambiguities, errors, or omissions in the Request for Proposal will be at the DB Entity's sole risk.
5. **CERTIFICATION:** The DB Entity certifies to the best of its knowledge and belief that, within the past three (3) years, the DB Entity, an officer of the DB Entity, or an owner of a 25% or greater interest in the DB Entity:
 - (a) Has not been convicted of a criminal offense incident to the application for or performance of a contract or subcontract with the State of Michigan or any of its agencies, authorities, boards, commissions, or departments.

- (b) Has not had a felony conviction in any state (including the State of Michigan).
- (c) Has not been convicted of a criminal offense which negatively reflects on the DB Entity's business integrity, including but not limited to, embezzlement, theft, forgery, bribery, falsification, or destruction of records, receiving stolen property, negligent misrepresentation, price-fixing, bid-rigging, or a violation of state or federal anti-trust statutes.
- (d) Has not had a loss or suspension of a license or the right to do business or practice a profession, the loss or suspension of which indicates dishonesty, a lack of integrity, or a failure or refusal to perform in accordance with the ethical standards of the business or profession in question.
- (e) Has not been terminated for cause by the Owner.
- (f) Has not failed to pay any federal, state, or local taxes.
- (g) Has not failed to comply with all requirements for foreign corporations.
- (h) Has not been debarred from participation in the bid process pursuant to Section 264 of 1984 PA 431, as amended, MCL 18.1264, or debarred or suspended from consideration for award of contracts by any other State or any federal Agency.
- (i) Has not been convicted of a criminal offense or other violation of other state or federal law, as determined by a court of competent jurisdiction or an administrative proceeding, that in the opinion of DTMB indicates that the DB Entity is unable to perform responsibly or which reflects a lack of integrity that could negatively impact or reflect upon the State of Michigan, including but not limited to, any of the following offenses under or violations of:
 - (i) The Natural Resources and Environmental Protection Act, 1994 PA 451, MCL 324.101 to 324.90106.
 - (ii) A persistent and knowing violation of the Michigan Consumer Protection Act, 1976 PA 331, MCL 445.901 to 445.922.
 - (iii) 1965 PA 166, MCL 408.551 to 408.558 (law relating to prevailing wages on state projects) and a finding that the DB Entity failed to pay the wages and/or fringe benefits due within the time period required.
 - (iv) Repeated or flagrant violations of 1978 PA 390 MCL 408.471 to 408.490 (law relating to payment of wages and fringe benefits).
 - (v) A willful or persistent violation of the Michigan Occupational Health and Safety Act, 1974, PA 154, MCL 408.10001 to 408.1094, including: a criminal conviction, repeated willful violations that are final orders, repeated violations that are final orders, and failure to abate notices that are final orders.
 - (vi) A violation of federal or state civil rights, equal rights, or non-discrimination laws, rules, or regulations.

- (vii) Been found in contempt of court by a Federal Court of Appeals for failure to correct an unfair labor practice as prohibited by Section 8 of Chapter 372 of the National Labor Relations Act, 29 U. s. C. 158 (1980 PA 278, as amended, MCL 423.321 et seq).

- (j) Is NOT an Iran linked business as defined in MCL 129.312.

A false statement, misrepresentation, or concealment of material facts on this certification may be grounds for rejection of this proposal or termination of the award and may be grounds for debarment.

6. **CONTRACT TIME; LIQUIDATED DAMAGES:** The Project described shall be completed as specified in each Assignment.
7. **MOBILIZATION:** The costs to establish temporary site offices, to obtain required permits for commencing the Work and for bonds and insurance premiums are examples of costs to the DB Entity that are covered by the mobilization pay item. This cost shall not exceed four percent (4%) of the Not-To-Exceed Bid, unless otherwise expressly provided in the Bidding Documents.
8. **SAFETY REQUIREMENTS AND LAWS:** The DB Entity awarded the Contract shall comply with all applicable federal, state, and local Laws including health and safety regulations, environmental protection, permits and licensing.
9. **MICHIGAN PRODUCTS AND RECYCLED PRODUCTS:** All DB Entities, Subcontractors, DB Entity Architect-Engineers, and Suppliers are encouraged to specify and/or provide Michigan-made products, whenever possible where price, quality, and performance are equal or superior to non-Michigan products. All DB Entities, Subcontractors, DB Entity Architect-Engineers, and Suppliers are encouraged to specify and/or provide recycled products, green products, and/or environmentally friendly products whenever possible where price, quality, and performance meet the Project requirements. A list of Michigan-made products is available at: www.michigan.gov/dcd. The DB Entity will be required to use alternatives to landfills for waste disposal such as reuse or recycle of asphalt, bricks, concrete, masonry, plastics, paint, glass, carpet, metals, wood, drywall, insulation, and any other waste materials to the extent practical.
10. **SOIL EROSION AND SEDIMENTATION CONTROL:** All Work under this Contract shall meet the storm water management requirements of the Project and comply with the applicable Soil Erosion and Sedimentation Control (SESC) rules and regulations and specific provisions for same. SESC measures will be monitored and enforced by DTMB-SFA, or another authorized enforcing agency if so delegated, through the review of the DB Entity's implementation plans and site inspections.

SFA or the other authorized enforcing agency will notify the DB Entity in writing of any violation(s) of the applicable SESC statutes and/or the corrective action(s) undertaken by the Owner and may issue stop work orders. DTMB-SFA has the right to assess a fine to the DB Entity for noncompliance with the SESC regulations applicable to this Work and fines shall be in addition to any other remediation costs or liquidated damages applicable to the Project and may exceed the value of the Contract.

END OF SECTION I

SECTION II – INFORMATION FOR DB ENTITY

1. PERMITS, APPROVALS, LICENSES AND FEES

- 1.1 If the Owner has secured or will secure any permits, approvals and licenses and has paid or will pay any associated charges and fees, any such permits, approvals and licenses are itemized in the individual assignment.
- 1.2 If any permits, approvals, and licenses itemized above have been obtained by the Owner and the fees have been paid, copies of those permits, approvals, licenses, and corresponding fee receipts, will be attached to the individual assignment
- 1.3 Except for any permits, approvals, licenses, and fees identified above, the DB Entity shall be responsible for all permits, approvals, licenses, and fees applicable to Work.
2. **TAXES:** The DB Entity must pay all Michigan sales and use taxes and any other similar taxes covering the Work that are currently imposed by legislative enactment and as administered by the Michigan Department of Treasury, Revenue Division. If the DB Entity is not required to pay or bear the burden or obtains a refund of any taxes deemed to have been included in the Bid and Contract Price, the Contract Price must be reduced by a like amount and that amount, whether as a refund or otherwise, must ensure solely to the benefit of the State of Michigan.
3. **SEQUENCING REQUIREMENTS:** Refer to each individual Assignment for information, data, and criteria on sequences of Work restraints, construction, and maintenance of service to existing facilities, which, if provided, shall govern the selection of Work sequences. Each DB Entity shall be responsible for any conclusions or interpretations the DB Entity makes related to the selection of sequences and Means and Methods, based on the technical data made available, and/or those additional investigations or studies made or obtained by that DB Entity.
4. **SUBSURFACE CONDITIONS, UNDERGROUND UTILITIES, AND EXISTING PHYSICAL CONDITIONS:** Information or data about subsurface conditions, Underground Utilities, buildings, systems, facilities, and other Project information shall be noted in each Assignment and will be available to the DB Entities. The Owner does not warrant that this list identifies all existing relevant documents. The Owner does not warrant the accuracy or thoroughness of this information or data. The DB Entity is responsible for field verification and investigation.

END OF SECTION II

SECTION III – GENERAL PROVISIONS

1. **INTERPRETATIONS:** Any requests for clarifications or interpretations of this contract or any subsequent Assignments shall be in writing to the Project Director, who will issue written clarifications or interpretations as appropriate. As the Project is designed and constructed, if the DB Entity believes that such clarification or interpretation justifies an adjustment to the Not-To-Exceed Contract Price/Time, the DB Entity shall promptly notify the Project Director in writing before proceeding with the Work Involved. If the DB Entity fails to notify the Project Director before proceeding with the Work Involved, any adjustment to the Contract Price is waived.

2. **STANDARDS:** The Specifications to be prepared by the DB Entity will describe the entire Work.

The provisions of the Contract Documents shall govern over any standard specifications, manual, or code of any technical society, organization, or association but, if lower than the standards set by any Law applicable to the Work or the Project, the higher standards shall govern. The DB Entity's responsibilities extend to cover subcontractors and suppliers if liable because of their actions or obligations.

3. **CONTRACT TIME COMPUTATION:** The time to complete the Work shall be made in Calendar Days and shall include both the first and last day. The first day is established by the Notice-to-Proceed.

4. **TECHNICAL SPECIFICATIONS AND PRIORITY:** The following applies whenever priority is called for in Contract Documents: specifications shall govern Drawings; figured dimensions shall govern scaled dimensions; detail drawings shall govern general drawings; Drawings shall govern Submittals.

5. **INDEMNIFICATION:** To the extent permitted by law, the DB Entity is required to defend, indemnify and hold harmless the Owner, its employees, agents, servants, and representatives from and against all claims, suits, demands, actions of whatever type and nature and all judgments, costs, losses and damages, whether direct, indirect or consequential including, but not limited to, attorneys and others and all court, hearing and any other dispute resolution costs arising from:
- (a) any patent or copyright infringement by the DB Entity;
 - (b) any damage to the premises or adjacent lands, areas, properties, facilities, rights-of-way, and easements, including loss of use to the business and property of others because of DB Entity's operations;
 - (c) any bodily injury, sickness, disease or death, or injury to or destruction of property, including loss of use due to or related to the Work and caused in whole or in part by the DB Entity's or Subcontractor's or Supplier's negligence, omissions, or failure to maintain the required insurance and coverage and;
 - (d) a failure by the DB Entity to appropriately handle Hazardous Materials for the Work or the DB Entity's operations in compliance with the Owner requirements and/or applicable Laws and regulations.

The indemnification obligations are not affected by the limitation on the amount and types of damages, compensation or benefits payable by or for the DB Entity or Subcontractor or Supplier under worker's or workman's compensation acts, disability benefit acts or other employee benefit acts.

6. **CONTRACT DOCUMENTS OWNERSHIP:** The State is the owner of the Contract Documents. The DB Entity, Subcontractor or Supplier shall not reuse any of the documents on any other Project without prior written consent of the State

END OF SECTION III

SECTION IV – RIGHTS AND RESPONSIBILITIES

1. OWNER'S RIGHTS AND RESPONSIBILITIES

- 1.1 **Representation and Authority:** The Project Director and/or Owner Field Representative will represent the Owner. Only the Project Director has the authority to interpret the requirements of the Request for Proposal or to authorize any changes in the Work. Adjustments in the Not-To-Exceed Contract Price or Contract Time shall be authorized by the Project Director and the Contract amended by Contract Change Order. The State will provide the necessary easements for permanent structure and permanent changes in existing lands, areas, properties, and facilities.
- 1.2 **Salvage:** The Owner reserves the right to salvage certain items and equipment and those salvaged items will be identified to the DB Entity at the time of their inspection of the proposed Work. The Owner will remove salvaged items before commencement of the Work.
- 1.3 **Removal and Protection:** The DB Entity must give timely notice to the State Agency representative identified in the pre-construction meeting of all furnishings, window covering and movable equipment that will interfere with the Work or which the DB Entity cannot protect with coverings of paper, plastic, drop cloths or clean tarpaulin. The DB Entity must furnish, install, maintain, and remove all coverings used to protect furnishings, window coverings and movable equipment.

2. DB ENTITY'S RIGHTS AND RESPONSIBILITIES

- 2.1 **General:** The DB Entity shall administer the entire project by directing, coordinating, scheduling, and expediting all Subcontractor work with a minimum disturbance to or interference to the business operations on site or adjacent properties.
- 2.2 **Coordination:** The DB Entity shall develop and provide a project schedule and other appropriate procedures and methods to ensure that the Subcontractors function harmoniously in accordance with the plans and specifications and meet the Owner's objectives of cost, time, and quality. Any building utility service interruptions or outages including security required by the DB Entity in performing the Work must be prearranged with the staff of the State Agency and must occur only during those scheduled times.
- 2.3 **Communication:** The DB Entity shall conduct design and coordination meetings and shall maintain project lines of authority and communication.
- 2.4 **Schedules:** The DB Entity shall develop, maintain, and enforce the project schedule and the orderly performance of the Work within the Contract Time; report changed conditions to the Project Director; verify that each Subcontractor labor force, product deliveries, and construction equipment are available and adequate for maintaining the project schedule; and report conditions which will adversely affect the schedule to the Project Director with recommendations for corrective action. Once the Project is started, it must be carried to completion without delay.
- 2.5 **Submittals:** The DB Entity shall coordinate processing of shop drawings, product data, samples, project record documents, and other specified submittals.

- 2.6 **Use of Site:** The DB Entity shall allocate use and location of temporary offices and storage areas; verify that adequate temporary utilities are provided and maintained; and administer traffic and parking controls. The DB Entity shall obtain, at no increase in Contract Price/Time, permits for any other lands, areas, properties, facilities, rights-of-way, and easements required by the DB Entity for temporary facilities, storage, disposal of soil or waste material, or any other purpose. The DB Entity shall submit copies of the permits and written agreements to the Project Director. The DB Entity shall engage a registered land surveyor to establish the necessary reference points and/or base lines for construction and shall be responsible for protecting them, including benchmarks and Project elevations
- 2.7 **Verification of Dimensions and Existing Conditions:** All dimensions and existing conditions shall be verified by the DB Entity by actual measurement and observation. Failure to verify shall constitute the DB Entity's acceptance of existing conditions as fit for the proper execution of its work.
- 2.8 **Laying out the Work:** The DB Entity shall be responsible for properly and accurately laying out the Work and for all lines, levels, elevations, and measurements for all the Work under this Contract.
- 2.9 **Supervision of the Work:** The DB Entity shall supervise the Work. The DB Entity shall be responsible for site safety and for all construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under this Contract.
- 2.10 **Superintendent:** The DB Entity shall employ a competent superintendent, who shall be in attendance at the site throughout the active performance of the Work, and at such other times as may be reasonably necessary, and who shall be authorized to commit the DB Entity regarding to workforce schedule, coordination, and cooperation. The Superintendent shall be a direct employee of the DB Entity.
- (a) The Superintendent shall have not less than two years documented experience in responsible field supervision for projects of comparable size and complexity
 - (b) The DB Entity may request a change of the superintendent by written request to the Project Director at least fifteen calendar days in advance of its proposed change. In case of emergency, notify the Project Director as soon as possible, and obtain the Project Director's approval of the substitute within 15 calendar days.
The request for change of superintendent shall include the reasons for the change and a detailed resume of the proposed replacement. No replacement shall be made unless and until the Project Director has given written authorization to do so
 - (c) In the event the superintendent fails to perform his duties under the contract requirements, the Project Director may, in writing, require the DB Entity to remove the superintendent from the project. The DB Entity shall provide a competent replacement to be approved by Owner.
- 2.11 **Adequate Staff:** The DB Entity shall furnish a competent and adequate staff as necessary for the proper administration, coordination and supervision of the Work; organize the procurement of all materials and equipment so that they will be available at the time they are needed for the Work; and keep an adequate force of skilled workers on the job to complete the Work in accordance with all requirements of this Contract.

- 2.12 **Inspections:** The DB Entity shall schedule, give notice, and participate in the various permit inspections, the inspection for Substantial Completion, and final acceptance of the Work
- 2.13 **Subcontractors and Suppliers:** The physical work activities may be performed by a combination of self-performance, tradesmen, or Subcontractors, with approval of the Department. If Subcontractors are used, they shall be selected through a public advertisement or other competitive selection process, preapproved by the Department. The final selection process shall be performed by the DB Entity. In an emergency, this work may be performed on a time-and-materials basis, with the written approval of the Department. The Owner assumes no contractual obligations to anyone other than the DB Entity. All trade construction Drawings shall be field coordinated before fabrication and/or installation. The Owner reserves the right to reject or revoke, for its convenience, any approved Subcontractor or Supplier.

Work performed by any Subcontractor or Supplier shall be through an appropriate written agreement that:

- (a) expressly binds the Subcontractor or Supplier to the requirements of the Contract Documents, and
 - (b) contains the waiver of rights provisions set forth in this Section 6, paragraph 4.5.
- 2.14 **Lines and Grades:** The DB Entity is required to furnish certifications that the lines and grades for all concrete work were checked before and after placing concrete, and that final grades are as required by the Contract Documents.
- 2.15 **Cutting and Patching, Restoration:** Wherever required, the DB Entity shall be responsible for all cutting, fitting, drilling, fixing-up, and patching of concrete, masonry, gypsum board, piping and other materials that may be necessary to make in-place Work and dependent Work fit together properly.

The DB Entity shall restore to pre-existing conditions all walks, roadways, paved or landscaped areas and other real and personal property not designated for alteration. Holes or openings cut in exterior walls and roofs for installation of materials or equipment must be waterproofed by appropriate, approved materials and methods.

All adjacent finished surfaces that are damaged by the new Work must be patched with materials matching existing surfaces. Joints between patched and existing material must be straight, smooth, and flush. Workers skilled in its installation must apply all patching material.

- 2.16 **Record Documents:** The DB Entity shall maintain at the site one copy of all as built/Record Documents in good order and annotated in a neat and legible manner to show:
- (a) all revisions made;
 - (b) dimensions noted during the furnishing and performance of the Work; and
 - (c) all deviations between the as-built installation and the Contract Documents, all approved Submittals, and all clarifications and interpretations;
 - (d) all lines, grades, boundaries, and other survey information.
- 2.17 **Field Records:** The DB Entity shall maintain and furnish promptly to the Project Director, upon their request, daily field reports recording the on-site labor force and

equipment (DB Entity's and Subcontractors); materials/equipment received; visits by Suppliers; significant in-progress and completed trade Work, and other pertinent information.

- 2.18 **Emergencies:** The DB Entity is obligated to act to prevent threatened damage, death, injury, or loss without any special instruction in emergencies and shall give the Owner prompt written notice of any changes in Work resulting from the action taken for review and approval.
- 2.19 **Prevailing Wage and Access to Payroll Records:** The DB Entity and its Subcontractors shall comply with the Prevailing Wage Rates for the Project's county and shall maintain and keep, in accordance with generally accepted accounting principles, records pertaining to the bidding, award and performance of the Work, including, but not limited to certified payroll, employment records and all data used in estimating the DB Entity's prices for the Bid, Change Order, proposal or claim. The Owner or its representative shall have access to those records, shall have the right to interview the DB Entity's employees and shall be provided with appropriate facilities for the purpose of inspection, audit/review and copying for five years after final payment, termination, or date of final resolution of any dispute, litigation, audit exception or appeal. The payroll and other employment records of workers assigned to the site shall contain the name and address of each worker, correct wage classification, rate of pay, daily and weekly number of hours worked, deduction made, and actual wages paid.
- 2.20 The DB Entity shall maintain records that show:
- (a) the anticipated costs or actual costs incurred in providing such benefits;
 - (b) that commitment to provide such benefits is enforceable, and;
 - (c) that the plan or program is financially responsible and has been communicated in writing to the workers affected.
- 2.21 **Nondiscrimination:** The DB Entity and each Subcontractor and Supplier covenants to comply with the following requirements:
- (a) Not to discriminate against any employee or employment applicant because of race, religion, color, national origin, age, sex, height, weight, marital status, or a physical or mental disability that is unrelated to the individual's ability to perform the duties of the particular job or position.
 - (b) To take action to ensure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, national origin, age, sex, height, weight, marital status, or a physical or mental disability that is unrelated to the individual's ability to perform the duties of the job or position. Such action shall include, but is not limited to employment upgrading, demotion, or transfer; recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship;
 - (c) To state, in all solicitations or advertisements for employees, that all qualified applicants will receive consideration for employment without regard to race, religion, color, national origin, age, sex, height, weight, marital status, or a physical or mental disability that is unrelated to the individual's ability to perform the duties of the particular job or position;
 - (d) To send, or have its collective bargaining representative send, each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice advising that labor union or worker's representative of commitments under this provision;

- (e) To comply with the Elliot-Larsen Civil Rights Act, 1976 PA 453, as amended, MCL 37.2201 et seq.; the Michigan Persons with Disabilities Civil Rights Act, 1976 PA 220, as amended, MCL 37.1101 et seq.; and all published rules, regulations, directives, and orders of the Michigan Civil Rights Commission which may be in effect on or before the date of Bid opening.
- (f) A breach of the covenants set forth in paragraphs 2.21 (a) through 2.21 (e) shall be regarded as a material breach of the Contract

- 2.22 **Nondiscrimination Compliance:** The DB Entity shall furnish and file compliance reports within the times, and using the forms, prescribed by the Michigan Civil Rights Commission. Compliance report forms may also elicit information as to the practices, policies, programs, and employment statistics of the DB Entity and Subcontractors. The DB Entity shall permit access to Records by the Michigan Civil Rights Commission and its agent for the purposes of ascertaining compliance with the Contract Documents and with rules, regulations, and orders of the Michigan Civil Rights Commission. If, after a hearing held pursuant to its rules, the Michigan Civil Rights Commission finds that the DB Entity has not complied with the nondiscrimination requirements of the Contract Documents, the Michigan Civil Rights Commission may, as part of its order, certify said findings to the Board. Upon receipt of certification, the Board may order the cancellation of the Contract and/or declare the DB Entity ineligible for future contracts with the State, until the DB Entity complies with said order of the Michigan Civil Rights Commission.
- 2.23 **Michigan Residency for Employees:** Fifty percent (50%) of the persons employed on the Work by the DB Entity shall have been residents of the State of Michigan for not less than one year before beginning employment on the Work. This residency requirement may be reduced or omitted in writing, at the sole discretion of the Owner, to the extent that Michigan residents are not available or to the extent necessary to comply with federal Law concerning federal funds used for the Project. A breach of this requirement shall be considered a material breach of the Contract. This residency requirement shall not apply to the DB Entity or to any Subcontractor if the DB Entity or any such Subcontractor is signatory to collective bargaining agreements which allow for the portability of employees on an interstate basis (The Management and Budget Act, 1984 PA 431, as amended, MCL 18.1241a).
- 2.24 **Responsibilities for Underground Utilities:** The DB Entity must comply with the 1974 PA 53, as amended, MCL 460.701 et seq., and all other Laws concerning Underground Utilities. Before performing site Work, all Underground Utilities, lines, and cables (public and private) must be located and marked. The DB Entity must notify MISS DIG to locate and mark utilities on properties that are not State properties. In addition, the DB Entity must be responsible for immediately notifying the Owner of any contact with or damage to Underground Utilities, and for the safety, protection of and repairing any damage done to any Work, surface, and subsurface facilities.
- 2.25 **Hazardous Material Conditions:** If the DB Entity encounters material reasonably believed to be Hazardous Material, which could not have reasonably been expected, and was not generated or brought to the site by the DB Entity, the DB Entity shall immediately stop all affected work, give written notice to the Owner of the conditions encountered, and take appropriate health and safety precautions in accordance with all federal, State, and local laws.

Upon receipt of the notice, the Owner will investigate the conditions and may stop the Work and terminate the affected Work or the Contract for convenience; may contract others to have the Hazardous Material removed or rendered harmless or issue a written Contract Change Order to amend the Contract Price/Time. If Hazardous Material is brought to site by the DB Entity or as a result in whole or in part from any of its violation of any Law covering the use, handling, storage, disposal of, processing, transport and transfer or from any other act or omission within its control, the DB Entity is responsible for the Delay and costs to clean up the site, and must remove and render harmless the Hazardous Material to the satisfaction of the Owner, State and all Political Subdivisions with jurisdiction.

2.26 **Incidents with Archaeological Features:** The DB Entity must immediately notify the Owner in writing of any Archeological Feature deposits encountered at the site and must protect the deposits in a satisfactory manner. If the DB Entity encounters such features which result in an anticipated change to the Contract Price/Time, the Owner may issue a written Contract Change Order.

2.27 **Safety and Protection:** The DB Entity and its Subcontractors/Suppliers must comply with all applicable Federal, State, and local Laws governing the safety and protection of persons or property, including, but not limited to the Michigan Occupational Safety and Health Act (MIOSHA), 1974 PA 154, as amended, MCL 408.1001 et seq., and all rules promulgated under the Act. The DB Entity is responsible for all damages, injury or loss to the Work, materials, equipment, fines, penalties because of any violation of such Laws, except when it's due to the fault of the Drawings or Specifications or to the Act, error, or omission of the Owner or Professional. The DB Entity is solely responsible for initiating, maintaining, and supervising all safety precautions and programs and such responsibility must continue until such time as the Owner is satisfied that the Work, or Work inspected, is completed and ready for final payment.

In doing the Work and/or in the event of using explosives, the DB Entity must take all necessary precautions for the safety of, and must erect and maintain all necessary safeguards and provide the necessary protection to prevent damage, injury, or loss to:

- (a) all employees on the Work and other persons who may be affected by the Work;
- (b) all the Work and materials and equipment to be incorporated into the Work, whether stored on or off the site;
- (c) other property at or adjacent to the site, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Utilities not designated for removal, relocation, or replacement.

In the event of severe weather, the DB Entity must inspect the Work and the site and take all reasonably necessary actions and precautions to protect the Work and ensure that public access and safety are maintained.

2.28 **Fire Hazard Conditions:**

- (a) The fire hazard classification of finish materials must be in accordance with the current Michigan Building Code.
- (b) Classification must be determined by tunnel test in accordance with National Fire Protection Association (NFPA-255), American Society for Testing Materials (ASTM E-84) or Underwriters' Laboratories, Inc. (UL-723).

- 2.29 **Michigan Right-To-Know Law:** The DB Entity and its Subcontractors/Suppliers must comply with MIOSHA, Michigan Right-to-Know Law (Public Act 80 of 1986) and the rules promulgated under it. The Act places certain requirements on employers to develop a communication program designed to safeguard the handling of hazardous chemicals through labeling of chemical containers and development and availability of Material Safety Data Sheets (MSDS), and to provide training for employees who work with these chemicals and develop a written hazard communications program. The Act also provides for specific employee rights, including the right to be notified of the location of MSDS and to be notified at the site of new or revised MSDS within five Business Days after receipt and to request MSDS copies from their employers. The DB Entity, employer or Subcontractor must post and update these notices at the site.
- 2.30 **Environmental Requirements:** The DB Entity and its Subcontractors/Suppliers must comply with all applicable Federal, State and local environmental Laws, standards, orders or requirements including but not limited to the National Environmental Policy Act of 1969, as amended, Michigan Natural Resources and Environmental Protection Act, P.A. 451 of 1994, as amended, the Clean Air Act, as amended, the Clean Water Act, as amended, the Safe Drinking Water Act, as amended, Pollution Prevention Act, as amended, Resource Conservation and Recovery Act, as amended, National Historic Preservation Act, as amended and Energy Policy and Conservation Act and Energy Standards for Buildings Except Low-Rise Residential Buildings, ANSI/ASHRAE/IESNA Standard 90.1-1999.
- 2.31 **Miscellaneous:** Other rights and responsibilities of the DB Entity are set forth throughout these contract documents and are included under other titles, articles, sections, and headings for convenience. It is the responsibility of the DB Entity to familiarize itself with all provisions of these contract documents to understand fully the entirety of its rights and responsibilities hereunder.
3. **DB ENTITY'S ARCHITECT-ENGINEER'S (A/E) RIGHTS AND RESPONSIBILITIES**
- 3.1 **Design:** The DB Entity's Architect Engineer (A/E) is responsible for all design decisions and design products and review, coordination and approval of construction documents, drawings, and specifications. The DB Entity may self-perform professional design responsibilities in accordance with PA 230 of 1972 and PA 299 of 1980 or may subcontract professional design responsibilities.
- 3.2 **Submittals:** The A/E will review and monitor all required DB Entity submittals for conformance with the approved contract documents.
- 3.3 **Closeout:** The A/E shall certify to the Owner that to the best of its knowledge, the Work conforms to the requirements of the Contract Documents and will review and certify the Record Documents.
- 3.4 **Miscellaneous:** Other responsibilities and authority of the A/E are set forth throughout the Contract Documents.

4. **BONDS AND INSURANCE**

Bond Requirements: Both the Performance Bond and Payment Bond must remain in effect from the date of Assignment Award until final completion of the Work or the end of Correction Period, whichever comes later.

The surety bonds required for a Construction Contract will not be accepted by SFA unless the surety bonding company is listed in the current United States Government, Department of Treasury's, listing of approved sureties (bonding/insurance companies), Department Circular 570. Copies of the current Circular listing may be obtained through the internet web site at <http://www.fms.treas.gov/c570/c570.html>. Photocopies are not acceptable.

Insurance Requirements: DB Entity must maintain the insurances identified below and is responsible for all deductibles.

All required insurance must: (a) protect the State from claims that may arise out of, are alleged to arise out of, or result from DB Entity's or a subcontractor's performance; (b) be primary and non-contributing to any comparable liability insurance (including self-insurance) carried by the State; and (c) be provided by a company with an A.M. Best rating of "A" or better, and a financial size of VII or better.

| Required Limits | Additional Requirements |
|--|--|
| Commercial General Liability Insurance | |
| <u>Minimal Limits:</u> \$1,000,000 Each Occurrence Limit \$1,000,000 Personal & Advertising Injury Limit \$2,000,000 General Aggregate Limit \$2,000,000 Products/Completed Operations <u>Deductible Maximum:</u> \$50,000 Each Occurrence | DB Entity must have their policy endorsed to add "the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents" as additional insureds using endorsement CG 20 10 11 85, or both CG 2010 07 04 and CG 2037 07 04. |
| Automobile Liability Insurance | |
| <u>Minimal Limits:</u> \$1,000,000 Per Occurrence | DB Entity must have their policy: (1) endorsed to add "the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents" as additional insureds; and (2) include Hired and Non-Owned Automobile coverage. |
| Workers' Compensation Insurance | |
| <u>Minimal Limits:</u> Coverage according to applicable laws governing work activities. | Waiver of subrogation, except where waiver is prohibited by law. |
| Employers Liability Insurance | |
| <u>Minimal Limits:</u> \$1,000,000 Each Accident \$1,000,000 Each Employee by Disease \$1,000,000 Aggregate Disease. | |
| Professional Liability (Errors and Omissions) Insurance | |
| <u>Minimal Limits:</u> \$1,000,000 Each Occurrence \$2,000,000 Annual Aggregate <u>Deductible Maximum:</u> \$50,000 Per Loss | |
| Environmental and Pollution Liability (Errors and Omissions) | |
| <u>Minimal Limits:</u> \$1,000,000 Each Occurrence \$2,000,000 Annual Aggregate <u>Deductible Maximum:</u> \$50,000 Per Loss | DB Entity must have their policy: (1) be applicable to the work being performed, including completed operations equal to or exceeding statute of repose; (2) not have exclusions or limitations related to Transportation (upset overturn, spills during loading or unloading, Hazardous Materials Handling, and Non Owned disposal site liability; and (3) endorsed to add "the State of Michigan, its departments, division, agencies, offices, commissions, officers, employees, and agents" as additional insured. |

If any of the required policies provide **claims-made** coverage, the DB Entity must: (a) provide coverage with a retroactive date before the effective date of the contract or the beginning of Contract Activities; (b) maintain coverage and provide evidence of coverage for at least three (3) years after completion of the Contract Activities; and (c) if coverage is canceled or not renewed, and not replaced with another claims-made policy form with a retroactive date prior to the contract effective date, DB Entity must purchase extended reporting coverage for a minimum of three (3) years after completion of work.

DB Entity must: (a) provide insurance certificates to the Contract Administrator, containing the agreement or purchase order number, at Contract formation and within 20 calendar days of the expiration date of the applicable policies; (b) require that subcontractors maintain the required insurances contained in this Section; (c) notify the Contract Administrator within 5 business days if any insurance is cancelled; and (d) waive all rights against the State for damages covered by insurance. Failure to maintain the required insurance does not limit this waiver.

This Section is not intended to and is not to be construed in any manner as waiving, restricting, or limiting the liability of either party for any obligations under this Contract (including any provisions hereof requiring DB Entity to indemnify, defend and hold harmless the State).

Builder's Risk Insurance: Unless indicated otherwise in the bid document, the DB Entity will purchase and maintain property insurance for 100% of actual cash replacement value of the insurable Work while during construction, including foundations, additions, attachments, and all fixtures, machinery and equipment belonging to and constituting a permanent part of the building structures. The property insurance also will cover temporary structures, materials, and supplies to be used in completing the Work, only while on the building site premises or within five hundred feet of the site. The property insurance insures the interests of the Owner, DB Entity and all Subcontractors and Suppliers at any tier as their interest may appear. The property insurance insures against "all risk" of physical loss or damage to the extent usually provided in policy forms of insurers authorized to transact this insurance in Michigan. A copy of the master insurance policy will be available for review by the State, upon request.

The Owner and DB Entity intend that the required policies of property insurance must protect all the parties insured and provide primary coverage for all losses and damages caused by the perils covered. Accordingly, to the extent that the insurance company pays claims, the Owner and the DB Entity and its Subcontractors/Suppliers waive all rights against each other for any such losses and damages and waive all such rights against all other persons named as insureds or additional insureds.

Waivers: The Owner and DB Entity intend that the required policies of property insurance shall protect all the parties insured and provide primary coverage for all losses and damages caused by the perils covered. Accordingly, to the extent that the insurance company pays claims, the Owner and the DB Entity and its Subcontractors/Suppliers waive all rights against each other for any such losses and damages and waive all such rights against all other persons named as insureds or additional insureds.

5. PROSECUTIONS

5.1 **Laws:** The DB Entity and its Subcontractors/Suppliers must comply with all Federal, State, and local Laws applicable to the Work and site.

5.2 **Registration:** Architects or engineers registered to practice in the professional field involved in the State of Michigan shall prepare, review, and approve the design of architectural, structural, mechanical, electrical, civil, or other engineering features of the Work.

5.3 Responsibility of the DB Entity for Design:

- (a) The DB Entity shall be responsible for the professional quality, technical accuracy, and the coordination of all designs, drawings, specifications, and any other non-construction services furnished by the DB Entity under this contract. The DB Entity shall, without additional compensation, correct or revise any errors or deficiencies in its designs, drawings, specifications, and other non-construction services. Neither the Owner's review, approval, or acceptance of, nor payment for, the services required under this contract shall be construed to operate as a waiver of any rights under this contract or any cause of action arising out of the performance of this contract, and the DB Entity shall be and remain liable to the Owner in accordance with applicable law for all damages to the Owner caused by the DB Entity's negligent performance or any of the services furnished under this contract.
- (b) The DB Entity's construction management key personnel shall be actively involved during the design process to effectively integrate the design and construction requirements of this contract. This includes, but is not limited to actions such as: integrating the design schedule into the project schedule to maximize the effectiveness of fast tracking design and construction (within the limits allowed in the contract), ensuring constructability and economy of the design, integrating the shop drawing and installation drawing process into the design, executing the material and equipment acquisition programs to meet critical schedules, effectively interfacing construction quality with the design program, and maintaining and providing the project team with accurate, up-to-date redline and as built documentation. The DB Entity shall require and manage the active involvement of key trade Subcontractors in the above activities.

5.4 Codes and Statutory Requirements:

- (a) General: The DB Entity shall comply with all State and Federal requirements governing the design of the project and this agreement.
- (b) Code Assessment: Within 30 days after the Notice to Proceed, the DB Entity will submit a list of all building codes and regulations they will be following on this project.
- (c) Building Codes: The DB Entity shall ensure that the design and construction of the project is compliant with building codes.

5.5 **Permits:** The project shall be designed to the standards necessary to receive permits from state and federal agencies having jurisdiction over any aspect of the project. The DB Entity is responsible to submit for and obtain such permits. All required construction permits fees including inspection costs must be paid by the DB Entity.

The time incurred by the DB Entity in obtaining construction permits must constitute time required to complete the Work and does not justify any increases to the Contract Time or Price, except when revisions to the Drawings and/or Specifications required by the permitting authority cause the Delays. The DB Entity must pay all charges of Public Utilities for connections to the Work, unless otherwise provided by Cash Allowances specific to those connections. The following permit fees will be paid by the Owner.

5.6 Design Submittals and Acceptance:

- (a) After receipt of the Notice to Proceed, the DB Entity shall initiate design, comply with all design submission requirements as covered in the Bidding Documents, and obtain review of submissions as required.
- (b) The DB Entity may begin construction on portions of the Work for which the Owner has reviewed the final design submission and has determined to be satisfactory for beginning construction. The Project Director will notify the DB Entity in writing when the design is cleared for construction. The Owner will not grant any time extension for any design re-submittal required when, in the opinion of the Project Director, the initial submission failed to meet the minimum quality requirements as set forth in the Contract.
- (c) No payment will be made for any in-place construction until all required submittals have been made, reviewed and are satisfactory to the Owner.
- (d) If the Owner allows the DB Entity to proceed with limited construction based on pending minor revisions to the reviewed Final Design submission, no payment will be made for any in-place construction related to the pending revisions until they are completed, resubmitted and are satisfactory to the Owner.

5.7 Construction Phase Submittal:

- (a) The DB Entity shall submit all material and articles requiring coordination and/or approval. All submittals shall be reviewed and approved by the A/E prior to being submitted to the Project Director for approval or acceptance, as applicable.
- (b) The DB Entity shall provide the Project Director four (4) copies (or the number of copies designated in the Project Description) of all A/E approved submittals.
- (c) The Project Director will review only those submittals it has requested approval authority for and all submittals which deviate from the Project Description or accepted proposal. In most cases the Owner, or its authorized representative, will review submittals for compliance to the Project Description, including design criteria or accepted proposals. It is the DB Entity's responsibility, in the design build process, to ensure compliance with the accepted designs, all required codes, regulations and the contract
- (d) A/E approval is required for extension of design, critical materials, and deviations from the Project Description, Bidding Documents, the accepted design proposal(s), or the completed design, equipment whose compatibility with the entire system shall be checked, and other items as designated by the Project Director. The Project Director's approval is required for any deviations from the Project Description, Bidding Documents, accepted design proposals, or Owner-approved submittals. The Project Director will review all submittals designated as deviating from the Project Description, Bidding Documents, or accepted design proposals.

5.8 Starting Work at the Site: The DB Entity shall not start the Work at the site before the first day established by the Notice to Proceed and not before all insurance is in effect.

A pre-construction conference will be held with the DB Entity to review its Progress Schedule, qualifications of its key personnel, its proposed access to the site, traffic and parking, procedures for submittal, change orders, etc., and to exchange emergency telephone numbers. The DB Entity shall use its accepted Progress Schedule when making proposals or claims for adjustment in Contract Time/Price.

- 5.9 **Working Hours:** Except in an Emergency, all Work at the site shall take place during normal working hours; 6:00 AM to 6:00 PM, during Business Days and in accordance with the special working conditions for the Agency. If the Contract Documents allow work outside the normal hours, the DB Entity shall provide a written notice to the Project Director twenty-four hours before performing such Work and shall reimburse the Owner any related increase in the costs incurred by the Owner such as overtime charges of the Owner and payments for custodial and security personnel.
- 5.10 **Withholding:** Upon issuing the Certificate of Substantial Completion, the Owner will pay for the completed Work subject to:
- (a) withholding of two hundred percent of the value of any uncompleted Work, and
 - (b) any other deductions Owner may withhold to cover Defective Work, liquidated damages and the fair value of any other items entitling the Owner to a withholding.
- 5.11 **Partial Use:** The Owner may decide to use, at its sole option, any functioning portion of the Work and will inform the DB Entity in writing of the decision. The portion of Work to be used shall be jointly inspected to determine the extent of completion if it has not undergone the inspection for Substantial Completion.

The Owner will prepare a list of items to be corrected/completed and the Owner will allow the DB Entity reasonable access to correct/complete the listed items and finish other work.

6. **WARRANTY, TESTS, INSPECTIONS AND APPROVALS; CORRECTIONS OF WORK**

- 6.1 **Warranty:** The DB Entity shall furnish the State with a written guarantee to remedy any defects due to faulty materials or labor which appear in the Work within one year from the date of Substantial Completion by the State. This warranty excludes defect or damage caused by abuse, modification by others, insufficient or improper operation or maintenance, or normal wear and tear under normal usage. Manufacturer warranties for materials and equipment received by the DB Entity shall be assigned and promptly delivered to the Owner at Substantial Completion. The warranty period starts from the date of the Substantial Completion and shall be in full force and effect for the entire duration of the Correction Period.
- 6.2 **Tests, Inspections and Approvals:** The Owner may perform or retain a professional/agency to perform inspections, tests or approvals for those materials required to meet quality control standards specified in the Contract Documents. However, the DB Entity shall assume full responsibility for any testing, inspection, or approval
- (a) required to meet code requirements, as promulgated by code inspecting authorities;
 - (b) required by Law;
 - (c) indicated or required by the Contract Documents;
 - (d) required for the Owner's acceptance of a Supplier, materials or equipment or mix designs submitted for prior approval by the DB Entity; or

- (e) Defective Work, including an appropriate portion of the Delay and costs occasioned by discovery of Defective Work.

The DB Entity shall:

- (a) pay all related costs;
- (b) schedule related activities; and
- (c) secure and furnish to the Owner the required certificates of inspection, testing, or approval.

The DB Entity shall provide proper and safe access to the site for inspection, testing, or approval. The DB Entity shall provide the Owner with timely notice whenever any Work is ready for inspection, testing, or approval. If the DB Entity covers any Work without proper approval by the Owner as required by the Contract Documents, or approval by code or other authorities, the DB Entity shall, at its own expense, uncover, expose, or otherwise make the Work accessible, if requested by the Owner, for testing, inspection, or approval.

- 6.3 **Correction of Work:** If any testing, inspection, or approval reveals Defective Work and the Work is rejected by the Owner in writing, the DB Entity, at its sole expense, shall promptly correct or remove the Defective Work from the site and replace it with non-Defective Work within the Correction Period. The DB Entity shall bear responsibility for its proportionate share of the Delay and costs resulting from the correction and/or removal and replacement of Defective Work. If the DB Entity, within reasonable and agreed upon time after receipt of written notice,
- (a) fails to correct Defective Work or remove and replace rejected Work,
 - (b) fails to correct or complete items on any Punch List,
 - (c) fails to perform Work in accordance with the Contract Documents, or
 - (d) fails to comply with any other provision of the Contract Documents, the Owner, directly or through others, after seven Calendar Days from the date of the written notice to the DB Entity, may correct and remedy the Defective Work and withhold payment for any Defective Work.

To the extent necessary to correct and remedy such Defective Work, the Owner shall be allowed to exclude the DB Entity from all or part of the site; take possession of all or part of the Work and stop related operations of the DB Entity; take possession of the DB Entity's tools, plant and office and construction equipment at the site; and incorporate into the Work materials and equipment for which the Owner has paid the DB Entity. The DB Entity shall allow the Owner easy access to the site to correct Defective Work. The Owner shall be entitled to an appropriate decrease in Contract Price for all claims, costs, losses, damages, and Delay incurred or sustained by the Owner which are attributable to the DB Entity.

Such costs may include, but not be limited to, costs of correction or removal and replacement of Defective Work and costs of repair and replacement of other work destroyed or damaged by the action. If the discovery of the Defective Work takes place after final payment and the DB Entity fails to correct and pay the Owner any of these costs, the Owner shall demand due performance under the Performance Bond. Until the period of limitation provided by Michigan Law, the DB Entity shall promptly, and upon receipt of written notice from the Owner, correct Defective Work.

In the event of an Emergency or unacceptable risk of loss or damage or if appropriate under the circumstances, the Owner, directly or through others under contract with the Owner, may correct or remove and replace the Defective Work. The specified correction of Work requirements does not limit the rights of the Owner to have Defective Work corrected or removed and replaced, if rejected, except as otherwise provided by the Michigan Law.

- 6.4 **Special Correction Period Requirements:** Whenever the Owner undertakes any portion of the Work because the DB Entity's act or omission Delays completion of the Work or it is eligible for Partial Use, the warranties for all materials and equipment incorporated into that portion of the Work shall remain in full force and effect between the start of such Partial Use and the date when the Correction Period starts. The Correction Period for any Defective Work that is corrected or rejected and replaced within the last three months of the Correction Period shall be extended by an additional six months, starting on the date such Work was made non-Defective.
- 6.5 **Special Maintenance Requirements:** If the Contract Documents specify that the entire Work, or a portion of the Work, upon reaching Substantial Completion, shall not be placed in use by the Owner, the DB Entity shall maintain the Work, or specified part of the Work, in good order and proper working condition and shall take all other actions necessary for its protection between the certified date of Substantial Completion and the date when the Work, or designated part of the Work, is placed in use. If no separate price for such special maintenance period was requested and made part of the Contract Documents, the Owner will amend the Contract Documents to appropriately increase the Contract Price.
- 6.6 **Regular Cleaning:** The DB Entity must remove all scrap or removed material, debris, or rubbish from the Project work site at the end of each working day and more frequently whenever the Owner Field Representative deems such material to be a hazard. The DB Entity cannot discard materials on the grounds of the State Agency without the express permission of the Project Director. No salvage or surplus material may be sold on the premises of the State Agency. No burning of debris or rubbish is allowed. Any recycled materials must be recycled, and the DB Entity will be required to provide recycling plan.
- 6.7 **Final Cleaning:** Before final acceptance by the State, the DB Entity must clean all the Work and existing surfaces, building elements and contents that were soiled by their operations and make repairs for any damage or blemish that was caused by the Work.
- 6.8 **Substantial Completion Prerequisites:** Prerequisites for Substantial Completion, over and above the extent of Work completion required, include:
- (a) receipt by the Owner of operating and maintenance documentation,
 - (b) all systems have been successfully evaluated and demonstrated by the DB Entity for their intended use, and
 - (c) the Owner having received all required certifications and/or occupancy approvals from the State and those Political Subdivisions having jurisdiction over the Work. Receipt of all certifications and/or occupancy approvals from those Political

Subdivisions with jurisdiction in and of itself does not necessarily connote Substantial Completion.

The DB Entity shall provide all related operating and maintenance (O&M) documentation to the Owner before training if training is required and not later than Substantial Completion otherwise. The DB Entity shall give the Owner the final O&M documentation (with revisions made after Substantial Completion) before the request for final payment.

- 6.9 **Substantial Completion Inspection:** If, upon inspection and completing all pre-requisite testing of the Work, the DB Entity considers that a portion of the Work or all the Work is substantially completed, it shall provide a list of items to be corrected or completed to the Owner for joint inspection. Within ten Calendar Days of this joint inspection, the Owner will deliver to the DB Entity a list of incomplete/Defective Work or a Certificate of Substantial Completion with a Punch List.

