AMENDED SUPERFUND STATE CONTRACT FOR AN INITIAL REMEDIAL MEASURE
AT CHARLEVOIX MUNICIPAL WELL SITE BETWEEN THE STATE OF
MICHIGAN AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY

A. Authority

This Contract is entered into pursuant to Sections 104(a)(1),(c)(2),(c)(3),
and (d)(1) of the Comprehensive Environmental Response, Compensation,
and Liability Act of 1980 (CERCLA), 42 U.S.C. 9601 et seq and Act 245 of

B. Purpose

1. This Contract is an agreement between the United States Environmental
Protection Agency (U.S. EPA) and the Michigan Department of Natural
Resources (MDNR) on behalf of the State of Michigan (the State) to
undertake an Initial Remedial Measure (IRM) at the Charlevoix Municipal
Well (site).

2. Attached hereto and incorporated herein as Appendix A is a description
of the site.

3. Attached hereto and incorporated herein as Appendix B is a Statement of
Work (SOW) to be performed under this Contract. This Contract may be
amended if the parties agree to undertake additional remedial action
beyond the scope of the SOW.

4. The purpose of this Contract is to delineate the responsibilities of
the parties and provide the assurances required by CERCLA.

5. This Contract will become effective upon execution by the State and
U.S. EPA and shall remain in effect until completion of activities
described in the SOW including the State's assurances for all future
operation and maintenance (O&M).

C. Parties

1. This Contract is entered into by the U.S. EPA and the MDNR. MDNR has
the legal authority to enter into and to fulfill the terms of this
Contract on behalf of the State as certified by the Governor.

2. U.S. EPA has designated Jack Kratzmeyer, Environmental Engineer and
Federal Regional Project Manager, 230 South Dearborn Street, Chicago,
Illinois 60604, (312) 353-6449 to serve as Regional Site Project Officer
(RSPO) of this Contract.

3. The State has designated Gary Simons, Environmental Engineer, MDNR,
Groundwater Quality Division, Remedial Action Section, P.O. Box 30028,
Lansing, Michigan 48907, (517) 373-2811 to serve as Project Coordinator
for this Contract.

4. The Regional Site Project Officer in consultation with the State
Project Coordinator is authorized to make decisions that do not enlarge
the scope of the SOW or increase the cost of the project.
D. U.S. EPA Responsibilities

1. In addition to its obligations in paragraph G, U.S. EPA shall arrange for the services of a contractor to perform the IRM as described in the SOW. U.S. EPA shall, at its own cost and expense, furnish the necessary personnel, materials, services, and facilities to perform its other responsibilities under this Contract.

2. U.S. EPA shall consult with the State on matters relating to the implementation of the work described in the SOW.

E. State Responsibilities

1. The State shall at its own cost and expense, furnish the necessary personnel, materials, services and facilities to perform its responsibilities under this contract. None of the expenses incurred by the State in performing these other responsibilities will be paid for or be reimbursed from the Hazardous Substance Response Trust Fund established by Section 221 of CERCLA, nor counted toward any cost-sharing requirement under this contract or any future contracts or cooperative agreements relating to this site. Specific responsibilities are enumerated elsewhere in this contract.

2. The State to the extent of its legal authority will assure that any State and local permits that are necessary to implement the activities described in the SOW are obtained and shall assist U.S. EPA in obtaining any Federal permits.

F. Immediate Removal Action

The terms of this contract shall not restrict any immediate removal activities conducted pursuant to the National Contingency Plan, 40 CFR, Part 300.65. The U.S. EPA, in consultation with the State, can suspend the activities described in the SOW during any immediate removal actions.

G. Payment

1. U.S. EPA shall pay 90 percent of the total capital costs of those actions described in the SOW. The Director of the MDNR, by his signature to this contract, hereby assures that the State shall pay 10 percent of the costs of those actions described in the SOW.