The certificate shall:

- (a) fix a reasonable date of Substantial Completion,
- (b) fix a date for completion of the Punch List, and
- (c) recommend the division of responsibilities between the Owner and DB Entity for utilities, security, safety, insurance, maintenance, etc.

7. **CHANGES**

- 7.1 **Changes in the Work:** The Owner may, at any time, without notice to sureties, make any changes bilaterally or unilaterally, by a written Change Order, in the Work within the general scope of the Contract, including but not limited to changes in the Specifications, materials, or Contract Time. In a bilateral change order, the Owner may prepare a Bulletin describing the change being considered. Upon receiving the Bulletin, the DB Entity establishes the cost and returns it to the Owner for review within 15 calendar days. The DB Entity's proposal shall be irrevocable for sixty (60) Calendar Days after it is submitted to the Owner. If the Owner agrees with the changes, the Owner will issue a written bilateral Contract Change Order to amend the Contract Documents. However, the Owner may issue a unilateral Change Order if the Owner and DB Entity are unable to agree on the adjustment in Contract Price or Time. If the DB Entity disagrees with such unilateral Contract Change Order, the DB Entity shall complete the Work and may deliver notice of a claim in accordance with the claim submittal process.

- 7.2 **Differing Site Condition:** The Owner does not warrant that any technical data, including the Project reference points, provided by the Owner are sufficient and complete for the purpose of selecting Means and Methods, initiating, maintaining, and supervising safety precautions and programs or discharging any other obligation assumed by the DB Entity under the Contract Documents. If different or unknown site conditions are discovered, the DB Entity shall notify the Owner in writing before the conditions are disturbed or before proceeding with the affected Work.

Upon review, if the Owner agrees that there are differing site conditions, the Owner may issue a written Contract Change Order to amend the Contract Price or Time through the Bulletin authorization process. If the Owner disagrees with the DB Entity and the DB Entity disagrees with the Owner's decision, the DB Entity shall complete the Work and may deliver notice of a claim in accordance with the claim submittal process. No proposal or claim by the DB Entity due to differing site conditions will be allowed if the

DB Entity knew of their existence before submitting its Bid or if the DB Entity could have discovered those conditions by any reasonable examinations during the design process for which the DB Entity is responsible under this Contract.

- 7.3 **Responsibilities for Underground Utilities:** The DB Entity shall comply with the 1974 PA 53, as amended, MCL 460.701 et seq., and all other Laws concerning Underground Utilities. Before performing site Work, all Underground Utilities, lines, and cables (public and private) shall be located and marked. The DB Entity shall notify MISS DIG to locate and mark utilities on properties that are not State properties. In addition, the DB Entity shall be responsible for immediately notifying the Owner of any contact with or damage to Underground Utilities, and for the safety, protection of and repairing any damage done to any Work, surface, and subsurface facilities. If the DB Entity encounters Underground Utilities that were not previously located/marked, which could not be reasonably have been seen, the Owner may issue a written Contract Change Order to amend the Contract Price or Time through the Bulletin authorization process.

- 7.4 **Hazardous Materials:** If the DB Entity encounters material reasonably believed to be Hazardous Material, which was not discovered by any reasonable examinations during the design process for which the DB Entity is responsible under this Contract, and was not generated or brought to the site by the DB Entity, the DB Entity shall immediately stop all affected Work, give written notice to the Owner of the conditions encountered, and take appropriate health and safety precautions in accordance with all federal, State and local laws. Upon receipt of the notice, the Owner will investigate the conditions and may:
- (a) stop the Work and terminate the affected Work or the Contract for convenience
 - (b) contract others to have the Hazardous Material removed or rendered harmless or
 - (c) issue a written Contract Change Order to amend the Contract Price/Time through the Bulletin authorization process.

If the Hazardous Material is brought to the site by the DB Entity as a result, in whole or in part, from any of violation of any Law by the DB Entity covering the use, handling, storage, disposal of, processing, transport and transfer; or from any other act or omission within the DB Entity's control, the DB Entity shall be responsible for the Delay and costs to clean up the site; and remove and render harmless the Hazardous Material to the satisfaction of the Owner, the State, and all Political Subdivisions with jurisdiction.

- 7.5 **Incidents with Archaeological Features:** The DB Entity shall immediately notify the Owner in writing of any Archeological Feature deposits encountered at the site and shall protect the deposits in a satisfactory manner. If the DB Entity encounters such features, which result in an anticipated change to the Contract Price/Time, the Owner may issue a written Contract Change Order through the Bulletin authorization process.

- 7.6 **Unit Price Work:** NA

- 7.7 **Allowances:** The DB Entity shall obtain the Owner's written acceptance before providing materials, equipment, or other items covered by Allowance.

Payments under an Allowance shall be on actual cost and exclude cost for supervision, handling, unloading, storage, installation, testing, fee, premiums for bond and insurance, etc.

Work authorized under any Allowance may consist of changes required by actual conditions, as determined by the Owner, and any other Work authorized and completed under the pertinent provisions of the Contract Documents.

8. **COMPENSATION:** The Owner shall provide compensation to the DB Entity for this Contract according to the categories in Paragraphs 8.1, 8.2, 8.3, 8.4, and 8.5.
- 8.1 **Professional Design Services:** The Professional Design Services item is estimated as part of the Not-To-Exceed Contract Price. This estimate shall be regarded as a Not-To-Exceed number, against which only actual Project Costs will be charged. If professional design services are provided by DB Entity staff, the DB Entity will invoice at the DB Entity's hourly billing rates and may not charge an overhead and profit flat fee on this category. If professional design services are provided by a Subcontractor, the DB Entity will invoice according to the subcontract terms.
- 8.2 **Construction, Trade Labor, and Subcontractors:** The Construction, Trade Labor and Subcontractors item is estimated as part of the Not-To-Exceed Contract Price. This estimate shall be regarded as a Not-To-Exceed number, against which only actual Project Costs will be charged. The Construction, Trade Labor, and Subcontractors item includes the labor, equipment, material, and supervision required to provide all construction and maintenance work for this Contract. DB Entity self-performed or Subcontractor-performed construction trade labor work shall be invoiced or subcontracted as specified in Appendix VI – Project Prevailing Wage Trade Labor Rates.
- 8.3 **General Conditions:** The General Conditions items are estimated as part of the Not-To-Exceed Contract Price. This estimate shall be regarded as a Not-to-Exceed number, against which only actual Project costs will be charged. The DB Entity will invoice General Conditions material items for actual costs incurred. All project labor for approved self-performed Work will be invoiced at the DB Entity Hourly Billing Rate Compensation schedule.
- 8.4 **Management Services:** The management services required to support the design/build, procurement, implementation, and close-out process will include estimating, scheduling, subcontract bids and award, scope of work determination, cost tracking, reporting, etc. The management effort required to deliver the Project will be included on a Not-to-Exceed basis. Only the actual cost of personnel used will be billed on the basis of their hourly billable rates as shown on the DB Entity Hourly Billing Rate Compensation schedule.
- 8.5 **Overhead and Profit Flat Fee:** All of the cost factors presented above are actual out-of-pocket expense for the DB Entity to directly perform the Work. In order to compensate the DB Entity for indirect overhead and profit, the DB Entity may invoice a flat fee percentage applied to all actual costs identified in this Section 6, Paragraphs 8.1, 8.2 & 8.3 as noted on its Not-To-Exceed Bid.
- 8.6 **Project Budget:** The DB Entity shall prepare and submit a project budget that shall divide the Work into pay items for significant Sections and areas, facilities, or structures, with subtotals for first tier Subcontractors, and shall contain a summary, organized per the Compensation items detailed above.

If required by the Owner, the accepted project budget shall be supported by a more detailed breakdown allocating the pay items to the Progress Schedule Activities. The project budget shall include two percent of the Not-to-Exceed Contract Price for each of the following close-out pay items:

- (a) fire safety inspection, certificate of occupancy and other code approvals, as specified in the Contract Documents;
- (b) manufacturer warranties, finalized operating and maintenance documentation, Owner training documentation, and test and balance reports;
- (c) finalized as built/Record Documents.

The Owner will review the project budget, and the DB Entity may not request payment until the Owner has accepted the Project Budget.

- 8.7 **Requests for Payment:** Not more than once every thirty Calendar Days, the DB Entity may submit to the Owner a Request for Payment on the Owner's form, signed by the DB Entity, certifying Work completed and enclosing all supporting documentation. A draft copy of the payment request may be submitted to the Owner's Field Representative for review and comments. For projects under \$50,000, the DB Entity may not submit more than two requests in addition to the final payment request. Each Request for Payment shall certify that all monies owed by the DB Entity to Subcontractors and Suppliers for which payment previously has been sought has been paid from payments received. No Request for Payment shall include amounts for a Subcontractor or Supplier if the DB Entity does not intend to use the payments requested, when received, to reduce the DB Entity's outstanding obligations on the Work. The Owner will review the Request for Payment within ten Calendar Days and, if acceptable, will pay the DB Entity within thirty Calendar Days after the Owner approves a Request for Payment. The DB Entity will provide a certification in writing that the payment request submittal is true and accurate. If payment is requested based on materials and equipment stored at the site or at another location agreed to in writing, the Request for Payment also shall be accompanied by
- (a) consent of surety;
 - (b) a bill of sale, invoice or other documentation warranting that the Owner has received the materials and equipment free and clear of all liens
 - (c) evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect them and the Owner's interests.
- The DB Entity warrants and guarantees that title to all Work, materials and equipment covered by any Request for Payment, whether incorporated in the Work or not, will pass to the Owner free and clear of all liens no later than at the time of payment by the Owner to the DB Entity.

- 8.8 **Review of Request for Payment; Intent of Review:** Within ten Calendar Days after receipt of a Request for Payment, the Owner will review the Request for Payment to determine if the Work has progressed to the point indicated; that to the best of the Owner's knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents; and that the DB Entity is entitled to payment in the amount certified. In the case of final payment, the Owner will also review to determine whether the Work is acceptable and that conditions governing final payment to the DB Entity have been met.

- 8.9 **Refusal to Make or to Recommend Payment:** The Owner may withhold from any payment an amount based on the Owner's estimate of the fair value of items included in the payment request. The Owner will give the DB Entity reasonably prompt written notice supporting such action.

The Owner may refuse to pay any part of any payment, or because of subsequently discovered evidence, inspections or tests or the value of the Punch List, nullify all or any portion of any payment previously approved as may be consider necessary to protect against loss because:

- (a) the Work is Defective or completed Work has been damaged requiring correction or replacement,
 - (b) the Contract Price has been reduced by Change Order,
 - (c) it has been necessary that the Owner correct Defective Work or complete Work,
 - (d) reasonable evidence exists that all or a part of the Work will not be completed within the corresponding Contract Time,
 - (e) the DB Entity failed to comply with any material requirements of the Contract, including, but not limited to the failure to submit Progress Schedule Submittals or as built/Record Documents when due,
 - (f) stored materials for which payment has been made or is sought has been determined by the Owner or the Owner Field Representative to be damaged or missing, or
 - (g) the Owner reasonably believes or knows of the occurrence of an event justifying termination for cause.
- 8.10 **Request for Final Inspection:** The DB Entity shall complete the Substantial Completion Punch List within the Contract Time and date. The DB Entity shall assemble all required documentation before requesting final inspection in writing. The DB Entity may request, in writing, final inspection of the entire Work, or the part of the Work for which final payment is specified in the Contract Documents. Upon receipt of the written request, the Owner will make a final completion inspection with the DB Entity and notify the DB Entity of all incomplete or Defective Work revealed by the Final Inspection. The DB Entity shall immediately correct and complete the Work.
- 8.11 **Close-out Documents:** The DB Entity shall prepare and submit the following documentation before requesting final inspection or final payment: final operating and maintenance documentation (with revisions made after Substantial Completion), warranties, inspection certificates, as built/Record Documents, release of payment claim forms, and all other required documents.
- 8.12 **Request for Final Payment:** The DB Entity may request final payment after correcting or completing the Work to the satisfaction of the Owner and delivering close-out documentation. The DB Entity's request for final payment shall also include:
- (a) evidence of completed operations insurance and an affidavit certifying that the insurance coverage will not be canceled, materially changed, or renewal refused,
 - (b) an affidavit certifying that the surety agrees that final payment does not relieve the surety of any of its obligations under the Performance Bond and Payment Bond,
 - (c) a completed DMB-460 Form close out checklist,
 - (d) a list of all pending insurance claims arising out of or resulting from the Work being handled by the DB Entity and/or its insurer

- (e) DB Entity's 'Guarantee and Statement' (DMB-437) containing a statement of guaranteed indebtedness acceptable to the Owner in the full amount of the Contract Price, or a release of payment claims in the form of a release of liens, or a Bond or other security acceptable to the Owner to indemnify the Owner against any payment claim.

- 8.13 **Final Payment and Acceptance:** If the Owner is satisfied that the entire Work, or the part of the Work for which final payment is specified in the Contract Documents, is complete and the DB Entity's other obligations under the Contract Documents has been fulfilled, the Owner will furnish to the DB Entity an acceptance and payment within thirty Calendar Days after receipt of the final payment request. If the Owner is not satisfied, the Owner will return the request to the DB Entity indicating in writing the reasons for not certifying final payment. If the final payment request is returned, the DB Entity shall correct the deficiencies and re-request final payment.
- 8.14 **DB Entity's Continuing Obligation:** The following does not constitute acceptance of the Work in the event the Work or any Work is not in accordance with the Contract Documents, and therefore does not release the DB Entity from its obligation to perform and furnish the Work in accordance with the Contract Documents:
 - (a) the issuance of a Substantial Completion certificate;
 - (b) any payment by the Owner to the DB Entity;
 - (c) any Partial Use;
 - (d) any act of acceptance by the Owner or any failure to do so;
 - (e) any review and approval of a Shop Drawing, sample, test procedure or other Submittal;
 - (f) any review of a Progress Schedule;
 - (g) any On-Site Inspection;
 - (h) any inspection, test or approval;
 - (i) any issuance of a notice of acceptability by the Owner; or
 - (j) any correction of Defective Work or any completion of Work by the Owner.
- 8.15 **Waiver of Claims:** The making of final payment does not constitute a waiver by the Owner of any rights as to the DB Entity's continuing obligations under the Contract Documents, nor will it constitute a waiver of any claims by the Owner against the DB Entity still unsettled, or arising from unsettled payment claims, Defective Work appearing after final inspection or failure by the DB Entity to comply with the Contract Documents or the terms of any special warranties provided by the Contract Documents or by Law. The acceptance of final payment will constitute a waiver of all claims by the DB Entity against the Owner, other than those claims previously made in writing, on a timely basis.
- 9. **OTHER WORK:** During the Contract Time, the Owner may self-perform or Contract for other work at the site. By doing so, the Owner or its representative will coordinate the operations of the DB Entity and the other work. Whenever the other work interfaces with the DB Entity's Work on site, the DB Entity shall coordinate its activities with the interfacing work, inspect the other work and promptly report to the Owner in writing if the other work is unavailable or unsuitable. The DB Entity's failure to do so will constitute an acceptance of such other work as fit and proper for integration with the Work except for latent defects and deficiencies in the other work.

10. The DB Entity shall provide proper and safe access to the site for handling, unloading and storage of their materials and equipment and for the execution of the other work. The DB Entity shall do all cutting, fitting, patching, and interfacing of the Work that may be required to make any part of the Work come together properly and integrate with other work. If the DB Entity becomes party to a dispute or claim due to damages caused to its Work/property, the DB Entity shall promptly attempt, without involving the Owner or its agents, to settle with the other party by agreement or otherwise resolve the claim.

If the Owner determines that the other work resulted in a delay to the Work to be performed by the DB Entity and such delay justifies a Change Order, the Owner will authorize the necessary adjustment in Contract Price and/or Time.

11. **STOP WORK ORDERS AND SUSPENSION OF WORK:** The Owner may order the DB Entity in writing to defer, stop, suspend, or interrupt all or part of the Work, in the event any of the following situations:
- (a) any Work is Defective,
 - (b) any Work, when completed, will not conform to the Contract Documents,
 - (c) any materials or equipment are unsuitable,
 - (d) any workers are insufficiently skilled,
 - (e) failure of the DB Entity to implement appropriate measures for the SESC, or
 - (f) as the Owner may determine appropriate for its convenience.

The DB Entity is responsible for the Delays and any additional costs if at fault. Any justified increase in Contract Price/Time due to suspension of Work shall be submitted within thirty Calendar Days of the resumption of the Work.

12. **TERMINATION**

- 12.1 **Termination for Breach:** The Owner may elect to terminate all or any part of the Work if:
- (a) the DB Entity fails to complete the Work, or a specified part of the Work, within the corresponding Contract Time; fails or refuses to supply sufficient management, supervision, workers, materials, or equipment; or otherwise fails to prosecute the Work, or any specified part of the Work, with the diligence required to comply with the Contract Time(s);
 - (b) the DB Entity persistently disregards the authority of the Owner or violates or disregards a provision of the Contract Documents or the Laws of any Political Subdivision with jurisdiction;
 - (c) the DB Entity admits in writing, or the Owner otherwise establishes, the DB Entity's inability or refusal to pay the DB Entity's debts generally as they become due;
 - (d) in response to the Owner's demand, the DB Entity fails to provide adequate, written assurance that the DB Entity has the financial resources necessary to complete the Work within the Contract Time;
 - (e) the DB Entity fails to comply with the Michigan Residency requirements (1984 PA 431, as amended, MCL 18.1241a); or is found to be in violation of Section 4 of 1980 PA 278 concerning unfair labor practices, or any nondiscrimination requirements imposed by Law;
 - (f) at any time, the DB Entity, Subcontractor or Supplier is in violation of unfair labor practices prohibited by Section 8 of Chapter 327 of the National Labor Relations Act, 29 U.S.C. 158; or

- (g) the DB Entity violates or breaches any material provision of the Contract Documents, which provides contractually for cause termination or rescission of the Contract or of the DB Entity's right to complete the Work.

- 11.1.1 Within seven Calendar Days after the DB Entity receives a notice requiring assurance of due performance for any of the above occurring non-conformances, the DB Entity shall meet with the Owner and present the DB Entity's plan to correct the problems. If the Owner determines that the DB Entity's plan provides adequate assurance of correction, that determination does not waive the Owner's right to subsequently default the DB Entity or affect any rights or remedies of the Owner against the DB Entity and/or surety then existing or that may accrue in the future. The Owner, after giving the DB Entity and its surety seven Calendar Days' written notice of intent to default, may declare the DB Entity in default and terminate the services of the DB Entity for cause.

Unless otherwise agreed between the Owner and DB Entity, at the expiration of the Seven-Calendar Day (intent to default) period, the DB Entity shall immediately stop all Work and proceed in accordance with the Owner's instructions. Following the expiration of the Seven-Calendar Day (intent to default) notice, the DB Entity will be sent a default letter as notice of termination for cause. The Owner will issue a Contract Change Order to revise the name of the contract party to the name of the surety company. The surety company shall undertake to perform and complete the Work, in accordance with the Contract Documents, in place of the DB Entity, either through the surety's agents or by executing agreements with qualified DB Entities (excluding the DB Entity and any of the DB Entity's affiliates), or both.

- 11.1.2 If the Owner has terminated the DB Entity, any such termination will not affect any rights or remedies of the Owner against the DB Entity or surety, or both, then existing or that may accrue after termination. All provisions of the Contract Documents that, by their nature, survive final acceptance of the Work shall remain in full force and effect after a termination for cause of the DB Entity or default of the surety, or both. The Owner may, in its sole discretion, permit the DB Entity to continue to perform Work when the DB Entity is in default or has been defaulted.

Such decision by the Owner in no way operates as a waiver of any of the Owner's rights under the Contract Documents or Performance Bond, or in the event of a subsequent default, entitle the DB Entity or surety to continue to perform or prosecute the Work to completion.

- 11.1.3 If upon receipt of a notice of termination for cause, the surety fails to proceed immediately, the Owner shall declare the surety in default under the Performance Bond in accordance with the terms and conditions of this paragraph.

- 11.1.4 No default of the surety under the Performance Bond shall be declared, however, until the expiration of fifteen (15) Calendar Days after receipt by the surety of an additional written notice from the Owner demanding that the surety perform its obligations under the Performance Bond.

- 12.2 **Termination on Non-Bonded Project:** For non-bonded projects, the Owner will follow the termination protocol in Paragraph 11.1 without involving a surety.

- 12.3 **Termination for Convenience of the Owner:** Upon fifteen Calendar Days' written notice to the DB Entity and surety, or sooner if reasonable under the circumstances, the Owner may, without cause and without prejudice to any other right or remedy it may have, elect to terminate any part of the Work, or the Contract in whole or in part, as the Owner may deem appropriate for its convenience. Upon receipt of any such termination notice, the DB Entity shall immediately proceed in accordance with any specific instructions, protect and maintain the Work, and make reasonable and diligent efforts to mitigate costs associated with the termination. In such termination, the DB Entity will be paid in accordance with the terms of this Contract only for services rendered before the effective date of termination.

Upon termination for convenience, the DB Entity will be released from any obligation to provide further services and the Owner shall have full power and authority to take possession of the Work, assume any agreements with Subcontractors and Suppliers that the Owner selects, and prosecute the Work to completion by Contract or as the Owner may deem expedient.

- 12.4 **Termination for Lack of Funding:** If expected or actual funding is withdrawn, reduced, or limited in any way before the completion date set forth in this Contract or in any amendment, the State may, upon written notice to the DB Entity, terminate this Contract in whole or in part in accordance with Paragraph 11.3.

13. **DISPUTES:** All claims, counterclaims, disputes, and other matters in question between the Owner and DB Entity arising out of or relating to the Contract Documents shall be submitted in writing to the Owner and otherwise processed and resolved as provided in this Paragraph 12. The DB Entity shall continue the Work with due diligence during all disputes or disagreements. Work shall not be delayed or postponed pending resolution of any disputes or disagreements. The DB Entity shall exercise reasonable precautions, efforts, and measures to avoid situations that would cause delay.

- 13.1 **Notice of Claim:** Except for Owner claims for liquidated damages, no claim is valid unless it is based upon written notice delivered by the claimant to the other party promptly, but in no event later than thirty Calendar Days after the Project Director's written determination giving rise to the claim. The notice shall state the nature of the dispute, the amount involved, if any, and the remedy sought. The claim submittal with all supporting data shall be delivered within sixty Calendar Days after the determination giving rise to the claim (unless the Owner allows an extension). The responsibility to substantiate claims rests with the claimant. A claim by the DB Entity shall be submitted to the Director-FA for a decision. The Owner reserves the right to audit any DB Entity claim (or claim package) that the DB Entity values at more than \$50,000.00. Pending final resolution of any claim under this Paragraph 12, the DB Entity shall proceed diligently with the Work and comply with any decision of the Owner.

For all DB Entity claims seeking an increase in Contract Price or Contract Time, the DB Entity shall submit an affidavit, certifying that the amount claimed accurately reflects any Delay and all costs that the DB Entity is entitled from the occurrence of the claimed event and that supporting cost and pricing data are current, accurate, complete and represent the DB Entity's best knowledge and belief. The affidavit shall be signed in the same manner as required in the bid documents.

The Director-FA has discretion as to whether to hold a presentation and is not bound to any rules of evidence in deciding the claim. The Director-FA will issue a written decision. The Director-FA's determination on the dispute is final and binding on the DB Entity unless the DB Entity files a lawful action in the Michigan Court of Claims within thirty Calendar Days after receiving the Director-FA's determination.

After settlement or final adjudication of any claim, if payment by the DB Entity is not made to the Owner, the Owner may offset the appropriate amounts against payments due to the DB Entity under any other Contract between the Owner and the DB Entity, or any amounts for which the Owner may be obligated to the DB Entity in any capacity. The Director-FA may designate someone to fulfill the Director-FA's duties under these terms and conditions.

END OF SECTION IV

SECTION V – PROJECT PROCEDURES

1. **PRE-CONSTRUCTION CONFERENCES:** The Project Director will schedule a pre-construction conference to be attended by the Professional, State Agency staff, and the DB Entity. A project procedure as outlined in Form DMB-460, will be established for the Work during the pre-construction meeting. When no organizational meeting is called, the DB Entity, before beginning any Work, must meet with the staff of the Agency and arrange a Work schedule for the Project. Once the Project has been started, the DB Entity must carry it to completion without delay.
2. **PROGRESS MEETINGS:** The Professional will schedule progress meetings to be held on the job site whenever needed to supply information necessary to prevent job interruptions, to observe the Work or to inspect completed Work. The DB Entity must be represented at each progress meeting by persons with full authority to act for the DB Entity in regard to all portions of the Work.
3. **SIGNAGE AND SAFETY:** The DB Entity must post appropriate construction signs to advise the occupants and visitors of occupied facilities of the limits of construction work areas, hardhat areas, excavations, construction parking and staging areas, etc. Advertising signage by the DB Entity, subcontractors, or suppliers is not allowed. The DB Entity must maintain safe and adequate pedestrian and vehicular access to fire hydrants, commercial and industrial establishments, churches, schools, parking lots, hospitals, fire, and police stations and like establishments. The DB Entity must obtain written approval from the Owner ten (10) Calendar Days before connecting to existing facilities or interrupting the services on site.
4. **REQUIRED PROJECT SIGN:** For projects costing in excess of \$500,000, the DB Entity must provide and install a project sign conforming to the funding source requirements. The Project Director will designate the wording for the sign.
5. **TEMPORARY FACILITIES AND CONTROLS:** The DB Entity must furnish and install all temporary facilities and controls required by the Work, must remove them from State property upon completion of the Work, and the grounds and existing facilities must be restored to their original condition.

If water or electricity is available in the area where Work will be performed, the DB Entity will not be charged for reasonable use of these services for construction operation. The DB Entity must pay costs for installation and removal of any temporary connections including necessary safety devices and controls. Use of services must not disrupt or interfere with operations of the State Agency.

6. **TEMPORARY SANITARY FACILITIES:**

- ☐ **Portable Toilets:** The DB Entity must provide and maintain a sufficient number of portable temporary toilets in locations approved by the State Agency. They must comply with all Federal, State, and local code requirements. The DB Entity must maintain the temporary toilets in a sanitary condition at all times and must remove them when the Work under this Contract is complete. The DB Entity and all subcontractor's employees are not allowed to use any existing State toilet facility.
- ☐ **State Toilets:** If available, the State Agency will designate a permanent toilet facility on the premises for use by personnel employed in the Work. The DB Entity must repair any damage to the bathroom facility caused by their employees and maintain it in a clean and sanitary condition.

7. **FIELD OFFICE:**

- ☐ **On Site Trailer:** At the beginning of the Work, the DB Entity may provide a field office and storage building at the site in a location acceptable to the Owner. The building may be a trailer. The DB Entity may provide such other temporary buildings as he may require for the use of workers and safe storage for tools and materials. Job signs with the DB Entity's name, logos, specialty, etc., are not allowed.
- ☐ **On site trailers are not allowed.**

8. **TEMPORARY HEATING:** Until the new heating system is ready to provide heat, the DB Entity must provide adequate temporary heaters to maintain the temperature in those areas of the building where Work is being conducted between 55 degrees F. and 70 degrees F. during working hours.

9. **BARRIER AND ENCLOSURES:**

- (a) The DB Entity must furnish, install, and maintain as long as necessary and remove when no longer required adequate barriers, warning signs or lights at all dangerous points throughout the Work for protection of property, workers and the public. The DB Entity and all subcontractors must hold the State of Michigan harmless from damage or claims arising out of any injury or damage that may be sustained by any person or persons as a result of the Work under the Contract.
- (b) **Temporary Fence:** The DB Entity and all subcontractors must entirely enclose the Contract area by means of woven wire or snow fence having minimum height of four feet. Gates must be provided at all points of access. Gates must be closed and secured in place at all times when Work under the Contract is not in progress. The fence must be removed, and grounds restored to original condition upon completion of the Work
- (c) **Street Barricades:** The DB Entity and all subcontractors must erect and maintain all street barricades, signal lights and lane change markers during the periods that a traffic lane is closed for their operations.

There must be full compliance with rules and ordinances respecting such street barricading and devices must be removed when hazard is no longer present.

10. **CONSTRUCTION AIDS:**

- (a) The DB Entity and all subcontractors must furnish, install, and maintain as long as necessary and remove when no longer required, safe and adequate scaffolding, ladders, staging, platforms, chutes, railings, hoisting equipment, etc., as required for proper execution of the Work. All construction aids must conform to Federal, State, and local codes or Laws for protection of workers and the public.
- (b) Debris Chute: The DB Entity and all subcontractors must use a chute to lower debris resulting from their Work. The chute must be the enclosed type with its discharge directly into the truck or approved container.
- (c) Pumping and Drainage: The DB Entity and all subcontractors must provide all pumping necessary to keep excavations and trenches free from water the entire period of Work on the Contract. The DB Entity and all subcontractors must construct and maintain any necessary surface drainage systems on the Work site so as to prevent water entering existing structures or to flow onto public or private property adjacent to the Agency's land, except for existing drainage courses or into existing drainage systems. The DB Entity and all subcontractors must prevent erosion of soils and blockage of any existing drainage system.

11. **MATERIAL AND EQUIPMENT:** The DB Entity must furnish and be responsible for all materials, equipment, facilities, tools, supplies, and utilities necessary for completing the Work. All materials and equipment must be provided as described in the Contract Documents and of excellent quality, free of defect and new and must be applied, installed, connected, erected, used, cleaned and conditioned following the manufacturer's and Suppliers' instructions.

12. **DELIVERY, STORAGE, AND HANDLING:** All materials and equipment delivered to and used in the Work must be suitably stored and protected from the elements. The areas used for storage must only be those approved by the State Agency. The Owner assumes no responsibility for stored material. The ownership and title to materials will not be vested in the Owner before materials are incorporated in the Work unless payment is made by the Owner for stored materials and equipment. After delivery, before and after installation, the DB Entity and all subcontractors must protect materials and equipment against theft, injury, or damage from all causes. For all materials and equipment, the DB Entity and all subcontractors must provide complete information on installation, operation, and preventive maintenance.

12.1 The DB Entity and all subcontractors must cover and protect bulk materials while in storage which are subject to deterioration because of dampness, the weather or contamination. The DB Entity and all subcontractors must keep materials in their original sealed containers, unopened, with labels plainly indicating manufacturer's name, brand, type, and grade of material and must immediately remove from the Work site containers which are broken, opened, watermarked and/or contain caked, lumpy, or otherwise damaged materials.

12.2 The DB Entity and all subcontractors must keep equipment stored outdoors from contact with the ground, away from areas subject to flooding and covered with weatherproof plastic sheeting or tarpaulins.

- 12.3 The DB Entity and all subcontractors must certify that any materials stored off-site are:
- (a) Stored on property owned or leased by the DB Entity and all subcontractors or owned by the agency.
 - (b) Insured against loss by fire, theft, flood, or other hazards.
 - (c) Safely stored and protected against loss or damage.
 - (d) In compliance with the plans and specifications.
 - (e) Specifically allotted, identified, and reserved for the project.
 - (f) Itemized for tracking and payment.
 - (g) Subject to these conditions until the items are delivered to the project site.

END OF SECTION V

SECTION VI – SPECIAL WORKING CONDITIONS

The Work is for the Michigan Department of Environmental Quality. The specific Special Working Conditions for the department are site specific and will be established for each individual assignment. DB Entity shall comply with all security regulations. Access to and egress from the buildings and State Agency grounds shall be via routes specifically designated by the State Agency.

Whenever the DB Entity has caused an operating security or fire system to go out of service or left unsecured openings in existing facilities or security fences, the DB Entity shall furnish a security guard or fire watch acceptable to the Owner to maintain security of the facility outside of normal working hours and will be held responsible for any losses from the facility. The DB Entity shall always maintain dust control measures to the satisfaction of the Owner.

END OF SECTION VI

SECTION VII - SUPPLEMENTARY CONDITIONS

The provisions amend or supplement any section of the contract will be noted on each individual Assignment. All other requirements that are not so amended or supplemented remain in full force and effect.

END OF SECTION VII

APPENDIX I

GLOSSARY

Glossary

Activity—An element in the Progress Schedule establishing a requisite step, or the time and resources required, for completing the part of the Work associated with that Activity.

Addenda—Written instruments that are used by the Owner to incorporate interpretations or clarifications, modifications, and other information into the Bidding Documents. An Addendum issued after Bid opening to those DB Entities who submitted a Bid, for the purpose of re-bidding the Work without re-advertising, is referred to as a **post-Bid** Addendum.

Agency— Any unit, section, division, department, or other instrumentality of the State that benefits from the Work.

Alternate—Refers to work specified in the Request for Proposal for which the DB Entity shall bid a Bid Price.

Apparent Low DB Entities— Those DB Entities Whose Not-To-Exceed Bid, when added to those specific Alternates the Owner intends to accept, yields the three lowest sums of Not-To-Exceed Bid and Alternates. Additional DB Entities may be considered Apparent Low DB Entities if their Not-To-Exceed Bid, when added to those specific Alternates the Owner intends to accept, yields a sum within 10% of the lowest of the Apparent Low DB Entity's sum.

Archaeological Feature —Any prehistoric or historic deposit of archaeological value, as determined by a representative of a state agency that is duly authorized to evaluate such findings and render such judgments. An Archaeological Feature deposit may include, but is not limited to Native American habitations, ceremonial sites, abandoned settlements, treasure trove, artifacts, or other objects with intrinsic archaeological value and that relate to the history and culture of the State of Michigan. Known Archaeological Features are listed under Section 9 - Supplementary Conditions.

Bid—Written offer by a DB Entity for the Work, as specified, which designates the DB Entity's Not-To-Exceed Bid and Bid Prices for all Alternates. The term *Bid* includes a *re-bid*.

DB Entity—The Person acting directly, or through an authorized representative, who submits a Bid directly to the Owner.

Bidding Documents—The proposed Project Description and any other documents, drawings, sketches programs or other information developed by the Owner to provide the Project requirements, the Contract Documents as advertised, and all Addenda issued before execution of the Contract.

Bid Price— The DB Entity's price for a lump sum item of work, or the product of the DB Entity's unit price for an item of Unit Price Work times the quantity given on the Bid Form for that item.

Bidding Requirements—The Advertisement, Instructions to DB Entities, Supplementary Instructions, Information for DB Entities, Bid Form, Bid Form Attachments, and qualification submittals, as advertised and as modified by Addenda, and any other Section included in the Request for Proposal for the purpose of governing bidding and award of the Contract.

Board—The Administrative Board of the State of Michigan.

Bond– Security furnished by the DB Entity, as required by the Contract Documents.

Business Day–Any Day except Saturdays, Sundays and holidays observed by the Owner.

Bulletin–A request used by the Owner to describe a change in the Work under consideration by the Owner and to request the DB Entity to submit a proposal for the corresponding adjustment in Contract Price and/or Contract Time, if any.

Calendar Day–Every day shown on the calendar, Saturdays, Sundays, and holidays included.

Cash Allowance–An Owner-specified sum included within the Contract Price to reimburse the DB Entity for the actual purchase/furnished cost of materials and/or equipment or other designated items, as specifically provided in the Contract Documents. Although the scope (e.g., the required quantity) of any Work covered by a Cash Allowance is sufficiently detailed in the Contract Documents for the purposes of bidding the required labor costs, Subcontract costs, construction equipment costs and general conditions costs and Fee, it is understood that the required materials, equipment or other designated items are of uncertain purchase cost at the time of Bid or are yet to be specified in more detail by the Owner as to quality, appearance, durability, finish and such other necessary features affecting purchase price.

Change Order–A written order issued and signed by the Owner, which amends the Contract Documents for changes in the Work or an adjustment in Contract Price and/or Contract Time, or both.

Contract Award–The official action of the **Board** or the **Director-FA** awarding the Contract to the DB Entity.

Contract Documents–Written and graphic documents that form the legal agreement between the Owner and the DB Entity, consisting of this document, completed Bid and Contract forms, terms and conditions of the contract, specifications, drawings, addenda, Notice of Award, Notice-to-Proceed and contract change orders.

Contract Price–The total compensation, including authorized adjustments, payable by the Owner to the DB Entity (subject to provisions for Unit Price Work).

Contract Times–The Contract Times for the entire Work are the periods allowed, including authorized adjustments, for Substantial Completion and final completion of the Work. The Contract Times for a designated portion of the Work are the periods allowed for Substantial Completion and final completion of any such portion of the Work, as specified in the Contract Documents.

Correction Period – A period during which the DB Entity shall, in accordance with the Contract Documents, correct or, if rejected, remove, and replace Defective Work, and maintain warranties for materials and equipment in full force and effect.

Defective–As determined by the Owner, an adjective which when referring to or when applied to the term “Work” refers to Work not conforming to the Contract Documents or not meeting the requirements of an inspection, test or approval or Work itemized in a Punch List which the DB Entity fails to complete or correct within a reasonable time after issuance of the Punch List by the Owner.

Delay—Any act or omission or other event that in any manner adversely affects or alters the schedule, progress or completion of all or any part of the Work. Delay is a generic term intended to include deferral, stoppage, slow down, interruption and extended performance, and all related hindrance, rescheduling, disruption, interference, inefficiency and productivity and production losses.

Department (DTMB)—Department of Technology, Management and Budget of the State of Michigan.

Design-Build Entity (DB Entity)—Business enterprise with which the Owner has entered into the Contract.

Director is the Director of the **Department**.

Director-FA is the Director of **DTMB** State Facilities Administration, Design and Construction Division.

Drawings—Part of the Contract Documents showing the Work. Drawings shall neither serve nor be used as Shop Drawings.

Emergency—A condition affecting the safety or protection of persons, or the Work, or property at or adjacent to the site.

State Facilities Administration—Entity in the **Department** responsible for design, construction, and operations and maintenance of facilities.

Hazardous Material—Asbestos containing materials (ACMs), Polychlorinated biphenyls (PCBs), petroleum products, such construction materials as paint thinners, solvents, gasoline, oil, etc., and any other like material the manufacture, use, treatment, storage, transportation, or disposal of which is regulated by federal, State, or local Laws governing the protection of public health, natural resources, or the environment.

Invitation to Bid (ITB)—The solicitation document presenting the terms and conditions that will become part of the Contract when the Bid is accepted.

Law(s)—Means federal, State, and local statutes, ordinances, orders, rules and/or regulations.

MCL—The Michigan Compiled Laws of the State of Michigan.

Means and Methods—Includes means, methods, techniques, sequences and/or procedures applicable to the Work.

Notice of Award—Written notice accepting the Bid to the DB Entity selected under Section 2 and designating the Contract Price (and establishing the Alternates accepted by the Owner).

Notice-to-Proceed—Written notice issued by the Project Director directing the DB Entity to commence the construction activities and establishing the start date of the Contract Time.

Not-To-Exceed Bid—A DB Entity-specified sum included within the Contract Price to reimburse the DB Entity for the design, selection, actual purchase, installation, demolition, and construction of the Work, including materials and/or equipment or other designated items, as specifically provided in the Contract Documents. The scope of the Work is sufficiently detailed in the Contract Documents for the purposes of bidding the required labor costs, Subcontract costs, construction equipment costs and general conditions costs and Fee, it is understood that the required materials, equipment or other designated items are of uncertain purchase cost at the time of Bid or are yet to be specified in more detail by the DB Entity, and approved by the Owner as to quality, appearance, durability, finish and such other necessary features affecting final cost. .

On-Site Inspection—The Owner's on-site examination of the DB Entity's completed or in progress Work to determine and verify to the Project Director that the quantity and quality of all Work complies with the requirements of the Contract Documents.

Owner—The State of Michigan, with whom the DB Entity has entered the Contract and for whom the Work is to be provided.

Owner Field Representative—A State employee or consultant, acting under the direction of the Project Director, providing on-site, periodic observation and documentation of the Work for compliance with the Contract Documents.

Partial Use – Use by the Owner of a designated portion of the Work before accomplishing Substantial Completion of the entire Work. Partial Use does not mean Substantial Completion of the portion of the Work placed in use by the Owner.

Person—Individuals, partnerships, corporations, receivers, trustees, joint ventures or any other legal entity and any combinations of any of them.

Political Subdivision—Any county, city, village, or other local unit of the State, including any agency, department, or instrumentality of any such county, city, village, or other local unit.

Progress Schedule—Work Schedule that shows the DB Entity's approach to planning, scheduling, and execution of the Work and that accurately portrays completed Work as to sequencing and timing, as provided in the Contract Documents.

Project—The total construction, which includes the Work and other work completed by others, as indicated in the Contract Documents.

Project Director—Designated State employee(s) responsible for directing and supervising the DB Entity's services during the period allowed for completion of the Work; and/or acting as representative for the Owner and for the enforcement of the Contract, approving payment to the DB Entity and coordinating the activities of the State, Owner, and DB Entity.

Provisionary Allowance—An amount included within the Contract Price to reimburse the DB Entity for the cost to furnish and perform Work that is uncertain because, for example, it is indeterminate in scope and may not be shown or detailed in the Contract Documents.

Punch List—A list of minor items to be completed or corrected by the DB Entity, any one of which do not materially impair the use of the Work for its intended purpose.

Record Documents—Drawings, Specifications, Addenda, Change Orders, Change Authorizations, Bulletins, inspection, test and approval reports, photographs, written clarifications and interpretations and all other documents recording, or annotated to show, all revisions and deviations between the as-built installation and the Contract Documents, all approved Submittals and all clarifications and interpretations.

Records—Books, reports, documents, electronic data, and other evidence relating to the bidding, award and furnishing and performance of the Work.

Recycled Material—Recycled paper products, structural materials made from recycled plastics, re-refined lubricating oils, reclaimed solvents, recycled asphalt and concrete, recycled glass products, re-treaded tires, ferrous metals containing recycled scrap metals and all other materials that contain waste materials generated by a business or consumer, materials that have served their intended purpose, and/or materials that have been separated from solid waste for collection, recycling and disposition in the percentage determined by the State as provided by Law.

Request for Payment—The form provided by the Owner (Payment Request DMB-440) to be used by the DB Entity in requesting payment for Work completed, which shall enclose all supporting information required by the Contract Documents.

Shop Drawings—Includes drawings, diagrams, illustrations, standard schedules, performance charts, instructions and other data prepared by or for the DB Entity to illustrate some part of the Work, or by a Supplier and submitted by the DB Entity to illustrate items of material or equipment.

Soil Erosion and Sedimentation Control—The planning, design and installation of appropriate Best Management Practices designed and engineered specifically to reduce or eliminate the off-site migration of soils via water runoff, wind, vehicle tracking, etc. Soil erosion and sedimentation control in the State of Michigan is regulated under The Natural Resources Environmental Protection Act; Soil Erosion and Sedimentation Control, 1994 PA 451, Part 91, as amended, MCL 324.9101 et seq. Soil erosion and sedimentation control associated with this Contract is monitored and enforced by the DTMB-SFA.

State—The State of Michigan in its governmental capacity, including its departments, divisions, agencies, boards, offices, commissions, officers, employees, and agents. Non-capitalized references to a state refer to a state other than the State of Michigan.

State Construction Code—The Michigan State Construction Code Act, 1972 PA 230, as amended, MCL 125.1501 et seq.

Subcontractor—A Person having an agreement with the *DB Entity* to provide professional design services, professional testing services, general services, labor at the site, and/or furnishing materials and/or equipment for incorporation into the Work.

Submittals—Includes technical Submittals, Progress Schedules and those other documents required for submission by the Contract Documents. The term "technical Submittal" includes Shop Drawings, brochures, samples, Operation and Maintenance (O&M) Manuals, test procedures and any other Submittal the Contract Documents require the DB Entity to submit to demonstrate how the items covered, after installation or incorporation into the Work, will conform to the information given in the Bidding and Contract Documents and be compatible with

the design of the completed Work as a functioning whole as indicated in the Contract Documents.

Substantial Completion—The Work, or a portion of the Work designated in the Contract Documents as eligible for separate Substantial Completion, has been completed in accordance with the Contract Documents as determined by the Owner, to the extent that the Owner can use or occupy the entire Work, or the designated portion of the Work, for the use intended without any outstanding, concurrent Work at the site, except as may be required to complete or correct Punch List items.

Supplier—A manufacturer or fabricator, or a distributor, material man or vendor representing a manufacturer or fabricator, who has an agreement with the DB Entity to furnish materials and/or equipment.

Underground Utilities—Pipelines, piping, conduit, duct, cables, wells, tanks, tunnels and appurtenances, or other similar facilities, installed underground to convey or support conveyance of potable water, sprinkler or irrigation water, fire protection systems, electricity, gases, steam, petroleum products, sewerage and drainage removal, telephone, communications, cable TV, traffic, or control systems.

Unit Price Work—Work involving specified quantities (i.e., related Work quantities) which when performed is measured by the Owner and paid using the measured quantities and unit prices contained in the Contract Documents. Performance of Unit Price Work for undefined quantities is contingent upon conditions encountered at the site, as determined, and authorized by the Owner.

Unit Price Work, Specified—Work of specified and defined quantities (i.e., quantities are detailed in, and can be taken-off from, the Contract Documents) that when performed is measured by the Owner and paid based on the measured quantities and unit prices contained in the Contract Documents.

Work (as in “*the Work*,” “*the entire Work*”)—The entire *completed Construction* required by the Contract Documents. The Work results from furnishing and performing all professional design, services, obligations, responsibilities, management, supervision, labor, materials, equipment, construction equipment, general conditions, permits, taxes, patent fees and royalties, testing, inspection and approval responsibilities, warranties, temporary facilities, small tools, field supplies, Bonds, insurance, mobilization, close-out, overhead and all connections, devices and incidental items of any kind or nature required and/or made necessary by the Contract Documents.

Work Involved, any Work Involved—Existing or prospective Work reflected in any notice, proposal, or claim; reflected in changes ordered or in process; or affected by Delay.

APPENDIX II

PROJECT STATEMENT

PROJECT STATEMENT

STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
State Facilities Administration
Design and Construction Division
3111 West St. Joseph Street
Lansing, Michigan 48909

| | |
|--|---|
| FILE NUMBER Various | PROPOSAL DUE DATE May 12, 2022, at 2:00pm, EST |
| CLIENT AGENCY Department of Environment, Great Lakes and Energy (EGLE) | |
| PROJECT NAME AND LOCATION 2022 DB Tank and Soil Removal Indefinite Scope Indefinite Delivery (ISID) | |
| PROJECT ADDRESS (if applicable) Various | |
| CLIENT AGENCY CONTACT Elaine Pelc | TELEPHONE NO./EMAIL 989-619-5016 pelce@michigan.gov |
| DTMB - DCD PROJECT DIRECTOR Sadi Rayyan | TELEPHONE NUMBER 517-719-2801 rayyans@michigan.gov |

WALK-THROUGH INSPECTION DATE, TIME, AND LOCATION:

None

☐ **MANDATORY** (Check box if Mandatory)

☐ **LEIN Check** (Department of Corrections ONLY) All contractor / vendor representatives attending Preproposal Walk Through Meeting must submit a Vendor / Contractor LEIN Request form five business days prior to the meeting date (See the attached Vendor/Contractor LEIN Request Form). Send the LEIN Request form, filled and signed, by email to Daniel T. Smith at email address: smithD76@michigan.gov. The email "Subject" must include (facility name, project name, date and time of Pre-Proposal Walk Through Meeting).

COVID 19 Precautions:

- Depending on project location, individuals may be required to wear masks to attend any meetings and for a firm to be eligible to submit proposals / quotations / bids. Bring and be prepared to wear a mask if required upon arrival. Requirements may change at any time and any updated guidance must be followed.

PROJECT DESCRIPTION/SERVICES REQUESTED

Proposals must be submitted electronically through the SIGMA VSS website at <https://sigma.michigan.gov/webapp/PRDVSS2X1/AltSelfService>

Provide professional environmental design-build Indefinite-Scope Indefinite-Delivery (ISID) services for tank and soil removal. The selected professional entity (Entity) will be assigned sites for the removal of sources of contamination associated with releases from former underground storage tank (UST) systems and other contaminant sources at multiple sites across the State. The Entity will be required to effectively perform tasks at assigned sites with design, construction, restoration and reporting in accordance with the applicable Part 201/Part 213 of the Michigan Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended. The Entity is required to refer to State and Federal statutes, procedures, guidelines and the administration rules when providing the design build services or entering contracts with subcontractors to provide the services.

The Entity is required to complete and submit both the 2022 Tank and Soil Removal ISID Unit Prices form and the 2022 Tank and Soil Removal ISID Example Site for Bidding forms for EACH of the EGLE District Offices in which they are interested in providing services. Also, the Entity must complete the attached Questionnaire and use the attached appropriate forms to indicate the billing rates. The State of Michigan reserves the right not to award the contract(s) or award the contract(s) to one or more firms.

Please NOTE:

- Proposal responses MUST be uploaded to SIGMA VSS. Please enter the total cost for all phases as bid amount.
- Please remember that individual attachments can be no larger than 6mb.
- If you experience issues or have questions regarding your electronic submission, you must contact the SIGMA Help Desk for assistance. They can be reached by telephone at 888.734.9749 or by email at sigma-procurement-helpdesk@michigan.gov
- Please notify the Office of Design and Construction if you are having SIGMA VSS issues. Include your SIGMA ticket number in an email to our contract specialists, Anne Watros (WatrosA@michigan.gov) and Don Klein (KleinD4@michigan.gov).
- You may be asked to email your proposal. Emailed submissions will require DCD approval and will be handled on a case-by-case basis. Approved emailed submissions MUST be received prior to 2:00 p.m. deadline to be considered responsive and responsible.

NIGP CODES

90629; 91244; 91842; 91843; 92535; 92577; 92629; 92630; 92645; 92690; 92678; 92693; 96871; 96878

DESIRED SCHEDULE OF WORK

Dependent on the assigned project.

ACCEPTING RFP QUESTIONS UNTIL: Monday, April 18, 2022, at 5:00 p.m., local time

Please do not submit online questions via VSS. ALL questions should be emailed to Sadi Rayyan at rayyans@michigan.gov.

REFERENCE STANDARDS: This project will comply with all codes, standards, regulations, and workers' safety rules that are administered by federal agencies (EPA, OSHA, and DOT), state agencies (DCH, EGLE, DNR, and MIOSHA), and any other local regulations and standards that may apply.

This form is required to be a part of the professional service contract. (Authority: 1984 PA 431)
Attachment(s)

II

SCOPE OF WORK

Department of Technology, Management and Budget
2022 TANK AND SOIL REMOVAL ISID RFP
Scope of Work

A. PROJECT OBJECTIVES

The Department of Great Lakes, Environment Energy (EGLE) is seeking proposals to retain services to assist with the removal of sources of contamination associated with releases from former underground storage tank (UST) systems and other contaminant sources at multiple sites across the State. The actual number of sites is unknown, but it is anticipated that there will be several sites within the geographic boundaries of each of the following nine EGLE Remediation and Redevelopment Division (RRD) District/Field offices; **Upper Peninsula District, Gaylord Field Office, Cadillac District Office, Bay City District Office, Lansing District Office, Warren District Office, Kalamazoo District Office, Jackson District Office, and Grand Rapids District Office.**

The Upper Peninsula District Office will be split into an eastern and western area. All counties west of Delta and Alger counties will be considered the western upper peninsula for assignments and bidding purposes.

A list of the EGLE district offices and counties within each district boundary can be found at:
https://www.michigan.gov/egle/0,9429,7-135-3306_3329-12306--,00.html

The project objectives are to remove sources of contamination (e.g. contaminated soil, USTs, pipes, etc.) from the environment and sample soil/groundwater/soil vapor to determine the effectiveness of the source removal actions.

Work will only be performed where EGLE has signed access. No work will be conducted in road rights-of-way, easements, utility corridors, etc., unless the contractor or EGLE has obtained signed access and/or any required permits. Copies of all signed access agreements and permits, if applicable, will be supplied to the contractor. If the contractor obtains the access and/or permit, a copy will be supplied to EGLE.

The State currently does not anticipate that the tank removal or excavations will be implemented on operating UST systems. There may be sites that have been redeveloped into operating facilities with abandoned USTs and the State of Michigan may utilize this contract on those types of sites.

Site photographs along with the documentation will be required at each site and must include photographs before on-site work is initiated and after on-site work and site restoration are completed and will be included as part of the Construction/Removal Report.

The following describes the required elements and services at each site in more detail.

1. PROJECT ADMINISTRATION AND SITE VISIT

These items cover project management including site visit(s).

1a. Project Administration

Includes the tasks to manage the project such as meetings, invoicing and contacting Miss Dig, establishing the safe storage and handling of all equipment and supplies, health and safety plan (HASP) preparation, and if site conditions warrant, or required by the regulating local unit of government or the Michigan Department of Transportation (MDOT), obtaining any and all required signage. Project administration will include obtaining any permits necessary to complete site work, which may include, but are not limited to, MDOT right-of-way permits, county right-of-way permits, soil erosion and sedimentation control, landfill acceptance, and waste identification. This line item also includes the tasks to manage the construction phase of the project such as construction planning, communication, progress meetings, management of costs, quality, schedule, safety, administration and close out documentation.

2. PROFESSIONAL SERVICES

These items cover all professional services work performed under this contract.

2a. Site Visit

Includes time, costs, and travel expenses for the contractor to conduct site visit(s) to become familiar with the site.

2b. Engineering Design/Excavation Plans/Drawings

Includes all time, equipment, labor, and materials to develop/prepare excavation plans and drawings to ensure the professional, state project manager, and excavator operator all have a clear understanding of the work to be completed. The excavation plans should include, at a minimum, a written description of what material is being removed, what the anticipated dimensions of the excavation will be, how the banks will be stabilized, an estimated quantity of material to be removed, where the material will be disposed of, and how the actual quantity will be determined. The drawings should include, at a minimum, the excavation plan in both vertical and plan view, sloping or bank stabilization, and disposal routes. Assume that one draft and one final copy of the Excavation Plans/Drawings will be required. It can also be assumed that 1 final copy will be submitted in both hard and electronic format.

2c. UST Removal/Excavation Oversight

Includes all activities and cost needed to perform all fieldwork for construction oversight. The contractor will be required to provide documentation of the material being removed, collection of measurements for mapping, collection of any verification samples, signing of manifests on behalf of the State of Michigan, taking photographs for documentation, and providing communication to the state project manager and the construction crew(s). Assume an 8 hour work day unless prior arrangements have been made with the EGLE PM and the property owner.

2d. Construction/Removal Report

Includes all activities and cost needed to prepare and complete a detailed report discussing, documenting, and outlining all site/construction work completed. This report will include, at a minimum, text, figures, and tables to document the site activities, including contaminant removal location(s) and sample location(s). The figures shall contain "as built" drawings that will show all actual work completed on site and site features after site activities. These drawings will include, at a minimum, locations of removed UST(s) and associated piping if present, excavation outlines/locations, depths of excavation, sample locations, and any groundwater monitoring well/soil vapor pin locations. The drawings shall be submitted to EGLE in hard copy and electronically in CADD or GIS (shapefile) format. Site photographs will be required at each site and must include photographs before on-site work is initiated and after on-site work and site restoration are completed. The report shall conform to industry standards for a construction/removal report prepared by an environmental professional.

2e. Notification to Remove and UST Registration

Includes all activities and cost needed to register any unregistered USTs that are found onsite and provide the notification to remove the USTs to the appropriate regulatory agency. All work done under this item will be in accordance with Part 211 of the Natural Resources and Environmental Protection Act (NREPA), 1994 Public Act 451, as amended.

2f. UST Removal (Part 211) Site Assessment and Reporting

Includes all activities and cost needed to perform the site assessment sampling and reporting that is outlined in Part 211 of NREPA and the UST Rules, Rule R29.2155. The report will be submitted to the appropriate regulatory agency and EGLE. All samples, except waste characterization samples, will go to the state laboratory and costs of analysis should not be included in the proposal. For waste characterization samples, the DB Entity can select the laboratory (those will not go to the EGLE laboratory) and the costs will need to be incorporated into the unit costs.

2g. Monitoring Well Abandonment

Includes all activities and cost needed to abandon any monitoring wells that may be obstructing site work or as requested by the state project manager. All monitoring wells shall be abandoned in general accordance with ASTM International Standard D5299. Assume all monitoring wells will be 2-inch diameter and the casing will be cut approximately one foot below ground. The well will be abandoned by filling the remaining space with a bentonite grout starting at the bottom of the well using a tremie pipe.

2h. Monitoring Well Installation-Hollow Stem Auger

Includes all activities, equipment and costs needed to install groundwater monitoring wells for the long-term monitoring of the groundwater. All monitoring wells shall be installed in general accordance with ASTM International Standard D5092. Assume all monitoring wells will be constructed of 2-inch polyvinyl chloride (PVC) casing and a 5-foot-long screen. For the pricing, it can be assumed that the casing will be schedule 40 PVC and completed with a flush mount and a watertight cap. The boring annulus will be filled with a sand/gravel pack to approximately one foot above the screen and the gravel pack will be topped with a 6-inch bentonite pellet collar. Above the bentonite pellet collar, the annular space will be filled with a neat cement or grout. Assume the wells will be installed with a 4.25" inner diameter hollow stem augers. Well logs and lithologic logs, with any olfactory or visual observations of contamination, will be digitally prepared using industry standard software for all wells installed. An example log is attached for reference. The well logs shall be submitted to the EGLE project manager.

2i. Mobilization and Demobilization of Hollow Stem Auger Drilling Equipment

Includes all activities and costs needed to mobilize and demobilize all equipment and vehicles to install groundwater monitoring wells described in items 2h. This includes the mobilization and demobilization of a drill rig capable of installing groundwater monitoring wells with 4.25-inch inner diameter hollow stem augers, all support trucks, and all equipment necessary to install monitoring wells.

2j. Monitoring Well Installation - Geoprobe

Includes all activities, equipment and costs needed to install groundwater monitoring wells for the long-term monitoring of the groundwater. All monitoring wells shall be installed in general accordance with ASTM International Standard D5092. Assume all monitoring wells will be constructed of 2-inch polyvinyl chloride (PVC) casing and a 5-foot-long screen. The boring annulus will be filled with a sand/gravel pack to approximately one foot above the screen and the gravel pack will be topped with a 6-inch bentonite pellet collar. Above the bentonite pellet collar, the annular space will be filled with a neat cement or grout. Assume the wells will be installed with a Geoprobe using 4.25" inner diameter rods and according to the ASTM International Standard D6724/D6724M-16. Well logs and lithologic logs, with any olfactory or visual observations of contamination will be digitally prepared using industry standard software for all wells installed. An example log is attached for reference. The well logs shall be submitted to the EGLE project manager.

2k. Mobilization and Demobilization of Geoprobe Equipment – Monitor Well and Soil Vapor Monitoring Point Installation

Includes all activities, equipment and costs needed to mobilize and demobilize all equipment and vehicles to install Groundwater Monitoring Wells described in item 2j and Soil Vapor Monitoring Points described in 2m. This includes the mobilization and demobilization of a Geoprobe capable of installing

- groundwater monitoring wells with 4.25-inch inner diameter rods, all support trucks, and all equipment necessary, and
- Soil Vapor Monitoring Points as described in EGLE's Standard Operating Procedure for the Installation of a Soil Gas Probe/Vapor Monitoring Point to Support Vapor Intrusion Investigations Revision #1 February 13, 2013 contained in Attachment A, all support trucks and all equipment necessary.

2l. Groundwater Monitoring and Reporting

Includes all activities and cost needed to conduct the field work and reporting for groundwater monitoring at a site. The field work shall include, but is not limited to, measuring the static water levels in the wells and top of casing elevations to the nearest 0.01 foot, purging the well, collection of a groundwater sample from the well to be analyzed for volatile organic compounds, semi-volatile organic compounds, and/or metals, collection of select geochemical parameters, and/or other parameters. The reporting shall include figures, tables, and text discussing the sampling procedure and results. For the metals, assume that the "Michigan 10" will be analyzed, and the samples will NOT be filtered. All soil and groundwater samples, except the waste characterization samples will be analyzed by the EGLE lab and the contractor should NOT include those analytical costs in the proposal. The well depths will vary based on the site, but 20 feet well depths and 20 feet depth to groundwater will likely be exceeded at sites. At a minimum, the report shall be to industry standards for groundwater monitoring reports prepared by environmental professionals and contain a site map with analytical results, a groundwater flow map, a table summarizing static water levels, a table summarizing the current and historic analytical results, any concentration trend analysis to

support site decisions, and text discussing the sampling procedure, sampling results, and analysis. The reports will be submitted to the EGLE project manager in electronic format and a hard copy if requested. If requested, all maps will be submitted to the EGLE project manager in either CADD or GIS (shapefile) format. Assume that each event there will be 10 wells sampled per sampling event and the top of casing survey will only be done once.

2m. Soil Vapor Monitoring Point Installation-Geoprobe

Includes all activities, equipment and costs needed to install soil vapor monitoring points for the long-term monitoring of the soil gas as described in EGLE's Standard Operating Procedure for the Installation of a Soil Gas Probe/Vapor Monitoring Point to Support Vapor Intrusion Investigations; Revision #1 February 13, 2013.

2n. Sub Slab Soil Gas Vapor Pin Installation

Includes all activities, equipment and costs needed to install Sub Slab Soil Gas Vapor Pins for the long-term monitoring of sub slab soil gas as described in EGLE's Standard Operating Procedure for the Installation of Sub-Slab Soil Gas Probe/Vapor Monitoring Point to Support Vapor Intrusion Investigations; Revision #1 February 1, 2013 and contained in Attachment B

2o. Soil Vapor Monitoring & Reporting

Includes all activities and costs needed to conduct the field work and report the results of soil vapor monitoring at a site. Sampling shall be performed consistent with EGLE's Standard Operating Procedure for Sampling Utilizing USEPA Method TO-15 VIA Bottle Vac to Support Vapor Intrusion Investigations contained in Attachment C. The reporting shall include figures, tables, and text discussing the sampling procedure and results. At a minimum, the report shall be to industry standards for soil vapor monitoring reports prepared by environmental professionals and contain a site map with sample locations identified and analytical results, a table summarizing the current and historic analytical results, and any concentration trend analysis to support site decisions. The reports will be submitted to the EGLE project manager in electronic format and hard copy if requested. All maps will be submitted to the EGLE project manager, upon request in either CADD or GIS (shapefile) format. Assume that each event there will be 5 soil gas monitoring points sampled per sampling event.

3. UST SYSTEM CLOSE IN PLACE

This item includes all activities and costs required to permanently close the UST system in place by:

- excavating soil to expose the components of the UST that need to be accessed,
- removing liquids, sludges and vapors from the tank,
- cleaning the tank, and
- filling the tank with a solid inert material

4. UST SYSTEM REMOVAL AND DISPOSAL

This item includes all activities and costs required to:

- excavate, remove, dismantle, and dispose of USTs of various sizes.
- excavate, remove, and dispose of all associated piping, pump islands, electrical and other components associated with the UST.
- purge and clean the UST and associated piping.
- excavate soil to expose and remove the UST and;
- backfill the excavation to grade including compaction.
 - Backfill will be placed in the excavation in 1-foot lifts and should be compacted to 95% unless otherwise directed.
 - The backfill shall be from an uncontaminated source and either certified by the owner or verified with analytical data. The backfill shall be free of debris, frozen materials, wood, vegetation, rock fragments greater than 6-inches, and soft materials unsuitable for backfill.

5. EXCAVATION, TRANSPORTATION, AND DISPOSAL OF NON-HAZARDOUS SOIL AND EXCAVATION BACKFILL

Includes all activities and cost needed to excavate, transport and properly dispose of non-hazardous contaminated soil at the various tonnages. This also includes the purchase, transport, placement, and compaction of backfill that is equal to tonnage requested for excavation and disposal. Backfill will be placed in the excavation in 1-foot lifts and should be compacted to 95% unless otherwise directed. The backfill shall be from an uncontaminated source and either certified by the owner or verified with analytical data. The backfill shall be free of debris, frozen materials, wood, vegetation, rock fragments greater than 6-inches, and soft materials unsuitable for backfill. The contaminated soil and backfill tonnage will be verified by a certified scale. All characterization, sampling and analytical, required for disposal approval, will be included in this bid item.

6. WASTE CHARACTERIZATION AND DISPOSAL

6a. Non-Hazardous Liquid

Includes all activities and cost needed to characterize, remove and transport non-hazardous liquid from a site, and properly dispose of in accordance with applicable laws.

6b. Hazardous Liquid

Includes all activities and cost needed to characterize, remove and transport hazardous liquid from a site, and properly dispose of in accordance with applicable laws.

6c. Hazardous Solid / Sludge

Includes all activities and cost needed to characterize, remove and transport hazardous soil/sludge from a site, and properly dispose of in accordance with applicable laws.

6d. 55 Gallon Drum Removal, Non-Hazardous Solid/Sludge

Includes all activities and cost needed to characterize, remove and transport non-hazardous soil/sludge contained in a 55-gallon drum from a site, and properly dispose of in accordance with applicable laws. Also included in this is the cost of the 55-gallon drum.

6e. 55 Gallon Drum Removal, Hazardous Solid/Sludge

Includes all activities and cost needed to characterize, remove and transport hazardous soil/sludge contained in a 55-gallon drum from a site, and properly dispose of in accordance with applicable laws. Also included in this is the cost of the 55-gallon drum.

7. MISCELLANEOUS

7a. Vac Truck and Operator

Includes all activities and costs needed to remove waste liquids from a site, excavation, or other miscellaneous purposes. The costs shall also include mobilization, demobilization, all waste characterization, and waste disposal costs.

7b. Site Preparation, including Excavation Sloping and Overburden Stockpiling

Includes all activities and cost required to prepare the site for source removal activities. This includes, but is not limited to, mobilization, demobilization, snow removal, fencing, uncontaminated overburden stockpiling, and excavation sloping.

7c. Clearing & Grubbing Dense and Woody Vegetation

This includes all activities, equipment and costs required to remove extremely dense or woody vegetation greater than 3 inches in diameter with a brush hog, disc mulcher or other comparable equipment to prepare the site for excavation. It is expected the vegetation will be chipped and remain on site after the removal unless an alternative approach has been accepted by the state project manager.

7d. Provisionary Allowance

Provisionary allowance of \$10,000 will be included in every assignment to cover any unforeseen and unknown costs during site work. Prior to utilizing any of the provisionary allowance, a cost must be agreed upon between the contractor and the state project manager and the contractor must have written approval from the state project manager.

7e. Concrete Disposal/Recycling

Includes all activities and cost needed to remove, transport and dispose or recycle uncontaminated concrete from a site. Assume that the concrete is 4 inches thick. This will also include mobilization, demobilization, any testing or characterization required for disposal or recycling.

7f. Asphalt Disposal/Recycling

Includes all activities and cost needed to remove, transport and dispose or recycle asphalt from a site. This will also include mobilization, demobilization, any testing or characterization required for disposal or recycling.

7g. 5,000 Gallon Frac Tank

Includes all activities and cost needed for transportation, daily rental, and disposal of any wastewater. This item also includes mobilization, demobilization, all characterization, and any other costs required for wastewater disposal.

7h. Air Monitoring

Includes all activities and costs associated with placing, maintaining, and collecting data from air monitoring equipment to ensure areas around the excavation are safe for both workers and the public. Assume air monitoring will be occur in three locations and will be monitored for oxygen, volatile organic compounds, hydrogen sulfide with equipment, such as AreaRAE or similar technology. This will also include mobilization, demobilization, all time, labor, tools, and equipment to monitor, log, transfer, and tabulate the air monitoring data.

8. SITE RESTORATION

Upon completion of all site activities, all site features will be returned to like conditions unless otherwise expressed by the site owner and agreed to by the state project manager.

8a. 22a Gravel

Includes all activities and cost to purchase, transport, place, and grade Michigan Department of Transportation specified 22a gravel. The actual quantity will be determined by a certified scale.

8b. Crushed Limestone

Includes all activities and cost needed to purchase, transport, place, and grade crushed limestone including mobilization and demobilization. The actual quantity will be determined by a certified scale.

8c. Asphalt Paving

Includes all activities and cost needed to place and compact a 2" thick base course and a 2" thick finish coarse of asphalt including mobilization and demobilization. The asphalt paving will be on a finished square foot basis.

8d. Concrete

Includes all activities and cost needed to make appropriate forms, pour concrete, and finish concrete including mobilization and demobilization. The actual thickness will be determined on a site-by-site basis, but for bidding assume the concrete will be 4-inches thick. The concrete will be on an actual cubic yard placed.

8e. 2" Topsoil and Seeding

Includes all activities and cost needed to purchase, transport, place, and grade 2 inches of topsoil including mobilization and demobilization. The topsoil will be free of contaminants, debris, vegetation, and gravel. Seeding will consist of a mixture of Kentucky bluegrass, Perennial Ryegrass, and Red Fescue.

8. Mobilization, Demobilization and General Conditions

Includes the cost of performance bonds, pre-development fee, office utilities and trailers, mobilization and demobilization, cost of activities and tools of any other items and resources that are needed to complete the construction activities but are not listed above.

B. TIME FRAME

EGL E expects to have each assignment satisfactorily and properly completed, including all reports and invoices submitted, within 180-calendar days from the notice to proceed. Assignments will be made as needed. The total timeframe for the contract is two years with a 1-year extension for a possible 3-year contract.

C. NOTICE OF ON-SITE WORK ACTIVITY

The contractor must supply the contract manager and state project manager at least 14-days' notice prior to any on-site work activity.

D. INVOICING

One progress and one final invoice may be submitted during the project unless extenuating circumstances warrant additional invoices. Lump sum tasks that are not completed may be invoiced in the progress payment for actual work completed up to 75%. At least 25% any uncompleted lump sum task shall be paid at the final invoice. For example, if a task was 50% complete at the progress invoice, 50% could be invoiced; however, if 85% of the task was complete at the time of progress payment, 75% could be invoiced. The attached UST and Soil Excavation Schedule of Values Form must be utilized for all tracking and invoicing and must be submitted with each month's invoice along with the proper DTMB forms.

Unit Price Bid Form

2022 Tank & Soil Removal ISID Unit Pricing**BIDDER NAME:****DISTRICT:**

| Line Item | Description | Units | Unit Price |
|--|---|-------------|------------|
| 1a | Project Administration | of C | |
| 2 | Professional Services | | |
| 2a | Site Visit | Lump Sum | |
| 2b | Excavation Plans/Drawings | Lump Sum | |
| 2c | UST Removal/Excavation Oversight | Day | |
| 2d | Construction/Removal Report | Lump Sum | |
| 2e | Notification to Remove and UST registration | Lump Sum | |
| 2f | UST Removal (Part 211) Site Assessment and Reporting | Lump Sum | |
| 2g | Monitoring Well Abandonment | Lineal Foot | |
| 2h | Monitor Well Installation - Hollow Stem Auger | Lineal Foot | |
| 2i | Mobilization and Demobilization - Hollow Stem Auger Drilling Equipment | Lump Sum | |
| 2j | Monitor Well Installation – Geoprobe | Lineal Foot | |
| 2k | Mobilization and Demobilization - Geoprobe Equipment for Monitoring Well and Soil Vapor Monitoring Point Installation | Lump Sum | |
| 2l | Groundwater Monitoring and Reporting | Event | |
| 2m | Soil Vapor Monitoring Points Installation- Geoprobe | Lineal Foot | |
| 2n | Sub Slab Soil Gas Vapor Pin Installation | Each | |
| 2o | Soil Vapor Monitoring and Reporting | Event | |
| 3 | UST System Close in Place (includes removing liquids and sludges, cleaning and filling with an inert solid material) | | |
| 3a | 0 - 1000 gallon | Tank | |
| 3b | 1001 - 4000 gallon | Tank | |
| 3c | 4001 - 6000 gallon | Tank | |
| 3d | 6001 - 8000 gallon | Tank | |
| 3e | 8001 - 10,000 gallon | Tank | |
| 3f | 10,001 - 12,000 gallon | Tank | |
| 3g | 12, 001 - 15,000 gallon | Tank | |
| 3h | 15,001 - 20,000 gallon | Tank | |
| 4 | UST System Removal and Disposal (includes purging, cleaning and all associated piping) | | |
| 4a | 0 - 1000 gallon | Tank | |
| 4b | 1001 - 4000 gallon | Tank | |
| 4c | 4001 - 6000 gallon | Tank | |
| 4d | 6001 - 8000 gallon | Tank | |
| 4e | 8001 - 10,000 gallon | Tank | |
| 4f | 10,001 - 12,000 gallon | Tank | |
| 4g | 12, 001 - 15,000 gallon | Tank | |
| 4h | 15,001 - 20,000 gallon | Tank | |
| 5 | Excavation, Transportation, and Disposal of Non-Hazardous Soil and Excavation Backfill | | |
| 5a | 0- 250 tons | Ton | |
| 5b | 251 - 500 tons | Ton | |
| 5c | 501 - 1000 tons | Ton | |
| 5d | 1001 - 2000 tons | Ton | |
| 5e | > 2000 tons | Ton | |
| BID FORM CONTINUED ON NEXT PAGE | | | |

| | | | |
|----------|--|-------------------|-------------------|
| 6 | Waste Characterization and Disposal | Units | Unit Price |
| 6a | Non- Hazardous Liquid | Gallon | |
| 6b | Hazardous Liquid | Gallon | |
| 6c | Hazardous Solid / Sludge | Gallon | |
| 6d | 55-gallon drum removal - Non-Hazardous Solid/Sludge | Drum | |
| 6e | 55-gallon drum removal - Hazardous Solid/Sludge | Drum | |
| 7 | Miscellaneous | | |
| 7a | Vac Truck and Operator | Day | |
| 7b | Site Preparation Including Excavation Sloping and Overburden Stockpiling | Cubic yard | |
| 7c | Clearing and Chipping Dense & Woody Vegetation | Day | |
| 7d | Provisionary Allowance | Allowance | \$10,000.00 |
| 7e | Concrete Disposal/Recycling | Sq. Foot | |
| 7f | Asphalt Disposal/Recycling | Sq. Foot | |
| 7g | 5,000-gallon Frac Tank | Day | |
| 7h | Air Monitoring | Day | |
| 8 | Site Restoration | | |
| 8a | 22a Gravel | Ton | |
| 8b | Crushed Limestone | Ton | |
| 8c | Asphalt Paving (4" Thick) | Sq. Foot | |
| 8d | Concrete | cubic yard | |
| 8e | 2" Topsoil and Seeding | Sq. Foot | |
| | Subtotal Construction | | |
| 9 | Mobilization, Demobilization and General Conditions | % of construction | |
| | Subtotal Design & Construction (D&C) | | |

TOTAL PROJECT COST:

Management

Design

Construction

| |
|----|
| \$ |
| \$ |
| \$ |
| \$ |

EXAMPLE SITE BID FORM

2022 Tank and Soil Removal ISID EXAMPLE SITE**BID FORM****Bidder Name:****District:**

| Line Item | Description | Est. Quantity | Units | Unit Price | Extended Price |
|-----------|--|---------------|-------------|------------|----------------|
| 1a | Project Admin | 1 | of C | | |
| 2 | Professional Services | | | | |
| 2a | Site Visit | 1 | Lump Sum | | |
| 2b | Excavation Plans/Drawings | 1 | Lump Sum | | |
| 2c | UST Removal/Excavation Oversight | 10 | Day | | |
| 2d | Construction/Removal Report | 1 | Lump Sum | | |
| 2e | Notification to Remove and UST registration | 1 | Lump Sum | | |
| 2f | UST Removal (Part 211) Site Assessment and Reporting | 1 | Lump Sum | | |
| 2g | Monitoring Well Abandonment | 0 | Lineal Foot | | |
| 2h | Monitoring Well Installation - Hollow Stem Auger | 0 | Lineal Foot | | |
| 2i | Mobilization and Demobilization - Hollow Stem Auger Drilling Equipment | 0 | Lump Sum | | |
| 2j | Monitor Well Installation - Geoprobe | 35 | Lineal Foot | | |
| 2k | Mobilization & Demobilization - Geoprobe Equipment for Monitoring Well and Soil Vapor Monitoring Point Installation | 1 | Lump Sum | | |
| 2l | Groundwater Monitoring & Reporting | 4 | Event | | |
| 2m | Soil Vapor Monitoring Points Installation - Geoprobe | 30 | Lineal Foot | | |
| 2n | Sub Slab Soil Gas Vapor Pin Installation | 5 | Each | | |
| 2o | Soil Vapor Monitoring and Reporting | 4 | Event | | |
| 3 | UST System Close In-Place (includes removing liquids and sludges, cleaning, and filling with an inert solid material) | | | | |
| 3a | 0 - 1000 gallon | 1 | Tank | | |
| 3b | 1001 - 4000 gallon | 0 | Tank | | |
| 3c | 4001 - 6000 gallon | 0 | Tank | | |
| 3d | 6001 - 8000 gallon | 0 | Tank | | |
| 3e | 8001 - 10,000 gallon | 0 | Tank | | |
| 3f | 10,001 - 12,000 gallon | 0 | Tank | | |
| 3g | 12, 001 - 15,000 gallon | 0 | Tank | | |
| 3h | 15,001 - 20,000 gallon | 0 | Tank | | |
| 4 | UST System Removal and Disposal (includes purging, cleaning, and all associated piping) | | | | |
| 4a | 0 - 1000 gallon | 0 | Tank | | |
| 4b | 1001 - 4000 gallon | 0 | Tank | | |
| 4c | 4001 - 6000 gallon | 0 | Tank | | |
| 4d | 6001 - 8000 gallon | 1 | Tank | | |
| 4e | 8001 - 10,000 gallon | 1 | Tank | | |
| 4f | 10,001 - 12,000 gallon | 0 | Tank | | |
| 4g | 12, 001 - 15,000 gallon | 0 | Tank | | |
| 4h | 15,001 - 20,000 gallon | 0 | Tank | | |
| | BID FORM CONTINUED ON NEXT PAGE | | | | |
| | | | | | |


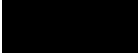
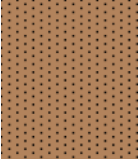



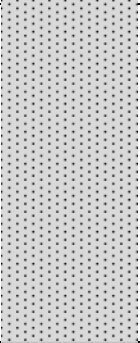
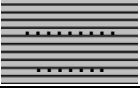
| 5 | Excavation, Transportation, and Disposal of Non-Hazardous Soil and Excavation Backfill | Est Quantity | Unit | Unit Price | Extended Price |
|----|--|-------------------|------------|------------|----------------|
| 5a | 0- 250 tons | 0 | Ton | | |
| 5b | 251 - 500 tons | 0 | Ton | | |
| 5c | 501 - 1000 tons | 1000 | Ton | | |
| 5d | 1001 - 2000 tons | 0 | Ton | | |
| 5e | > 2000 tons | 0 | Ton | | |
| 6 | Waste Characterization and Disposal | | | | |
| 6a | Non- Hazardous Liquid | 500 | Gallon | | |
| 6b | Hazardous Liquid | 0 | Gallon | | |
| 6c | Hazardous Solid / Sludge | 0 | Gallon | | |
| 6d | 55-gallon drum removal - Non-Hazardous Solid/Sludge | 1 | Drum | | |
| 6e | 55-gallon drum removal - Hazardous Solid/Sludge | 0 | Drum | | |
| 7 | Miscellaneous | | | | |
| 7a | Vac Truck and Operator | 1 | Day | | |
| 7b | Site Preparation Including Excavation Sloping and Overburden Stockpiling | 100 | Cubic yard | | |
| 7c | Clearing and Chipping Dense & Woody Vegetation | 1 | Day | | |
| 7d | Provisionary Allowance | \$10,000.00 | Allowance | | |
| 7e | Concrete Disposal/Recycling | 30 | Sq. Foot | | |
| 7f | Asphalt Disposal/Recycling | 0 | Sq. Foot | | |
| 7g | 5,000-gallon Frac Tank | 0 | Day | | |
| 7h | Air Monitoring | 2 | Day | | |
| 8 | Site Restoration | | | | |
| 8a | 22a Gravel | 2 | Ton | | |
| 8b | Crushed Limestone | 0 | Ton | | |
| 8c | Asphalt Paving (4" Thick) | 0 | Sq. Foot | | |
| 8d | Concrete | 0 | cubic yard | | |
| 8e | 2" Topsoil and Seeding | 500 | Sq. Foot | | |
| | Subtotal Construction | | | | |
| 9 | Mobilization, Demobilization and General Conditions | % of construction | | | |
| | Subtotal Design & Construction (D&C) | | | | |

| | | |
|---------------------|--|----|
| TOTAL PROJECT COST: | | \$ |
| Management | | \$ |
| Design | | \$ |
| Construction | | \$ |





Example Well/Boring Log

SOIL BORING LOG/MONITORING WELL CONSTRUCTION DIAGRAM

| | | | | | |
|---|--|-----------------------|----------------------|---------------------------|---------------------|
| Elev. Datum: TOC MW-1 assumed 100.00 | | | Lat: 45.678909009 | | |
| Grd. Elev: 94.78 | | T.O.C.: 97.78 | T.O.S.: 91.5 | | Long: -88.889709798 |
| SWL: 6 ft bgl | | Well Depth: 16 ft bgl | | Datum: NAD-83 Mich georef | |
| Casing Type: 2 in galvanized | | | Northing: 567091.230 | | |
| Screen Type: 4 ft SS 7 slot | | Screen Length: 5 ft | | Easting: 346098.018 | |
| Annulus Sealed By: SC = soil collapse 22-5; B = bentonite 5-0, C = Cement | | | | | |

| Well Const. | Annulus Seal | Lithology | Lithologic Description | Depth bgl | Sample | | Field Results PID and visual/olfactory |
|--|--------------|---|---|-----------|--------|-------|---|
| | | | | | Type | ID | |
|  | B |  | Ground Surface - Asphalt | 0 | | | |
| | |  | Sand, brown, silty, medium, dry, thin gravel zone at 3 – 3.5 ft | 1 | | | |
| | | | | 2 | | | |
| | | | | 3 | | | |
| | | | | 4 | | | |
| | | | | 5 | Soil | 4-5 | 80 ppm PID slight staining and old petroleum odor |
|  | |  | Clay, brown, silty, moist | 6 | | | |
| | | | | 7 | | | |
| | | | | 8 | | | |
| | | | | 9 | soil | 7-9 | 130 ppm PID |
| | | | | 10 | | | |
|  | SC |  | Sand, grey, silty, medium, saturated, more silt with depth | 10 | | | |
| | | | | 11 | | | |
| | | | | 12 | | | |
| | | | | 13 | | | |
| | | | | 14 | | | |
| | | | Screened at 12-16 ft. bgl | 15 | Water | 12-16 | 2500 ppm PID: Sheen, strong petro odor |
| | | | | 16 | | | |
| | | | | 17 | | | |
| | | | | 18 | | | |
| | | | | 19 | | | |
| | |  | Clay, grey, mottled, moist | 20 | | | |
| | | | | 21 | Soil | 21-22 | 4500 ppm PID sheen, strong petro odor |
| | | | | 22 | | | |
| | | | TD in clay at 22 ft | | | | |

| | | | | | |
|--------------|--|------------|----------|---------------------------|--|
| COMPANY NAME | SITE: ABC | | | BORING/WELL: MSB-1/RL-12 | |
| | ADDRESS: 12345 W. Northeast Street | | | DATE: Date | |
| | COUNTY: County Name | | | DRILLER: J. Smith | |
| | TOWNSHIP: Township Name | | | LOGGED BY: M. Smith | |
| | TOWN: 25N | RANGE: 15W | SEC.# 22 | DRILL METHOD: Direct Push | |
| | LOCATION: 50 ft. SW of SE corner of building | | | TOTAL DEPTH: 22 ft. bgl | |



Sand GreySand BrownSand CollapseClay GreyClay BrownCementSilt GreyAsphalt

ATTACHMENT A



Remediation and Redevelopment Division

Standard Operating Procedure

INSTALLATION OF A SOIL GAS PROBE/VAPOR MONITORING POINT
TO SUPPORT VAPOR INTRUSION INVESTIGATIONS

Original Date of Issuance: April 30, 2012

Revision #: 1

Revision Date:

February 1, 2013

Approved by: _____

Date: _____

2/6/13

Robert Wagner, Chief
Remediation and Redevelopment Division
Michigan Department of Environmental Quality

Written by: **Matthew Williams, Vapor Intrusion Specialist**
Superfund Section
Remediation and Redevelopment Division
Michigan Department of Environmental Quality

The information contained in this Standard Operating Procedure (SOP) is explanatory and provides direction to staff and guidance to the regulated community, but does not have the force and effect of law and is not legally binding on the public or the regulated community. The information contained in this SOP is drawn from existing manuals, various reference documents, and a broad range of colleagues with considerable practical experience and diverse educational backgrounds. This SOP outlines the generic procedures for installing a soil gas probe, vapor monitoring point, or sub-slab vapor implant. Site conditions, contaminants, and geology may require modifications of this procedure.



Installation of a Soil Gas Probe/Vapor Monitoring Point

PLEASE NOTE:

This SOP was developed based on a compilation of available information, knowledge, field experience, and general industry practices to provide guidance to the Michigan Department of Environmental Quality (MDEQ) staff and their contractors conducting investigations and remedial activities at sites with known or potential vapor intrusion issues. The SOP was created to promote a consistent, informed, and practical approach for the MDEQ staff to follow that achieves the performance standards required by Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), and Part 213, Leaking Underground Storage Tanks, of the NREPA. The methods outlined in this document will produce reliable data that can support the various decisions required throughout the environmental process.

This SOP is available as a technical reference that may be informative when conducting work at sites where vapor intrusion issues are of concern and may be used as a reference for those conducting vapor intrusion evaluations under Part 201 or Part 213. This SOP is not intended to prohibit those conducting evaluations from using means other than those specified herein to measure soil gas concentrations; however, departures from this guidance will often need to include information for a more detailed review.

The MDEQ is not responsible for the misuse or misinterpretation of the information presented herein. Please note that because the SOP was written for the MDEQ staff, it may contain references to specific equipment for field investigations that the MDEQ currently uses. Such references do not represent endorsements of particular vendors.



Installation of a Soil Gas Probe/Vapor Monitoring Point

1.0 SCOPE AND APPLICATION

This SOP describes the MDEQ's procedure for installing a Soil Gas Probe/Vapor Monitoring Point. Please note that this procedure is written for use by MDEQ staff and their contractors. Its use is optional for all others.

Soil gas samples collected less than five feet below ground surface must be referenced as shallow soil gas samples. Though these samples may provide beneficial information to support various lines of evidence, the effects due to barometric pressure, temperature, and the potential breakthrough of ambient air from the surface have the potential to cause these samples to be less reliable than soil gas samples collected at depths greater than five feet below the surface.

This SOP does not cover, nor is it intended to provide, a justification or rationale for where a sampling point is installed. It is assumed by using this SOP that site conditions have been fully evaluated and that the sampling location and depth meet the objectives outlined in the work plan or scope of work. For example, considerations must be given to the types of chemicals of concern, lithology encountered, surrounding buildings and underground structures, and the depth of the vapor source. Samples collected deeper than any potential source of vapors may not fully characterize the potential risk and sampling points should never be installed or collected within the zone of saturation.

2.0 SAMPLING POINT INSTALLATION

Prior to selecting sample locations, an underground utility search is required. Miss Dig and, if necessary, the local utility companies must be contacted and requested to mark the locations of their underground lines. Each sample location should also be screened in the field with a metal detector or magnetometer to verify that no underground utilities or structures exist.

2.1 Boring Advancement

There are many methods to advance a boring intended to install a soil gas sampling point. It is highly recommended that the methodology utilized have the following characteristics:

- Nominal in diameter (less than three inches is recommended)
- Provide minimal disturbance to the surrounding soil
- Does not inject air or water fluids
- Provides a soil core that can be screened, visibly classified, and if necessary collected for chemical analysis

A hydraulic probe is often utilized to advance a boring utilizing two different sampling devices. Those are:

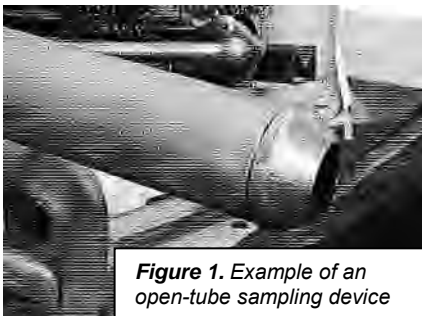


Figure 1. Example of an open-tube sampling device

- **Open-tube sampling device** – A direct push sampler for collecting continuous core samples of stable, unconsolidated materials. Although other lengths are available, a standard macro-core sampler (MC5) available from Geoprobe® is available in lengths between 48 and 60 inches with an outside diameter of 2.25 inches (Figure 1). Soil is collected inside a removable liner. Macro-core



Installation of a Soil Gas Probe/Vapor Monitoring Point

samplers are readily available and easy to use in most unsaturated soil conditions to at least ten feet below ground surface.



Figure 2. Example of a dual-tube sampling device

- **Dual-tube sampling system** – Dual-tube sampling systems are efficient methods of collecting continuous soil cores with the added benefit of a cased hole. Dual-tube sampling is beneficial in loose or unstable soils as a casing is advanced that prevents soil samples from falling into the boring (Figure 2).

Other methods for advancing boring include the use of hand augers, slab bars, and electric hammers. Each methodology has benefits and drawbacks and should be evaluated before a specific use is decided upon. The hydraulic probe methods identified above can be deployed in a wide variety of site conditions that allows the probe to be driven past some dense stratigraphic horizons.

2.2 Soil Gas Well Materials (General List of Materials)

Tubing – Sample probe tubing should be of a small diameter (1/8 to 1/4 inch) and made of materials that will not react or interact with target compounds. The size should also correspond to the size and construction of the sample point. Suggested materials are nylon, Teflon®, polyethylene, copper, polyvinyl chloride (PVC), or stainless steel. The choice of tubing type depends on site-specific considerations, but in general, nylon tubing is preferred as it exhibits lower adsorption rates and is more flexible and easier to work with than stainless steel



Figure 3. Vapor point examples

Soil Gas Well Screen – Screens must be less than six inches in length and configured to allow soil gas to enter along the entire length (Figure 3). This typically results in a fine mesh or screen being utilized to prevent dirt or other debris from entering into the sample tubing.

Sand Pack – The grain size of the sand pack should be sized appropriately (i.e., no smaller than the adjacent formation) and installed in a manner to minimize disruption of airflow to the sampling tip.

Bentonite – Bentonite is utilized to form a chemically resilient, low-permeability, flexible seal from above the well screen to the ground surface. In single vapor point well construction, granular

bentonite or bentonite crumbles can be utilized. If multiple well screens are to be utilized, then a coated and compressed bentonite pellet or “tablet” must be utilized (1/4 inch) to prevent any bentonite dust from sealing portions



Installation of a Soil Gas Probe/Vapor Monitoring Point

of the borehole. It must be noted that adequately sealing soil gas sampling probes is very important to minimize the exchange of atmospheric air with the soil gas and to maximize the representativeness of the sample.

2.3 Soil Gas Well Installation

The following procedure does not account for the advancement of the boring due to the number of available methodologies available; however, it is imperative that for each boring a soil boring log is completed that provides details on the soil conditions and potential contamination encountered. The procedure below starts after the boring has been advanced and may need to be modified based on the boring methodology utilized. Construction details for each point must be documented in a field log.

- A. Inspect the borehole to ensure that it has remained open and is free of water to the depth where the well screen is to be placed.
- B. Place four to six inches of sand pack on the bottom of the boring.
- C. Pre-assemble screen and tubing and lower into borehole in an upright position on top of the sand pack. If the boring is deep and narrow, adding a small inert weight (e.g., nut) may be utilized to facilitate the tube reaching the bottom.
- D. Cut the tubing and temporarily terminate the surface end with a Swagelok cap or other fitting to prevent debris from entering into the line.
- E. Mark tubing using tape and a ball-point pen to identify the probe location and depth. All marks should be on tags attached to the tubing and not on the tubing itself. Note: Permanent markers must not be used.
- F. Place sand pack around the screen and extend the sand pack to six inches above the top of the screen.
- G. Confirm the depth to the top of the sand pack.
- H. Record all measurements on the field log.
- I. Place one foot of dry granular bentonite or bentonite pellets on top of the sand pack.
- J. Avoid lateral movement between the tubing and the bentonite as much as possible once a point has been installed.
- K. Install bentonite pellets until six inches below the next screen interval and then hydrate with minimal water or one foot from the ground surface ensuring that the bentonite does not bridge during the placement. If an additional vapor point in the same boring is to be installed, return to Step A and repeat.
- L. Ensure that the final bentonite seal is at least 2.5 feet thick.
- M. Cut the protruding lengths of tubing successively shorter so the deepest sample tube is the longest length and the others progressively shorter. This is helpful if the labels on each tube are lost or illegible upon resampling.
- N. Terminate surface ends of tubes with Swagelok caps, valves, or other desired terminations.
- O. Complete all required field documentation.
- P. Unless soil gas points are to be abandoned the same day they are installed, probes must be properly secured, capped, and completed to prevent infiltration of water or ambient air into the subsurface. For surface completions, the following components may be installed, as necessary:
 - 1. Fitting for connection to above ground sampling equipment
 - 2. Protective flush-mounted or above ground well vaults; and/or
 - 3. Guard posts



Installation of a Soil Gas Probe/Vapor Monitoring Point

Examples of a single depth soil gas probe and a multi-depth or “nested” soil gas probe are shown in Figure 4. Figure 5 shows example pictures of surface completion.

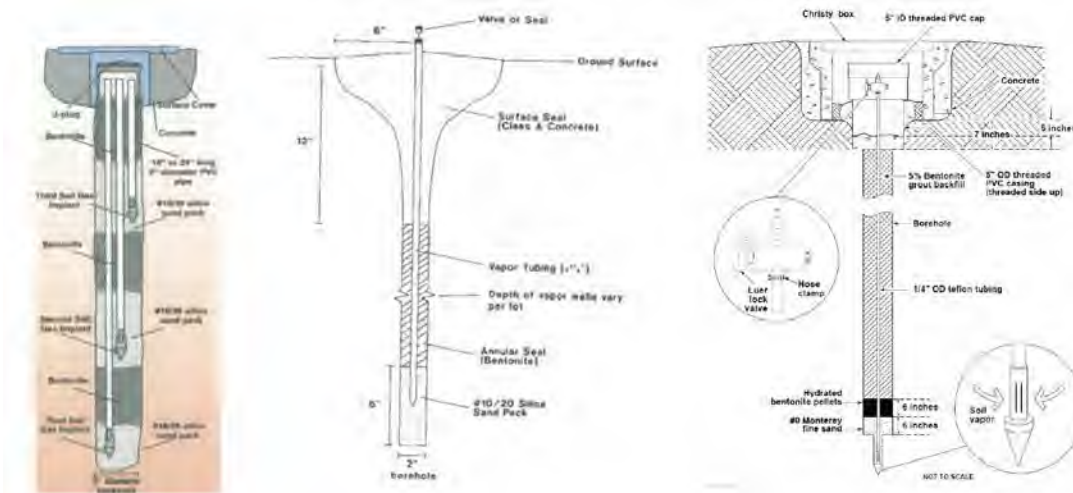


Figure 4. Examples of complete vapor monitoring points
[Hartman, 2004 (left and center) and Vonder Haar, S., 2000 (right)]



Figure 5. Examples of various surface completions for vapor wells. (Hartman, 2004)

2.4 Soil Gas Well Abandonment

All vapor monitoring wells, including those used for soil gas monitoring, must be abandoned upon completion of site activities.

Vapor wells constructed in the manner identified above and that are less than 20 feet in depth may be abandoned by removing any tubing and all surface protective covers. The boring annulus can then be backfilled with uncontaminated native material or grout and returned as close as possible to original site conditions.

If the tubing cannot be removed, the tubing should be filled with liquid grout and cut off at least one foot below the ground surface. All surface protective covers must be removed and the boring annulus backfilled with uncontaminated native material or grout and returned to as close as possible to original site conditions.



Installation of a Soil Gas Probe/Vapor Monitoring Point

3.0 SOIL BORING LOGS AND VAPOR COMPLETION DIAGRAM

Boring logs and diagrams may be completed utilizing a variety of programs. The following information must be included for every vapor point installed:

- Project information
- Boring location
- Date Installed
- Total depth
- Project personnel including drilling contractor, driller, and geologist
- Drilling method
- Boring diameter
- Soil sampler utilized for lithology
- Sample recovery
- Soil description
- Field screening performed
- Samples sent for analysis
- Unified soil classification system classification
- Boring coordinates (state plane)
- A diagram representing installed sampling point that includes:
 - Surface completion
 - Bentonite seal used
 - Probe and screen construction materials and specifications
 - Depth of all installed materials including screen, bottom of screen, sand pack, tubing, and various bentonite seals

4.0 REFERENCES

Hartman, B., 2004. Vapor Monitoring Wells/Implants Standard Operating Procedures.

Vonder Haar, S., 2000. ERD SOP 1.10: Soil Vapor Surveys - Revision: 4.

ATTACHMENT B



Remediation and Redevelopment Division

Standard Operating Procedure

**INSTALLATION OF A SUB-SLAB SOIL GAS PROBE/VAPOR MONITORING POINT
TO SUPPORT VAPOR INTRUSION INVESTIGATIONS**

Original Date of Issuance: April 30, 2012

Revision #: 1

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February 1, 2013

Approved by: _____

Date: _____

2/16/13

Robert Wagner, Chief
Remediation and Redevelopment Division
Michigan Department of Environmental Quality

Written by: **Matthew Williams, Vapor Intrusion Specialist**
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Michigan Department of Environmental Quality

The information contained in this Standard Operating Procedure (SOP) is explanatory and provides direction to staff and guidance to the regulated community, but does not have the force and effect of law and is not legally binding on the public or the regulated community. The information contained in this SOP is drawn from existing manuals, various reference documents, and a broad range of colleagues with considerable practical experience and diverse educational backgrounds. This SOP outlines generic procedures for installing a soil gas probe, vapor monitoring point, or sub-slab vapor implant. Site conditions, contaminants, and geology may require modifications of this procedure.



Installation of a Sub-Slab Soil Gas Probe/Vapor Monitoring Point

PLEASE NOTE:

This SOP was developed based on a compilation of available information, knowledge, field experience, and general industry practices to provide guidance to the Michigan Department of Environmental Quality (MDEQ) staff and their contractors conducting investigations and remedial activities at sites with known or potential vapor intrusion issues. The SOP was created to promote a consistent, informed, and practical approach for the MDEQ staff to follow that achieves the performance standards required by Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), and Part 213, Leaking Underground Storage Tanks, of the NREPA. The methods outlined in this document will produce reliable data that can support the various decisions required throughout the environmental process.

This SOP is available as a technical reference that may be informative when conducting work at sites where vapor intrusion issues are of concern and may be used as a reference for those conducting vapor intrusion evaluations under Part 201 or Part 213. This SOP is not intended to prohibit those conducting evaluations from using means other than those specified herein to measure soil gas concentrations; however, departures from this guidance will often need to include information for a more detailed review.

The MDEQ is not responsible for the misuse or misinterpretation of the information presented herein. Please note that because the SOP was written for the MDEQ staff, it may contain references to specific equipment for field investigations that the MDEQ currently uses. Such references do not represent endorsements of particular vendors.



Installation of a Sub-Slab Soil Gas Probe/Vapor Monitoring Point

1.0 SCOPE AND APPLICATION

This SOP describes the MDEQ's procedure for installing a sub-slab soil gas probe/vapor monitoring point. Please note that this procedure is written for use by MDEQ staff and their contractors. Its use is optional for all others.

Sub-slab soil gas samples are vapor samples collected within two feet of the floor of the lowest point of the structure and must be referenced as sub-slab soil gas samples. Though these samples may provide beneficial information to support various lines of evidence, the effects due to barometric pressure, temperature, and the potential breakthrough of ambient air from the surface have the potential to cause these samples to be less reliable than soil samples collected at depths greater than five feet below the surface.

This SOP does not cover, nor is it intended to provide, a justification or rationale for where a sampling point is installed. It is assumed by using this SOP that site conditions have been fully evaluated and that the sampling location and depth meet the objectives outlined in the work plan or scope of work. For example, considerations must be given to the types of chemicals of concern, lithology encountered, surrounding buildings and underground structures, and the depth of the vapor source.

2.0 SAMPLING POINT INSTALLATION

2.1 Boring Advancement

Borings should be through the use of a rotary hammer drill. The specific drill utilized must be capable of utilizing the drill and coring bits identified by the SOP (see below) as well as be of sufficient size to penetrate the expected thickness of concrete present.

2.2 Sub-Slab Point Well Materials (General List of Materials)

| | |
|----------------------|---|
| Tubing: | 1/4 inch diameter x 0.35 inch wall thickness stainless steel tubing for implant |
| Screen (optional): | 3 inch stainless steel implant with 1/4 inch stainless steel compression fittings |
| Misc: | Mini SST ball-valve adapter, rubber shaft plug, top plug, hose barb, 3/4" diameter bottle brush, compression fittings |
| Expendable supplies: | Neat cement, bentonite, or volatile organic compounds (VOC)-free plumbers putty or modeling clay |
| Surface termination: | Various surface terminations are available and the selection often depends on whether the probes are temporary or permanent and whether they need to be installed flush with the surface. This SOP utilizes products available from AMS, Inc. |
| Tools: | Shop-Vac® with HEPA filter (optional) Rotary hammer drill 1 inch x 16 inch x 21 inch SDS max bit 2 inch x 3 inch x 16 inch SDS max core bit 50 cubic centimeter (cc) syringe |



Installation of a Sub-Slab Soil Gas Probe/Vapor Monitoring Point

2.3 Sub-Slab Vapor Probe Installation Protocol



Figure 1. Hammer Drill



Figure 2. Inner & Outer Holes

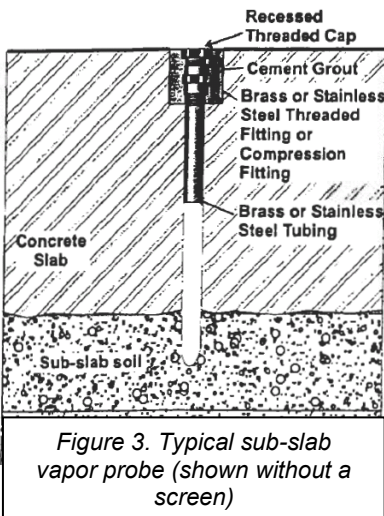


Figure 3. Typical sub-slab vapor probe (shown without a screen)

1. Prior to drilling holes in a foundation or slab, contact local utility companies to identify and mark utilities coming into the building from the outside (e.g., gas, water, sewer, refrigerant, and electrical lines). Consult with a local electrician and plumber to identify the location of utilities inside the building.
2. Prior to fabrication of the sub-slab vapor probes, use the rotary drill and the **two inch diameter drill bit** to create a shallow (e.g., 1/4 to 1/2 inch in depth) outer hole that **partially** penetrates the slab (Figure 1). This outer hole will allow the protective cap to be flush with the concrete surface.
3. Brush the hole with a bottle brush and use the small portable vacuum cleaner to remove cuttings from the outer hole.
4. Use the rotary hammer drill and the **one inch drill bit** to create a smaller diameter "inner" hole through the remainder of the slab and at least 6 inches into the underlying soil to form a void in the sub-slab material. Figure 2 illustrates the appearance of the "inner" and "outer" holes from the surface. Drilling into the sub-slab material will create an open cavity which will prevent obstruction of probes during sampling by small pieces of gravel.
5. Brush the hole with a bottle brush and use a small portable vacuum cleaner to remove cuttings from the hole. Cuttings should be removed prior to advancing completely through the cement as much as possible. Once through the slab, care should be taken to minimize the amount of vacuum applied beneath the slab.
6. Determine the thickness of the slab and record the measurement.
7. Assemble the vapor point using the basic design of a sub-slab vapor probe illustrated in Figure 3.



Installation of a Sub-Slab Soil Gas Probe/Vapor Monitoring Point



Figure 4. Complete Vapor point

8. Place the assembled vapor point (Figure 4) into the hole and ensure the screen, if utilized, extends beyond the concrete and the top of the probe will be completed flush with the slab once the tamper resistant cap is applied, so as not to interfere with day-to-day use of the buildings. Cut tubing if necessary (Figure 5).
9. Confirm the fit of the rubber shaft plug to the sides of the boring. It should be snug and no gaps present. If additional thickness is necessary, VOC-free plumbers putty or modeling clay can be added to the sides of the rubber.
10. Mix quick-drying Portland cement with water to form slurry. Portland cement may expand upon drying. Points installed for a single sampling event may use VOC-free plumbers putty or modeling clay.



Figure 5. Cut tubing

11. Inject the Portland cement with a 50 cc syringe or push into the annular space between the probe and outside of the "outer" hole (Figure 6) until filled (Figure 7). If a tamper-resistant cap is to be used the cement should be left $\frac{1}{4}$ " below the concrete surface.
12. Complete installed vapor point with a plug (Figure 8) or tamper-resistant cap (Figure 9).
13. Allow cement to cure for at least 24 hours prior to sampling. The time may be adjusted if quick-drying cement is utilized.



Figure 6. Seal annular space



Figure 7. Seal complete



Figure 8. Plug



Figure 9. Tamper-resistant cap



Installation of a Sub-Slab Soil Gas Probe/Vapor Monitoring Point

2.4 Abandonment

All vapor monitoring wells, including those used for soil gas monitoring, must be abandoned upon completion of site activities.

Vapor wells constructed in the manner identified may be abandoned by removing any tubing and all surface protective covers. The boring annulus can then be backfilled with uncontaminated native material or grout and returned as close as possible to the original site conditions.

If the tubing cannot be removed, the tubing should be cemented in place. All surface protective covers must be removed and returned to as close as possible to original site conditions.

3.0 SOIL BORING LOGS AND VAPOR POINT COMPLETION INFORMATION

Boring logs and diagrams must be completed. A variety of programs may be utilized; however, the following information must be included for every sub-slab vapor point installed:

- Project information
- Boring location
- Date installed
- Total depth
- Thickness of concrete
- Project personnel including drilling contractor, driller, and geologist
- Boring diameter
- Soil description (if identified)
- Field screening performed
- A diagram representing installed sampling point that includes:
 - Surface completion
 - Seal used
 - Probe and screen construction materials and specifications
 - Depth of all installed materials including screen, bottom of screen, sand pack, and tubing

4.0 REFERENCES

Though not specifically referenced, the SOP is based upon the following:

DiGiulio, Dominic. DRAFT Standard Operating Procedure (SOP) for Installation of Sub-Slab Vapor Probes and Sampling Using EPA Method TO-15 to Support Vapor Intrusion Investigations. United States Environmental Protection Agency, Office of Research and Development, National Risk Management Research Laboratory, Ground-Water and Ecosystem Restoration Division, Ada, Oklahoma.

Hartman, B., 2004. Vapor Monitoring Wells/Implants Standard Operating Procedures.

ATTACHMENT C



Remediation and Redevelopment Division

Standard Operating Procedure

SAMPLING UTILIZING USEPA METHOD TO-15
VIA
BOTTLE-VAC® TO SUPPORT
VAPOR INTRUSION INVESTIGATIONS

Original Date of Issuance: April 30, 2012

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Approved by: Robert Wagner

Date: 2/6/13

Robert Wagner, Chief
Remediation and Redevelopment Division
Michigan Department of Environmental Quality

Written by: **Matthew Williams, Vapor Intrusion Specialist**
Superfund Section
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Michigan Department of Environmental Quality

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Sampling Utilizing USEPA Method TO-15 Via Bottle-Vac[®]

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Sampling Utilizing USEPA Method TO-15 Via Bottle-Vac®

1.0 SCOPE AND APPLICATION

This SOP describes the MDEQ's procedure for collecting a vapor sample through either a soil gas probe/vapor monitoring point and/or sub-slab monitoring point for the analysis of volatile organic compounds (VOCs) by the United States Environmental Protection Agency Method TO-15 (USEPA, 1999). Please note that this procedure is written for use by MDEQ staff and their contractors. Its use is optional for all others.

This SOP does not cover, nor is it intended to provide, a justification or rationale for where a sampling point is installed. It is assumed by using this SOP that site conditions have been fully evaluated and that the sampling location and depth meet the objectives outlined in the work plan or scope of work. Considerations must be given to the types of chemicals of concern, lithology encountered, and the depth of the vapor source. Samples collected deeper than any potential source of vapors may not fully characterize the potential risk and sampling points should never be installed or collected within the zone of saturation.

The Method TO-15 in this procedure has been modified for use with one-liter Bottle-Vac® samplers by Entech Instruments, Inc. Bottle-Vacs® are utilized by the MDEQ's Laboratory in all soil gas sampling applications. Bottle-Vac® has been shown by internal testing performed by the MDEQ Laboratory to be reliable for both holding times and reporting requirements in soil gas sampling applications.

2.0 SOIL GAS COLLECTION

Most vapor wells are installed at relatively shallow depths (less than ten feet below ground surface) so minimum purge volumes and low-volume samples must be performed to minimize potential breakthrough from the surface or between sampling intervals. Tracer/leak gas is necessary to ensure breakthrough does not occur and that a leak does not occur at any fitting above grade. Samples must not be collected after any rain event and until site conditions (including moisture content) return to typical site conditions.

Samples from wells with multiple points installed must not be collected simultaneously and approximately 30 minutes must elapse between each sampled interval which should be documented on the field log. Sample flow rates are not to exceed 200 milliliters per minute (ml/min) to minimize the potential for vacuum extraction of contaminants from the soil phase. Volumes of various tubing sizes are provided in Table 1 in order to aid in calculating purge volumes.

| Table 1 Volumes for Select Tubing Sizes | |
|--|--------------------------------------|
| <i>Tubing Size</i> <i>(inches ID)</i> | <i>Volume/ft.</i> <i>(liters)</i> |
| 3/16 | 0.005 |
| 1/4 | 0.010 |
| 1/2 | 0.039 |

Care must be used during all aspects of sample collection to ensure that sampling error is minimized and high quality data are obtained. Care must also be taken to avoid excessive purging prior to sample collection and prevent pressure build-up in the enclosure during introduction of the tracer gas. Inspection of the installed sample probe, specifically noting the integrity of the surface seal and the porosity of the soil in which the probe is installed, will help to determine the tracer gas setup. The sampling team must avoid actions (e.g., fueling vehicles, using permanent marking pens, and wearing freshly dry-cleaned clothing or personal fragrances) which could potentially cause sample interference in the field.



Sampling Utilizing USEPA Method TO-15 Via Bottle-Vac®

IMPORTANT SAMPLING NOTES:

- An initial vacuum test must be performed on each point. This is done by attaching a 50-ml syringe and pulling back on a point to ensure that the point is able to provide adequate vapor without obtaining a vacuum. If a point is installed in which the syringe cannot be withdrawn without generating a vacuum, the sampling point may not be valid and may need to be replaced.
- If water droplets are observed in the tubing or in a Bottle-Vac®, the sampling crew must note the presence of water on the sample label and Chain of Custody and recollect the sample.
- Bottle-Vac® must remain out of the sun and not placed on ice or chilled.
- Collected Bottle-Vac® samples must be stored at room temperature and not left in a hot vehicle or freezing vehicle.
- Label all samples with the label provided by the lab using a ballpoint pen. *Do not use a Sharpie!*
- Wash hands or replace sampling gloves between samples to ensure the leak/tracer compound is not on your fingers when connecting fittings.
- Disposable equipment and supplies must not be used for multiple sampling points.
- *Do not write* on boxes provided by the MDEQ Laboratory.
- *Do not remove* the green tape from the flow regulator. Do not adjust; the flow regulator has been calibrated to the correct flow rate of 100 to 200 ml/min.
- The MDEQ provides a dedicated regulator for each sample that is collected. The ID of each regulator should be referenced on the sampling form and any issues reported to the MDEQ Laboratory.

2.1 Soil Gas Collection General List of Materials

The equipment required for soil gas sample collection is as follows:

| | |
|---|---|
| <p>Tooling and Supplies</p> <ul style="list-style-type: none">• Bottle-Vac® (one per location)• Regulated flow meter assembly set to a maximum of 200 ml/min (one per location)• 1/4 inch tubing (suggested materials are nylon, Teflon® polyethylene, or similar) and assorted fittings• Plastic housing for using tracer gas• 50 ml syringe (for purging)• Camera• Adjustable crescent wrenches, small to medium size, and/or open end combo wrenches 9/16 to 1/2 inch• Scissors/snips to cut tubing• Ballpoint pens• Nitrile gloves• Compound to be used as tracer gas - lab grade helium | <p>Flow Meters and Detectors:</p> <ul style="list-style-type: none">• Flow regulator with vacuum gauge. Flow regulators provided by the MDEQ Laboratory are pre-calibrated to a specified flow rate (e.g., 100 ml/min).• Photoionization detector (with appropriate lamp)• Helium detector• Methane meter for petroleum sites that is capable of also measuring percent of methane (CH₄), carbon dioxide (CO₂), and oxygen (O₂)• Optional meter to measure %LEL of methane <p>Forms:</p> <ul style="list-style-type: none">• Chain of Custody forms• Soil gas sample collection log (example attached)• Field notebook |
|---|---|



Sampling Utilizing USEPA Method TO-15 Via Bottle-Vac®

2.2 Soil Gas Tracer Compounds

A leak in the sampling assembly may allow ambient air into the system and dilute the soil gas results (Benton, 2007). Therefore, tracer gases must be utilized during the collection of soil gas samples to verify that the sample collected is from the installed sampling point. The presence of a tracer compound, whether liquid or gaseous, can confirm a leak in the sampling train and the usability of the sample will need to undergo further evaluation.

Careful thought and consideration must be used when choosing a leak check compound as a tracer as each compound utilized can have specific benefits and drawbacks that should be considered. Figure 1 depicts a typical sub-slab sampling setup utilizing helium as a tracer gas. Though other compounds may be utilized, the MDEQ Laboratory has identified a preference for helium.

Helium used as a tracer gas beneath a shroud as shown in Figure 1 allows for the screening of the sampling train in the field. The use of a field meter capable of detecting helium may be able to resolve and correct any leaks by reevaluating the sampling train and retightening all fittings prior to collecting the sample for analysis. If a leak has been detected and is unable to be resolved, the sampling point may need to be decommissioned and a new one installed. Lab grade helium must be utilized to eliminate possible contribution issues as helium available at general merchandise stores may contain secondary contaminants such as benzene (Figure 2).

Understanding the relationship between a leak and the concentration detected of the tracer gas used to check for leaks, the potential for absorption of the tracer gas (i.e., helium) onto sample train tubing, and the potential for interference by the tracer gas compound with VOCs is important in answering the data usability. An ambient air leak up to ten percent may be acceptable if quantitative tracer testing is performed. Otherwise, the soil gas vapor well should be decommissioned if the leak cannot be corrected. Replacement vapor wells should be installed at least five feet from the location where the original vapor well was decommissioned due to a confirmed leak.



Figure 1. Sampling shroud being pressurized with helium.



Figure 2. Use Ultra High Pure (UHP) grade helium to avoid background contaminants.



Sampling Utilizing USEPA Method TO-15 Via Bottle-Vac®

2.3 Sample Collection Procedure



Figure 3. Sampling equipment.

1. Allow for subsurface conditions to equilibrate and vapor concentrations to stabilize after vapor point installation:
 - Do not conduct the purge volume test, leak test, and soil gas sampling for at least 45 minutes.
 - Do not conduct the purge volume test, leak test, and soil gas sampling for at least 48 hours after vapor probe installation with augers.
 - Do not conduct the purge volume test, leak test, and soil gas sampling after any rain event until site conditions return to normal.
2. Assemble the aboveground sampling equipment which consists of new connector tubing, a designated regulated flow meter assembly including pressure gauge for each sample, purging equipment, and Bottle-Vac® (Figure 3).
3. Place the completed sampling label on the Bottle-Vac®.



Figure 4. Connect sampling line to point.



Figure 5. Connect regulator to sampling line.



Figure 6. Connect regulator assembly to shroud.

4. Connect the above ground sampling line to the vapor monitoring point (Figure 4).
5. Connect the regulated flow meter assembly to sampling line (Figure 5).
6. Connect the regulated vapor flow meter assembly to the sampling shroud (Figure 6).
7. Calculate volume of air contained within the vapor point and sampling assembly up to the point where the sample will be collected and record on the field sampling form.
8. Check all sampling system connections and fittings for tightness and/or obvious deterioration.



Sampling Utilizing USEPA Method TO-15 Via Bottle-Vac®



Figure 7



Figure 8



Figure 9

9. Run all sampling lines through the helium shroud and place the enclosure on the ground (Figure 7). It may be appropriate to seal the enclosure to the ground using VOC-free plumbers putty, modeling clay, or hydrated bentonite.
10. Connect the sampling port line to the outside of shroud, making sure that the valve is closed (Figure 8).
11. Connect the helium cylinder to the tracer gas port. Opening the valve on the line from helium to the shroud, begin the flow of helium into the enclosure (Figure 9).



Figure 10



Figure 11

12. Confirm that the enclosure contains helium through the use of the helium detector.
13. Connect a 50 cubic centimeter (cc) syringe to the sampling port line and purge at least three volumes of air from the sampling system (Figure 10). After purging is complete, close the valve to the sampling line, disconnect the syringe, and close valve to the helium cylinder.
14. Calibrate the helium detector and zero for existing site conditions.
15. Connect the helium detector to the sampling port, collect, and record a reading (Figure 11).
16. If helium is detected, return to Step 5 and repeat process until no helium is detected. If a leak is unable to be resolved, the sampling point may need to be decommissioned and a new one installed.
17. Reaffirm that the enclosure contains helium through the use of the helium detector. If helium is not detected in the sampling enclosure, identify how the helium is leaving the enclosure and return to Step 6 and seal the enclosure as appropriate.



Sampling Utilizing USEPA Method TO-15 Via Bottle-Vac®



Figure 12



Figure 13

18. Disconnect or remove the sampling lines from the sampling enclosure leaving the flow regulator assembly and the lines connecting it into the sampling point in place (Figure 12).
19. Open the valve on sampling line.
20. Immediately connect the flow regulator assembly to the Bottle-Vac® using the quick connect adaptor and record the start time and vacuum gauge reading (Figure 13). The vacuum gauge should register about -28 millimeters mercury when it is first attached.
21. Check every two minutes and record the time at which the vacuum gauge reaches 0 pounds per square inch.
22. Calculate and confirm that the sampling rate is less than 200 ml/min. Record the flow regulator number on the sampling form and note any sampling discrepancies in the field notes and sampling form.
23. Disconnect the quick connect adaptor from the Bottle-Vac® and place paraffin on the top of the Entech Micro-QT® Valve.
24. Confirm the container has the proper label with the sample identification information.
25. Remove the flow regulator from the tubing and record the regulator number on the sampling form.
26. Complete the air volatiles request form. Be sure to circle Bottle-Vac® in the upper right.
27. Return everything including the Bottle-Vac®, adaptor, vacuum gauge, flow regulator assembly, and notes on equipment issues to the MDEQ Laboratory for analysis, cleaning, and calibration.



Sampling Utilizing USEPA Method TO-15 Via Bottle-Vac®

3.0 QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES AND FIELD RECORDS

The Quality Assurance/Quality Control (QA/QC) procedures are an integral part of any sampling activities. The most important QA/QC procedures in collecting soil gas sampling are ensuring that the samples are representative of the subsurface conditions. For soil gas sampling, that means the QA/QC program identify procedures that verify that the sample is properly collected. Recording the pressure reading throughout the process is a critical component. Unlike soil or groundwater sampling, most of the containers and sampling devices utilized for sampling are verified clean. Upon request, the laboratory can provide laboratory batch cleaning results.

Trip blanks are typically not collected due to the sampling process and sampling devices that prevent the intrusion (or introduction) of air or other media into the sampling device. In addition, the failure of one flow regulator sampling assembly on a specific Bottle-Vac® does not provide an indication that any of the other sampling assemblies or Bottle-Vacs® have failed. Sampling blanks for soil gas sampling equipment including tubing and fittings may be collected if the source of the material is unknown or suspected to be contaminated.

Duplicate samples including blind duplicates are recommended to be collected to verify laboratory procedures and should include the collection of at least one field duplicate per sampling event or one per 20 samples, whichever is greater. When collecting duplicate samples in the field, it is imperative that the duplicate samples are collected simultaneous to collection of the primary sample using a sampling tee and at a combined sample rate to not exceed 200 ml/min from each point. Laboratory duplicate samples can also be collected from the same sampling Bottle-Vac® if the duplicate is not required to be a blind sample.

3.1 Soil Gas Sampling Record

The following information should be recorded in a field notebook or on sampling forms similar to those shown in Attachment 1 to document the procedures utilized at a specific site to collect soil gas data. In general, the fields should include the following information:

1. Sample identification information including the locations and depths at which the samples were collected, sample identifiers, date, and time
2. Identify the field personnel involved in the sample collection
3. Weather conditions (e.g., temperature, wind speed, barometric pressure, precipitation, etc.)
4. Sampling methods, devices, and equipment used
5. Purge volumes prior to sample collection. Relate the purge volumes to the volume of the sampling equipment, including the tubing connecting the sampling interval to the surface.
6. Volume of soil gas extracted (i.e., volume of each sample)
7. Vacuum of canisters before and after samples collected
8. Tracer gas utilized and whether it is a liquid or a solid
9. Field screening of any tracer gas



Sampling Utilizing USEPA Method TO-15 Via Bottle-Vac®

4.0 REFERENCES

Benton, Diane and Shafer, Nathan. 2007. Evaluating Leaks in a Soil Gas Sample Train, Paper #45 Extended Abstract, Air Toxics, Ltd.

United States Environmental Protection Agency. 1999. Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. Compendium Method TO-15 Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed By Gas Chromatography/Mass Spectrometry (GC/MS). Center for Environmental Research Information, Office of Research and Development, United States Environmental Protection Agency. Document No. EPA/625/R-96/010b.

STATE OF MICHIGAN

DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
State Facilities Administration
Design and Construction Division

3111 West St. Joseph Street

Lansing, MI 48917

ADDENDUM NO. 1

TO: All applicants and interested parties

DATE: April 21, 2022

SUBJECT: Department of Technology, Management and Budget
2022 Tank and Soil Removal ISID RFP
Design-Build Services
Various Locations, Michigan
Request for Proposal

Please acknowledge receipt of this Addendum in your proposal.

QUESTIONS

The following questions have been compiled to clarify answers to questions in portions of the RFP package:

- Q1. For Line Item 2g – Monitoring Well Abandonment, would monitoring well abandonment using bentonite crumbles be acceptable instead of bentonite grout?**
- A1. If there is 20' or less of groundwater in the well casing bentonite pellets may be used to abandon the well. If there is more than 20' of groundwater in the well casing, the contractor shall use Pell Plug to seal and abandon the well.*
- Q2. Under Line Item 4 – UST System Removal and Disposal, the Scope of Work calls for backfill to be compacted to 95%. Is a standard or modified proctor test required for the density testing?**
- A2. Modified proctor test.*
- Q3. If the contractor is responsible for backfilling and compacting the excavation with approved material, and excavated contaminated soil tonnage will be determined from a certified scale, why is the backfill tonnage also required from a certified scale? Can that requirement be waived?**
- A3. No*

- Q4. On Page 7 of the RFP, (Section II-5) the DB Entity Questionnaire is referenced as Attachment V. Please clarify that the Questionnaire for Professional Services is supposed to be Attachment V.?**
- A4. Confirmed but also attached as fillable form document.*
- Q5. Some information requested in the Section II Proposal Format-Part I Technical (page 5) is redundant with information requested in the Questionnaire for Professional Services. (Example the request for a staff organization chart(s), and references). Please clarify if similar information is to be included in both the Questionnaire and in Sections II-1 through II-5 following the proposal format?**
- A5. There is no need to provide the same information more than once. You can just reference the location(s) of the provided information if requested more than once.*
- Q6. Section II-3, page 6 of RFP: Please confirm that the table to include information (a-f) is the table labeled "Position, Classification and Employee Billing Rate."**
- A6. Confirmed.*
- Q7. Page 6, Section 4.12 of the Questionnaire states: "Describe how you would coordinate your work on a project where the sampling will be provided by State of Michigan employees." Is this suggesting that the sampling plan will be provided, or that sampling will be completed by State employees? Please clarify**
- A7. Sampling of all media (soil, groundwater, soil vapor) will be completed by the contractor. State of Michigan project managers may choose to split some samples with the contractor which the project manager will collect and arrange for analysis.*
- Q8. A Total Project Cost is requested at the bottom of the Unit Pricing Bid form. Are you requesting that this be completed (a sum of all unit pricing) in addition to the Total Cost requested at the bottom of the Example Site Bid form?**
- A8. No. Just fill out the "Unit Price" Columns.*
- Q9. Please clarify which items on the Unit Rate sheet should include "Design" vs. "Management"?**
- A9. See A8 Above.*
- Q10. Are forms III-2-B through III-2-D to include totals from the Unit Price Sheet or from the ISID Example Site? If from the Unit Price Sheet, how do we account for multiple line items under each category (Example – various tank sizes)?**
- A10. Submittal of Forms III-2-B through III-2-D are not required for this RFP. They are provided as information and may be required only at the time a proposal for an individual assigned project is requested.*
- Q11. Do we assume drum cost, transportation and disposal for drilling cuttings and purge water is covered under the monitoring well installation? Or will these items be billed under Waste Characterization and Disposal Section 6?**
- A11. It will be billed under Waste Characterization and Disposal Section 6.*

Q12. Is site restoration after monitoring well abandonment cost to be included in Line item 2g. Monitoring Well Abandonment or under Section 8 Site Restoration?

A12. Line Item 2g - Monitoring Well Abandonment.

Q13. What line item does Private Utility Locate fall under?

A13. Item 2b – Excavation Plans/Drawings.

Q14. Does the probe rod diameter have to be 4.25” on Monitoring Wells Installation – Geoprobe? Or can Geoprobe Rods have diameter of 3.25”?

A14. 4.25” diameter Geoprobe rods will be required for the installation of monitoring wells.

Q15. Well Installation – Are we using Bentonite Pellets or is Bentonite Chips allowed?

A15. Bentonite pellets or Pell Plug can be used in place of grout in the annular space.

Q16. For Well Installation – Is grout required or optional

A16. Bentonite pellets or Pell Plug can be used in place of grout in the annular space.

Q17. What line item should the collection of top of casing, survey measurements be included under?

*A17. 2h for Hollow Stem Auger monitor well installation
2j for Geoprobe monitor well installation*

END OF ADDENDUM NO. 1

STATE OF MICHIGAN

DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET

State Facilities Administration

Design and Construction Division

3111 West St. Joseph Street

Lansing, MI 48917

ADDENDUM NO. 2

TO: All applicants and interested parties

DATE: May 10, 2022

SUBJECT: Department of Technology, Management and Budget
2022 Tank and Soil Removal ISID RFP
Design-Build Services
Various Locations, Michigan
Request for Proposal

Please acknowledge receipt of this Addendum in your proposal.

QUESTIONS

The following question has been added to clarify answers to questions in portions of the RFP package:

Q1. According to Section IV.2.19 and APPENDIX VI.2, it appears that Davis Bacon Act (“Prevailing Wages”) apply to the Construction work performed under the Contract. As you know, Prevailing Wage rates are set by each county. Furthermore, the Contract is for a period of 2 years and Prevailing Wage Rates are adjusted every 90 days. With multiple counties in each EGLE District, how do we provide a single Unit Rate covering all of the counties in an entire District and for a period of 2 years?

A1. *Most of the assignments will not be federally funded work, and Davis Bacon Act will not apply. However, State of Michigan prevailing wage rates will apply, and each assignment will have its own prevailing wage rates. The firms will need to factor in the potentially applied prevailing wage rates into the unit rate prices for the corresponding counties/districts.*

END OF ADDENDUM NO. 2

I III

S S S



Environmental Resources Group

Assessment • Remediation • Compliance • Risk Management

PART I – TECHNICAL PROPOSAL

DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

2022 DESIGN BUILD TANK AND SOIL REMOVAL INDEFINITE SCOPE INDEFINITE DELIVERY

VARIOUS LOCATIONS, MICHIGAN

PREPARED FOR:

DEPARTMENT OF TECHNOLOGY, MANAGEMENT, AND BUDGET

STATE FACILITIES ADMINISTRATION

DESIGN AND CONSTRUCTION DIVISION

3111 WEST ST. JOSEPH STREET

LANSING, MICHIGAN 48909

PREPARED BY:

ENVIRONMENTAL RESOURCES GROUP, LLC

28003 CENTER OAKS COURT, SUITE 106

WIXOM, MICHIGAN 48393

SIGMA VENDOR NO.: CV0052614

ERG PROPOSAL NO.: 9487

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LIST OF ATTACHMENTS

- Attachment A Organizational Chart and Personnel Resumes
- Attachment B Certificate of Michigan Based Business and Certificate of Responsibility
- Attachment C DB Entity Questionnaire

1.0 GENERAL INFORMATION AND PROJECT TEAM

1.1 COMPANY HISTORY

Environmental Resources Group, LLC (ERG) is a Michigan based company that was established in 2009 to provide Environmental Consulting Services to a mix of public and private clients and has grown to 46 employees by consistently providing quality services at a competitive price and offering a full complement of environmental services. ERG provides Michigan-based resources with unique capabilities to successfully and efficiently complete the work requirements set forth in a scope of work. Today, ERG's qualified staff of professionals offer a multi-disciplined, full range of in-house engineering, hydrogeologic, geophysical and field services.

ERG has significant experience providing services to the Michigan Department of Technology, Management and Budget (DTMB), Michigan Department of Environment, Great Lakes, and Energy (EGLE), United States Department of Housing and Urban Development (US HUD), Michigan State Housing Development Authority (MSHDA) and Local Agencies for over 32 years. These projects have been funded by Level of Effort (LOE), Indefinite-Scope, Indefinite-Delivery (ISID) contracts, Refined Petroleum Fund, Clean Michigan Initiative, and American Recovery and Reinvestment Act.

1.2 BUSINESS ORGANIZATION

ERG's corporate office is in Wixom, Michigan. ERG's Michigan office locations are:

Corporate Office

28003 Center Oaks Court
Suite # 106
Wixom, Michigan 48393
248-773-7986
248-924-3108 Fax

Muskegon, MI Office

75 West Walton Avenue
Suite C
Muskegon, Michigan 49440
231-747-8556
231-747-8558 Fax

Detroit, MI Office

17800 Woodward Avenue
Suite # 100C
Detroit, Michigan 48203
313-949-3770
313-279-0519 Fax

Lansing, MI Office

3125 Sovereign Drive
Suite B
Lansing, Michigan 48911
517-999-6020
248-924-3108 Fax



In addition, ERG has a satellite office in Reno, Nevada.

ERG is a corporation registered in the State of Michigan. Federal ID #45-4274942.

SIGMA Vendor NO.: CV0052614.

1.3 PROJECT MANAGERIAL TEAM

ERG will provide the Project Management function for each project. Mr. Robert T. Reichenbach, CPG, will serve as the Program Manager. His contact information follows:

Robert T. Reichenbach, CPG
President
Environmental Resources Group, LLC
28003 Center Oaks Ct., Suite # 106
Wixom, Michigan 48393
Telephone: 248-773-7986
Facsimile: 248-924-3108
Email: bob.reichenbach@ergrp.net

The Key Project Managers and office locations are as follows:

| NAME | CONTACT INFORMATION | OFFICE ADDRESS & PHONE |
|-----------------------------|--|--|
| Matt Germane, PE | matt.germane@ergrp.net | 17800 Woodward Avenue Suite # 100C Detroit, MI 48203 313-949-3770 |
| Alfred Jordan, CPG | al.jordan@ergrp.net | 75 W. Walton Ave., Suite C Muskegon, MI 49440 231-747-8556 |
| Mike Marshall | mike.marshall@ergrp.net | 75 W. Walton Ave., Suite C Muskegon, MI 49440 231-747-8556 |
| Craig A. Savage | craig.savage@ergrp.net | 28003 Center Oaks Ct., Suite # 106 Wixom, MI 48393 248-773-7986 |
| Christina C. Schroeder | christina.schroeder@ergrp.net | 28003 Center Oaks Ct., Suite # 106 Wixom, MI 48393 248-773-7986 |
| Tim F. Hebert, C.P.G., P.G. | Tim.Hebert@ergrp.net | 3125 Sovereign Drive Suite B Lansing, MI 48911 517-999-6020 |
| Phillip Peterson | phillip.peterson@ergrp.net | 3125 Sovereign Drive Suite B Lansing, MI 48911 517-999-6020 |

An Organizational Chart and resumes for the key professionals are included in Attachment A. Additional ERG staff will be involved in the completion of the proposed scopes of work and achieving the desired goals, as needed.

1.4 ADDENDUM ACKNOWLEDGEMENT

ERG acknowledges receipt of Addendum No. 1 dated April 21, 2022, and Addendum No.2 dated May 10, 2022.

2.0 UNDERSTANDING OF PROJECT TASKS

2.1 UNDERSTANDING THE PROJECT REQUIREMENTS

ERG understands that the State of Michigan Department DTMB is seeking qualified firms to provide professional environmental design-build ISID services for tank and soil removal projects. The qualified professional will be required to remove sources of contamination associated with releases from underground storage tank (UST) systems and other contaminant sources at multiple sites across the State. It is our understanding that the project objectives are to remove sources of contamination from the environment and sample effect media (soil/groundwater/soil vapor) to determine the effectiveness of the source removal actions.

ERG professionals have provided technical expertise, business insight, and regulatory knowledge on thousands of environmentally contaminated sites in Michigan following the requirements of Parts 201 and 213 of the NREPA, 1994 P.A. 451 and CERCL. ERG professionals have performed a variety of tasks on these projects, including but not limited to:

- Remedial Investigations (RI) to characterize the nature and extent of contamination, and to evaluate the potential risk to human health and the environment (Risk Assessments).
- Feasibility Studies (FS) to evaluate remedial action alternatives to select the best alternative technologies at the most economical cost.
- Conceptual Site Models (CSM) to provide a written and/or illustrative representation of the physical, chemical, and biological processes that control the transport, migration and actual/potential impacts of contamination in soil, air, groundwater, surface water and/or sediments to human and/or ecological receptors.
- Engineering Design to prepare plans, specifications and contract documents that will be used to implement the selected interim response and/or remedial action alternative.
- Construction Management (CM) to oversee the procured contractor on behalf of DTMB and contracting agency to ensure the work is completed as planned, within schedule and budget.
- Natural Resources Damage Assessments to determine which natural resources may have been impacted by the release of hazardous substances and the estimated current and future economic and other losses.
- Implementing database management, graphics capabilities, and survey tools to handle project information that can be imported into existing databases where it can be reviewed by DTMB and contracting agency staff.
- Maintaining and implementing a Quality Assurance/Quality Control (QA/QC) program to ensure quality results.
- Maintaining and implementing health and safety programs designed to train and monitor the personnel who will be working on sites of environmental contamination.

Our professionals stay current on changes to the regulations and state of the art site characterization and remediation technologies by research, technical publication review, and attending and presenting at professional development programs/workshops. ERG fully understands the importance of the work being performed under this contract including: the project is completed on schedule, within budget, in accordance with industry standards; and the desired results are achieved.

2.1.1 ERG'S COMMITMENT TO CONTRACT SUCCESS

ERG fully understands the services required, and we believe that to achieve Contract success, communication between ERG and EGLE district staff is critical. The ERG Project Managers will regularly communicate directly with district staff. The experienced ERG Project managers bring strong management skills, excellent listening skills and outstanding technical expertise. ERG is comprised of key staff members who have been involved directly or indirectly in the former and current LOE and ISID Contracts ERG has the capabilities to provide:

- Strong technical and managerial skills from individuals who are familiar with the current ISID contracting strategy, policies, and procedures. This lends itself to rapid start up and project assignment commencement.
- Proven high quality performance levels on past LOE and ISID assignments for the EGLE. This should give EGLE the assurance that selecting ERG will result in a highly competent consultant and one that will exceed the agencies' expectations.
- Extremely experienced Project Management and Support Staff are available to EGLE Project Managers to support the execution of the scope of work.

2.1.2 ERG'S ADMINISTRATIVE KNOWLEDGE

ERG will provide oversight, administrative duties and reporting on various aspects of the projects including pre-construction meetings, construction observation, pay item tracking, soil and material testing, and obtain final agency acceptance.

Construction observation and administration shall be completed as required by DTMB and EGLE.

ERG will complete the required tasks and complete contract administration for DTMB and EGLE as necessary. Functions and activities of this task include:

- Establish, maintain, and utilize a project documentation filing system.
- Process subcontracts - add subcontractor(s) to the filing system and maintain associated documentation and items.
- Import, review, and post Daily Field Reports (DFRs) and associated calculations/drawings.
- Track materials (certification/testing) and material quantities.
- Create required project performance, monitoring, and milestone reporting and monitoring records for submittal, as needed.
- Process and maintain records for contract modifications and/or work orders.
- Monitor project progress versus the planned schedule.

- Track and maintain status of miscellaneous submittals and Requests for Information.
- Balance final quantities of pay items as the project progresses.

2.1.3 ERG'S TECHNICAL KNOWLEDGE-SCOPE OF SERVICES

ERG understands the EGLE is seeking professionals to assist with the removal of sources of contamination associated with releases from UST systems. The actual number of sites is unknown. The EGLE anticipates several sites within each geographic boundary of the nine EGLE Remediation and Redevelopment (RRD) District/Field offices.

The EGLE project objectives are to remove sources of contamination including UST systems, and soil impacted by releases from the UST systems. Following removal, VSR sampling will be performed to determine the effectiveness of the removal activities. No work is to be performed in road rights-of-way, easements, utility corridors, etc. unless access agreements have been secured by the EGLE or the professional. Written and photographic documentation is required at each project site. Before and after photographs are required prior to and following work activities at each site.

Our senior professionals have an extensive record in managing small and large environmental contracts for both private and public-sector clients. Our professionals have been providing our clients with a full range of CM, RI, FS, risk-based-corrective-actions (RBCA) and expert testimony. Our capabilities match very well with the items outlined in the Scope of Work provided:

1. PROJECT ADMINISTRATION AND SITE VISIT

These items cover project management and site visits.

1A. PROJECT ADMINISTRATION

This task involves the tasks to manage the project such as meetings, invoicing, contacting MISS DIG, establishing the safe storage and handling of all equipment and supplies, preparing health and safety plans (HASPs), and if site conditions warrant, or are required by the regulating local unit of government or the Michigan Department of Transportation (MDOT), obtaining any and all required signage. Project administration will also include obtaining any permits necessary to complete site work, which may include, but are not limited to, MDOT right-of-way permits, county right-of-way permits, soil erosion and sedimentation control, landfill acceptance, and waste identification.

2. PROFESSIONAL SERVICES

These items cover all professional services work performed.

2A. SITE VISIT

This task involves time, costs, and travel expenses to physically visit the site to become familiar with site conditions.

2B. EXCAVATION PLANS AND DRAWINGS

This task includes all time, equipment, labor, and materials to develop/prepare excavation plans and drawings to ensure the professional, state project manager, and excavator operator all have a clear understanding of the work to be completed. The excavation plans should include, at a minimum, a written description of what material is being removed, what the anticipated dimensions of the excavation will be, how the banks will be stabilized, an estimated quantity of material to be removed, where the material will be disposed of, and how the actual quantity will be determined. The drawings should include, at a minimum, the excavation plan in both vertical and plan view, sloping or bank stabilization, and disposal routes.

2C. UST REMOVAL/EXCAVATION OVERSIGHT

This task includes all activities and cost needed to perform all fieldwork for construction oversight. The contractor will be required to provide documentation of the material being removed, collection of measurements for mapping, collection of any verification samples, signing of manifests on behalf of the State of Michigan, taking photographs for documentation, and providing communication to the state project manager and the construction crew(s).

2D. CONSTRUCTION/REMOVAL REPORT

This task includes all activities and cost needed to prepare and complete a detailed report discussing, documenting, and outlining all site/construction work completed. This report will include, at a minimum, text, figures, and tables to document the site activities, including contaminant removal location(s) and sample location(s). The figures shall contain “as built” drawings that will show all actual work completed on site and site features after site activities. These drawings will include, at a minimum, locations of removed UST(s) and associated piping if present, excavation outlines/locations, depths of excavation, sample locations, and any groundwater monitoring well locations. The drawings shall be submitted to the EGLE in both hard copy and an electronic copy in CADD or GIS (shapefile) format. The report shall conform to industry standards for a construction/removal report prepared by an environmental professional.

2E. NOTIFICATION OT REMOVE AND UST REGISTRATION

This task includes all activities and cost needed to register any unregistered USTs that are found onsite and provide the notification to remove the USTs to the appropriate regulatory agency. All work done under this item will be in accordance with Part 211 of the Natural Resources and Environmental Protection Act (NREPA), 1994 Public Act 451, as amended.

2F. UST REMOVAL (PART 211) SITE ASSESSMENT AND REPORTING

Includes all activities and cost needed to perform the site assessment sampling and reporting that is outlined in Part 211 of NREPA and the UST Rules, Rule R29.2155. The report will be submitted to the appropriate regulatory agency and the EGLE.

2G. MONITORING WELL ABANDONMENT

Includes all activities and cost needed to abandon any monitoring wells that may be obstructing site work or as requested by the state project manager. All monitoring wells shall be abandoned in general accordance with ASTM International Standard D5299. Assume all monitoring wells will be 2-inch diameter and the casing will be cut approximately one foot below ground. The well will be abandoned by filling the remaining space with a bentonite grout starting at the bottom of the well using a tremie pipe.

2H. MONITORING WELL INSTALLATION-HOLLOW STEM AUGER

Includes all activities and cost needed to install groundwater monitoring wells for the long-term monitoring of the groundwater. All monitoring wells shall be installed in general accordance with ASTM International Standard D5092. Assume all monitoring wells will be constructed of 2-inch polyvinyl chloride (PVC) casing and a 5-foot-long screen. The boring annulus will be filled with a sand/gravel pack to approximately one foot above the screen and the gravel pack will be topped with a 6-inch bentonite pellet collar. Above the bentonite pellet collar, the annular space will be filled with a neat cement or grout. Assume the wells will be installed with a 4.25" inner diameter hollow stem augers.

Well logs and lithologic logs, with any olfactory or visual observations of contamination, will be digitally prepared using industry standard software for all wells installed. The well logs shall be submitted to the EGLE project manager.

2I. MOBILIZATION AND DEMOBILIZATION OF HOLLOW STEM AUGER EQUIPMENT

Includes all activities and cost needed to mobilize and demobilize all equipment and support vehicles to install groundwater monitoring wells described in the section above.

2J. MONITORING WELL INSTALLATION-GEOPROBE

Includes all activities and cost needed to install groundwater monitoring wells for the long-term monitoring of the groundwater. All monitoring wells shall be installed in general accordance with ASTM International Standard D5092. Assume all monitoring wells will be constructed of 2-inch polyvinyl chloride (PVC) casing and a 5-foot-long screen. The boring annulus will be filled with a sand/gravel pack to approximately one foot above the screen and the gravel pack will be topped with a 6-inch bentonite pellet collar. Above the bentonite pellet collar, the annular space will be filled with a neat cement or grout. Assume the wells will be installed with a 4.25" inner diameter rods and according to the ASTM International Standard D6724/D6724M-16.

Well logs and lithologic logs, with any olfactory or visual observations of contamination, will be digitally prepared using industry standard software for all wells installed. The well logs shall be submitted to the EGLE project manager.

2K. MOBILIZATION AND DEMOBILIZATION OF GEOPROBE EQUIPMENT – MONITOR WELL AND SOIL VAPOR MONITORING POINT INSTALLATION

Includes all activities and cost needed to mobilize and demobilize all equipment and support vehicles to install groundwater monitoring wells, as described above, and soil vapor monitoring points in accordance with EGLE's Standard Operating Procedure for the Installation of Soil Gas Probe/Vapor Monitoring Point, revised February 1, 2013. Points will be installed beneath the concrete slab at each sub-slab sampling location using hammer drill with an 18-inch long 5/8-inch diameter bit followed by a 1.5-inch bit. The vapor pins will be installed to an approximate depth of one (1) foot below the concrete slab. Each hole will be cleaned with a vacuum and brush prior to vapor pin installation and sealed with a silicone sleeve to prevent the collection of ambient air within the sample.

2L. GROUNDWATER MONITORING AND REPORTING

Includes all activities and cost needed to conduct the fieldwork and reporting for groundwater monitoring at a site. The fieldwork shall include, but is not limited to, measuring the static water levels in the wells and top of casing elevations to the nearest 0.01 foot, purging the well, collection of a groundwater sample from the well to be analyzed for volatile organic compounds, semi-volatile organic compounds, and/or metals, collection of select geochemical parameters, and/or other parameters. Reporting shall include figures, tables, and text discussing the sampling procedure and results. At a minimum, the report shall be to industry standards for groundwater monitoring reports prepared by environmental professionals and contain a site map, a groundwater flow map, a site map with analytical results, a table summarizing static water levels, a table summarizing the current and historic analytical results, any concentration trend analysis to support site decisions, and text discussing the sampling procedure, sampling results, and analysis. The reports will be submitted to the EGLE project manager in hard copy and electronic copy if requested. If requested, all maps will be submitted to the EGLE project manager in either CADD or GIS (shapefile) format. Assume that each event there will be 10 wells sampled per sampling event and the top of casing survey will only be done once.

2M. SOIL VAPOR MONITORING POINT INSTALLATION-GEOPROBE

Includes all activities and cost needed to mobilize and demobilize all equipment and support vehicles to install groundwater monitoring wells, as described above, and soil vapor monitoring points in accordance with EGLE's Standard Operating Procedure for the Installation of Soil Gas Probe/Vapor Monitoring Point, revised February 1, 2013.

2N. SUB SLAB SOIL GAS VAPOR PIN INSTALLATION

Includes all activities and cost needed to mobilize and demobilize all equipment and support vehicles to install groundwater monitoring wells, as described above, and soil vapor monitoring points in accordance with EGLE's Standard Operating Procedure for the Installation of Soil Gas Probe/Vapor Monitoring Point, revised February 1, 2013. Vapor Pins will be installed beneath the concrete slab at each sub-slab sampling location using hammer drill with an 18-inch long 5/8-inch

diameter bit followed by a 1.5-inch bit. The vapor pins will be installed to an approximate depth of one (1) foot below the concrete slab. Each hole will be cleaned with a vacuum and brush prior to vapor pin installation and sealed with a silicone sleeve to prevent the collection of ambient air within the sample.

20. SOIL VAPOR MONITORING AND REPORTING

Includes all activities and cost needed to conduct the fieldwork and reporting for soil vapor monitoring at a site. The fieldwork shall include, checking the integrity of each vapor pin seal was evaluated for leaks using the helium chamber tracer gas method. Samples will be collected by connecting a negative-pressure vacuum bottle to the vapor pin and opening a pressure release valve, allowing the vacuum bottle to extract air from the sub-slab pore space

3. UST SYSTEM CLOSE IN PLACE

This task includes all activities and cost needed to permanently close the UST system in place by excavating, exposing, and assessing the UST and components. Liquids, sludges and vapors will be removed, and the tanks will be cleaned and filled with solid inert material

4. UST SYSTEM REMOVAL AND DISPOSAL

This task includes all activities and cost needed to excavate, remove, dismantle, and dispose of USTs of various sizes. This includes the excavation, removal, and disposal of all associated piping, pump islands, electrical, etc. with the UST. This also includes all purging and cleaning of the UST and all associated piping. This will include excavation of any soil to expose and remove the UST and all to backfill to bring the UST excavation to grade and compact the excavation. Backfill will be placed in the excavation in 1-foot lifts and should be compacted to 95% unless otherwise directed. The backfill shall be from an uncontaminated source and either certified by the owner or verified with analytical data. The backfill shall be free of debris, frozen materials, wood, vegetation, rock fragments greater than 6-inches, and soft materials unsuitable for backfill. This includes all mobilization and demobilization costs for UST removal.

5. EXCAVATION, TRANSPORTATION, AND DISPOSAL OF NON-HAZARDOUS SOIL AND EXCAVATION BACKFILL

This task includes all activities and cost needed to excavate, transport and properly dispose of non-hazardous contaminated soil at the various tonnages. This also includes the purchase, transport, placement, and compaction of backfill tonnage that is equal to tonnage requested for excavation and disposal. Backfill will be placed in the excavation in 1-foot lifts and should be compacted to 95% unless otherwise directed. The backfill shall be from an uncontaminated source and either certified by the owner or verified with analytical data. The backfill shall be free of debris, frozen materials, wood, vegetation, rock fragments greater than 6-inches, and soft materials unsuitable for backfill. The contaminated soil and backfill tonnage will be verified by a certified scale. All characterization, sampling and analytical, required for disposal approval, will be included in this bid item. This includes all mobilization and demobilization.

6. WASTE CHARACTERIZATION AND DISPOSAL

The following tasks are associated with liquid and solid waste characterization and disposal.

6A. NON-HAZARDOUS LIQUID

This includes all activities and cost needed to characterize, remove and transport non-hazardous liquid from a site, and properly dispose of in accordance with applicable laws.

6B. HAZARDOUS LIQUID

This includes all activities and cost needed to characterize, remove and transport hazardous liquid from a site, and properly dispose of in accordance with applicable laws.

6C. HAZARDOUS SOLID/SLUDGE

This includes all activities and cost needed to characterize, remove and transport hazardous soil/sludge from a site, and properly dispose of in accordance with applicable laws.

6D. 55-GALLON DRUM REMOVAL, NON-HAZARDOUS SOLID/SLUDGE

This includes all activities and cost needed to characterize, remove and transport non-hazardous soil/sludge contained in a 55-gallon drum from a site, and properly dispose of in accordance with applicable laws. The cost of the 55-gallon drum is included in this task.

6E. 55-GALLON DRUM REMOVAL, HAZARDOUS SOLID/SLUDGE

This includes all activities and cost needed to characterize, remove and transport hazardous soil/sludge contained in a 55-gallon drum from a site, and properly dispose of in accordance with applicable laws. The cost of the 55-gallon drum is included in this task.

7. MISCELLANEOUS

Other miscellaneous items are included under this task.

7A. VAC TRUCK AND OPERATOR

This task includes all activities and cost needed to remove waste liquids from a site, excavation, or other miscellaneous purposes. The costs shall also include mobilization, demobilization, all waste characterization and waste disposal costs.

7B. SITE PREPARATION, INCLUDING EXCAVATION SLOPING AND OVERBURDEN STOCKPILING

This task includes all activities and cost needed to prepare the site for source removal activities. This includes, but is not limited to, mobilization, demobilization, snow removal, vegetation clearing and grubbing, fencing, uncontaminated overburden stockpiling, and excavation sloping. This includes all activities, equipment and costs required to remove extremely dense or woody vegetation greater than 3 inches in diameter with a brush hog, disc mulcher or other comparable equipment to prepare the site for excavation. It is expected the vegetation will be chipped and

remain on site after the removal unless an alternative approach has been accepted by the state project manager.

7C. CLEARING AND GRUBBING DENSE AND WOODY VEGETATION

This task includes all activities, equipment, and costs required to remove extremely dense or woody vegetation greater than 3 inches in diameter with a brush hog, disc mulcher, or other comparable equipment to prepare the site for excavation. It is expected the vegetation will be chipped and remain on site after the removal unless an alternative approach has been accepted by the state project manager.

7D. PROVISIONARY ALLOWANCE

Provisionary allowance of \$10,000 will be included in every assignment to cover any unforeseen and unknown costs during site work. Prior to utilizing any of the provisionary allowance, a cost must be agreed upon between the contractor and the state project manager and the contractor must have written approval from the state project manager.

7E. CONCRETE DISPOSAL/RECYCLING

This task includes all activities and cost needed to remove, transport, and dispose of or recycle uncontaminated concrete from a site. This will also include mobilization, demobilization, any testing or characterization required for disposal or recycling.

7F. ASPHALT DISPOSAL/RECYCLING

This task includes all activities and cost needed to remove, transport, and dispose or recycle asphalt from a site. This will also include mobilization, demobilization, any testing or characterization required for disposal or recycling.

7G. 5,000 GALLON FRAC TANK

This task includes all activities and cost needed for transportation, daily rental, and disposal of any wastewater. This item also includes mobilization, demobilization, all characterization and any other costs required for wastewater disposal.

7H. AIR MONITORING

This task includes all activities and cost associated with placing, maintaining, and data collection from air monitoring equipment to ensure areas around spill and excavations maintain safe concentrations of contaminants in the air for both workers and the public. Assume that the air will be monitored in three locations and that the air will at least be monitored for oxygen, volatile organic compounds, hydrogen sulfide and that the air will be monitored with equipment, such as Area-RAE or other similar equipment. This will also include mobilization, demobilization, all time, labor, tools, and equipment to monitor, log, transfer, and tabulate the air monitoring data.

8. SITE RESTORATION

Upon completion of all site activities, all site features will be returned to like conditions. Unless otherwise expressed by the site owner and agreed to by the state project manager, the site will be restored to the same surface conditions.

8A. 22A GRAVEL

Includes all activities and cost to purchase, transport, place, and grade Michigan Department of Transportation specified 22a gravel. The actual quantity will be determined by a certified scale.

8B. CRUSHED LIMESTONE

Includes all activities and cost needed to purchase, transport, place, and grade crushed limestone including Mobilization and demobilization. The actual quantity will be determined by a certified scale.

8C. ASPHALT PAVING

Includes all activities and cost needed to place and compact a 2" thick base course and a 2" thick finish coarse of asphalt including Mobilization and demobilization. The asphalt paving will be on a finished square foot basis.

8D. CONCRETE

Includes all activities and cost needed to make appropriate forms, pour concrete, and finish concrete including Mobilization and demobilization. The actual thickness will be determined on a site-by-site basis, but for bidding assume the concrete will be 4-inches thick. The concrete will be on a finished square foot basis.

8E. 2" TOPSOIL AND SEEDING

Includes all activities and cost needed to purchase, transport, place, and grade 2 inches of topsoil including Mobilization and demobilization. The topsoil will be free of contaminants, debris, vegetation, and gravel. Seeding will consist of a mixture of Kentucky bluegrass, Perennial Ryegrass, and Red Fescue.

We are confident that the ERG team of professionals we have assembled is of the highest quality. ERG has consistently demonstrated that we will excel in all aspects of the services provided on these projects. ERG will strive to provide value added solutions to the EGLE, just as we do with all our clients. ERG will promote the use of sustainable practices during the investigation, construction, remediation, redevelopment, and monitoring of environmental cleanup sites, with the objective of balancing economic viability, conservation of natural resources and biodiversity, and the enhancement of the quality of life in surrounding communities.

Our philosophy of moderate overhead and operating costs, combined with the vast experience and technical capabilities of our personnel, makes ERG one of the best values for these services. ERG is

committed to making an impact beyond our projects by showing a responsibility to the community, respect for the environment and fiscal responsibility to the State of Michigan taxpayers.

3.0 PERSONNEL

3.1 ALL PERSONNEL BY CLASSIFICATION WHO WILL BE EMPLOYED ON THE PROJECT

The ERG staff identified in the provided Position, Classification, and Employee Billing Rates Table, will be involved in the completion of the proposed scopes of work and achieving the desired goals. The Position, Classification, and Employee Billing Rates Table, Organizational Chart, and resumes for the key personnel are included in Attachment A.

4.0 MANAGEMENT SUMMARY, WORK PLAN AND SCHEDULE

It is our understanding that the project objectives are to remove sources of contamination from the environment and sample effect media (soil/groundwater/soil vapor) to determine the effectiveness of the source removal actions.

ERG's management approach is based on the philosophy that the proposed team is an accountable, functional, and in-depth extension of our client, and will remain a supporting partner throughout the project's duration. The entire ERG Team, including Contract Administrator, Project Manager, and field oversight staff, will work closely with DTMB/EGLE to set goals, exchange information, identify potential problems, propose effective solutions, develop responsive schedules, assure resource availability, comply with federal and state requirements, work within budget, and share ideas on innovative and cost-effective means to support the project.

Mr. Robert Reichenbach, CPG, will act as Contract Administrator. For each site, he will assign a project manager. The ERG Project Manager (PM) will be responsible for executing the project scope, to meet the project objectives and expectations of DTMB. ERG's PM will regularly update the Agency PM on project activities/progress. ERG's PM will be responsible for identifying any project issues, bringing them to the attention of the Agency PM and identify possible resolutions for discussion. Mr. Reichenbach will monitor all aspects of the project and will confer regularly with the project manager. He will monitor ERG's performance to assure that project objectives are being met and quality is being maintained.

4.1 PROJECT WORK PLANS

A site-specific work plan will be developed prior to field activities for the review and approval of the contracting agency that will include at a minimum:

- Boring and drilling methods,
- Field screening methods
- Sample procedures and protocols for sampling soil, soil gas, and groundwater,
- Decontamination procedures
- IDW handling and disposal
- Site restoration activities
- Communication plans for assuring the professional, EGLE project manager, and triage contract manager are aware of site issues to collect the needed data

A generic work plan for these types of projects details the activities, tasks, and resources required and allocated for each objective in the Scope of Work. A schedule is included for the project objectives and activities. The work plan be provided in a timely manner for review and approval by the contracting agency.

4.2 PROJECT DELIVERABLES

The following deliverables and project reports are generally submitted to the contracting agency for review on similar projects:

1. Health and Safety Plan – Prepare a Health and Safety Plan to address the site-specific concerns for the site and scope of work, which includes COVID guidelines as defined by the CDC, EGLE, and ERG.
2. Work Plan – As described above.
3. Final Report – ERG will submit one electronic copy to the triage contract manager and EGLE district project manager as required by the contracting agency. The report will include at a minimum the following:
 - Chronological site activities,
 - Site conditions encountered before, during, and after investigation activities,
 - Daily field reports, including field sketches and boring logs,
 - Site photographs, including before work is initiated, during on-site activities (when safely feasible), and after completion of site restoration,
 - Site Figures in both PDF and Shapefile formats, including Site Location Map, and Site Map identifying site features and known utilities, and an Analytical Map depicting all sample locations and analytical results with exceedances highlighted and identified,
 - Comparison summary tables of analytical data, laboratory reports, and COCs,
 - Digitized soil boring logs,
 - Coordinates of all borings in Michigan GeoRef,
 - GPR Survey results (if conducted),
 - Groundwater monitoring well, soil-gas, and sub-slab abandonment records
 - Landfill waste approvals, disposal documentation/manifests

The reports will be provided in draft form for contracting agency review with exception of the Progress Reports. The draft documents may be submitted by email, as long as the digital file contains the entire document, including text, figures, tables, and appendices.

4.3 QUALITY CONTROL PLAN

ERG has an established program for project QA/QC that is incorporated into the project management processes. Our primary means of building quality into every phase of each project is through the use of assigned senior technical reviewers and periodic QA reviews at the program level.

ERG maintains Standard Operating Procedures (SOPs) and Quality Control / Quality Assurance (QA/QC) for all aspects of a project including sampling plans, Health and Safety Plans, data analysis, data management, waste management, and reporting. In all instances, where applicable, field work is conducted in accordance with current ASTM, EGLE, and EPA Guidelines. Data collection and analyses are conducted under applicable and required standards.

ERG will assign Mr. Tim Hebert as the QA/QC Officer, who is independent of program and project management, and is responsible for monitoring work, procedures, and documentation; identifying quality problems for key management; initiating, recommending, and/or providing solutions to quality problems; and assuring implementation of corrective action. Mr. Hebert has the authority to direct removal and replacement of any substandard work. The following is an overview of ERG's QA/QC Program. Mr. Reichenbach will serve as QA/QC Officer for projects managed by Mr. Hebert.

- The QA/QC Officer, independent of the program, has freedom to monitor work, procedures, and documentation; to identify problems; and authority to develop corrective actions, verify their implementation, and stop work.
- Programs to orient and train personnel in implementation of the corporate and contract-specific QA/QC program.
- Development of project-specific design quality assurance project plans (QAPPs) focusing on the unique needs of environmental projects. This includes a QC system for coordination of plans and minimization of errors and omissions in deliverable products.
- Identification of senior technical reviewers who meet qualifications requirements for the necessary training, experience, and skills to provide peer review for each technical service area.
- Periodic audits of each engineering or scientific program, technical service area, and/or regional operation to ensure compliance with QA/QC program requirements.
- Assigned QA/QC responsibilities for sub-consultants.
- A system of checks and balances within the organization requiring appropriate authorized signature authority and adhering to a structured chain of command at all levels of management.
- A comprehensive Contracts Policy and Procedures Manual that establishes a controlled system for the handling, documentation, revision, review, and sign-off procedures for all contracts.

Process for Checking and Verifying Studies for Clarity and Completeness, Plans and Specifications for Errors, Omissions and Quality — All project team members are expected to contribute to the overall quality of a project. All data, deliverables, documentation, etc. will, at a minimum, be peer reviewed for completeness and accuracy. Deliverables, such as work plans and reports, will be reviewed by the project manager, senior technical personnel (as appropriate), and the QA/QC Officer.

Documenting Design Decisions - As part of ERG's commitment to providing quality services, we have an established quality management philosophy. The cornerstone of this philosophy is thorough documentation of design information and decisions. ERG utilizes well-established procedures for documenting design reports which record design methodology, design decisions, meeting minutes, review comments and other communication.

Incorporating and Tracking Review Comments - The key to successful project control is diligent tracking and acknowledgement of clients' review comments and concerns. ERG maintains records of client review

comments for each deliverable to track and ensure each comment is addressed with the submittal of the final document.

4.4 SCHEDULE

For each assignment, ERG will prepare a detailed project schedule to encompass the duration of the project. The schedule will be maintained and updated in consult with the EGLE Project Manager as the work progresses.

4.5 NOTICE OF ON-SITE WORK ACTIVITY

ERG will submit a Notice of On-site Activity (NOA) through the RIDE website and the EGLE Project Manager with at least 14 days' notice prior to conducting any on-site work activity.

4.6 INVOICING

One progress invoice and one final invoice will be submitted during the project, unless extenuating circumstances arise. The provided UST and excavation schedule of values form will be utilized for tracking and will be submitted with the invoice and necessary DTMB forms.

5.0 QUESTIONNAIRE

The DB Entity Questionnaire is included as Attachment C.

6.0 REFERENCES

2017 ISID Design Build Services for Tank and Soil Removal

Kalamazoo District

Mr. Steve Beukema, EGLE 269-567-3513

Lansing District

Mr. Paul Bucholtz, EGLE 517-243-7574

Jackson District

Ray Govus, EGLE 517-290-9074

SE District

Ms. Kim Ethridge, EGLE 586-324-0183

Closed Waterford Hills Landfill

Waterford, Michigan

Mr. Brandon Alger, EGLE 586-623-2839

City of Muskegon

Frank Peterson, City Manager 231-724-6724

Four Corners Square

1451 Union Lake Road

8152 and 8198 Cooley Lake Road

White Lake Twp., Michigan

Mr. Shakir W. Alkhafaji, Veritas Unlimited 248-351-8800

Hantz Farms

Detroit, Michigan

Mr. Mike Score, Hantz Farms, 313-893-1937

ATTACHMENT A

ORGANIZATIONAL CHART AND KEY PERSONNEL RESUMES

POSITION, CLASSIFICATION AND EMPLOYEE BILLING RATES
ISID CONTRACT - 2022 TANK AND SOIL REMOVAL

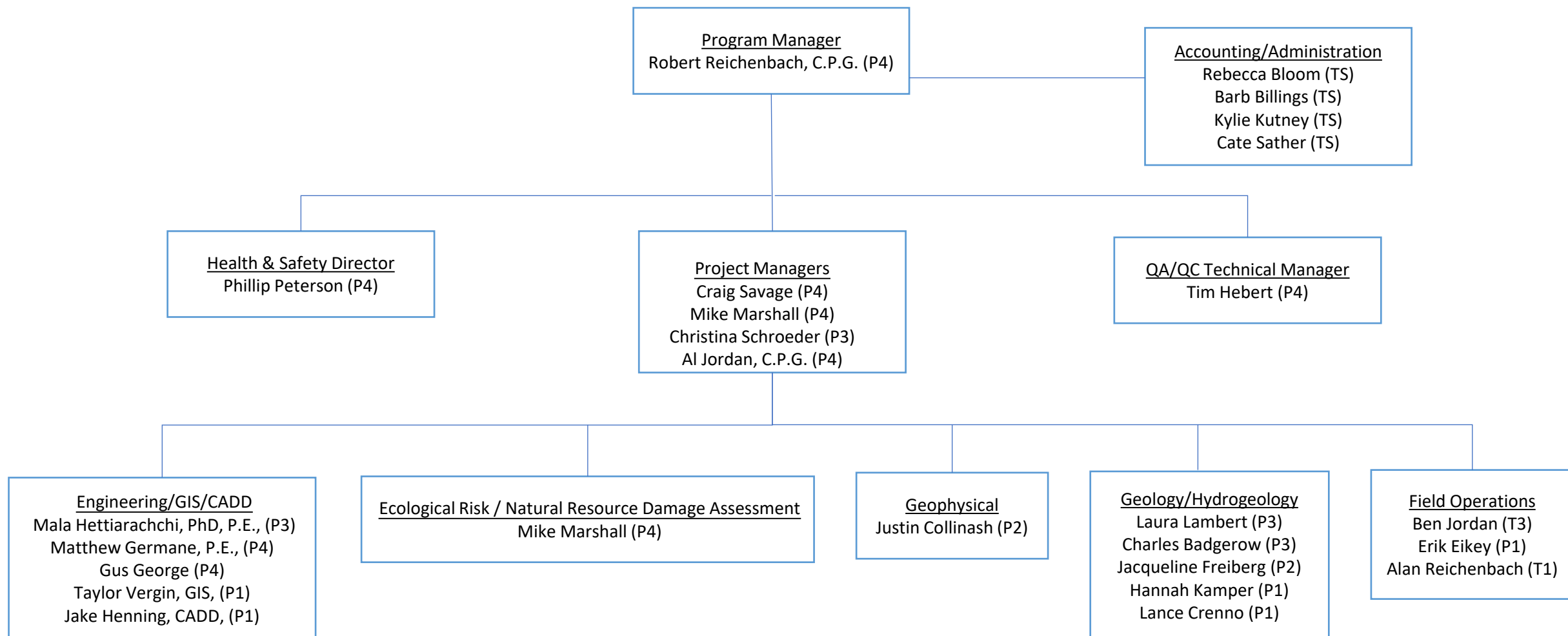
Firm Name Environmental Resources Group, LLC

Yearly Hourly Billing Rate Increase 0%

| Level | Employee(s) Name | Position / Classification | Year 2022 | Year 2023 | Year 2024 | Year 2025 |
|-------|------------------------------|--|-----------|-----------|-----------|-----------|
| P4 | Robert T. Reichenbach CPG ** | Program Manager / Contract Administrator | \$ 140.00 | \$ 140.00 | \$ 140.00 | \$ 140.00 |
| P4 | Robert J. Zwald CPG | Senior Project Manager / QA/QC Manager | 140 | 140 | 140 | 140 |
| P4 | Timothy Hebert CPG ** | Senior Project Manager / QA/QC Manager | 140 | 140 | 140 | 140 |
| P4 | Craig Savage CPG ** | Senior Project Manager / QA/QC Manager | 140 | 140 | 140 | 140 |
| P4 | Mala C. Hettiarachchi, PE | Senior Engineer | 140 | 140 | 140 | 140 |
| P4 | Matthew Germane, PE ** | Senior Project Engineer | 140 | 140 | 140 | 140 |
| T3 | David Yost | Sr. Technician/Geologist | 74 | 74 | 74 | 74 |
| T1 | Alan Reichenbach | Field Technician | 62 | 62 | 62 | 62 |
| P2 | Gabrielle LaFayette | Staff Geologist | 88 | 88 | 88 | 88 |
| P2 | Justin Collinash | Staff Geologist | 88 | 88 | 88 | 88 |
| P1 | Lindsey Stone | Field Scientist | 78 | 78 | 78 | 78 |
| P1 | Jaclyn Oliver | Field Geologist | 78 | 78 | 78 | 78 |
| P2 | Jacqueline Freiberg | Staff Geologist | 88 | 88 | 88 | 88 |
| P1 | Erik Eikey | Field Geologist | 78 | 78 | 78 | 78 |
| P4 | Phillip Peterson ** | Sr. Project Manager | 140 | 140 | 140 | 140 |
| C | Kylie Kutney | Administrative | 68 | 68 | 68 | 68 |
| P3 | Laura Lambert | Sr. Geologist | 120 | 120 | 120 | 120 |
| P3 | Christina Schroeder ** | Project Manager | 120 | 120 | 120 | 120 |
| P3 | Charles Badgerow | Sr. Geologist | 120 | 120 | 120 | 120 |
| C | Rebecca Bloom | Administrative | 68 | 68 | 68 | 68 |
| C | Barbara Billings | Administrative | 68 | 68 | 68 | 68 |
| P1 | Jacob Henning, EIT | Field Engineer | 78 | 78 | 78 | 78 |
| P1 | Tristan Morales | Field Geologist | 78 | 78 | 78 | 78 |
| P2 | Kaleb Schetter | Staff Geologist | 88 | 88 | 88 | 88 |
| T3 | Benjamin Jordan | Sr. Technician | 74 | 74 | 74 | 74 |
| P1 | Lance Crenno | Field Geologist | 78 | 78 | 78 | 78 |
| C | Catlin Sather | Administrative | 68 | 68 | 68 | 68 |
| P1 | Hannah Kamper | Field Geologist | 78 | 78 | 78 | 78 |
| P1 | Sarah Zrull | Field Geologist | 78 | 78 | 78 | 78 |
| P4 | Alfred Jordan II | Sr. Project Manager | 140 | 140 | 140 | 140 |
| P4 | Michael Marshall ** | Sr. Scientist / Project Manager | 120 | 120 | 120 | 120 |
| P2 | Taylor Vergin | Staff Geologist | 88 | 88 | 88 | 88 |
| T1 | Holly Grow | Field Technician | 62 | 62 | 62 | 62 |

*Billing Rate will be in accordance with the attached guideline page for instructions regarding the "Overhead Items used for Professional Billing Rate Calculation," and the attached "Sample Standard Contract for Professional Services," Article II, Compensation Text.

** Key Project Personnel





Robert T. Reichenbach, CPG

President

248-773-7986

bob.reichenbach@ergrp.net

28003 Center Oaks Court Suite 106, Wixom, MI 48393

EDUCATION/ CERTIFICATIONS

B.S., Geology, Western Michigan University, 1985

Certified Professional Geologist, #09090, American Institute of Professional Geologists

Certified Underground Storage Tank Professional, #236, State of Michigan

Certified Waste Treatment Plant Operator, #W-4176, Classification A-2d, B-3b

PROFESSIONAL COURSES

Environmental Remediation and Risk Management Conference, MDEQ, 2015.

Remediation Workshop, Association of Environmental & Engineering Geologists, 2015.

Understanding & Accelerating Remediation of Contaminated Groundwater, Regenis, 2004.

Sampling Strategies & Statistics Training for Part 201 Cleanup Criteria, MDEQ.

Michigan Air Emissions Reporting System (MAERS) Workshop, MDEQ.

M & A Advisory Services - Lead Assessor Course, Environmental Resources Management Group (ERM).

Project Management Course, ERM, 1998.

Risk Based Corrective Action, Foster Wheeler, 1995.

Site Remediation - Case Study - Michigan Environmental Health Association, Groundwater Conference, 1991.

Confined Space Entry Training Course, Competent Entrant, Attendant and Entry Supervisor, Groundwater Technology, Inc., 1994.

DOT/HM - 126F H.A.Z.M.A.T. Employee Training, Groundwater Technology, Inc.

OSHA Excavation and Trenching Safety Regulations, Competent Person Training Seminar, Groundwater Technology, Inc., 1994.

Managers Health and Safety Training, Groundwater Technology, Inc.

40-Hour Hazardous Waste Site Activities Initial Health & Safety Training, Groundwater Technology, Inc., 1988 (with annual refreshers).

Geology Field Studies, San Diego State University, 1986.

PROFESSIONAL EXPERIENCE

Petroleum Pipeline Pump Station, Southeast Michigan

- Project Director responsible for completing the final assessment/closure activities.

Newspaper Production Facility, Midwest United States

- Project Director responsible for completing regulatory compliance.

Automotive Service Center, Clinton Township, Michigan

- Project Manager responsible for final assessment and remediation activities of multiple releases.

Solid Waste Landfill, Waterford, Michigan

- Administration of the contract on behalf of the State of Michigan and evaluation of the monitoring and landfill activities. PFAS site characterization. PFAS remediation and treatment.

Former Sanicem Landfill, Auburn Hills, Michigan

- Landfill gas monitoring and reporting.

State of Michigan Statewide Expanded TRIAGE (SWET) Program

- Project support/data QA/QC review for State of Michigan LUST TRIAGE projects.

Multi-Site Divestment Project, Southeast Michigan

- Senior Project Manager responsible for completing real estate divestiture assessments at 26 locations in the metropolitan Detroit area.

State of Michigan Soil/UST Removal - Multiple Assignments

- Program Administrator/Project Director for State-wide remediation projects with the Department of Environment, Great Lakes, and Energy.





Alfred J. Jordan II, CPG

Vice President & Senior Geologist

231-747-8556

al.jordan@ergrp.net

75 West Walton Ave., Suite C, Muskegon, MI 49440

EDUCATION/ CERTIFICATIONS

B.S., Geology, Michigan Technological University, 1986

Certified Professional Geologist, #9310, American Institute of Professional Geologists

Certified Underground Storage Tank Professional, #1053, State of Michigan

Certified Industrial Stormwater Operator, #12273, State of Michigan

PROFESSIONAL COURSES

AIPG Workshop, Groundwater/Surface Water Interface - Environmental Risk Management, Roscommon, Michigan, 2016.

AIPG Workshop, Groundwater/Surface Water Interface - Site Characterization, Roscommon, Michigan, 2015.

AIPG Workshop, Groundwater/Surface Water Interface - Characterization, Evaluation and Compliance, Roscommon, Michigan, 2014.

AIPG Workshop, Power of Partnership-Owners Consultants and Regulators, Roscommon, Michigan, 2013.

Clean-up Criteria Training, Michigan Department of Environmental Quality, Remediation and Redevelopment Division, Grayling, Michigan, 2007.

Risk Based Corrective Action Training, Foster Wheeler, 1994.

Houston Conference, Petroleum Hydrocarbons and Organic Chemicals in Groundwater: Prevention, Detection, and Restoration. The American Petroleum Institute and the Association of Groundwater Scientists and Engineers, 1993.

OSHA 40-Hour Health and Safety Training for Hazardous Waste Operations and Emergency Response, 1991.

OHS 8-Hour Refresher Training, Annual.

Environmental Site Assessment Seminar-Phase II, Professional Services Industries, 1989.

Environmental Site Assessment Seminar-Phase I, Professional Services Industries, 1989.

PROFESSIONAL EXPERIENCE

- **Part 213 Remedial Investigation, Remediation, and Site Closures** - Greater than 100 retail petroleum facilities across Michigan. Managed and directed the closing of more than 50 sites under RBCA.
- **Part 201 Remedial Investigation, Remediation, and No Further Action/Closures** - Managed and directed the closure of numerous petroleum terminals, and surface spills across Michigan.
- **Phase I and Phase II ESAs** - Conducted numerous Phase I and Phase II Environmental Site Assessments (ESAs) throughout Michigan.
- **BEA/Due Diligence** - Conducted numerous Baseline Environmental Assessments (BEAs) with Section 7a Due Care Compliance Analysis for petroleum retail suppliers involving the acquisition of numerous retail petroleum sites throughout Michigan.





Timothy F. Hebert, CPG

Senior Project Manager

248 -773 -7986

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3125 Sovereign Drive, Suite B, Lansing, MI 48911

EDUCATION/ CERTIFICATIONS

B.S., Geology, University of Akron, 1984

B.S., Biology, University of Akron, 1984

AIPG Certified Professional Geologist, No 8297

Professional Geologist: Wisconsin, Pennsylvania, Kentucky

PROFESSIONAL COURSES

Sampling Strategies and Statistics Training for Part 201 Cleanup Criteria, Michigan
Department of Environmental Quality (MDEQ)

Risk-Based Corrective Action

40-Hour Hazardous Waste Site Activities Initial Health and Safety Training

8-Hour Health and Safety Refresher

PROFESSIONAL EXPERIENCE

- **Director/Principal-in-Charge - State of Michigan Level of Effort and Indefinite-Scope/ Indefinite-Delivery Discretionary Contracts:** Provided technical and administrative management and oversight regarding the due diligence strategies and the development of work plans and design specifications for numerous projects.
- **Clean Michigan Initiative (CMI) Project Director;** Remedial Investigation (RI) Oversight at the former Michigan Department of Environmental Quality (MDEQ) Albion Steel Facility
- **CMI Project Director;** Facility Demolition, Remedial Investigation and Waste Characterization/Abatement Oversight at the MDEQ Former Owosso Sugar Beet Facility
- **CMI Project Director;** Subsurface Facility Assessment Oversight at the MDEQ Former Panelyte Facility
- **Project Director/Manager; UST Removal, Corrective Action, and Closure Program at the Lansing School District** – Directed and coordinated all technical aspects and staff in the proper closure of 33 UST systems throughout the Lansing School District's regulated/unregulated UST facilities.
- **Project Director/Project Manager; Emergency Response and Expedited Free-Product Recovery Actions at the City of DeWitt Department of Public Works**—Directed and implemented the emergency removal and corrective actions associated with the facility's ruptured diesel fuel UST.
- **Project Director/Project Manager; UST Emergency Response Actions at the Consolidated Freightways Lansing Terminal** – Directed and implemented the emergency removal and corrective actions associated with a 10,000-gallon diesel fuel UST system





Phillip A. Peterson

Senior Project Manager

248-508-2664

phil.peterson@ergrp.net

28003 Center Oaks Court Suite 106, Wixom, MI 48393

EDUCATION/ CERTIFICATIONS

B.S. Geology, Michigan State University, 1987
Certified Asbestos Building Inspector, Accreditation #A5242, State of Michigan
Certified Asbestos Project Designer, #A5242, State of Michigan
Certified Asbestos Management Planner, Accreditation #A5242, State of Michigan

PROFESSIONAL COURSES

Phase Contrast Microscopy (NIOSH 582 equivalent) - The McCrone Research Institute
Advanced Polarized Light Microscopy - The McCrone Research Institute
IAQ Microscopy - The McCrone Research Institute
CPR/First Aid - ASHA Training
Confined Space Training - TEOC
7-hour Technical Workshop on the ANSI/IICRC S-520 Guidelines - Belfor
40 Hour Hazardous Waste Operations Training - Jensen Environmental
EPA RRP Certified Renovator Training - Fibertec Industrial Hygiene Services, Inc.
Bloodborne Infectious Disease Prevention Workshop - ASHA Training
Facilities Readiness Seminar for Disaster Preparedness - Coach's Catastrophe Clean-Up
Mercury Spill Response Workshop - MDHHS
Methamphetamine Evaluation Training - Fibertec Industrial Hygiene Services, Inc.
Legionella Training - EMSL Webinar Series
Situational Leadership II - Ken Blanchard Group
XRF Operator Training - EDAX and Niton

PROFESSIONAL EXPERIENCE

- **Fibertec Industrial Hygiene Services, Inc., Lansing, MI - Vice President, Jan 2001 - December 2020** Responsible for acquiring, leading, supervising, mentoring, developing and training a staff of up to 12 employees, including Industrial Hygienists, Field Technicians, Laboratory Analysts and support staff. Responsible for successful operation of a NVLAP accredited Polarized Light Microscopy (PLM) Laboratory, including compliance with ISO 17025/2017 requirements. Responsible for conducting select training, asbestos, lead, indoor air quality, IH and methamphetamine evaluations and projects.
- **Fibertec, Inc., Holt, MI - Operations Manager - Mobile Services Department, Mar 1998 - Mar 2001** Responsible for acquiring, training, supervising and scheduling a staff of 5 GeoProbe Operators. Responsible for transition of a new manager in to my position while simultaneously acquiring, training and mentoring staff in the expanding Industrial Hygiene Division.
- **WonderMakers, Inc. (WMI), Kalamazoo, MI - Manager, Environmental Services Division, Jan 1994 - Mar 1998** Responsible for conducting asbestos and lead workplace exposure assessments with project management. Responsible for the reaccreditation and successful continuing operation of the NVLAP accredited PLM laboratory located within the DC Cook Nuclear Plant, Brigman, Michigan.
- **Fibertec, Inc., East Lansing and Holt, MI Manager, Environmental and Mobile Services Department, Apr 1992 - Jan 1994.** Responsible for scheduling and supervising department staff. Responsible for mobile analytical laboratory operation on select sites with underground contamination.





Matthew J. Germane, PE

Senior Engineer

248-773-7986

matt.germane@ergrp.net

28003 Center Oaks Court Suite 106, Wixom, MI 48393

EDUCATION/ CERTIFICATIONS

B.S., Environmental Sciences Engineering, University of Michigan, 1983
Licensed Professional Engineer, States of Michigan and Ohio
Michigan Chapter of Agricultural and Biological Engineers - Board of Directors
Multiple Michigan Wastewater Treatment Plant Licenses

PROFESSIONAL COURSES

Risk Based Corrective Action
Annual OSHA 8-Hour Health and Safety Refresher
Corp of Engineers Quality Management Course, 2002
ASABE annual Conference, Dallas, Texas, 2012
Waste to Worth Annual Conference, Seattle, Washington, 2015 & 2017
Borchardt Water/Wastewater Conference, Ann Arbor, Michigan, 2017

PROFESSIONAL EXPERIENCE

- **Pre-Demolition Environmental Due Diligence** — Over 20 properties for City of Detroit
- **Environmental Site Assessments** — Multiple property acquisition in the City of Detroit
- **Environmental Compliance** - Reviewed procedures and recommended corrective action for various manufacturing and industrial complexes throughout the US for compliance with CERCLA, RCRA, OSHA, SPCC, and other federal and state regulations. Provided project management and technical oversight for preparing over 95 SPCC plans for Wal-Mart midwest locations in a three-month period.
- **Site Investigations and Remediation** - Provided pre-remediation investigation services for sites nationwide including transportation accidents, underground storage and above ground storage tanks releases, industrial accidents, and neglectful or illegal land application of hazardous waste, followed by selecting and implementing multiple remediation technologies..
- **Multi-site Project Management, Michigan** - Managed remedial activities at over 200 retail petroleum petroleum facilities, four petroleum distribution facilities, and dozens of industrial facilities.
- **Brownfield Redevelopment, Jackson, Michigan** - Performed real estate due diligence and Brownfield services for the Brownfield redevelopment of a former Goodyear Tire manufacturing facility.
- **Agricultural Wastewater Treatment, Michigan** - Provide consulting services to multiple Michigan-based food processing industries to operate the wastewater treatment systems.
- **Design and Construction, Midwest** - Provide geotechnical investigations services, waste storage facility design, and permitting services for large livestock facilities. Construction oversight and construction testing services also provided to verify installation occurs in accordance with the state-issued permits.
- **Agricultural Environmental Compliance** - Assist agribusinesses with environmental compliance services associated with NPDES CAFO permits, EGLE Groundwater Discharge Permits, and specialty crop producers (fruits, vegetables, hemp and cannabis) with applications and permit requirements.
- **Air Permitting Services, Michigan** - Assist businesses to obtain the air permits to operate their businesses to comply with state air potential to emit emissions volumes. Assist with annual report preparation.
- **Industrial Wastewater Pre-Treatment** - assist multiple clients to discharge of their process wastewater to the local public sewer with appropriate advance pre-treatment.





Christina C. Schroeder

Environmental Scientist

248-773-7986

christina.schroeder@ergrp.net

28003 Center Oaks Court Suite 106, Wixom, MI 48393

EDUCATION/ CERTIFICATIONS

B.S., Earth Science: Geology Focus, University of Michigan, 2013

PROFESSIONAL COURSES

OSHA 40-Hour Hazardous Waste Operations and Emergency Response Safety Training
OSHA 8-Hour Hazardous Waste Operations and Emergency Response Refresher Course
OSHA Confined Space Training

PROFESSIONAL EXPERIENCE

-
- **Environmental Site Assessments - Multiple Sites, Michigan and Toronto, Canada** - Performed reconnaissance, assessment of background and historical data, soil sampling, groundwater monitoring and sampling, field oversight, analysis of laboratory data and preparation of Phase I and Phase II Environmental Site Assessments (ESAs), Baseline Environmental Site Assessments (BEAs) and Documentation of Due Care Compliance (DDCC).
 - **Underground Storage Tank Removal Oversight - Multiple Sites, Michigan and Ohio** - Performed UST removal oversight, closure investigation and sampling. Prepared Initial Assessment Reports (IARs), Final Assessment Reports (FARs) and Closure Reports.
 - **Spill Prevention, Control, and Countermeasure (SPCC) Plan** - Prepared SPCC Plans for multiple automobile dealerships in Michigan.
 - **Solid Waste Landfill - Waterford, Michigan** - Monitoring and maintenance of a leachate pretreatment system. Activities also include leachate discharge monitoring in accordance with a Detroit Water and Sewer Department (DWSD) wastewater discharge permit.
 - **Sediment Analysis - Belle Isle, Detroit, Michigan** - Performed soil and sediment sampling, field oversight, soil classification and analysis of laboratory data.
 - **Preliminary Site Investigation - MDOT M-1 Rail Project, Detroit, Michigan** - Performed soil sampling along Woodward Avenue prior to M-1 Rail construction for soil disposal recommendations.
 - **Drilling Supervision - MDOT I-75 Mega Project, Oakland County, Michigan** - Performed soil sampling, soil classification, identification of ground water seepage, and field verification for design parameters.





Michael J. Marshall

Project Manager

231-747-8556

mike.marshall@ergrp.net

75 West Walton Ave., Suite C, Muskegon, MI 49440

EDUCATION/ CERTIFICATIONS

B.S., Fisheries and Wildlife Sciences, Michigan State University, 1992

Juneau Icefield Research Program, University of Idaho, 1987

PROFESSIONAL COURSES

OSHA 40-Hour (29 CFR 1910.120) - Hazardous Waste Operations, 1993,

OSHA 8-Hour Annual Refreshers

8-Hour Supervisor, Hazardous Waste Operations and Emergency Response Course

ATC Associates Inc., Electrical Systems and Safety Training Certifications, Level 1 - 3

ASTM E1739-95 Risk based corrective actions at Petroleum release Sites, 2007

Assessment and Remediation of Petroleum Hydrocarbons, Alpine Environmental, Inc.

Wetlands Workshop for Local Government Officials, ERMNET, Inc.

Advanced technologies for Accelerated Natural Attenuation, Regensis, Inc.

eRAILSAFE System Line Worker Certification

CSX & CN Rail Roadway Worker Protection Contractor Safety

Pipeline Awareness for Excavator Operations

PROFESSIONAL EXPERIENCE

- **State of Michigan ISID Contract Project Manager** - Ex-Situ hazardous lead soil stabilization and treatment to render as non-hazardous for landfill disposal. Chlorinated solvent vapor intrusion investigation and mitigation system design and installation. UST removal and remedial excavation oversight at multiple sites.
- **State of Michigan Statewide Expanded TRIAGE (SWET) Program** - Project Manager for State of Michigan LUST TRIAGE projects.
- **LUST Response Investigation and Remediation, Retail Petroleum Clients in Multiple States** - Project Manager for LUST projects, including removal and in-place closures, contaminant delineation and remediation in accordance with Risk-Based Corrective Action (RBCA) procedures. Responsibilities included interfacing with environmental agencies and contractors, underground & aboveground storage tank system design and installation, and multi-phase free product recovery system design and installation.
- **Remedial [corrective Actions, Fertilizer Blending Facilities, Michigan, 2005-2011** - Projects included remedial investigation and soil removal, stormwater management, phyto-remediation system installation and source removal.
- **Wastewater Lagoon Closures, Poultry and Beef Processing Plants, Michigan, 1997-2006** - Projects included the design and implementation of the closure plans for the wastewater treatment systems' anaerobic seepage lagoons.
- **Emergency Spill Response Investigations and Remediation, Transportation Clients, Michigan, 1997-2013** - Served as Project Manager on over 200 Emergency Response Clean-up projects.
- **Environmental Site Assessments (ESAs), Michigan** - Served as Project Manager and provided oversight on over 200 Phase II ESAs throughout the state of Michigan.
- **Baseline environmental Assessments (BEAs)** - Completed BEAs and Due Care Plans for numerous contaminated sites in accordance with State of Michigan requirements.





Craig A. Savage, CPG

Senior Project Manager

248-773-7986

craig.savage@ergrp.net

28003 Center Oaks Court Suite 106, Wixom, MI 48393

EDUCATION/ CERTIFICATIONS

B.A., Environmental Studies, Binghamton University (SUNY-Binghamton)

B.S., Geology, Binghamton University (SUNY-Binghamton)

M.S., Geology, University of Nebraska-Lincoln

Certified Professional Geologist, #08052, American Institute of Professional Geologists

Certified Professional Geologist, #113498, Kentucky

Certified Underground Storage Tank Professional, #284, State of Michigan

PROFESSIONAL COURSES

40-Hour Hazardous Waste Site Activities Initial Health and Safety Training,

8-Hour Health and Safety Refresher

e-Rail Safe

PROFESSIONAL EXPERIENCE

- **Power Plant Water Allocation Studies, Various Locations, Various Clients** Reviewed hydrogeological conditions and conducted water resource evaluations for siting proposed power plants in New Jersey and Indiana. Reviewed existing local supply wells and current water allocation budgets, assessed groundwater quality, evaluated potential withdrawal rates from local aquifers, and conducted meetings with other team members, subconsultants, and state regulators.
- **Poly/Per Fluorinated Alkyl Substances (PFAS) Investigation, Former Manufacturing Facility, Genesee County Brownfield Authority, Flint, MI** Directed planning and participated in collection of groundwater samples for PFAS evaluation at a former industrial facility. The client was concerned about liabilities associated with PFAS due to potential upgradient sources and proximity to surface water.
- **Groundwater and Soil Vapor Monitoring, Large Public University in MI** Conducted groundwater investigation and soil vapor intrusion assessment at a former manufacturing building currently used as an archive. Collected data for determining groundwater flow direction and gradient, concentrations of chlorinated volatile organic compounds in groundwater and sub-slab soil gasses under the building, and assessment of indoor vapor intrusion risks.
- **Groundwater Remediation and VI NFA, Former Manufacturing Plant, St. Johns, MI** Advanced soil borings and used membrane interface hydraulic profiling technology (MIHPT) to determine distribution of chlorinated VOCs in a thin sand and gravel aquifer and determined extent of VOC penetration into adjacent clay units. Data was used to design and implement a permeable reactive barrier (PRB) consisting of microparticulate GAC to sequester contaminants, and ZVI and anaerobic biological remediation to destroy contaminants in place. Trichloroethene concentrations decreased from 22,000 ug/L to less than detection limits in 12 months. Prepared a detailed conceptual site model and provided data to demonstrate that the vapor intrusion pathway is not complete in neighborhoods surrounding the site, obtaining an NFA for vapor intrusion.



ATTACHMENT B

CERTIFICATION OF MICHIGAN BASED BUSINESS AND RESPONSIBILITY CERTIFICATE



DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
State Facilities Administration
Design & Construction Division

Certification of a Michigan Based Business

(Information Required Prior to Contract Award for Application
of State Preference/Reciprocity Provisions)

To qualify as a Michigan business:

Vendor must have, during the 12 months immediately preceding this bid deadline:

or

If the business is newly established, for the period the business has been in existence, it has:

(check all that apply):

- ☒ Filed a Michigan single business tax return showing a portion, or all of the income tax base allocated or apportioned to the State of Michigan pursuant to the Michigan Single Business Tax Act, 1975 PA 228, MCL 208.1 – 208.145; or
- ☒ Filed a Michigan income tax return showing income generated in or attributed to the State of Michigan; or
- ☐ Withheld Michigan income tax from compensation paid to the bidder's owners and remitted the tax to the Department of Treasury; or

I certify that **I have personal knowledge** of such filing or withholding, that it was more than a nominal filing for the purpose of gaining the status of a Michigan business, and that it indicates a significant business presence in the state, considering the size of the business and the nature of its activities.

I authorize the Michigan Department of Treasury to verify that the business has or has not met the criteria for a Michigan business indicated above and to disclose the verifying information to the procuring agency.

Bidder shall also indicate one of the following:

- ☒ Bidder qualifies as a Michigan business (provide zip code: 48393)
- ☐ Bidder does not qualify as a Michigan business (provide name of State: _____).
- ☐ Principal place of business is outside the State of Michigan, however service/commodity provided by a location within the State of Michigan (provide zip code: _____)

Bidder: Environmental Resources Group, LLC

Robert T. Reichenbach

Authorized Agent Name (print or type)

R. T. Reichenbach 5/12/2022
Authorized Agent Signature & Date

Fraudulent Certification as a Michigan business is prohibited by MCL 18.1268 § 268. A BUSINESS THAT PURPOSELY OR WILLFULLY SUBMITS A FALSE CERTIFICATION THAT IT IS A MICHIGAN BUSINESS OR FALSELY INDICATES THE STATE IN WHICH IT HAS ITS PRINCIPAL PLACE OF BUSINESS IS GUILTY OF A FELONY, PUNISHABLE BY A FINE OF NOT LESS THAN \$25,000 and subject to debarment under MCL 18.264.



DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
State Facilities Administration
Design & Construction Division

Responsibility Certification

The bidder certifies to the best of its knowledge and belief that, within the past three (3) years, the bidder, an officer of the bidder, or an owner of a 25% or greater interest in the bidder:

- (a) Has not been convicted of a criminal offense incident to the application for or performance of a contract or subcontract with the State of Michigan or any of its agencies, authorities, boards, commissions, or departments.
- (b) Has not had a felony conviction in any state (including the State of Michigan).
- (c) Has not been convicted of a criminal offense which negatively reflects on the bidder's business integrity, including but not limited to, embezzlement, theft, forgery, bribery, falsification, or destruction of records, receiving stolen property, negligent misrepresentation, price-fixing, bid-rigging, or a violation of state or federal anti-trust statutes.
- (d) Has not had a loss or suspension of a license or the right to do business or practice a profession, the loss or suspension of which indicates dishonesty, a lack of integrity, or a failure or refusal to perform in accordance with the ethical standards of the business or profession in question.
- (e) Has not been terminated for cause by the Owner.
- (f) Has not failed to pay any federal, state, or local taxes.
- (g) Has not failed to comply with all requirements for foreign corporations.
- (h) Has not been debarred from participation in the bid process pursuant to Section 264 of 1984 PA 431, as amended, MCL 18.1264, or debarred or suspended from consideration for award of contracts by any other State or any federal Agency.
- (i) Has not been convicted of a criminal offense or other violation of other state or federal law, as determined by a court of competent jurisdiction or an administrative proceeding, which in the opinion of DTMB indicates that the bidder is unable to perform responsibly or which reflects a lack of integrity that could negatively impact or reflect upon the State of Michigan, including but not limited to, any of the following offenses under or violations of:
 - i. The Natural Resources and Environmental Protection Act, 1994 PA 451, MCL 324.101 to 324.90106.
 - ii. A persistent and knowing violation of the Michigan Consumer Protection Act, 1976 PA 331, MCL 445.901 to 445.922.
 - iii. 1965 PA 166, MCL 408.551 to 408.558 (law relating to prevailing wages on state projects) and a finding that the bidder failed to pay the wages and/or fringe benefits due within the time period required.
 - iv. Repeated or flagrant violations of 1978 PA 390 MCL 408.471 to 408.490 (law relating to payment of wages and fringe benefits).
 - v. A willful or persistent violation of the Michigan Occupational Health and Safety Act, 1974, PA 154, MCL 408.10001 to 408.1094, including: a criminal conviction, repeated willful violations that are final orders, repeated violations that are final orders, and failure to abate notices that are final orders.
 - vi. A violation of federal or state civil rights, equal rights, or non-discrimination laws, rules, or regulations.
 - vii. Been found in contempt of court by a Federal Court of Appeals for failure to correct an unfair labor practice as prohibited by Section 8 of Chapter 372 of the National Labor Relations Act, 29 U. S. C. 158 (1980 PA 278, as amended, MCL 423.321 et seq).
- (j) Is NOT an Iran linked business as defined in MCL 129.312.

I understand that a false statement, misrepresentation, or concealment of material facts on this certification may be grounds for rejection of this proposal or termination of the award and may be grounds for debarment.

Bidder: Environmental Resources Group, LLC

Robert T. Reichenbach

Authorized Agent Name (print or type)


 Authorized Agent Signature & Date

☐ I am unable to certify to the above statements. My explanation is attached.

ATTACHMENT C

DB ENTITY QUESTIONNAIRE



Questionnaire for Professional Services
Department of Technology, Management and Budget
2022 Indefinite-Scope Indefinite-Delivery Design-Build Contract
Tank and Soil Removal
Request for Qualifications
Various Locations, Michigan

INSTRUCTIONS: Firms shall complete the following information in the form provided. A separate sheet may be used if additional space is needed; please key the continuation paragraphs to the questionnaire. Answer questions completely and concisely to streamline the review process.

ARTICLE 1: BUSINESS ORGANIZATION

1. Full Name: Environmental Resources Group LLC
Address: 28003 Center Oaks Court, Suite 106, Wixom, MI 48393
Telephone and Fax: 248-773-7986 (phone) 248-924-3108 (fax)
Website: www.ergp.net
E-Mail: Bob.reichenbach@ergp.net
DB Entity(s) federal I.D. number(s): 45-4274942

If applicable, state the branch office(s), partnering organization or other subordinate element(s) that will perform, or assist in performing, the work: _____

2. Check the appropriate status:

☐ Individual firm ☐ Association ☐ Partnership ☒ Corporation, or ☐
Combination – Explain:

Limited Liability Corporation

If you operate as a corporation, include the state in which you are incorporated and the date of incorporation: State of Michigan, 2009

Include a brief history of the DB Entity's firm: This is included in Section 1.1 of the Technical Proposal.

Provide an organization chart depicting all personnel and their roles/responsibilities.

Provide an organization chart depicting key personnel and their roles for a typical assigned project. Include generic supporting staff positions.

This information is included with the Technical Proposal as Attachment A.

Article 2: Prior Experience

2.1 Include a brief description of your firm's design build experience in the UST and contaminated soil removal. Provide client references and brief descriptions for at least three (3) projects in the last five years closely related to the work requested in this RFP. Name the currently employed key personnels assigned to each project. Emphasis shall be placed on recent work at sites of environmental contamination and on sites where the Professional has provided technical support services

Please see section 5 of the Technical Proposal for this information.

Project 1 Reference Information:

Project Name: Former Herman and Hanks Service Station

Key Personnels: Robert Reichenbach and Christina Schroeder

Project Address: 1604 Martin Luther King Avenue

Project City/State/Zip: Flint, Michigan 48503

Owner/Client Contact Name and Telephone #: EGLE-RRD-Lansing District,
Paul Bucholtz 517-243-7574

Project 1 Description:

ERG provided excavation and removal activities at the Former Herman and Hanks Service Station in Flint, accordance with the 2017 ISID Soil and UST Removal Contract. Remediation activities were conducted from March 12th through December 23, 2020. The overall project goal was to remove the petroleum contamination and possible USTs and underground hoists and vault pits.

A site investigation was completed prior to removal activities to delineate the petroleum impacted soils for excavation boundaries. It was determined the contaminated soils were extending beneath the vacant onsite building. ERG coordinated the demolition of the building including securing all permits and terminating utilities.

A total of 801.47-tons of petroleum impacted soil was removed along with 3,500-gallons of non-hazardous liquids and properly disposed of. VSR samples were collect and based on review of the laboratory analytical results, residual petroleum impacts exceeding CCRRA/RBSLs remained in one location, a bottom sample near the northwest corner of the former building. However, the exceedances of DWC and GSIC are not applicable due to municipal supplied drinking water and the nearest surface waters approximately 0.75-miles to the west. Therefore, the interim corrective action addressed the main area of concern and is ready for redevelopment.

Project 2 Reference Information:

Project Name: 207 Upton Avenue, Battle Creek, Calhoun County

Key Personnels: Christina Schroeder, Mike Marshall, Robert Reichenbach

Project Address: 207 Upton Avenue

Project City/State/Zip: Battle Creek, MI 49037

Owner/Client Contact Name and Telephone #: State of Michigan (DTMB, EGLE)
Steve Beukema, (269) 547-0125.

Project 2 Description:– ERG staff was contracted to develop a work plan to remove USTs and 667 tons of soil at Facility ID: 10000492, 207 Upton Ave in Battle Creek. ERG completed excavation activities at 207 Upton Avenue, Battle Creek, Michigan. Remediation activities were conducted from January 18th through January 26th, 2022. Based on review of the laboratory analytical results, petroleum hydrocarbons were not identified above method detections in any of the samples collected. The corrective action addressed the main area of concern and no further investigations or removal activities were deemed necessary.

Project 3 Reference Information

Key Personnel: Robert J. Zwald
Project Address: 80521 Main Street.
Project City/State/Zip: Memphis., MI
Owner/Client Contact Name and Telephone #:State of MI (EGLE, Emily Bertolini, 517-614-6316

Project #3 Description: ERG staff provided professional/oversight services for the RI/FS and Corrective Action activities at this former gasoline station. The work was performed under the Level of Effort (LOE) contract #761/08338.SAR, SITE I.D. # 50001171.

EGLE contracted ERG to conduct a remedial investigation and feasibility study to determine the presence of soil and groundwater contamination and LNAPL, and define the vertical and horizontal extent of contamination, with the overall cleanup goal for soil and groundwater will be to reduce contaminant concentrations to within residential criteria.

The Memphis Shell Site is a former LUST facility located in the rural town of Memphis, in northern Macomb County, Michigan. The Site is a former service station that operated from the early 1970's to approximately 2001. Three confirmed releases from the UST system had been reported from 1998 to 1999, which resulted in LNAPL and dissolved petroleum contaminants migrating approximately 250 feet from the former USTs the east-southeast direction, under a State highway and beneath residential homes on the east side of the road. Additional remedial investigation was conducted, which included an LIF study and the installation of several monitoring wells. Based on the investigation, the estimated area of the LNAPL plume was approximately 17,000 square feet and is in the upper portion of a sandy aquifer approximately 40 to 45 feet below grade.

As part of the remedial actions, existing USTs and approximately 1,000 cubic yards of grossly contaminated soil, that acted as the source of groundwater contamination, were removed. After UST removal, a feasibility study was performed to determine the best way to reduce the mass of the LNAPL plume. Based on the feasibility analysis, in-situ chemical oxidation (ISCO) with sodium persulfate and sodium hydroxide, was selected as the most suitable and cost-effective remedial option for the site. A successful pilot test was conducted in August 2015 and full scale ISCO was conducted in March 2016 and again in August 2016. Post-injection monitoring has indicated a major decrease in LNAPL mass.

2.2A sample of field activity logs detailing a 1-week period (from one of the three (3) prior experience sites) and a weekly report provided? ☒Yes ☐No Please see pages attached at end of questionnaire.

ARTICLE 3: CONTRACT UNDERSTANDING: The following items should be addressed on the assumption that your firm is awarded an Indefinite-Scope, Indefinite-Delivery contract. (See attached sample contract).

- 3.1 Is it understood that your firm is required to respond to small projects (less than \$25,000) as well as larger projects?
Yes ☒ No ☐
- 3.2 Is it understood that there is no guarantee of any work under this contract?
Yes ☒ No ☐
- 3.3 Is it understood that you may be required to coordinate work with contract manager and state project managers?
Yes ☒ No ☐
- 3.4 Is it understood you may be given a conceptual design prepared by State of Michigan designers but must develop this plan and provide design and documentation required to appropriate reviews and permits?
Yes ☒ No ☐
- 3.5 Is it understood that your firm will be required to execute the attached Standard DB ISID Contract Provisions language for design-build services?
Yes ☒ No ☐
- 3.6 Is it clearly understood that performance and payment bonding will be required at the time of execution of any individual project contract assigned to you under this contract that will exceed \$50,000.00?
Yes ☒ No ☐
- 3.7 Is it clearly understood that professional liability insurance will be required from the designer of record for any individual project contract, at the time of execution of that contract?
Yes ☒ No ☐
- 3.8 Is it understood that your firm must comply with State of Michigan law as it applies to your services?
Yes ☒ No ☐

ARTICLE 4: CAPACITY AND QUALITY

- 4.1 Briefly describe your firm's methods or procedures for quality control for your deliverables and services.
Please see Section 4.3 – Quality Control Plan - of the Technical Proposal.

- 4.2 Has your firm been involved in claims or suits associated with design and/or construction projects?

Yes ☐ No ☒

If yes, explain: _____

- 4.3 Will there be a key person who is assigned to a project for its duration?

Yes ☒ No ☐

- 4.4 Please describe your understanding of the relationship between your firm, the DTMB Design and Construction Division, and the State Agency for whom a project will be completed.

DTMB contracts with ERG to provide a project or task specific proposal to evaluation, design-build, and implementation of UST and soil removal (construction) projects. The projects involve sites regulated under NREPA 451, Parts 201 and 213, and other relevant state and federal statutes.

- 4.5 How will your firm provide consistent and continuous communication on project activities and project status to the State of Michigan during the progress of projects?

Prior to the commencement of an assignment, ERG will request a pre-construction meeting with the Agency Project Manager (PM). ERG will propose periodic telephone conference calls with the PM to discuss project status. ERG will provide at least 14-days advanced notice to the PM and contract manager prior to any on-site work activity. Additionally, ERG will provide Project Status Reports during key stages of construction (50%, 75%), or project milestones and typically weekly during construction, the following deliverables and project status updates/reports are generally submitted on similar projects:

Project Status Reports - Progress Status Reports will submitted at a frequency required by the PM (i.e., weekly, monthly, quarterly). Progress Status Reports include at a minimum, a summary of the activities accomplished during the reporting period, significant decisions; Daily Field Activity Logs; Activities to be accomplished during the subsequent reporting period; potential issues (real or anticipated); Notification of any significant deviation from the agreed upon work plan; and Budget Status which includes current expenses, and (if applicable) budget deviations by task.

Construction Summary Report – The Construction Summary Report will include the following, as appropriate: Chronology and detailed description of site activities; Site photographs, color print and digital file; Landfill waste approvals; Daily field logs; etc.

In addition to the Project Status Reports, ERG will prepare and submit to the PM all regulatory mandated reports required under the appropriate regulatory statute.

- 4.6 Describe your method of estimating construction costs and demonstrate the validity of that method.

ERG's approach to estimating construction costs is the following:

- 1) Determine the project's end goal upon completion of the proposed remedial options (Scope of Work)
- 2) Break the Scope of Work into logical individual Tasks/Line Items
 - a. Utilize experience with similar projects and engineering calculations to assume potential worst case scenarios for each task in terms of material costs/quantities/volumes to complete each Task using generally accepted industry practices
 - b. Solicit generic expertise from respected qualified contractors regarding potential approaches to each Task

- c. Estimate actual personnel labor time / rates and assign a projected contractor profit margin and overhead percentage on top of the Prevailing Wage rates to complete each Task
 - d. Estimate heavy equipment usage rates in terms of hours and costs for each Task
 - e. Determine required permits & ancillary costs for completing Tasks
 - f. Project other known direct or indirect costs as available to complete each Task
- 3) Provide a contingency cost factor of the projected construction costs to cover possible or unforeseen occurrences, including both the expected value of possible identified events and the expectation that events will occur that cannot be identified in advance.
- 4) Summarize Final Construction Estimate.

ERG has successfully implemented this method on numerous commercial sector projects, as well as on behalf of the State of Michigan at the Former Montgomery Ward site and the Former Memphis Shell site in addition to numerous UST and soil removal projects for EGLE, municipalities, and private sector clients.

4.7 Describe your approach to minimizing construction cost over-runs.

As part of its routine operations, ERG provides Construction Management (CM) services. This includes CM assignments at sites of environmental contamination involving demolition, UST and soil excavation, soil and groundwater remediation, and waste disposal characterization / manifesting, site closure, and restoration. This expertise has provided ERG with first-hand knowledge and experience in following the State of Michigan procurement process and construction management procedures. The process involves frequent on-site inspections, regular communications with construction contractors and agency Project Managers. ERG also adheres to contract Change Order requirements.

Using ERG standard project design, construction procurement, and construction management procedures that were similarly used on past EGLE and ISID contract assignments, the following keys to our success will be followed:

- Assign highly qualified engineers and inspectors to the project;
- Assignments made for the life of the project;
- Lead design engineer has the appropriate expertise for the assignment;
- Lead design engineer plays key role in construction process;
- Close coordination between the design team and Construction Manager and Inspectors and the EGLE PM.

The following procedures will be used for a typical ISID project assignment that leads to construction solicitations. The process begins with the final design package:

Final Design - Project Advertising - Pre-Bid Meeting and Walk Through / Addendums
Bid Opening - Bid Review / Contractor Recommendation – Award - Pre-Construction Meeting – Submittals - On-Site Inspection
Bulletins / Change Orders - On-Site Testing / Evaluation - Payment Requests - Progress Meetings - Operations and Maintenance Oversight - Project Close Out

4.8 On a typical project, what would be your response time, from the time you receive a project assignment to providing design or construction services?

ERG will begin design-build services within one (1) day of receipt of a project assignment.
Days/Weeks

4.9 Describe your understanding of how you minimize or recycle construction waste.

ERG will reduce/re-use/recycle as much construction waste as possible. Metal materials, including tanks, distribution piping, vent piping will be segregated for scrap/re-use. Any residual liquids removed from the USTs will be containerized and transported to an oil recycling facility if appropriate. Uncontaminated soil that is excavated to remove USTs will be stockpiled and used as clean fill as appropriate.

4.10 Describe your experience with similar ISID contracts.

ERG has successfully performed over 30 projects under our previous ISID Tank and Soil Removal contracts. Please see Section 2.1 for further information.

4.11 Describe how you would get information about preparing a work plan/health and safety plan.

ERG will obtain site specific information from the EGLE PM during the initial assignment of the project. We anticipate this will include the regulated chemical compounds (contamination), the size and number of USTs, the location and proximity of any underground and aboveground structures, the location of all utilities, and the site location/address. In addition, ERG will research the project, review any available files at the EGLE or local government offices necessary to prepare a work plan and site-specific health and safety plan (HASP). ERG will contact the emergency medical service provider to determine if they are a full service 24-hour operation and their location for inclusion in the HASP.

ERG health and safety plan that includes current CDC guidelines for COVID protocol

4.12 Describe how you would coordinate your work on a project where the sampling will be provided by State of Michigan employees.

The ERG project manager and contract manager will ensure that the project schedule can accommodate State of Michigan employee sampling activities. We anticipate this would be coordinated during, if not prior to, the pre-construction meeting.

4.13 Describe how you would perform the work on a project where a leaking UST to be removed along with few tons of contaminated soils from the site.

ERG will provide removal, oversight, and verification sampling at a typical UST project as follows: Prior to commencing removal, the UST will be registered with the State of Michigan and the Intent to Remove Notification will be submitted to the Michigan Department of Licensing and Regulatory Affairs (LARA). All soil and liquid disposal approvals will be completed by ERG and the contractor. The contractor will be used to provide equipment and remove, clean and dispose the UST. The contractor will also provide clean Class II Sand (or other suitable material) to backfill the UST void.

Prior to removing the UST, all liquid will be removed and the USTs will be cleaned. Upon removal of the UST, soil verification samples will be collected from the floor and sidewalls of tank cavity. ERG will provide estimates regarding the number of samples to be collected from the excavation floor and sidewalls. Once removal activities are completed and results of the verification samples have been received, ERG will prepare a UST Site Assessment Report summarizing UST removal activities.

Regular update will also be provided to the EGLE PM at percent complete milestones and weekly.

Typically, ERG will:

- Register the UST with LARA, as needed.
- Submit Intent to Remove Notification
- Obtain liquid disposal approvals.
- Conduct oversight and monitor the condition of site soil during UST removal activities.
- Track liquid waste manifests.
- Document and photograph UST removal.
- Document UST void backfill and compaction activities.
- Collect soil verification samples from the floor and sidewalls (calculated based on the size of the USTs/excavation).

- Field analyze the soil of the for the presence of volatile organic compounds (VOCs) with a photoionization detector (PID).
- All sampling equipment will be decontaminated between each sample.
- Deliver samples to a laboratory for analysis of appropriate compounds. All samples will be submitted immediately following sample collection under proper chain-of-custody protocol and will be collected, preserved and analyzed according to appropriate US EPA and EGLE protocols. Samples will be analyzed by the State of Michigan Environmental Laboratory.

Upon completion of the UST excavation, ERG will prepare a UST Assessment Report. The report will include a description of the excavation methods, a site map showing the excavation and sampling locations, and a comparison of the analytical data results to applicable Michigan Part 201/213 cleanup criteria, findings, recommendations, and conclusions. The UST Assessment will include all waste manifests as well as UST disposal documentation and Class II Sand origination documentation. The UST Assessment Report will be completed and submitted to the EGLE PM within three weeks from receiving analytical results.

If out-of-scope considerations are requested, ERG will provide an additional fee estimate for your approval, prior to proceeding.

ARTICLE 5: SPECIAL FACTORS

Include a brief description of your firm's special qualifications such as awards, recognitions, innovations, etc.

In addition to performing UST and soil removal projects in Michigan since 1986, ERGs professionals have successfully performed work for the State of Michigan under several different contracting programs. ERG provides remediation/engineering services as a Professional under the 2019 Environmental ISID Contact Assignments for several district with EGLE. ERG completed site assessment services under the Environmental ISID Triage contract.

ERG also has previously awarded a contract with the Michigan State Housing Development Authority (MSHDA) to provide comprehensive environmental reviews.

ERG professionals have served as Trade Contractor on DMB/EGLE projects which consisted of the installation, construction and operation/maintenance of treatment systems. ERG professionals have also provided soil and groundwater sampling and engineering services to the MDEQ under our current assignments and the 2008 LOE ans 2011 Discretionary Contract programs.

Awards

Environmental Eloquence Award-Midwest Region, Ypsilanti, Michigan-Remediation Implementation-A Case History", Reichenbach 1991

Certificate of Recognition-Dedication and Quality Service to Meijer, Inc., Reichenbach 1993

Certificate of Award-Groundwater Technology, Dedication, Reichenbach 1991

Additionally, ERG staff have the following:

- Team Member (investigation and design stages) of the City of Calgary Biocell Landfill Project which received Consulting Engineers of Alberta (CEA) award in 2006; ASTech award for achievement in environmental innovation- 2008; APEGA Environment and Sustainability Award- 2009.
- Developed three-dimensional and one-dimensional numerical models to predict gas, heat and moisture transport and methane oxidation in methane biofilters. The biofilters are currently used at several metering stations owned by TransCanada Pipelines. The two numerical models are used by the University of Calgary in designing new generation methane biofilters. This work is published in several peer reviewed journals.

- Technical reviewer for Waste Management Journal (2008 to date).
- “Hodaka” award for the best graduating student, Water Resources Engineering, Asian Institute of Technology (AIT), Thailand
- Full graduate scholarship by the University of Calgary to pursue PhD.
- Full scholarship by the government of Norway based on education merits to pursue master’s degree at AIT
- First class honors and best graduating female student in Civil engineering, University of Moratuwa, Sri Lanka
- Certified Waste Treatment Plant Operator A-2d, B-3b
- Board of Directors, Michigan Cattlemen’s Association (current)
- Board of Directors, Michigan Chapter of American Society of Biological and Agricultural Engineers (current)
- Board of Directors, Livingston County Farm Bureau (current) and immediate Past President
- Appointed member of the Livingston County Solid Waste Management Committee (current)

Innovations

Innovative Engineering Design award for methane gas recovery and treatment, 2001.

Mr. Reichenbach developed an environmental due diligence procedure for a client that considered geologic conditions including groundwater flow direction and soil conditions to assist in site selection and placement of retail gasoline stations prior to purchase and development. This aided in the intelligent design during the re-development of many properties in Michigan, Ohio, Indiana, and Illinois.



DAILY FIELD REPORT

| | | | |
|---|---|---------------------------------|--|
| Project Name: MEGA Pre-cast | | Date of Site Activity: 1-4-2021 | |
| Project Number: 1815-002 | | Site Location: Shelby Twp. MI | |
| Weather AM: Cloudy 31°F | | Weather PM: Cloudy 34°F | |
| ERG Employees: C. Schroeder | | | |
| ERG Equipment: PID | | Total Mileage: 92 | |
| Contractors on-site working for ERG: | | Contractors Employees: | |
| US Ecology | | Tom / Bruce / Gary | |
| Contractors Equipment: Excavator / Skid Steer / Vac Truck | | | |
| Visitors: AKT (Kyle Sayre & Megan Morgan) Donaldson (Scott Kreutzer) | | | |
| Objective/Scope of Work: UST removal / impacted soil removal | | | |
| Site Activity: | | | |
| TIME: | | | |
| 7:55 | ERG on-site / Excavator delivery on-site | | |
| 8:00 | Amedeo unlocked gate / US Ecology on-site | | |
| 8:10 | Tail Gate meeting / walked site / checked-in with Amedeo / HASP + Eard screen | | |
| 8:25 | Began moving excavator into place / checked liquid levels in USTs / some liquids in tanks | | |
| 9:00 | Skid steer delivered to site / Began removing concrete and steel beams surrounding dispenser | | |
| 9:05 | Vac. Truck on-site / pump large tank / dispenser | | |
| 9:10 | Began exposing west end of large tank | | |
| 9:25 | Hit storm water line - west of USTs / under concrete pad - called Mark / Robert - informed Amedeo - possibly "Illegal Storm" Missdig identified | | |
| 9:40 | Large tank popped up = not strapped or anchored down / completely exposed | | |
| 10:30 | Removed large tank - appeared in very good condition - no signs of holes or corroding | | |
| 10:45 | Used vac truck to remove remaining liquids from dispenser area / removed remaining concrete | | |
| 11:00 | Removed dispensers / exposed smaller tank | | |
| Signature: C. Schroeder | | Date: 1-4-2021 Page: 1 of 3 | |
| Reviewed by: | | | |



DAILY FIELD REPORT

| | | | |
|--|--|---------------------------------|--|
| Project Name: MEGA Pre-cast | | Date of Site Activity: 1-4-2021 | |
| Project Number: 1813.002 | | Site Location: Shelby Twp. MI | |
| Weather AM: Cloudy 31°F | | Weather PM: Cloudy 34°F | |
| ERG Employees: C. Schroeder | | | |
| ERG Equipment: PID | | Total Mileage: 92 | |
| Contractors on-site working for ERG: | | Contractors Employees: | |
| US Ecology | | Bruce / Tom / Gary | |
| Contractors Equipment: Excavator, Skid Steer, Vac. Truck | | | |
| Visitors: AKT (Kyle Sayyae & Megan Morgan) Donaldson (Scott Kreutzer) | | | |
| Objective/Scope of Work: UST removal activities | | | |
| Site Activity: | | | |
| TIME: | | | |
| 11:30 | Remove small tank from ground - water appears to have stopped | | |
| | Kyle Sayyae - AKT on-site - HAZSP + COVID screening | | |
| | walked site - discussed events / sewer line (action plan | | |
| 11:50 | Megan - AKT on-site (will be taking over for Kyle this wk) | | |
| 12:00 | Began to excavate west edge of UST cavity | | |
| | try to uncover storm sewer lines to plug | | |
| 12:30 | Lots of water coming in excavation from both sides | | |
| | = appears it is active / stopped to reassess | | |
| 12:30 | Kyle off-site | | |
| 12:45 | Amedeo came out, called someone familiar to | | |
| | UST area - confirmed storm sewer, also said there | | |
| | is a gas line to east of UST area, informed Tom | | |
| 12:50 - 13:40 | on conference call w/ Bob R. | | |
| 13:45 | spoke with Robert and Marc McDonald about gas | | |
| | line concerns - call Justin to come de locating | | |
| 14:00 | Stopped excavation for the day - moved soil & concrete | | |
| | prep site for following day | | |
| 14:30 | Loma #102 on-site - load out soil | | |
| 14:40 | Loma " " off-site - Megan off-site | | |
| 15:00 | Discussed options for repairing stormline - Scott - J. Donaldson on-site | | |
| Signature: C. C. Schroeder | | Date: 1-4-2021 Page: 2 of 3 | |
| Reviewed by: | | | |

| | | | |
|--|---|---------------------------------|--|
| Project Name: MEGA Precast | | Date of Site Activity: 1-4-2021 | |
| Project Number: 1813.002 | | Site Location: Shelby Twp | |
| Weather AM: Cloudy 31°F | | Weather PM: Cloudy 34°F | |
| ERG Employees: C Schroeder | | | |
| ERG Equipment: PID | | Total Mileage: 92 | |
| Contractors on-site working for ERG: | | Contractors Employees: | |
| US Ecology | | Bruce / Tom / Gary | |
| Contractors Equipment: Excavator / Skid Steer / Vac Truck | | | |
| Visitors: AKT (Kyle Sayyae & Megan Morgan) Donaldson (Steve Kreutzer) | | | |
| Objective/Scope of Work: UST removal activities | | | |
| Site Activity: | | | |
| TIME: | | | |
| 15:45 | Secure excavation / equipment Phone calls w/ Marc and Robert / for repairing storm line vac-truck off-site / Scott off-site | | |
| | Discussed soil removal / Staging - soil too wet to go to land fill - land-fill warned Loma # 102 → will not load out Tuesday | | |
| 16:45 | ERG / US Ecology offsite Text Megan AKT update / status Email Scott Update / Status | | |

Signature: C.C. Schaefer

Date: 1-4-2021 Page: 3 of 3

Reviewed by:



DAILY FIELD REPORT

| | | | |
|--|---|---------------------------------|--|
| Project Name: MEGA Precast | | Date of Site Activity: 1-5-2021 | |
| Project Number: 1813.002 | | Site Location: Shelby Twp | |
| Weather AM: Cloudy 31°F | | Weather PM: Cloudy / Snow 35°F | |
| ERG Employees: C. Schreder / J. Collingsworth | | | |
| ERG Equipment: PID / GPR | | Total Mileage: 91 | |
| Contractors on-site working for ERG: | | Contractors Employees: | |
| USECOLOGY | | Bruce / Tom / Christian / Gary | |
| Contractors Equipment: Excavator / Skid Steer / Frac Tank | | | |
| Visitors: NA | | | |
| Objective/Scope of Work: Continue UST removal activities - GPR UST area / Plug storm sewer / Pump water out of Excavation | | | |
| Site Activity: | | | |
| TIME: | | | |
| 8:30 | CCS on-site / US Ecology and Justin here - Justin locating around UST area / moving debris Tailgate meeting / HAZOP + COVID screening | | |
| 9:00 | Began pulling up remaining concrete - to stage soils to drain back into excavation cavity / Frac tank delivered | | |
| 9:15 | Spoke w/ Amedeo - discussed locking out electricity to exca dispersers at breaker - said there was no way to shut down (lock-out - tag-out) without shutting off entire panel - Warn him of possible live wire underground for future owner - also asked @ 2nd manhole south of UST area - located & Behing trailer / Christian began cutting USTs | | |
| 10:00 | Justin off-site / Gary on-site to set-up frac tank / pump | | |
| 10:30 | Chad on-site to assist w/ storm line repairs - to drop off supplies | | |
| 11:00 | Tom off-site - Home Depot - Bruce & Christian continue to cut-up tanks (loading scrap metal in small tank) Gary setting-up pumps / Frac tank - Amedeo checked-in | | |
| 11:45 | Tom back on-site - lunch break | | |
| 12:15 | Lunch over, Set-up bladders for manholes | | |

Signature: C.C. Schreder

Date: 1-5-2021 Page: 1 of 2

Reviewed by:



DAILY FIELD REPORT

| | | | |
|--|---|---------------------------------|--|
| Project Name: MEGA Precast | | Date of Site Activity: 1-5-2021 | |
| Project Number: 1813.002 | | Site Location: Shelby Twp | |
| Weather AM: Cloudy 31°F | | Weather PM: Cloudy/Snow 35°F | |
| ERG Employees: C Schröder / J. Colmanash | | | |
| ERG Equipment: PID / GPR | | Total Mileage: 96 | |
| Contractors on-site working for ERG: | | Contractors Employees: | |
| US Ecology | | Tom / Bruce / Christian / Gary | |
| Contractors Equipment: Excavator / Skid Steer / Frac tank | | | |
| Visitors: NA | | | |
| Objective/Scope of Work: Continue UST removal activities - GPR | | | |
| UST area - Plug storm sewer - pump out water of excavation | | | |
| Site Activity: | | | |
| TIME: | | | |
| 12:45 | Bladders installed / finished pump set-up in excavation | | |
| 13:00 | Began pumping into frac tank | | |
| 13:45 | Crs off-site for coffee-run | | |
| 14:05 | Crs on-site / walked site. water in excavation down @ 14 inches (!!) frac tank a little under half way full. | | |
| 14:45 | Tom off-site to scrap yard with small tank also - tank filled with other scrap metal from dispersors area | | |
| | - Began cutting large tank | | |
| 16:00 | Tom on-site / pump having problems - possibly too much sediment in remaining water | | |
| | - tried to fix | | |
| 17:25 | Discussed getting vac-truck for tomorrow to pump remaining water / excavate west end of cavity / repair storm line / support pipe - collect samples | | |
| | Then continue east side of excavation | | |
| 18:00 | - called to discuss with Robert / Secured Site / text Megan | | |
| | ERG / US Ecology off-site | | |

* Drafted email to Scott (sent to Rex for review) updating progress and asking for input @
 Signature: C Schröder Date: 1-5-2021 Page: 2 of 2 Supporting storm sewer line.



DAILY FIELD REPORT

| | | | |
|---|---|------------------------------------|--|
| Project Name: MEGA Precast | | Date of Site Activity: 1-6-2021 | |
| Project Number: 1813.002 | | Site Location: Shelby Twp. | |
| Weather AM: Cloudy / 36°F | | Weather PM: Cloudy 35°F | |
| ERG Employees: C. Schröder | | | |
| ERG Equipment: PID | | Total Mileage: 108 | |
| Contractors on-site working for ERG: | | Contractors Employees: | |
| US Ecology | | Tom / Bruce / Christian | |
| Contractors Equipment: | | Excavator / Skid Steer / Frac tank | |
| Visitors: Aaron Smailey - LARA | | | |
| Objective/Scope of Work: Continue Repairing storm line / and UST removal activities | | | |
| Site Activity: | | | |
| TIME: | | | |
| 7:55 | ERG on-site / US Ecology already here HASPT / Camp check. | | |
| 8:00 | Tom off-site to get supplies Christian continue to cut large tank | | |
| 8:15 | Amedeo on-site, discussed repairs of storm line and consulting New Owner for securing/supporting - sent Scott + email | | |
| 8:45 | Tom on-site with pipes / supplies | | |
| 9:00 | Gary - Vac-truck on-site, set-up to continue dewatering | | |
| 10:20 | Aaron (LARA) on-site, HASPT + Camp screening. Walked site, discussed, took pictures - Clearing soil from pipes for repairs | | |
| 10:35 | Aaron off-site / scraped ^{partial} South wall / west wall - | | |
| 10:40 | Screened soils with PID / collected west wall samples, bottom sample at 16' | | |
| 11:00 | Collected sample under pipe once gravel was removed | | |
| 11:45 | Tom off-site for pipe fitting - text Megan AKT | | |
| 12:30 | Tom on-site, finish repairs on sewer line - remove blockers from manholes | | |
| Signature: C. C. Schröder | | Date: 1-6-2021 Page: 1 of 2 | |
| | | Reviewed by: | |

| | | | |
|--|--|---------------------------------|--------------|
| Project Name: MEGA Precast | | Date of Site Activity: 1-7-2021 | |
| Project Number: 1813.002 | | Site Location: Shelby Twp | |
| Weather AM: Cloudy 34°F | | Weather PM: Cloudy 36°F | |
| ERG Employees: C. Schroeder | | | |
| ERG Equipment: PID | | Total Mileage: 114 | |
| Contractors on-site working for ERG: | | Contractors Employees: | |
| US Ecology | | Tom/Bruce | |
| Contractors Equipment: | | | |
| Excavator, Skid Steer, vac truck , frac tank | | | |
| Visitors: Megan - AKT | | | |
| Scott K. - Donaldson | | | |
| Objective/Scope of Work: Continue LST removal activities | | | |
| Site Activity: | | | |
| TIME: | | | |
| 8:00 | ERG on-site / US Ecology here loading 1st Truck | | |
| | - 3 Loma trucks (#103, 105, 119) on-site | | |
| 8:15 | HASP+Covid screening, walk site, make plans for day | | |
| 8:30 | Continue excavating to the east, created berm to keep clean water trucking in from the surrounding drain aggregate | | |
| 9:00 | Began screening side wall samples | | |
| 10:00 | Megan AKT on-site, walked site, discussed plan for the day | | |
| 10:05 | 2nd round of trucks on-site. Continue loading out | | |
| | - Confirmed w/ Steve - Donaldson Representative to bring in eng. fill sand to secure repaired sewer line | | |
| 11:00 | - continue excavating to east, created 2nd bermed area to east to contain water | | |
| 12:30 | 3rd round of trucks on-site to load out | | |
| 12:50 | Loma truck #102 on-site with 40yds of eng. fill sand | | |
| | - loaded out - | | |
| | - Megan wants sample of clay east of the west wall at 16'. This area is now covered with water and has been sampled - explained risks to newly repaired sewer line or breaking berm containing water | | |
| Signature: CC Schroeder | | Date: 1-7-2020 | Page: 1 of 3 |
| | | Reviewed by: | |

Bridge was able to grab sample of gray clay

| | | | |
|--|---|---------------------------------|--|
| Project Name: MEGA Precast | | Date of Site Activity: 1-7-2021 | |
| Project Number: 1813.002 | | Site Location: Shelby Twp | |
| Weather AM: Cloudy 34°F | | Weather PM: Cloudy 36°F | |
| ERG Employees: C. Schroeder | | | |
| ERG Equipment: PIP | | Total Mileage: 114 | |
| Contractors on-site working for ERG: | | Contractors Employees: | |
| USEcology | | Tom/Bruce | |
| Contractors Equipment: | | | |
| Excavator, skid steer, vac truck , frac tank | | | |
| Visitors: Megan - AKT | | | |
| Scott K. - Donaldson | | | |
| Objective/Scope of Work: Continue UST removal activities | | | |
| Site Activity: | | | |
| TIME: | | | |
| 12:50-13:00 | Tom off-site for supplies/lunch | | |
| 13:20-13:35 | Lunch break - Scott - Donaldson stopped by - asked us to clean water around sewer line before placing fill. | | |
| 13:40 | Continue excavating (Screening samples) * AKT using ERG's PIP - didn't have one - AKT in truck - he said don't worry about getting her | | |
| 14:30 | water collected in previous excavation to the south is percolating through contaminated soil and into UST basin - discussed options to keep water separated from clean water on west side of excavation. Megan requested Bruce to remove the wall separating excavations allowing water to run in - I told her it would now contaminate all water in excavation. Bruce asked ACS - said "it's your call" when AKT said they were technically in charge. | | |
| 15:30 | Bruce broke through wall water rush in filling UST bottom of cavity/mixing w/ clean water | | |
| 16:10 | Discussed with Robert/Tom/Megan | | |
| 16:30 | Walked site, discussed actions for following day - water removal soil disposal | | |
| 16:45 | Megan off-site | | |
| 17:00 | Can't secure vac trucks for Friday will plan to | | |
| Signature: C. Schroeder | | Date: 1-7-2021 Page: 2 of 3 | |
| | | Reviewed by: | |



Signature: C. Schmidt

Date: 1-7-2024 Page: 3 of 3

Reviewed by:

| | | | |
|---|--|---------------------------------|--|
| Project Name: MEGA Precast | | Date of Site Activity: 1-8-2021 | |
| Project Number: 1813.002 | | Site Location: | |
| Weather AM: Cloudy / Windy / 26°F | | Weather PM: Cloudy / 29°F | |
| ERG Employees: C. Schneider | | | |
| ERG Equipment: PID | | Total Mileage: 90 | |
| Contractors on-site working for ERG: | | Contractors Employees: | |
| US Ecology | | Excavator Tom Bruce | |
| Contractors Equipment: | | | |
| Excavator / Skid steer | | | |
| Visitors: Robert + Anderson - ERG | | | |
| Objective/Scope of Work: Continue excavation activities | | | |
| Site Activity: | | | |
| TIME: | | | |
| 7:00 | ERG / US Ecology on-site | | |
| | Tailgate meeting / HASP + Covid screening | | |
| 7:15 | Loma #103 and #119 on-site / warm-up excavator | | |
| 7:25 | Began loading out trucks | | |
| 7:30 | Loma #102 on-site to load out | | |
| 8:20 | Robert on-site, walk-site, discuss plan moving forward | | |
| 9:00 | Robert off-site | | |
| | Continue loading out trucks | | |
| | Text updates to Megan - AKT - that we are only loading out soil today and will have vac-trucks on Monday to remove water | | |
| 14:30 | Last truck loaded for day | | |
| | - 12 loads out / 23 total ≈ 800 - tons | | |
| 14:50 | the excavate southeast corner to create sumps to collect water through weekend - also trench along bottom of southern excavation to move water from west to east side of cavity = set-up for water removal Monday. | | |
| 15:15 | Secure site / excavation | | |
| 15:45 | ERG off-site Robert on-site Saturday to oversee pre-tank empty | | |
| Signature: C. Schneider | | Date: 1-8-2021 Page: 1 of 1 | |
| Reviewed by: | | | |

| | | | |
|--|--|----------------------------------|--------------|
| Project Name: MEGA Precast | | Date of Site Activity: 1-11-2011 | |
| Project Number: 1813.002 | | Site Location: Shelby Twp | |
| Weather AM: Cloudy 28°F | | Weather PM: Cloudy 30°F | |
| ERG Employees: C. Schroeder | | | |
| ERG Equipment: PID (Rental) | | Total Mileage: 114 | |
| Contractors on-site working for ERG: | | Contractors Employees: | |
| US Ecology | | Tom Bruce Christian | |
| Contractors Equipment: | | | |
| Excavator Skid Steer frac tank | | | |
| Visitors: | | | |
| Objective/Scope of Work: Continue UST removal activities / water removal from excavation and contents of frac tank | | | |
| Site Activity: | | | |
| TIME: | | | |
| 7:05 | ERG on-site | | |
| 7:30 | walked site / took pictures. → no forms / performed verbal questionnaire | | |
| 7:55 | US Ecology on-site / H-ASP + COVID screening, walked site / start equipment. Waiting on vac truck | | |
| 9:00 | vac truck on-site, began removing water from excavation and into frac tank | | |
| 9:20 - 10:50 | ERG off-site to pick up PID rental from Argus-Hazco | | |
| 10:05 - 11:30 | Tom off-site to pick up bentonite / lunch | | |
| 11:30 | Megan AKT on-site | | |
| | - sat in van for updates / questions | | |
| 11:45 | Began packing bentonite around drain and covering with fill sand | | |
| 12:30 | Frac tank almost full, full truck and began off-site disposal | | |
| 12:45 | continued excavation to remove accumulated sediments from water - frac tank (north tank), excavated down to 16' = PID = 0.7 | | |
| 13:00 | AKT off-site | | |
| 13:30 | Tom off-site for visqueen, continued moving wet soil to northern portion of excavation for easy loading tomorrow | | |
| Signature: CC Schroeder | | Date: 1-11-2011 | Page: 1 of 2 |
| | | Reviewed by: | |



DAILY FIELD REPORT

| | | | |
|---|---|--|--|
| Project Name: MEGA Precast | | Date of Site Activity: 1-4-2021 | |
| Project Number: 1813.002 | | Site Location: Shelby Twp | |
| Weather AM: Cloudy 28°F | | Weather PM: Cloudy 38°F | |
| ERG Employees: C. Schroeder | | | |
| ERG Equipment: PIP (Rentals) | | Total Mileage: 114 | |
| Contractors on-site working for ERG: | | Contractors Employees: | |
| US Ecology | | Tom/Bruce/Christian | |
| Contractors Equipment: | | Excavator / Skid Steer / Frac tank / Vac truck | |
| Visitors: Megan AKT | | | |
| Objective/Scope of Work: Continue UST removal activities to Remove water in excavation and contents of frac tank | | | |
| Site Activity: | | | |
| TIME: | | | |
| 14:15 | Tom on-site | | |
| 14:30 | Vac truck back on-site / remove remaining liquids from excavator / top off with frac tank contents. | | |
| | - Continue staging wet soil in excavator cavity | | |
| | - Drain "blockage" appears to be working. | | |
| 16:00 | Vac truck off-site | | |
| 16:30 | ERG / UST off-site | | |

Signature:

CSchmiede

Date:

1-11-2021

Page:

2

of

2

Reviewed by:



DAILY FIELD REPORT

| | | | |
|--|---|--|--|
| Project Name: MEGA Precast Concrete | | Date of Site Activity: 1-12-2021 | |
| Project Number: 1813.002 | | Site Location: Shelby Twp | |
| Weather AM: Cloudy 28 F | | Weather PM: Cloudy 30 F | |
| ERG Employees: C. Schroeder | | | |
| ERG Equipment: PID (Rental) | | Total Mileage: 102 | |
| Contractors on-site working for ERG: | | Contractors Employees: | |
| US Ecology | | Tom / Bruce | |
| Contractors Equipment: | | | |
| Excavator / Skid Steer / Frac tank / Vac truck | | | |
| Visitors: | | | |
| Objective/Scope of Work: | | Continue UST removal activities / Load soils out | |
| Site Activity: | | | |
| TIME: | | | |
| 6:30 | ERG on-site / Drain block still holding | | |
| 6:40 | US Ecology on-site / HASP + COWA Screening / Warm equipment | | |
| 6:55 | Continue excavating and staging soil in excavation for easy disposal | | |
| 7:44 | 1st round trucks on-site (Loma #103, 119, 115) | | |
| 8:10 | Large vac-truck on-site to empty frac tank Continue excavation on east end of UST cavity PID readings 30 - 111 ppm @ 5-6' bgs | | |
| 9:20 | Vac truck off-site / checked in w/ Amedeo and using concrete blocks Instructed Bruce to go two more feet bgs and Screen again | | |
| 10:05 | 2nd Round Loma trucks on-site #103/119 | | |
| 11:15 | 2nd round #115 on-site | | |
| 11:45 | Vac truck on-site / 2nd round to empty frac tank | | |
| 12:35 | 3rd round Loma trucks on-site #103/119 | | |
| 13:15 | Sm. Vac truck on-site to remove water from UST basin | | |
| 13:45 | Possible abandoned line - line "illegally" into former trailer? Slight water trickling in - Loma #115 3rd round on-site | | |
| 14:00 | Cont. Excavating and Screening / clear fluff off bottom after water removed | | |

Signature: C. Schroeder

Date: 1-12-2021 Page: 1 of 2

Reviewed by:



DAILY FIELD REPORT

| | | | |
|---|---|----------------------------------|--|
| Project Name: MEGA precast concrete | | Date of Site Activity: 1-13-2021 | |
| Project Number: 1813.002 | | Site Location: Shelby Twp | |
| Weather AM: Cloudy 33°F | | Weather PM: Partly Cloudy 36°F | |
| ERG Employees: C. Schroeder | | | |
| ERG Equipment: PID (Rental) | | Total Mileage: 106 | |
| Contractors on-site working for ERG: | | Contractors Employees: | |
| US Ecology | | Tom Bruce | |
| Contractors Equipment: | | | |
| Excavator / Skid Steer / Free Tank | | | |
| Visitors: Kyle Sayyae - AKT | | | |
| Objective/Scope of Work: Continue UST removal activities / Load soils out | | | |
| Site Activity: | | | |
| TIME: | | | |
| 6:30 | ERG / US Ecology on-site | | |
| | - warm equipment | | |
| | - COVID screening | | |
| 7:15 | 1st round of trucks on-site (K4J-01, Loma 103, 119) | | |
| 7:45 | Loma #115 on-site | | |
| 8:45 | - continue excavating northeastern portion of UST area (screening soil) | | |
| | - some water accumulated in bottom of excavation - possibly GW(?) - collected water sample | | |
| 10:00 | 2nd round of trucks on-site K4J-01 / Loma 103, 119, 115 | | |
| 10:40 | - CCS off-site | | |
| 11:05 | - CCS on-site Kyle Sayyae - AKT on-site | | |
| 11:30 | Discussed project, walked site / Screened and collected samples | | |
| 12:50 | 3rd Round Loma trucks on-site | | |
| 13:30 | Finish excavation near north eastern area where soils were staged / screened, collected samples | | |
| 15:30 | - measured excavation / took pictures | | |
| | - US Ecology used concrete blocks provided by Amedeo to surround open excavation | | |
| 16:15 | ERG / US Ecology off-site | | |

Signature: C. Schroeder

Date: 1-13-2021 Page: 1 of 1

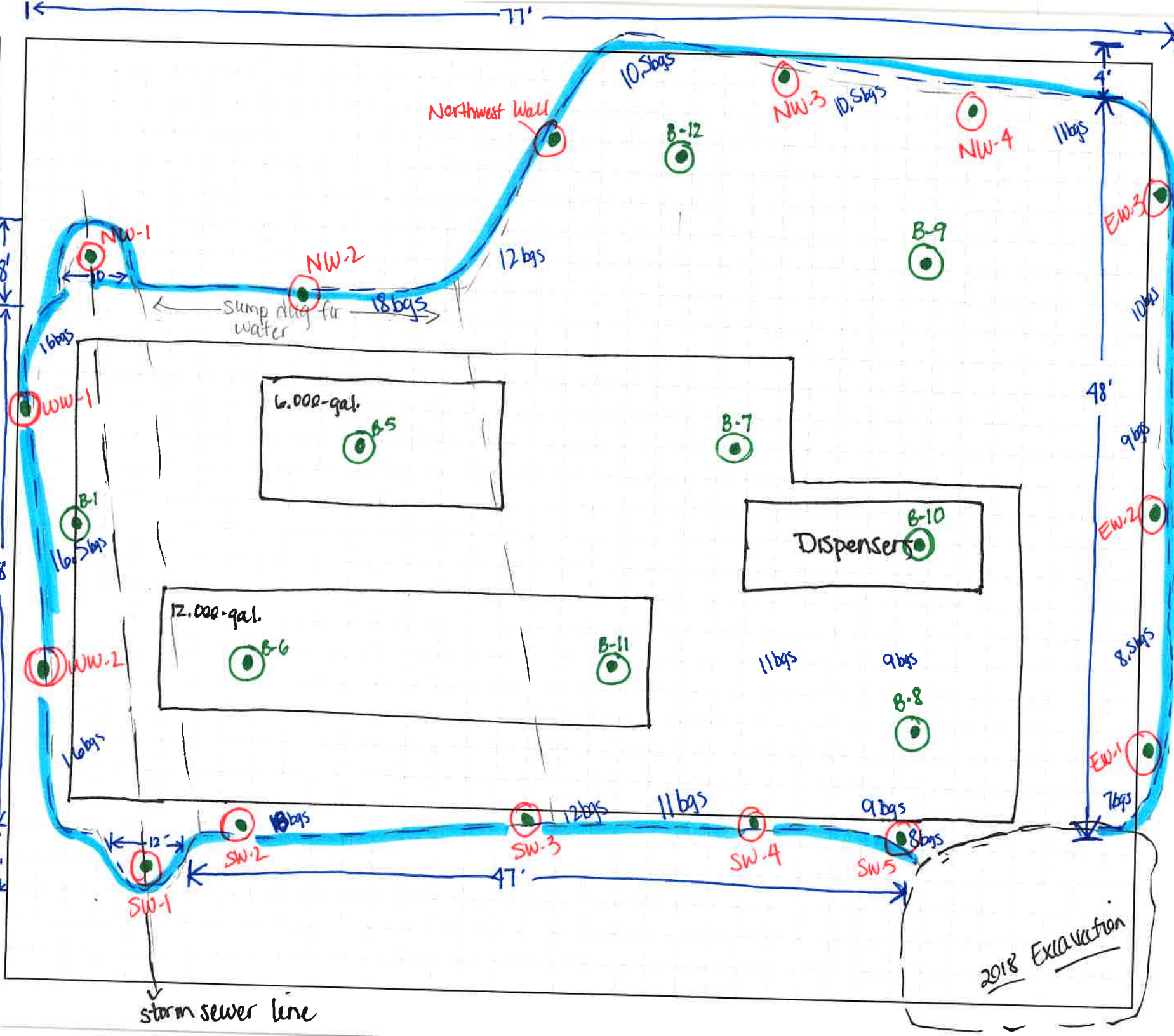
Reviewed by:

Job: VIC

Sheet No: _____
of: _____
Calculated by: _____
Checked by: _____
Date: _____
Date: _____



Scale: 1" = 10'
ergp.net



1-inch \approx 15-ft

6,000-gallon UST = 8.0' x 16.0'
12,000-gallon UST = 8.0' x 32.0'



From: Christina Schroeder
Sent: Monday, February 1, 2021 4:00 PM
To: Jessica Cory, Kyle Gagnier, Clay Thomas, Scott Kretzer, greg.bucala@gmail.com, Amanda Dinning, Robert Anderson
Subject: Project Status and Plan for Completion
Attachments: Change Order No. 1 - MCA Supplemental Excavation Over-Site.pdf; Mega Supplemental Excavation PM-MM-1-29-2021.pdf; Figure 5 - Additional Proposed Excavation_DRAFT.pdf

The following status report and plan for completion has been prepared based on the analytical results of the verification soil samples collected. Residual impact remains in the north portion of the excavation and will need to be removed to obtain the desired residential closure.

The summary below includes cost and quantities to date, as well as the proposed cost to completion.

Scope of Work – Mobilization to the site and removal of an estimated 200-tons of impacted soil in the north area of the excavation (refer to attached figure for details), and collection and analysis of verification samples (Budget includes 7 samples (5-day TAT)) to demonstrate impacted soils have been removed.

Cost to Complete

US Ecology Fee - \$12,925.00

Environmental Resources Group - \$4,900

Schedule – If the attached change orders are approved on a timely bases, mobilization will occur on Wednesday, February 10, 2021. Field work will be completed by the end of the week.

Cost Incurred to Date

US Ecology Fee - \$101,282.97

Quantities to Date

| | |
|---------------|----------------|
| Soils Removed | 1,572 Tons |
| Water Removed | 42,604 Gallons |

Environmental Resources Group - \$ 19,397.25

Please review and give Robert or myself a call with any questions or concerns.

Thank you in advance,

Christina C. Schroeder
Project Manager

2022 Tank & Soil Removal ISID Unit Pricing

BIDDER NAME: Environmental Resources Group LLC

DISTRICT: GRAND RAPIDS - UNIT PRICING

| Line Item | Description | Units | Unit Price |
|-----------|---|-------------|------------|
| 1a | Project Administration | % of D&C | 2 |
| 2 | Professional Services | | |
| 2a | Site Visit | Lump Sum | 715 |
| 2b | Excavation Plans/Drawings | Lump Sum | 2225 |
| 2c | UST Removal/Excavation Oversight | Day | 16250 |
| 2d | Construction/Removal Report | Lump Sum | 2135 |
| 2e | Notification to Remove and UST registration | Lump Sum | 375 |
| 2f | UST Removal (Part 211) Site Assessment and Reporting | Lump Sum | 735 |
| 2g | Monitoring Well Abandonment | Lineal Foot | 0 |
| 2h | Monitor Well Installation - Hollow Stem Auger | Lineal Foot | 0 |
| 2i | Mobilization and Demobilization - Hollow Stem Auger Drilling Equipment | Lump Sum | 0 |
| 2j | Monitor Well Installation – Geoprobe | Lineal Foot | 1435 |
| 2k | Mobilization and Demobilization - Geoprobe Equipment for Monitoring Well and Soil Vapor Monitoring Point Installation | Lump Sum | 1375 |
| 2l | Groundwater Monitoring and Reporting | Event | 10540 |
| 2m | Soil Vapor Monitoring Points Installation- Geoprobe | Lineal Foot | 1875 |
| 2n | Sub Slab Soil Gas Vapor Pin Installation | Each | 975 |
| 2o | Soil Vapor Monitoring and Reporting | Event | 11540 |
| 3 | UST System Close in Place (includes removing liquids and sludges, cleaning and filling with an inert solid material) | | |
| 3a | 0 - 1000 gallon | Tank | 6050 |
| 3b | 1001 - 4000 gallon | Tank | 0 |
| 3c | 4001 - 6000 gallon | Tank | 0 |
| 3d | 6001 - 8000 gallon | Tank | 0 |
| 3e | 8001 - 10,000 gallon | Tank | 0 |
| 3f | 10,001 - 12,000 gallon | Tank | 0 |
| 3g | 12, 001 - 15,000 gallon | Tank | 0 |
| 3h | 15,001 - 20,000 gallon | Tank | 0 |
| 4 | UST System Removal and Disposal (includes purging, cleaning and all associated piping) | | |
| 4a | 0 - 1000 gallon | Tank | 0 |
| 4b | 1001 - 4000 gallon | Tank | 0 |
| 4c | 4001 - 6000 gallon | Tank | 0 |
| 4d | 6001 - 8000 gallon | Tank | 7700 |
| 4e | 8001 - 10,000 gallon | Tank | 9350 |
| 4f | 10,001 - 12,000 gallon | Tank | 0 |
| 4g | 12, 001 - 15,000 gallon | Tank | 0 |
| 4h | 15,001 - 20,000 gallon | Tank | 0 |
| 5 | Excavation, Transportation, and Disposal of Non-Hazardous Soil and Excavation Backfill | | |
| 5a | 0- 250 tons | Ton | 0 |
| 5b | 251 - 500 tons | Ton | 0 |
| 5c | 501 - 1000 tons | Ton | 79664 |
| 5d | 1001 - 2000 tons | Ton | 0 |

| | | | |
|----------|--|-------------------|-------------|
| 5e | > 2000 tons | Ton | 0 |
| 6 | Waste Characterization and Disposal | Units | |
| 6a | Non- Hazardous Liquid | Gallon | 1017.5 |
| 6b | Hazardous Liquid | Gallon | 0 |
| 6c | Hazardous Solid / Sludge | Gallon | 0 |
| 6d | 55-gallon drum removal - Non-Hazardous Solid/Sludge | Drum | 376.25 |
| 6e | 55-gallon drum removal - Hazardous Solid/Sludge | Drum | 0 |
| 7 | Miscellaneous | | |
| 7a | Vac Truck and Operator | Day | 2200 |
| 7b | Site Preparation Including Excavation Sloping and Overburden Stockpiling | Cubic yard | 2062.5 |
| 7c | Clearing and Chipping Dense & Woody Vegetation | Day | 440 |
| 7d | Provisionary Allowance | Allowance | \$10,000.00 |
| 7e | Concrete Disposal/Recycling | Sq. Foot | 51.15 |
| 7f | Asphalt Disposal/Recycling | Sq. Foot | 0 |
| 7g | 5,000-gallon Frac Tank | Day | 0 |
| 7h | Air Monitoring | Day | 1250 |
| 8 | Site Restoration | | |
| 8a | 22a Gravel | Ton | 57.2 |
| 8b | Crushed Limestone | Ton | 0 |
| 8c | Asphalt Paving (4" Thick) | Sq. Foot | 0 |
| 8d | Concrete | cubic yard | 0 |
| 8e | 2" Topsoil and Seeding | Sq. Foot | 2502.5 |
| | Subtotal Construction | | |
| 9 | Mobilization, Demobilization and General Conditions | % of construction | 6 |
| | Subtotal Design & Construction (D&C) | | |

| | |
|----------------------------|----|
| TOTAL PROJECT COST: | \$ |
| Management | \$ |
| Design Construction | \$ |
| | \$ |

2022 Tank & Soil Removal ISID Unit Pricing

BIDDER NAME: Environmental Resources Group LLC

DISTRICT: LANSING - UNIT PRICING

| Line Item | Description | Units | Unit Price |
|-----------|---|-------------|------------|
| 1a | Project Administration | % of D&C | 2 |
| 2 | Professional Services | | |
| 2a | Site Visit | Lump Sum | 715 |
| 2b | Excavation Plans/Drawings | Lump Sum | 2225 |
| 2c | UST Removal/Excavation Oversight | Day | 16250 |
| 2d | Construction/Removal Report | Lump Sum | 2135 |
| 2e | Notification to Remove and UST registration | Lump Sum | 375 |
| 2f | UST Removal (Part 211) Site Assessment and Reporting | Lump Sum | 735 |
| 2g | Monitoring Well Abandonment | Lineal Foot | 0 |
| 2h | Monitor Well Installation - Hollow Stem Auger | Lineal Foot | 0 |
| 2i | Mobilization and Demobilization - Hollow Stem Auger Drilling Equipment | Lump Sum | 0 |
| 2j | Monitor Well Installation – Geoprobe | Lineal Foot | 1435 |
| 2k | Mobilization and Demobilization - Geoprobe Equipment for Monitoring Well and Soil Vapor Monitoring Point Installation | Lump Sum | 1375 |
| 2l | Groundwater Monitoring and Reporting | Event | 10540 |
| 2m | Soil Vapor Monitoring Points Installation- Geoprobe | Lineal Foot | 1875 |
| 2n | Sub Slab Soil Gas Vapor Pin Installation | Each | 975 |
| 2o | Soil Vapor Monitoring and Reporting | Event | 11540 |
| 3 | UST System Close in Place (includes removing liquids and sludges, cleaning and filling with an inert solid material) | | |
| 3a | 0 - 1000 gallon | Tank | 6050 |
| 3b | 1001 - 4000 gallon | Tank | 0 |
| 3c | 4001 - 6000 gallon | Tank | 0 |
| 3d | 6001 - 8000 gallon | Tank | 0 |
| 3e | 8001 - 10,000 gallon | Tank | 0 |
| 3f | 10,001 - 12,000 gallon | Tank | 0 |
| 3g | 12, 001 - 15,000 gallon | Tank | 0 |
| 3h | 15,001 - 20,000 gallon | Tank | 0 |
| 4 | UST System Removal and Disposal (includes purging, cleaning and all associated piping) | | |
| 4a | 0 - 1000 gallon | Tank | 0 |
| 4b | 1001 - 4000 gallon | Tank | 0 |
| 4c | 4001 - 6000 gallon | Tank | 0 |
| 4d | 6001 - 8000 gallon | Tank | 7700 |
| 4e | 8001 - 10,000 gallon | Tank | 9350 |
| 4f | 10,001 - 12,000 gallon | Tank | 0 |
| 4g | 12, 001 - 15,000 gallon | Tank | 0 |
| 4h | 15,001 - 20,000 gallon | Tank | 0 |
| 5 | Excavation, Transportation, and Disposal of Non-Hazardous Soil and Excavation Backfill | | |
| 5a | 0- 250 tons | Ton | 0 |
| 5b | 251 - 500 tons | Ton | 0 |
| 5c | 501 - 1000 tons | Ton | 79664 |
| 5d | 1001 - 2000 tons | Ton | 0 |

| | | | |
|----------|--|-------------------|-------------|
| 5e | > 2000 tons | Ton | 0 |
| 6 | Waste Characterization and Disposal | Units | |
| 6a | Non- Hazardous Liquid | Gallon | 1017.5 |
| 6b | Hazardous Liquid | Gallon | 0 |
| 6c | Hazardous Solid / Sludge | Gallon | 0 |
| 6d | 55-gallon drum removal - Non-Hazardous Solid/Sludge | Drum | 376.25 |
| 6e | 55-gallon drum removal - Hazardous Solid/Sludge | Drum | 0 |
| 7 | Miscellaneous | | |
| 7a | Vac Truck and Operator | Day | 2200 |
| 7b | Site Preparation Including Excavation Sloping and Overburden Stockpiling | Cubic yard | 2062.5 |
| 7c | Clearing and Chipping Dense & Woody Vegetation | Day | 440 |
| 7d | Provisionary Allowance | Allowance | \$10,000.00 |
| 7e | Concrete Disposal/Recycling | Sq. Foot | 51.15 |
| 7f | Asphalt Disposal/Recycling | Sq. Foot | 0 |
| 7g | 5,000-gallon Frac Tank | Day | 0 |
| 7h | Air Monitoring | Day | 1250 |
| 8 | Site Restoration | | |
| 8a | 22a Gravel | Ton | 57.2 |
| 8b | Crushed Limestone | Ton | 0 |
| 8c | Asphalt Paving (4" Thick) | Sq. Foot | 0 |
| 8d | Concrete | cubic yard | 0 |
| 8e | 2" Topsoil and Seeding | Sq. Foot | 2502.5 |
| | Subtotal Construction | | |
| 9 | Mobilization, Demobilization and General Conditions | % of construction | 6 |
| | Subtotal Design & Construction (D&C) | | |

| | |
|----------------------------|----|
| TOTAL PROJECT COST: | \$ |
| Management | \$ |
| Design Construction | \$ |
| | \$ |

2022 Tank & Soil Removal ISID Unit Pricing

BIDDER NAME: Environmental Resources Group LLC

DISTRICT: KALAMAZOO - UNIT PRICING

| Line Item | Description | Units | Unit Price |
|-----------|---|-------------|------------|
| 1a | Project Administration | % of D&C | 2 |
| 2 | Professional Services | | |
| 2a | Site Visit | Lump Sum | 785 |
| 2b | Excavation Plans/Drawings | Lump Sum | 2225 |
| 2c | UST Removal/Excavation Oversight | Day | 18060 |
| 2d | Construction/Removal Report | Lump Sum | 2135 |
| 2e | Notification to Remove and UST registration | Lump Sum | 380 |
| 2f | UST Removal (Part 211) Site Assessment and Reporting | Lump Sum | 735 |
| 2g | Monitoring Well Abandonment | Lineal Foot | 0 |
| 2h | Monitor Well Installation - Hollow Stem Auger | Lineal Foot | 0 |
| 2i | Mobilization and Demobilization - Hollow Stem Auger Drilling Equipment | Lump Sum | 0 |
| 2j | Monitor Well Installation – Geoprobe | Lineal Foot | 1435 |
| 2k | Mobilization and Demobilization - Geoprobe Equipment for Monitoring Well and Soil Vapor Monitoring Point Installation | Lump Sum | 1375 |
| 2l | Groundwater Monitoring and Reporting | Event | 10540 |
| 2m | Soil Vapor Monitoring Points Installation- Geoprobe | Lineal Foot | 1875 |
| 2n | Sub Slab Soil Gas Vapor Pin Installation | Each | 975 |
| 2o | Soil Vapor Monitoring and Reporting | Event | 11540 |
| 3 | UST System Close in Place (includes removing liquids and sludges, cleaning and filling with an inert solid material) | | |
| 3a | 0 - 1000 gallon | Tank | 6050 |
| 3b | 1001 - 4000 gallon | Tank | 0 |
| 3c | 4001 - 6000 gallon | Tank | 0 |
| 3d | 6001 - 8000 gallon | Tank | 0 |
| 3e | 8001 - 10,000 gallon | Tank | 0 |
| 3f | 10,001 - 12,000 gallon | Tank | 0 |
| 3g | 12, 001 - 15,000 gallon | Tank | 0 |
| 3h | 15,001 - 20,000 gallon | Tank | 0 |
| 4 | UST System Removal and Disposal (includes purging, cleaning and all associated piping) | | |
| 4a | 0 - 1000 gallon | Tank | 0 |
| 4b | 1001 - 4000 gallon | Tank | 0 |
| 4c | 4001 - 6000 gallon | Tank | 0 |
| 4d | 6001 - 8000 gallon | Tank | 7700 |
| 4e | 8001 - 10,000 gallon | Tank | 9350 |
| 4f | 10,001 - 12,000 gallon | Tank | 0 |
| 4g | 12, 001 - 15,000 gallon | Tank | 0 |
| 4h | 15,001 - 20,000 gallon | Tank | 0 |
| 5 | Excavation, Transportation, and Disposal of Non-Hazardous Soil and Excavation Backfill | | |
| 5a | 0- 250 tons | Ton | 0 |
| 5b | 251 - 500 tons | Ton | 0 |
| 5c | 501 - 1000 tons | Ton | 79664 |
| 5d | 1001 - 2000 tons | Ton | 0 |

| | | | |
|----------|--|-------------------|-------------|
| 5e | > 2000 tons | Ton | 0 |
| 6 | Waste Characterization and Disposal | Units | |
| 6a | Non- Hazardous Liquid | Gallon | 1017.5 |
| 6b | Hazardous Liquid | Gallon | 0 |
| 6c | Hazardous Solid / Sludge | Gallon | 0 |
| 6d | 55-gallon drum removal - Non-Hazardous Solid/Sludge | Drum | 376.25 |
| 6e | 55-gallon drum removal - Hazardous Solid/Sludge | Drum | 0 |
| 7 | Miscellaneous | | |
| 7a | Vac Truck and Operator | Day | 2640 |
| 7b | Site Preparation Including Excavation Sloping and Overburden Stockpiling | Cubic yard | 2062.5 |
| 7c | Clearing and Chipping Dense & Woody Vegetation | Day | 440 |
| 7d | Provisionary Allowance | Allowance | \$10,000.00 |
| 7e | Concrete Disposal/Recycling | Sq. Foot | 51.15 |
| 7f | Asphalt Disposal/Recycling | Sq. Foot | 0 |
| 7g | 5,000-gallon Frac Tank | Day | 0 |
| 7h | Air Monitoring | Day | 1250 |
| 8 | Site Restoration | | |
| 8a | 22a Gravel | Ton | 57.2 |
| 8b | Crushed Limestone | Ton | 0 |
| 8c | Asphalt Paving (4" Thick) | Sq. Foot | 0 |
| 8d | Concrete | cubic yard | 0 |
| 8e | 2" Topsoil and Seeding | Sq. Foot | 2502.5 |
| | Subtotal Construction | | |
| 9 | Mobilization, Demobilization and General Conditions | % of construction | 6 |
| | Subtotal Design & Construction (D&C) | | |

| | |
|----------------------------|----|
| TOTAL PROJECT COST: | \$ |
| Management | \$ |
| Design Construction | \$ |
| | \$ |

2022 Tank & Soil Removal ISID Unit Pricing

BIDDER NAME: Environmental Resources Group LLC

DISTRICT: JACKSON - UNIT PRICING

| Line Item | Description | Units | Unit Price |
|-----------|---|-------------|------------|
| 1a | Project Administration | % of D&C | 2 |
| 2 | Professional Services | | |
| 2a | Site Visit | Lump Sum | 785 |
| 2b | Excavation Plans/Drawings | Lump Sum | 2225 |
| 2c | UST Removal/Excavation Oversight | Day | 18060 |
| 2d | Construction/Removal Report | Lump Sum | 2135 |
| 2e | Notification to Remove and UST registration | Lump Sum | 380 |
| 2f | UST Removal (Part 211) Site Assessment and Reporting | Lump Sum | 735 |
| 2g | Monitoring Well Abandonment | Lineal Foot | 0 |
| 2h | Monitor Well Installation - Hollow Stem Auger | Lineal Foot | 0 |
| 2i | Mobilization and Demobilization - Hollow Stem Auger Drilling Equipment | Lump Sum | 0 |
| 2j | Monitor Well Installation – Geoprobe | Lineal Foot | 1435 |
| 2k | Mobilization and Demobilization - Geoprobe Equipment for Monitoring Well and Soil Vapor Monitoring Point Installation | Lump Sum | 1375 |
| 2l | Groundwater Monitoring and Reporting | Event | 10540 |
| 2m | Soil Vapor Monitoring Points Installation- Geoprobe | Lineal Foot | 1875 |
| 2n | Sub Slab Soil Gas Vapor Pin Installation | Each | 975 |
| 2o | Soil Vapor Monitoring and Reporting | Event | 11540 |
| 3 | UST System Close in Place (includes removing liquids and sludges, cleaning and filling with an inert solid material) | | |
| 3a | 0 - 1000 gallon | Tank | 6050 |
| 3b | 1001 - 4000 gallon | Tank | 0 |
| 3c | 4001 - 6000 gallon | Tank | 0 |
| 3d | 6001 - 8000 gallon | Tank | 0 |
| 3e | 8001 - 10,000 gallon | Tank | 0 |
| 3f | 10,001 - 12,000 gallon | Tank | 0 |
| 3g | 12, 001 - 15,000 gallon | Tank | 0 |
| 3h | 15,001 - 20,000 gallon | Tank | 0 |
| 4 | UST System Removal and Disposal (includes purging, cleaning and all associated piping) | | |
| 4a | 0 - 1000 gallon | Tank | 0 |
| 4b | 1001 - 4000 gallon | Tank | 0 |
| 4c | 4001 - 6000 gallon | Tank | 0 |
| 4d | 6001 - 8000 gallon | Tank | 7700 |
| 4e | 8001 - 10,000 gallon | Tank | 9350 |
| 4f | 10,001 - 12,000 gallon | Tank | 0 |
| 4g | 12, 001 - 15,000 gallon | Tank | 0 |
| 4h | 15,001 - 20,000 gallon | Tank | 0 |
| 5 | Excavation, Transportation, and Disposal of Non-Hazardous Soil and Excavation Backfill | | |
| 5a | 0- 250 tons | Ton | 0 |
| 5b | 251 - 500 tons | Ton | 0 |
| 5c | 501 - 1000 tons | Ton | 79664 |
| 5d | 1001 - 2000 tons | Ton | 0 |

| | | | |
|----------|--|-------------------|-------------|
| 5e | > 2000 tons | Ton | 0 |
| 6 | Waste Characterization and Disposal | Units | |
| 6a | Non- Hazardous Liquid | Gallon | 1017.5 |
| 6b | Hazardous Liquid | Gallon | 0 |
| 6c | Hazardous Solid / Sludge | Gallon | 0 |
| 6d | 55-gallon drum removal - Non-Hazardous Solid/Sludge | Drum | 376.25 |
| 6e | 55-gallon drum removal - Hazardous Solid/Sludge | Drum | 0 |
| 7 | Miscellaneous | | |
| 7a | Vac Truck and Operator | Day | 2640 |
| 7b | Site Preparation Including Excavation Sloping and Overburden Stockpiling | Cubic yard | 2062.5 |
| 7c | Clearing and Chipping Dense & Woody Vegetation | Day | 440 |
| 7d | Provisionary Allowance | Allowance | \$10,000.00 |
| 7e | Concrete Disposal/Recycling | Sq. Foot | 51.15 |
| 7f | Asphalt Disposal/Recycling | Sq. Foot | 0 |
| 7g | 5,000-gallon Frac Tank | Day | 0 |
| 7h | Air Monitoring | Day | 1250 |
| 8 | Site Restoration | | |
| 8a | 22a Gravel | Ton | 57.2 |
| 8b | Crushed Limestone | Ton | 0 |
| 8c | Asphalt Paving (4" Thick) | Sq. Foot | 0 |
| 8d | Concrete | cubic yard | 0 |
| 8e | 2" Topsoil and Seeding | Sq. Foot | 2502.5 |
| | Subtotal Construction | | |
| 9 | Mobilization, Demobilization and General Conditions | % of construction | 6 |
| | Subtotal Design & Construction (D&C) | | |

| | |
|----------------------------|----|
| TOTAL PROJECT COST: | \$ |
| Management | \$ |
| Design Construction | \$ |
| | \$ |

2022 Tank & Soil Removal ISID Unit Pricing

BIDDER NAME: Environmental Resources Group LLC

DISTRICT: WARREN - UNIT PRICING

| Line Item | Description | Units | Unit Price |
|-----------|---|-------------|------------|
| 1a | Project Administration | % of D&C | 2 |
| 2 | Professional Services | | |
| 2a | Site Visit | Lump Sum | 712.5 |
| 2b | Excavation Plans/Drawings | Lump Sum | 2225 |
| 2c | UST Removal/Excavation Oversight | Day | 16250 |
| 2d | Construction/Removal Report | Lump Sum | 2135 |
| 2e | Notification to Remove and UST registration | Lump Sum | 375 |
| 2f | UST Removal (Part 211) Site Assessment and Reporting | Lump Sum | 735 |
| 2g | Monitoring Well Abandonment | Lineal Foot | 0 |
| 2h | Monitor Well Installation - Hollow Stem Auger | Lineal Foot | 0 |
| 2i | Mobilization and Demobilization - Hollow Stem Auger Drilling Equipment | Lump Sum | 0 |
| 2j | Monitor Well Installation – Geoprobe | Lineal Foot | 1435 |
| 2k | Mobilization and Demobilization - Geoprobe Equipment for Monitoring Well and Soil Vapor Monitoring Point Installation | Lump Sum | 1375 |
| 2l | Groundwater Monitoring and Reporting | Event | 10540 |
| 2m | Soil Vapor Monitoring Points Installation- Geoprobe | Lineal Foot | 1875 |
| 2n | Sub Slab Soil Gas Vapor Pin Installation | Each | 975 |
| 2o | Soil Vapor Monitoring and Reporting | Event | 11540 |
| 3 | UST System Close in Place (includes removing liquids and sludges, cleaning and filling with an inert solid material) | | |
| 3a | 0 - 1000 gallon | Tank | 6050 |
| 3b | 1001 - 4000 gallon | Tank | 0 |
| 3c | 4001 - 6000 gallon | Tank | 0 |
| 3d | 6001 - 8000 gallon | Tank | 0 |
| 3e | 8001 - 10,000 gallon | Tank | 0 |
| 3f | 10,001 - 12,000 gallon | Tank | 0 |
| 3g | 12, 001 - 15,000 gallon | Tank | 0 |
| 3h | 15,001 - 20,000 gallon | Tank | 0 |
| 4 | UST System Removal and Disposal (includes purging, cleaning and all associated piping) | | |
| 4a | 0 - 1000 gallon | Tank | 0 |
| 4b | 1001 - 4000 gallon | Tank | 0 |
| 4c | 4001 - 6000 gallon | Tank | 0 |
| 4d | 6001 - 8000 gallon | Tank | 7700 |
| 4e | 8001 - 10,000 gallon | Tank | 9350 |
| 4f | 10,001 - 12,000 gallon | Tank | 0 |
| 4g | 12, 001 - 15,000 gallon | Tank | 0 |
| 4h | 15,001 - 20,000 gallon | Tank | 0 |
| 5 | Excavation, Transportation, and Disposal of Non-Hazardous Soil and Excavation Backfill | | |
| 5a | 0- 250 tons | Ton | 0 |
| 5b | 251 - 500 tons | Ton | 0 |
| 5c | 501 - 1000 tons | Ton | 60500 |
| 5d | 1001 - 2000 tons | Ton | 0 |

| | | | |
|----------|--|-------------------|-------------|
| 5e | > 2000 tons | Ton | 0 |
| 6 | Waste Characterization and Disposal | Units | |
| 6a | Non- Hazardous Liquid | Gallon | 1017.5 |
| 6b | Hazardous Liquid | Gallon | 0 |
| 6c | Hazardous Solid / Sludge | Gallon | 0 |
| 6d | 55-gallon drum removal - Non-Hazardous Solid/Sludge | Drum | 275 |
| 6e | 55-gallon drum removal - Hazardous Solid/Sludge | Drum | 0 |
| 7 | Miscellaneous | | |
| 7a | Vac Truck and Operator | Day | 2640 |
| 7b | Site Preparation Including Excavation Sloping and Overburden Stockpiling | Cubic yard | 2062.5 |
| 7c | Clearing and Chipping Dense & Woody Vegetation | Day | 440 |
| 7d | Provisionary Allowance | Allowance | \$10,000.00 |
| 7e | Concrete Disposal/Recycling | Sq. Foot | 51.15 |
| 7f | Asphalt Disposal/Recycling | Sq. Foot | 0 |
| 7g | 5,000-gallon Frac Tank | Day | 0 |
| 7h | Air Monitoring | Day | 1250 |
| 8 | Site Restoration | | |
| 8a | 22a Gravel | Ton | 57.2 |
| 8b | Crushed Limestone | Ton | 0 |
| 8c | Asphalt Paving (4" Thick) | Sq. Foot | 0 |
| 8d | Concrete | cubic yard | 0 |
| 8e | 2" Topsoil and Seeding | Sq. Foot | 2502.5 |
| | Subtotal Construction | | |
| 9 | Mobilization, Demobilization and General Conditions | % of construction | 6 |
| | Subtotal Design & Construction (D&C) | | |

| | |
|----------------------------|----|
| TOTAL PROJECT COST: | \$ |
| Management | \$ |
| Design Construction | \$ |
| | \$ |

2022 Tank & Soil Removal ISID Unit Pricing

BIDDER NAME: Environmental Resources Group, LLC

DISTRICT: GAYLORD - UNIT PRICING

| Line Item | Description | Units | Unit Price |
|------------------|---|--------------|-------------------|
| 1a | Project Administration | % of D&C | 2% |
| 2 | Professional Services | | |
| 2a | Site Visit | Lump Sum | \$785.00 |
| 2b | Excavation Plans/Drawings | Lump Sum | \$2,225.00 |
| 2c | UST Removal/Excavation Oversight | Day | \$1,806.00 |
| 2d | Construction/Removal Report | Lump Sum | \$2,135.00 |
| 2e | Notification to Remove and UST registration | Lump Sum | \$380.00 |
| 2f | UST Removal (Part 211) Site Assessment and Reporting | Lump Sum | \$735.00 |
| 2g | Monitoring Well Abandonment | Lineal Foot | \$16.64 |
| 2h | Monitor Well Installation - Hollow Stem Auger | Lineal Foot | \$48.88 |
| 2i | Mobilization and Demobilization - Hollow Stem Auger Drilling Equipment | Lump Sum | \$2,449.00 |
| 2j | Monitor Well Installation – Geoprobe | Lineal Foot | \$41.00 |
| 2k | Mobilization and Demobilization - Geoprobe Equipment for Monitoring Well and Soil Vapor Monitoring Point Installation | Lump Sum | \$1,375.00 |
| 2l | Groundwater Monitoring and Reporting | Event | \$2,635.00 |
| 2m | Soil Vapor Monitoring Points Installation- Geoprobe | Lineal Foot | \$62.20 |
| 2n | Sub Slab Soil Gas Vapor Pin Installation | Each | \$195.00 |
| 2o | Soil Vapor Monitoring and Reporting | Event | \$2,885.00 |
| 3 | UST System Close in Place (includes removing liquids and sludges, cleaning and filling with an inert solid material) | | |
| 3a | 0 - 1000 gallon | Tank | \$6,050.00 |
| 3b | 1001 - 4000 gallon | Tank | \$7,150.00 |
| 3c | 4001 - 6000 gallon | Tank | \$7,700.00 |
| 3d | 6001 - 8000 gallon | Tank | \$8,800.00 |
| 3e | 8001 - 10,000 gallon | Tank | \$11,000.00 |
| 3f | 10,001 - 12,000 gallon | Tank | \$13,200.00 |
| 3g | 12, 001 - 15,000 gallon | Tank | \$16,500.00 |
| 3h | 15,001 - 20,000 gallon | Tank | \$18,700.00 |
| 4 | UST System Removal and Disposal (includes purging, cleaning and all associated piping) | | |
| 4a | 0 - 1000 gallon | Tank | \$2,750.00 |
| 4b | 1001 - 4000 gallon | Tank | \$4,400.00 |
| 4c | 4001 - 6000 gallon | Tank | \$5,500.00 |
| 4d | 6001 - 8000 gallon | Tank | \$7,700.00 |
| 4e | 8001 - 10,000 gallon | Tank | \$9,350.00 |
| 4f | 10,001 - 12,000 gallon | Tank | \$11,440.00 |
| 4g | 12, 001 - 15,000 gallon | Tank | \$14,300.00 |
| 4h | 15,001 - 20,000 gallon | Tank | \$16,500.00 |
| 5 | Excavation, Transportation, and Disposal of Non-Hazardous Soil and Excavation Backfill | | |
| 5a | 0- 250 tons | Ton | \$100.62 |
| 5b | 251 - 500 tons | Ton | \$89.44 |
| 5c | 501 - 1000 tons | Ton | \$79.66 |
| 5d | 1001 - 2000 tons | Ton | \$72.67 |
| 5e | > 2000 tons | Ton | \$72.67 |

| | | | |
|----------|--|-------------------|-------------|
| 6 | Waste Characterization and Disposal | Units | |
| 6a | Non- Hazardous Liquid | Gallon | \$2.04 |
| 6b | Hazardous Liquid | Gallon | \$3.41 |
| 6c | Hazardous Solid / Sludge | Gallon | \$4.62 |
| 6d | 55-gallon drum removal - Non-Hazardous Solid/Sludge | Drum | \$376.25 |
| 6e | 55-gallon drum removal - Hazardous Solid/Sludge | Drum | \$605.00 |
| 7 | Miscellaneous | | |
| 7a | Vac Truck and Operator | Day | \$2,640.00 |
| 7b | Site Preparation Including Excavation Sloping and Overburden Stockpiling | Cubic yard | \$20.63 |
| 7c | Clearing and Chipping Dense & Woody Vegetation | Day | \$440.00 |
| 7d | Provisionary Allowance | Allowance | \$10,000.00 |
| 7e | Concrete Disposal/Recycling | Sq. Foot | \$1.71 |
| 7f | Asphalt Disposal/Recycling | Sq. Foot | \$1.49 |
| 7g | 5,000-gallon Frac Tank | Day | \$550.00 |
| 7h | Air Monitoring | Day | \$625.00 |
| 8 | Site Restoration | | |
| 8a | 22a Gravel | Ton | \$31.35 |
| 8b | Crushed Limestone | Ton | \$53.90 |
| 8c | Asphalt Paving (4" Thick) | Sq. Foot | \$8.25 |
| 8d | Concrete | cubic yard | \$12.30 |
| 8e | 2" Topsoil and Seeding | Sq. Foot | \$5.01 |
| | Subtotal Construction | | |
| 9 | Mobilization, Demobilization and General Conditions | % of construction | 6.00% |
| | Subtotal Design & Construction (D&C) | | |

TOTAL PROJECT COST:

Management

Design Construction

| |
|----|
| \$ |
| \$ |
| \$ |
| \$ |

BIDDER NAME: Environmental Resources Group, LLC

DISTRICT: CADILLAC - UNIT PRICING

| Line Item | Description | Units | Unit Price |
|-----------|---|--------------|-------------|
| 1a | Project Administration | % of D&C | 2.00% |
| 2 | Professional Services | | |
| 2a | Site Visit | Lump Sum | \$785.00 |
| 2b | Excavation Plans/Drawings | Lump Sum | \$2,225.00 |
| 2c | UST Removal/Excavation Oversight | Day | \$1,806.00 |
| 2d | Construction/Removal Report | Lump Sum | \$2,135.00 |
| 2e | Notification to Remove and UST registration | Lump Sum | \$380.00 |
| 2f | UST Removal (Part 211) Site Assessment and Reporting | Lump Sum | \$735.00 |
| 2g | Monitoring Well Abandonment | Lineal Foot | \$16.64 |
| 2h | Monitor Well Installation - Hollow Stem Auger | Lineal Foot | \$48.88 |
| 2i | Mobilization and Demobilization - Hollow Stem Auger Drilling Equipment | Lump Sum | \$2,449.00 |
| 2j | Monitor Well Installation – Geoprobe | Lineal Foot | \$41.00 |
| 2k | Mobilization and Demobilization - Geoprobe Equipment for Monitoring Well and Soil Vapor Monitoring Point Installation | Lump Sum | \$1,375.00 |
| 2l | Groundwater Monitoring and Reporting | Event | \$2,635.00 |
| 2m | Soil Vapor Monitoring Points Installation- Geoprobe | Lineal Foot | \$62.50 |
| 2n | Sub Slab Soil Gas Vapor Pin Installation | Each | \$195.00 |
| 2o | Soil Vapor Monitoring and Reporting | Event | \$2,885.00 |
| 3 | UST System Close in Place (includes removing liquids and sludges, cleaning and filling with an inert solid material) | | |
| 3a | 0 - 1000 gallon | Tank | \$6,050.00 |
| 3b | 1001 - 4000 gallon | Tank | \$7,150.00 |
| 3c | 4001 - 6000 gallon | Tank | \$7,700.00 |
| 3d | 6001 - 8000 gallon | Tank | \$8,800.00 |
| 3e | 8001 - 10,000 gallon | Tank | \$11,000.00 |
| 3f | 10,001 - 12,000 gallon | Tank | \$13,200.00 |
| 3g | 12, 001 - 15,000 gallon | Tank | \$16,500.00 |
| 3h | 15,001 - 20,000 gallon | Tank | \$18,700.00 |
| 4 | UST System Removal and Disposal (includes purging, cleaning and all associated piping) | | |
| 4a | 0 - 1000 gallon | Tank | \$2,750.00 |
| 4b | 1001 - 4000 gallon | Tank | \$4,400.00 |
| 4c | 4001 - 6000 gallon | Tank | \$5,500.00 |
| 4d | 6001 - 8000 gallon | Tank | \$7,700.00 |
| 4e | 8001 - 10,000 gallon | Tank | \$9,350.00 |
| 4f | 10,001 - 12,000 gallon | Tank | \$11,440.00 |
| 4g | 12, 001 - 15,000 gallon | Tank | \$14,300.00 |
| 4h | 15,001 - 20,000 gallon | Tank | \$16,500.00 |
| 5 | Excavation, Transportation, and Disposal of Non-Hazardous Soil and Excavation Backfill | | |
| 5a | 0- 250 tons | Ton | \$120.12 |
| 5b | 251 - 500 tons | Ton | \$108.94 |
| 5c | 501 - 1000 tons | Ton | \$99.16 |
| 5d | 1001 - 2000 tons | Ton | \$92.17 |
| 5e | > 2000 tons | Ton | \$92.17 |
| 6 | Waste Characterization and Disposal | Units | |

| | | | |
|----------|--|-------------------|-------------|
| 6a | Non- Hazardous Liquid | Gallon | \$2.04 |
| 6b | Hazardous Liquid | Gallon | \$3.41 |
| 6c | Hazardous Solid / Sludge | Gallon | \$4.62 |
| 6d | 55-gallon drum removal - Non-Hazardous Solid/Sludge | Drum | \$376.25 |
| 6e | 55-gallon drum removal - Hazardous Solid/Sludge | Drum | \$605.00 |
| 7 | Miscellaneous | | |
| 7a | Vac Truck and Operator | Day | \$2,640.00 |
| 7b | Site Preparation Including Excavation Sloping and Overburden Stockpiling | Cubic yard | \$20.63 |
| 7c | Clearing and Chipping Dense & Woody Vegetation | Day | \$440.00 |
| 7d | Provisionary Allowance | Allowance | \$10,000.00 |
| 7e | Concrete Disposal/Recycling | Sq. Foot | \$1.71 |
| 7f | Asphalt Disposal/Recycling | Sq. Foot | \$1.49 |
| 7g | 5,000-gallon Frac Tank | Day | \$550.00 |
| 7h | Air Monitoring | Day | \$625.00 |
| 8 | Site Restoration | | |
| 8a | 22a Gravel | Ton | \$31.35 |
| 8b | Crushed Limestone | Ton | \$53.90 |
| 8c | Asphalt Paving (4" Thick) | Sq. Foot | \$8.25 |
| 8d | Concrete | cubic yard | \$12.30 |
| 8e | 2" Topsoil and Seeding | Sq. Foot | \$5.01 |
| | Subtotal Construction | | |
| 9 | Mobilization, Demobilization and General Conditions | % of construction | 6.00% |
| | Subtotal Design & Construction (D&C) | | |

| | |
|----------------------------|----|
| TOTAL PROJECT COST: | \$ |
| Management | \$ |
| Design Construction | \$ |
| | \$ |

2022 Tank & Soil Removal ISID Unit Pricing

BIDDER NAME: Environmental Resources Group, LLC

DISTRICT: BAY CITY - UNIT PRICING

| Line Item | Description | Units | Unit Price |
|------------------|---|--------------|-------------------|
| 1a | Project Administration | % of D&C | 2.00% |
| 2 | Professional Services | | |
| 2a | Site Visit | Lump Sum | \$785.00 |
| 2b | Excavation Plans/Drawings | Lump Sum | \$2,225.00 |
| 2c | UST Removal/Excavation Oversight | Day | \$1,806.00 |
| 2d | Construction/Removal Report | Lump Sum | \$2,135.00 |
| 2e | Notification to Remove and UST registration | Lump Sum | \$380.00 |
| 2f | UST Removal (Part 211) Site Assessment and Reporting | Lump Sum | \$735.00 |
| 2g | Monitoring Well Abandonment | Lineal Foot | \$16.64 |
| 2h | Monitor Well Installation - Hollow Stem Auger | Lineal Foot | \$48.88 |
| 2i | Mobilization and Demobilization - Hollow Stem Auger Drilling Equipment | Lump Sum | \$2,449.00 |
| 2j | Monitor Well Installation – Geoprobe | Lineal Foot | \$41.00 |
| 2k | Mobilization and Demobilization - Geoprobe Equipment for Monitoring Well and Soil Vapor Monitoring Point Installation | Lump Sum | \$1,375.00 |
| 2l | Groundwater Monitoring and Reporting | Event | \$2,635.00 |
| 2m | Soil Vapor Monitoring Points Installation- Geoprobe | Lineal Foot | \$62.50 |
| 2n | Sub Slab Soil Gas Vapor Pin Installation | Each | \$195.00 |
| 2o | Soil Vapor Monitoring and Reporting | Event | \$2,885.00 |
| 3 | UST System Close in Place (includes removing liquids and sludges, cleaning and filling with an inert solid material) | | |
| 3a | 0 - 1000 gallon | Tank | \$6,050.00 |
| 3b | 1001 - 4000 gallon | Tank | \$7,150.00 |
| 3c | 4001 - 6000 gallon | Tank | \$7,700.00 |
| 3d | 6001 - 8000 gallon | Tank | \$8,800.00 |
| 3e | 8001 - 10,000 gallon | Tank | \$11,000.00 |
| 3f | 10,001 - 12,000 gallon | Tank | \$13,200.00 |
| 3g | 12, 001 - 15,000 gallon | Tank | \$16,500.00 |
| 3h | 15,001 - 20,000 gallon | Tank | \$18,700.00 |
| 4 | UST System Removal and Disposal (includes purging, cleaning and all associated piping) | | |
| 4a | 0 - 1000 gallon | Tank | \$2,750.00 |
| 4b | 1001 - 4000 gallon | Tank | \$4,400.00 |
| 4c | 4001 - 6000 gallon | Tank | \$5,500.00 |
| 4d | 6001 - 8000 gallon | Tank | \$7,700.00 |
| 4e | 8001 - 10,000 gallon | Tank | \$9,350.00 |
| 4f | 10,001 - 12,000 gallon | Tank | \$11,440.00 |
| 4g | 12, 001 - 15,000 gallon | Tank | \$14,300.00 |
| 4h | 15,001 - 20,000 gallon | Tank | \$16,500.00 |
| 5 | Excavation, Transportation, and Disposal of Non-Hazardous Soil and Excavation Backfill | | |
| 5a | 0- 250 tons | Ton | \$120.12 |
| 5b | 251 - 500 tons | Ton | \$108.94 |
| 5c | 501 - 1000 tons | Ton | \$99.16 |
| 5d | 1001 - 2000 tons | Ton | \$92.17 |
| 5e | > 2000 tons | Ton | \$92.17 |

| | | | |
|----------|--|-------------------|-------------|
| 6 | Waste Characterization and Disposal | Units | |
| 6a | Non- Hazardous Liquid | Gallon | \$2.04 |
| 6b | Hazardous Liquid | Gallon | \$3.41 |
| 6c | Hazardous Solid / Sludge | Gallon | \$4.62 |
| 6d | 55-gallon drum removal - Non-Hazardous Solid/Sludge | Drum | \$376.25 |
| 6e | 55-gallon drum removal - Hazardous Solid/Sludge | Drum | \$605.00 |
| 7 | Miscellaneous | | |
| 7a | Vac Truck and Operator | Day | \$2,640.00 |
| 7b | Site Preparation Including Excavation Sloping and Overburden Stockpiling | Cubic yard | \$20.63 |
| 7c | Clearing and Chipping Dense & Woody Vegetation | Day | \$440.00 |
| 7d | Provisionary Allowance | Allowance | \$10,000.00 |
| 7e | Concrete Disposal/Recycling | Sq. Foot | \$1.71 |
| 7f | Asphalt Disposal/Recycling | Sq. Foot | \$1.49 |
| 7g | 5,000-gallon Frac Tank | Day | \$550.00 |
| 7h | Air Monitoring | Day | \$625.00 |
| 8 | Site Restoration | | |
| 8a | 22a Gravel | Ton | \$31.35 |
| 8b | Crushed Limestone | Ton | \$53.90 |
| 8c | Asphalt Paving (4" Thick) | Sq. Foot | \$8.25 |
| 8d | Concrete | cubic yard | \$12.30 |
| 8e | 2" Topsoil and Seeding | Sq. Foot | \$5.01 |
| | Subtotal Construction | | |
| 9 | Mobilization, Demobilization and General Conditions | % of construction | 6.00% |
| | Subtotal Design & Construction (D&C) | | |

TOTAL PROJECT COST:

Management

Design Construction

| |
|----|
| \$ |
| \$ |
| \$ |
| \$ |

APPENDIX I

SPECIAL WORKING CONDITIONS

SPECIAL WORKING CONDITIONS

DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

The assigned Work under this ISID contract will be performed at sites selected by the Department of Environment, Great Lakes, and Energy (EGLE). The DB Entity must comply with all rules and regulations pertaining to such sites and must conform to the following rules. However, each assigned site will have its own special working conditions. The State project manager will specify the additional special working conditions.

1. The DB Entity must always provide a competent Superintendent satisfactory to the Department of Environment, Great Lakes, and Energy on the work site during working hours with full authority to act for him or her. It must be the DB Entity's responsibility to furnish the Department of Environment, Great Lakes and Energy with the name, address, and telephone number of the responsible person to contact for Emergency during after hour, weekend, and holiday periods.
2. Access to and egress from the site must be via routes specifically designated by the Department of Environment, Great Lakes, and Energy authorized representative.
3. No Work must be performed at the site on Saturdays, Sundays, holidays or during night hours without the written permission from the Department of Environment, Great Lakes, and Energy.
4. Areas on the site for employee parking, toolboxes, material lay down, etc., must be assigned by the Department of Environment, Great Lakes, and Energy. All firearms, weapons, alcoholic beverages, or explosives must be removed from vehicles before entering the site;
5. Heavy equipment such as bulldozers and power shovels must be locked or immobilized in an acceptable manner when not in use. No tools, small pipe, copper, or wire must remain on the site overnight, unless locked inside shanties or tool chests. There will be no exchange, loaning or borrowing of tools, equipment or labor between the Department of Environment, Great Lakes and Energy and the DB Entity.

APPENDIX V

**SPECIAL PROJECT
PROCEDURES**

SOIL EROSION AND SEDIMENTATION CONTROL PROJECT PROCEDURES FOR CONTRACTORS ON DTMB OWNED AND MANAGED PROPERTIES

1. Comply with Part 91, Soil Erosion and Sedimentation Control of the Natural Resources and Environmental Protection Act 1994 PA 451, as amended.
 2. Contact the DTMB, SFA, Design and Construction Division to discuss the implementation of soil erosion and sedimentation control (SESC) on the Project. Phone **(517) 284-7911**; FAX **(517) 284-7971**.
 3. Following the award of a contract, the Contractor will be required to prepare and issue for approval an SESC Implementation Plan, which indicates the Contractor's intended implementation of SESC on the project including a schedule and sequence. The SESC program, upon approval of the implementation plan, will issue to the Contractor an "Authorization to Proceed with Earth Change" document, which is to be posted at the job site. This document is issued in lieu of a permit from the county. Earthwork shall not begin prior to the issuance of this Authorization. Upon receipt of the Authorization document, the Contractor may begin earth change activities.
 4. See below the "Checklist for Contractor's SESC Implementation Plan" for details of the required information necessary for the Contractor to create the SESC Implementation Plan. The intent of this plan is to ensure that the Contractor has reviewed and understands the SESC provisions within the plans and specifications.
 5. CHECKLIST FOR CONTRACTOR'S SOIL EROSION AND SEDIMENTATION CONTROL IMPLEMENTATION PLAN (For projects that include earth changes or disturb existing vegetation):
-

DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
STATE FACILITIES ADMINISTRATION, DESIGN AND CONSTRUCTION DIVISION

SOIL EROSION AND SEDIMENTATION CONTROL PROGRAM

P.O. Box 30026, Lansing, Michigan 48909

PROJECT TITLE:

PROJECT LOCATION:

PROJECT FILE NUMBER:

INDEX NUMBER:

Prior to the start of earthwork, the Contractor must submit a Soil Erosion and Sedimentation Control (SESC) Implementation Plan to the Michigan Department of Technology, Management and Budget, Soil Erosion and Sedimentation Control Program. The intent of this plan is to ensure that the Contractor has reviewed and understands the SESC provisions within the plans and specifications. The following checklist will provide Contractors with assistance in creating the SESC Implementation Plan.

The SESC Implementation Plan must include:

1. ☐ A written plan or letter demonstrating:
 - ☐ The Contractor's means and methods for the implementation of SESC provisions included within the plans and specifications and compliance with the provisions of Part 91 of PA 451 of 1994, as amended.
 - ☐ The Contractor's plan for dust control.
 - ☐ The Contractor's plan for inspection and maintenance of temporary SESC's.
2. ☐ A map, location plan, drawing, or amended copy of the Project SESC or grading plan showing:
 - ☐ The locations of any stockpiles of soil associated with the Project
 - ☐ The temporary SESC controls associated with stockpiles of soil
 - ☐ The Contractor's suggested or proposed additions or relocations of any temporary or permanent SESC's. associated with the Project plans and specifications (subject to approval by Engineer and DTMB)
 - ☐ Location of site entrances, exits and vehicle routes
 - ☐ Location of site superintendent's/project manager's site trailer or office (for SESC Inspector check-in)
3. ☐ A schedule for the installation and removal of temporary controls and the installation of permanent soil erosion and sedimentation controls in relation to the overall construction schedule.

Submit the above items to the above address.

Upon approval of the Contractor's plan, an "Authorization to Proceed with Earth Change" will be issued by DTMB, Design and Construction Division.

DEMOLITION/REMODELING PROJECT PROCEDURES

Furnish all equipment, materials, labor, and services necessary to complete all building demolition required in connection with the existing building, to permit the installation of new Work. The goal of the Owner is to generate the least amount of waste or debris possible. However, inevitable waste and debris that are generated shall be reused, salvaged, or recycled, and disposal in landfills shall be minimized to the extent economically feasible. The Contractor will be required to prepare waste management plan for the collection, handling, storage, transportation, and disposal of the waste generated at the construction site for the Owner's review and approval. The Contractor will be required to produce waste management progress reports.

1. Locations: Notations are made in various places on the Drawings to call attention to building demolition which is required; however, these Drawings are not intended to show each and every item to be removed. The Contractor and the Subcontractors for the various trades must remove the materials related to their respective trades as required to permit the construction of the new Work as shown.
2. Permits: The Contractor must secure from the appropriate agencies all required permits necessary for proper execution of the work before starting work on the project site. All fees for securing the permits must be paid by the Contractor, including all inspection costs which may be legally assessed by the Bureau of Construction Codes in accordance with the authority granted under the Public Act 1980 PA 371, as amended.
3. Enclosures: Where it is necessary to make alterations to walls, floors or roof of the existing building, the Contractor must provide and maintain dustproof partitions to separate the parts where Work is being done from the adjoining parts occupied by the State Agency. Where any parts are opened and exposed to the elements, the Contractor must provide weather tight enclosures to fully protect the structure and its contents.
4. Waste Management Plan: The management plan must address waste source identification and separation, returns, reuse and salvage, recycling, landfill options, alternatives to landfilling, materials handling procedures and transportation.
5. Preparation: Protect all existing Work that is to remain and restore in an approved manner any such Work that becomes damaged.
- 5.1 Rubbish and debris resulting from the Work must be removed immediately from the site by the Contractor. However, any recyclable materials must be recycled; the Contractor will be required to use alternatives to landfills for waste disposal such as reuse or recycle of asphalt, bricks, concrete, masonry, plastics, paint, glass, carpet, metals, wood, drywall, insulation, and any other waste materials to the extent practical.
- 5.2 Unless otherwise specified, the Agency will remove existing furniture, drapery tracks, draperies, window blinds, and other equipment items, which might interfere with the new construction.
6. Coordination: Demolition work, in connection with any new unit of Work, must not be commenced until all new materials required for completion of that added item of Work are at hand.

7. Waste Management Plan Progress Reports: Submit an updated report with the payment requests. The progress reports shall include:
 - a. The amount of waste sent to a landfill, tipping fees paid and the total disposal cost. Include supporting documents such as manifests, weight tickets, receipts and/or invoices.
 - b. Records for each material recycled/reused/salvaged from the project including the amount, date removed from the job site, final destination, transportation cost, recycled materials, and the net cost/ savings.
 - c. Breakdown of waste by type generated to date.
 - d. Recycling/salvage/landfill rates.
 - e. Percent of waste recycled/salvaged to date.

HAZARDOUS MATERIALS PROJECT PROCEDURES

1. The Contractor must use, handle, store, dispose of, process, transport and transfer any material considered a Hazardous Material in accordance with all Federal, State, and local Laws. If the Contractor encounters material reasonably believed to be a Hazardous Material and which may present a substantial danger, the Contractor must immediately stop all affected work, give written notice to the Owner of the conditions encountered, and take appropriate health and safety precautions.
2. This project has been identified by the DTMB-SFA as having a possibility of containing Hazardous Waste materials to be legally removed from the Project job site to complete the Work as described in the Proposal and Contract. If removal of friable asbestos material is required, the Contractor must contact the Air Quality Division, Department of Environmental Quality, at **(517) 284-6773**, for a permit and furnish all training, labor, materials, services, insurance, and equipment necessary to carry out the removal operations of all Hazardous Materials from the Project job site, as identified by the Scope of Work, or encountered on the Project job site, in accordance with State and Federal Hazardous Waste Codes. A Contract Change Order will be written to modify the existing Contract to pay for the additional cost.
3. Environmental Hazards (air, water, land, and liquid industrial) are handled by the Waste and Hazardous Materials Division, Michigan Department of Environmental Quality (DEQ) in carrying out the requirements of the Federal Environmental Protection Agency (EPA). For general information and/or a copy of the latest regulations and publications call (517) 335-2690.
4. The Michigan Occupational Safety and Health Administration (MIOSHA) provides protection and regulations for the safety and health of workers. The Department of Licensing and Regulatory Affairs provides for the safety of workers. The Department of Community Health provides for the health of workers (517/373-3740) (TDD 517/373-3573).
 - 4.1 Contractor must post any applicable State and/or Federal government regulations at the job site in a prominent location.
 - 4.2 Contractor must be responsible for training their workers in safe work practices and in proper removal methods when encountering hazardous chemicals.
5. Applicable Regulations:
 - 5.1 Natural Resources and Environmental Protection Act – PA 451 of 1994, as amended, including Part 111 – Hazardous Waste Management, Part 121 – Liquid Industrial Waste and Part 147 – PCB compounds.
 - 5.2 RCRA, 1976 - Resource Conservation and Recovery Act: This federal statute regulates generation, transportation, treatment, storage, or disposal of hazardous wastes nationally.
 - 5.3 TSCA, 1979 – Toxic Substances Control Act: This statute regulates the generation, transportation, storage, and disposal of industrial chemicals such as PCBs.
6. Definitions: Hazardous substances are ignitable, corrosive, reactive, and/or toxic, based on their chemical characteristics.
 - 6.1 Under Federal and Michigan Law, a Small Quantity Generator of hazardous waste provides from 220 to less than 2,000 lbs./month or never accumulates 2,200 lbs. or more.

- 6.2 A Generator size provider of hazardous waste provides 2,200 lbs. or more/month or accumulates above 2,200 lbs.
7. Disposals: To use an off-site hazardous waste disposal facility, the Contractor must use the Uniform Hazardous Waste Manifest (shipping paper). Small quantities of hazardous waste may not be disposed of in sanitary landfills used for solid waste.
 8. Federal, State, and local Laws and regulations may apply to the storage, handling and disposal of Hazardous Materials and wastes at each State Agency. Contact the **Environmental Assistance Center** of the Michigan Department of Environmental Quality (MDEQ) at **1-800-662-9278**, Fax to: 517-241-0673 or e-mail to: DEQ-EAD-env-assist@michigan.gov for general MDEQ information including direct and referral assistance on air, water and wetlands permits; contaminated site clean-ups; underground storage tank removals and remediation; hazardous and solid waste disposal; pollution prevention and recycling; and compliance-related assistance. The Center provides businesses, municipalities, and the public with a single point of access to MDEQ's environmental programs.

ASBESTOS ABATEMENT PROJECT PROCEDURES

Should this Work require the renovation or demolition of a building or structure initially constructed on or prior to 1980, the Contractor will use the attached copy of a Comprehensive Asbestos Building Survey for those portions of the building or structure being impacted and must plan his or her work to minimize disturbance of any known or assumed asbestos containing materials (ACM). In addition, if this building or structure were constructed on or prior to 1980, the Contractor's On-Site Superintendent and all Subcontractor On-Site Superintendents for trades that could potentially disturb known or assumed ACM, must, as a minimum, have and provide documentation of current Asbestos Awareness Training.

If the Comprehensive Asbestos Building Survey identifies known or assumed ACM that will potentially be disturbed as a part of the Contractor's renovation or demolition activities, the Contractor must remove, transport, and dispose of these materials at no additional cost to the Owner and prior to any other work taking place within the immediate vicinity of said material. If required, the Contractor must provide the Owner a minimum of 10 working day notification prior to the start of any asbestos abatement activities with abatement in occupied buildings being completed even if they will be conducted during off hours (nights, weekends, and state holidays).

If the Contractor encounters a suspected ACM that was not previously identified within the Comprehensive Asbestos Building Survey, the Contractor must immediately stop all affected work, give written notice to the Owner of the conditions encountered, and take appropriate health and safety precautions. If, after providing Owner notification, the Contractor is directed to sample and/or remove the suspected ACM in question, a Contract Change Order will be written to modify the existing Contract to pay for the additional cost. Any abatement shall be completed in accordance with the requirements of this Section.

If removal of ACM is required, removal must be completed by a contractor currently licensed to remove asbestos by the State of Michigan, Department of Licensing and Regulatory Affairs (DLARA) Asbestos Program and abatement must be performed in accordance with all Federal, State, and local Laws and Regulations. Prior to commencing any asbestos abatement activities, the licensed abatement contractor must submit, as required by Federal, State and Local Laws and Regulations, a "Notification of Intent to Renovate/Demolish" to both the State of Michigan, Department of Environmental Quality (DEQ), Air Quality Division and to the DLARA, Asbestos Program, to comply with National Emission Standards for Hazardous Air Pollutants (NESHAP), and the Clean Air Act (CAA). All regulated ACM must be disposed of at an approved Type II (general refuse) landfill and must be in leak-tight wrapping or containers. ACM that is non friable and is not in poor condition or will not become regulated ACM at any time can be disposed of in a Type III (construction debris) landfill.

At the completion of each abatement activity, the Contractor must perform clearance testing in accordance with National Institute for Occupational Safety and Health (NIOSH) 582 "Sampling and Evaluating Airborne Asbestos Dust". All air samples shall indicate concentrations of less than 0.01 fibers/cc for clearance to be met. Clearance testing shall be performed by a third-party Asbestos Consultant. The Asbestos Consultant selected by the Contractor shall be experienced and knowledgeable about the methods for asbestos air sampling and be able to select representative numbers and locations of samples. It is mandatory that the Asbestos Consultant's on-site hygienist performing sampling and analysis have certification that he/she has passed a NIOSH 582 or equivalent course.

The NESHAP asbestos regulations, notification form, guidelines and fact sheets are available on DEQ's web site www.michigan.gov/deg under heading Air; then click on Asbestos NESHAP Program. For guidelines on submitting notifications pursuant to the Asbestos Contractors Licensing Act, contact the DLARA, Occupational Health Division, Asbestos Program at (517) 322-1320 or visit DLARA's web site www.michigan.gov/asbestos.

LEAD ABATEMENT PROJECT PROCEDURES

Should this Work require the renovation or demolition of a building or structure, the workers are assumed to be exposed to lead or materials containing lead above acceptable levels until proven otherwise through personal air sampling and analysis. The Contractor shall take all steps necessary to assure that his/her employees, are not exposed to lead at concentrations greater than the Permissible Exposure Limit as per the State of Michigan Department of Licensing and Regulatory Affairs Occupational Health Standards Part 603 "Lead Exposure in Construction". In addition, the Contractor shall convey this same requirement to all subcontractors that may be under his/her control.

The employer shall comply with the Michigan Lead Abatement Act, as amended, and the Lead Hazard Control rules and must communicate information concerning lead hazards according to the requirements of Michigan Occupational Safety and Health Administration (MIOSHA) Part 603 and the Occupational Safety and Health Administration's (OSHA's) Hazard Communication Standard for the construction industry, 29 CFR 1926.59, including but not limited to safety equipment (e.g. personal fit-tested and approved respirators and protective clothing), worker rotation (on a short-cycle and regular basis), working practices (e.g. sanding, cutting, grinding, abraded, burning and heat-gun stripping of lead based paint are not allowed), the requirements concerning warning signs and labels, material safety data sheets (MSDS), and employee information and training. Employers shall comply with the requirements of 29 CFR 1926.62(l) - Employee Information and Training.

If lead or materials containing lead will be disturbed as a part of the work to be performed, the Contractor must remove, transport, and dispose of these materials at no additional cost to the Owner and prior to any other work taking place within the immediate vicinity of said material. The Contractor must provide the Owner a minimum 10 working day notification prior to the start of any lead abatement activities with abatement in occupied buildings being completed even if they will be conducted during off hours (nights, weekends, and state holidays). Abatement is defined as an activity specifically designed to permanently remove lead paint, lead-contaminated dust or other lead containing materials, the installation of a permanent enclosure or encapsulation of lead paint or other lead containing materials, the replacement of lead-painted surfaces or fixtures, the removal or covering of lead-contaminated soil, and any preparation, cleanup, disposal and post-abatement clearance testing associated with these activities. Renovation, remodeling, landscaping, or other activity, which is not designed to permanently eliminate lead paint hazards, but is instead designed to repair, restore, or remodel a structure, or housing unit even though the activity may incidentally result in a reduction or elimination of a lead paint hazard is not considered abatement.

If abatement of lead or materials containing lead is required, abatement must be completed by a currently certified Lead Abatement Contractor as certified by the State of Michigan, Department of Community Health. In addition, the Lead Abatement Contractor's workers and supervisors must also be currently certified by the State of Michigan, Department of Community Health. Lead abatement including clearance testing shall be performed in accordance with the State of Michigan, Lead Abatement Act, Part 54A Lead Abatement and with all other Federal, State, and local Laws and Regulations that may apply. Prior to commencing any lead abatement activities, the abatement must be designed by a currently certified Lead Professional Project Designer.

At the completion of abatement, the abated area shall meet clearance requirements with clearance testing to be performed by a Clearance Technicians currently certified by the State of Michigan Department of Community Health.

For additional information about certifications, guidance, and regulations for lead hazard control activities, visit www.michigan.gov/leadsafe.

APPENDIX VI

STATE-FUNDED PROJECT PREVAILING WAGE

STATE-FUNDED PROJECT PREVAILING WAGE REQUIREMENTS

1. The DB Entity and all subcontractors must comply with all Laws pertaining to occupational classifications and shall represents and warrants that it pays all mechanics and laborers employed directly on the site of the work, unconditionally and at least once a week, and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment, computed at wage rates not less than those stated in the advertised specifications as prevailing wages based on locality, regardless of any contractual relationship which may be alleged to exist between the Contractor or subcontractor and the laborers and mechanics.
2. The DB Entity represents and warrants that Contractor will post the scale of wages to be paid in a prominent and easily accessible place at the site of the work.

***** Note: The agency should request State Prevailing Wage Provisions from DCD and obtain Wage Determinations applicable for the counties in which the Project is located.**

APPENDIX VII

FEDERAL PROVISIONS ADDENDUM

(Applies to projects that are funded in whole or in part by the federal government)

FEDERAL PROVISIONS ADDENDUM

This addendum applies to purchases that will be paid for in whole or in part with funds obtained from the federal government. The provisions below are required, and the language is not negotiable. If any provision below conflicts with the State's terms and conditions, including any attachments, schedules, or exhibits to the State's Contract, the provisions below take priority to the extent a provision is required by federal law; otherwise, the order of precedence set forth in the Contract applies. Hyperlinks are provided for convenience only; broken hyperlinks will not relieve Contractor from compliance with the law.

1. Equal Employment Opportunity

If this Contract is a “**federally assisted construction contract**” as defined in [41 CFR Part 60-1.3](#), and except as otherwise may be provided under [41 CFR Part 60](#), then during performance of this Contract, the Contractor agrees as follows:

- a. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- b. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- c. The Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the Contractor's legal duty to furnish information.

- d. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- e. The Contractor will comply with all provisions of [Executive Order 11246](#) of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- f. The Contractor will furnish all information and reports required by [Executive Order 11246](#) of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- g. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in [Executive Order 11246](#) of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in [Executive Order 11246](#) of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- h. The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of [Executive Order 11246](#) of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: *Provided*, that if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

2. **Davis-Bacon Act (Prevailing Wage)**

If this Contract is a **prime construction contract** in excess of \$2,000, the Contractor (and its Subcontractors) must comply with the Davis-Bacon Act ([40 USC 3141-3148](#)) as supplemented by Department of Labor regulations ([29 CFR Part 5](#), "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"), and during performance of this Contract the Contractor agrees as follows:

- a. All transactions regarding this contract shall be done in compliance with the Davis-Bacon Act (40 U.S.C. 3141- 3144, and 3146-3148) and the requirements of 29 C.F.R. pt. 5 as may be applicable. The contractor shall comply with 40 U.S.C. 3141-3144, and 3146-3148 and the requirements of 29 C.F.R. pt. 5 as applicable.
- b. Contractors are required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor.
- c. Additionally, contractors are required to pay wages not less than once a week.

3. **Copeland "Anti-Kickback" Act**

If this Contract is a contract for construction or repair work in excess of \$2,000 where the Davis-Bacon Act applies, the Contractor must comply with the Copeland "Anti-Kickback" Act ([40 USC 3145](#)), as supplemented by Department of Labor regulations ([29 CFR Part 3](#), "Contractors and Subcontractors on Public Building or Public Work

Financed in Whole or in Part by Loans or Grants from the United States”), which prohibits the Contractor and subrecipients from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled, and during performance of this Contract the Contractor agrees as follows:

- a. **Contractor.** The Contractor shall comply with 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. pt. 3 as may be applicable, which are incorporated by reference into this contract.
- b. **Subcontracts.** The Contractor or Subcontractor shall insert in any subcontracts the clause above and such other clauses as FEMA or the applicable federal awarding agency may by appropriate instructions require, and also a clause requiring the Subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all of these contract clauses.
- c. **Breach.** A breach of the contract clauses above may be grounds for termination of the contract, and for debarment as a Contractor and Subcontractor as provided in 29 C.F.R. § 5.12.

4. **Contract Work Hours and Safety Standards Act**

If the Contract is **in excess of \$100,000** and **involves the employment of mechanics or laborers**, the Contractor must comply with [40 USC 3702](#) and [3704](#), as supplemented by Department of Labor regulations ([29 CFR Part 5](#)), as applicable, and during performance of this Contract the Contractor agrees as follows:

- a. **Overtime requirements.** No Contractor or Subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than 1 ½ times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.
- b. **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1) of this section the Contractor and any Subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and Subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$27 for each calendar day on which such individual was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.
- c. **Withholding for unpaid wages and liquidated damages.** The State shall upon its own action or upon written request of an authorized representative of the

Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or Subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.

- d. Subcontracts.** The Contractor or Subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1) through (4) of this section and also a clause requiring the Subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.

5. Rights to Inventions Made Under a Contract or Agreement

If the Contract is funded by a federal “funding agreement” as defined under [37 CFR §401.2 \(a\)](#) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” the recipient or subrecipient must comply with [37 CFR Part 401](#), “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency.

6. Clean Air Act and the Federal Water Pollution Control Act

If this Contract is **in excess of \$150,000**, the Contractor must comply with all applicable standards, orders, and regulations issued under the Clean Air Act ([42 USC 7401-7671g](#)) and the Federal Water Pollution Control Act ([33 USC 1251-1387](#)), and during performance of this Contract the Contractor agrees as follows:

Clean Air Act

1. The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.
2. The Contractor agrees to report each violation to the State and understands and agrees that the State will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency or the applicable federal awarding agency, and the appropriate Environmental Protection Agency Regional Office.
3. The Contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA or the applicable federal awarding agency.

Federal Water Pollution Control Act

1. The Contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.
2. The Contractor agrees to report each violation to the State and understands and agrees that the State will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency or the applicable federal awarding agency, and the appropriate Environmental Protection Agency Regional Office.
3. The Contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA or the applicable federal awarding agency.

7. Debarment and Suspension

A “contract award” (see [2 CFR 180.220](#)) must not be made to parties listed on the government-wide exclusions in the [System for Award Management](#) (SAM), in accordance with the OMB guidelines at [2 CFR 180](#) that implement [Executive Orders 12549](#) ([51 FR 6370; February 21, 1986](#)) and [12689](#) ([54 FR 34131; August 18, 1989](#)), “Debarment and Suspension.” SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than [Executive Order 12549](#).

- a. This Contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the Contractor is required to verify that none of the Contractor’s principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).
- b. The Contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.
- c. This certification is a material representation of fact relied upon by the State. If it is later determined that the contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the State, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.
- d. The bidder or proposer agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

8. Byrd Anti-Lobbying Amendment

Contractors who apply or bid for an award of **\$100,000 or more** shall file the required certification in *Exhibit 1 – Byrd Anti-Lobbying Certification* below. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any

person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency.

9. Procurement of Recovered Materials

Under [2 CFR 200.322](#), Contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act.

- a. In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired:
 - i. Competitively within a timeframe providing for compliance with the contract performance schedule;
 - ii. Meeting contract performance requirements; or
 - iii. At a reasonable price.
- b. Information about this requirement, along with the list of EPA- designated items, is available at EPA's Comprehensive Procurement Guidelines web site, <https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>.
- c. The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act.

10. Additional FEMA Contract Provisions.

The following provisions apply to purchases that will be paid for in whole or in part with funds obtained from the Federal Emergency Management Agency (FEMA):

- a. **Access to Records.** The following access to records requirements apply to this contract:
 - i. The Contractor agrees to provide the State, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions.
 - ii. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
 - iii. The Contractor agrees to provide the FEMA Administrator or his authorized representatives access to construction or other work sites pertaining to the work being completed under the contract.

In compliance with the Disaster Recovery Act of 2018, the State and the Contractor acknowledge and agree that no language in this contract is intended to prohibit

audits or internal reviews by the FEMA Administrator or the Comptroller General of the United States.

b. Changes.

See the provisions regarding modifications or change notice in the Contract Terms.

c. DHS Seal Logo and Flags.

The Contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre-approval.

d. Compliance with Federal Law, Regulations, and Executive Orders.

This is an acknowledgement that FEMA financial assistance will be used to fund all or a portion of the contract. The Contractor will comply with all applicable Federal law, regulations, executive orders, FEMA policies, procedures, and directives.

e. No Obligation by Federal Government.

The Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the State, Contractor, or any other party pertaining to any matter resulting from the Contract.”

f. Program Fraud and False or Fraudulent Statements or Related Acts

The Contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor’s actions pertaining to this contract.

EXHIBIT 1

BYRD ANTI-LOBBYING CERTIFICATION

Contractor must complete this certification if the purchase will be paid for in whole or in part with funds obtained from the federal government and the purchase is greater than \$100,000.

APPENDIX A, 44 C.F.R. PART 18 – CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The Contractor, **enter contractor name here**, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official

Name and Title of Contractor's Authorized Official

Date

APPENDIX VIII

CERTIFICATION FORMS

(Both DB Entity and PSC must complete
and submit)

NOTE: Please see pages 133 - 134 of
contract for Environmental Resources
Group LLC

APPENDIX I

PAYMENT AND PERFORMANCE BONDS

PERFORMANCE BOND

SURETY COMPANY REFERENCE NO. _____

That "the DB Entity," _____, a corporation ☐, individual ☐, partnership ☐, joint venture ☐ of the State of _____, qualified to do business in the State of Michigan, as Principal, and "the Surety," _____, of the State of _____, as surety, are held and bound unto the State of Michigan, "the Owner," _____ as Oblige, _____ in the amount of _____ Dollars (\$_____), for the payment of which the DB Entity and Surety bind themselves, their respective heirs, successors, legal representatives and assigns, jointly and severally, in compliance with 1963 PA 213, as amended, MCL 129.201 et seq.

The DB Entity has entered into "the Contract" with the Owner for _____, "the Work," covered by the Contract Documents, which are incorporated into this Performance Bond by this reference;

If the DB Entity faithfully performs and fulfills all the undertakings, covenants, terms, conditions, warranties, indemnifications and agreements of the Contract Documents within the Contract Time (including any authorized changes, with or without notice to the Surety) and during the Correction Period, and if the DB Entity also performs and fulfills all the undertakings, covenants, terms, conditions, warranties, indemnifications and agreements of any and all duly authorized modifications of the Contract Documents, then THIS OBLIGATION IS VOID, OTHERWISE TO REMAIN IN FULL FORCE AND EFFECT.

A. No change in Contract Price or Contract Time, "or equal" or substitution or modification of the Contract Documents (including addition, deletion, or other revision) releases the Surety of its obligations under this Performance Bond. The Surety expressly waives notice of any such change in Contract Price or Contract Time, "or equal" or

substitution or modification of the Contract Documents (including addition, deletion, or other revision).

B. This Performance Bond shall be solely for the protection of the Owner and its successors, legal representatives, or assigns.

C. It is the intention of the DB Entity and Surety that they shall be bound by all terms and conditions of the Contract Documents (including, but not limited to General Conditions and this Performance Bond). However, this Performance Bond is executed pursuant to 1963 PA 213, as amended, MCL 129.201 et seq., and if any provision(s) of this Performance Bond is/are illegal, invalid or unenforceable, all other provisions of this Performance Bond shall nevertheless remain in full force and effect, and the Owner shall be protected to the full extent provided by 1963 PA 213, as amended, MCL 129.201 et seq.

IMPORTANT: The Surety shall be authorized to do business in the State of Michigan by the Department of Licensing and Regulatory Affairs – Insurance Bureau, shall be listed on the current U.S. Department of the Treasury Circular 570, and, unless otherwise authorized by the

Owner in writing, shall have at least an A- Best's rating and a Class VII or better financial size category per current A. M. Best Company ratings.

Name, Address, and Telephone of the Surety

Name and Telephone of Agent, who is
either resident of, or whose principal
office is maintained in the State of
Michigan

Signed and sealed this _____ day of _____, 20__.

THE DB ENTITY: (Print Full Name and Sign)

By:_____

WITNESS_____

Name & Title:_____

Telephone No.:_____

THE SURETY: (Print Full Name and Sign)

Agent:_____

WITNESS_____

Attorney-in-Fact:_____

Telephone No.:_____

PAYMENT BOND

SURETY COMPANY REFERENCE NO. _____

"the DB Entity," _____, a corporation
_____, individual _____, partnership _____, joint venture _____ of the State of _____,
qualified to do business in the State of Michigan, as Principal, and "the Surety,"
_____, of the
State of _____, as surety, are held and bound unto the State of Michigan, "the
Owner," _____ as Oblige, _____ in the amount _____ of

Dollars (\$ _____), for the payment of which the DB Entity and Surety bind
themselves, their respective heirs, successors, legal representatives and assigns, jointly and
severally, in compliance with 1963 PA 213, as amended, MCL 129.201 et seq.

The DB Entity has entered into "the Contract" with the Owner for
_____, "the Work,"
covered by the Contract Documents, which are incorporated into this Payment Bond by this
reference;

If the DB Entity promptly pays all claimants
supplying labor or materials to the DB Entity
or to the DB Entity's subcontractors in the
prosecution of the Work, then THIS
OBLIGATION IS VOID, OTHERWISE TO
REMAIN IN FULL FORCE AND EFFECT.

A. All rights and remedies on this Payment
Bond are solely for the protection of all
claimants supplying labor and materials to the
DB Entity or the DB Entity's subcontractors in
the prosecution of the Work and shall be
determined in accordance with Michigan Law.

B. No change in Contract Price or Contract
Time, "or equal" or substitution or modification
of the Contract Documents (including
addition, deletion, or other revision) shall
release the Surety of its obligations under this
Payment Bond. The Surety hereby expressly

waives notice of any such change in Contract
Price or Contract Time, "or equal" or
substitution or modification of the Contract
Documents (including addition, deletion, or
other revision).

C. It is the intention of the DB Entity and
Surety that they shall be bound by all terms
and conditions of the Contract Documents
(including, but not limited to this Payment
Bond). However, this Payment Bond is
executed pursuant to 1963 PA 213, as
amended, MCL 129.201 et seq., and if any
provision(s) of this Payment Bond is/are
illegal, invalid or unenforceable, all other
provisions of this Payment Bond shall
nevertheless remain in full force and effect,
and the Owner shall be protected to the full
extent provided by 1963 PA 213, as
amended, MCL 129.201 et seq.

IMPORTANT: The Surety shall be authorized to do business in the State of Michigan by the
Department of Licensing and Regulatory Affairs – Insurance Bureau, shall be listed on the current
U.S. Department of the Treasury Circular 570, and, unless otherwise authorized by the Owner in
writing, shall have at least an A– Best's rating and a Class VII or better financial size category per
current A. M. Best Company ratings.

Name, Address, and Telephone of the Surety

Name and Telephone of Agent, who is
either resident of, or whose principal
office is maintained in the State of
Michigan

Signed and sealed this _____ day of _____, 20__.

THE DB ENTITY: (Print Full Name and Sign)

By: _____

WITNESS _____

Name & Title: _____

Telephone No.: _____

THE SURETY: (Print Full Name and Sign)

By: _____

Agent: _____

WITNESS _____

Attorney-in-Fact: _____

Telephone No.: _____

APPENDIX X

INSURANCE CERTIFICATES

(Both DB Entity **and** PSC **must**
submit)



ENVIRES-01

CKNICKERBOCKER

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

6/23/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

| | | |
|--|--|--------------|
| PRODUCER General Agency Company 525 E. Broadway Mount Pleasant, MI 48858 | CONTACT NAME: Carmen France | |
| | PHONE (A/C, No, Ext): (989) 817-4231 FAX (A/C, No): (989) 772-1855 | |
| | E-MAIL ADDRESS: cfrance@ga-ins.com | |
| | INSURER(S) AFFORDING COVERAGE | NAIC # |
| | INSURER A : Scottsdale Insurance Company | 41297 |
| INSURED Environmental Resources Group LLC 28003 Center Oaks Ct #106 Wixom, MI 48393 | INSURER B : Union Insurance Company of Providence | 21423 |
| | INSURER C : | |
| | INSURER D : | |
| | INSURER E : | |
| | INSURER F : | |

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE | ADDL INSD | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS |
|------------------------------------|---|-----------|--|---------------|-------------------------|-------------------------|---|
| A | <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY | | | VRS0005415 | 9/1/2021 | 9/1/2022 | EACH OCCURRENCE \$ 1,000,000 |
| | <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR | | DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 50,000 | | | | |
| | <input checked="" type="checkbox"/> Contractor Pollution | | MED EXP (Any one person) \$ 5,000 | | | | |
| | <input checked="" type="checkbox"/> Professional | | PERSONAL & ADV INJURY \$ 1,000,000 | | | | |
| GEN'L AGGREGATE LIMIT APPLIES PER: | | | | | | | GENERAL AGGREGATE \$ 2,000,000 |
| | <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC | | | | | | PRODUCTS - COMP/OP AGG \$ 2,000,000 |
| | OTHER: | | | | | | \$ |
| B | AUTOMOBILE LIABILITY | | | 6E37174 | 9/1/2021 | 9/1/2022 | COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 |
| | <input checked="" type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS | | BODILY INJURY (Per person) \$ | | | | |
| | <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY | | BODILY INJURY (Per accident) \$ | | | | |
| | | | PROPERTY DAMAGE (Per accident) \$ | | | | |
| | | | | | | \$ | |
| A | <input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR | | | VES0003485 | 9/1/2021 | 9/1/2022 | EACH OCCURRENCE \$ 5,000,000 |
| | <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE | | AGGREGATE \$ 5,000,000 | | | | |
| | DED <input type="checkbox"/> RETENTION \$ | | \$ | | | | |
| B | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY | | | 6H37174 | 9/1/2021 | 9/1/2022 | <input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER |
| | ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> Y / N <input type="checkbox"/> N / A | | E.L. EACH ACCIDENT \$ 1,000,000 | | | | |
| | If yes, describe under DESCRIPTION OF OPERATIONS below | | E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 | | | | |
| | | | E.L. DISEASE - POLICY LIMIT \$ 1,000,000 | | | | |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Indefinite-Scope, Indefinite-Delivery Contract No. 00913
2022 Design Build Services for Tank and Soil Removal Indefinite-Scope, Indefinite Delivery Contract (ISID) for Gaylord District

General Liability, Contractors Pollution Liability, Professional Liability, and Auto Liability have automatic additional insured endorsements when required by a contract. General Liability, Contractors Pollution Liability, Professional Liability, and Auto Liability include primary and non-contributory endorsements when required by written contract. Excess Liability follows form according to the terms, conditions, and endorsements found in the policy.

CERTIFICATE HOLDER

CANCELLATION

| | |
|--|--|
| State of Michigan it's departments, division agencies, offices, commissions, officers, employees and agents 3111 W St. Joseph St Lansing, MI 48917 | SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. |
| | AUTHORIZED REPRESENTATIVE <i>Not C. Weir</i> |

APPENDIX XI

POSITION CLASSIFICATION BILLING RATES

(See page 122 of contract)

APPENDIX XII

DISTRICT COSTS SHEETS

(See pages 175 - 176 of contract)