2. The estimated total capital cost of the initial remedial measure, amended to date, which includes Phases I and II, as reflected in the SOW is $3,353 million. The State share of this estimated cost is $335,300. Previous match payment made by the State under the original State Superfund Contract will be credited to the State's total cost share for this initial remedial measure. The cost of the actions in the SOW shall not exceed $3,353 million, unless this Contract is amended pursuant to Paragraph R. Any such amendment shall provide payment terms for the State's additional cost share.
3. Any additional funds required by the State for its adjusted cost share shall be paid in full within 30 days after execution of this amended Contract.

4. When the IRM is complete, the final cost will be determined by U.S. EPA and any refund by U.S. EPA to the State or additional payment by the State to U.S. EPA will be made within 90 days of such final cost determination.

5. All payments shall be made payable to U.S. EPA and sent to:

U.S. EPA
Accounting Operations
P.O. Box 2971
Washington, D.C. 20013
Attention: Collection Officer for Superfund (PM-226)
Room 3419M

H. Off-Site Storage, Destruction, Treatment or Disposition

No off-site treatment, storage or disposal is anticipated as part of this contract. However in the event that the State and U.S. EPA enter into an agreement to take additional remedial actions for which off-site treatment and disposal is required, the State shall provide the assurances required under CERCLA Section 104(c)(3)(B).

I. Operation and Maintenance (O&M)

1. Pursuant to CERCLA Subsection 104(c)(3)(A), to the extent permitted by law, the State shall provide all future O&M of the remedial actions for the expected life of such actions. The State will secure the necessary funds from the City of Charlevoix to perform its obligations under this Contract, or in the event that the City defaults the State will make every applicable request to the legislature to secure adequate funds to perform its obligations. MDNR will promptly notify U.S. EPA if the City defaults, and the legislature fails to appropriate adequate funds to meet MDNR's O&M responsibilities.

2. Pursuant to current Superfund policy, as referenced in the "State Participation in the Superfund Remedial Program" document, February 1984, at the completion of the IRM, MDNR and U.S. EPA may enter into a cooperative agreement whereby the U.S. EPA will pay 90 percent and the State will pay 10 percent of the costs associated with the first year of O&M for the IRM.

J. Future Payment

If U.S. EPA and the State agree to take remedial action in addition to the actions described in the SOW, the State shall contribute 10 percent of the cost of such remedial action.
K. Personnel Safety

U.S. EPA or its contractors shall develop and oversee the implementation of the site safety plan.

L. Access to the Site

1. The State to the extent of its legal authority shall secure access to the site for U.S. EPA or its contractors to complete the actions described in the SOW.

2. With advance notice and the approval by the RSPO, representatives of the State shall have access to the site to review work in progress.

3. U.S. EPA shall not be responsible for any harm to any State representative or other person arising out of, or resulting from any act or omission by the State in the course of an on-site inspection.

4. The State shall not be responsible for any harm to any U.S. EPA representative or other person arising out of, or resulting from any act or omission by the U.S. EPA in the course of an on-site inspection.

M. Availability of Information

1. At U.S. EPA's request, the State shall make available any information in its possession concerning the site, pursuant to State law. If said information was submitted by the State under a claim of confidentiality, said information shall be treated in accordance with 40 CFR 2. Absent such a claim, U.S. EPA may make said information available to the public without further notice.

2. At the State's request and in accordance with Federal law, U.S. EPA agrees to share information and reports developed as part of its responsibilities under this contract. The State agrees not to release any information or reports prepared pursuant to this contract to the public, unless approved by both U.S. EPA's Region V Office of Regional Counsel and the State Project Coordinator.

N. Community Relations Plan

U.S. EPA and the State have jointly developed a Community Relations Plan which U.S. EPA shall implement in carrying out the SOW.

O. Third Parties

1. This contract is intended to benefit only the State of Michigan and U.S. EPA. It extends no benefit or right to any other party.

2. U.S. EPA does not assume any liability to third persons for losses due to bodily injury or property damage that exceeds the limitations contained in the provisions of 28 U.S.C. Sections 1346(b), 2671-2680. To the extent permitted by State law, the State does not assume liability to any third persons for losses due to bodily injury or property damage.
P. Negation of Agency Relationships

Nothing contained in this Contract shall be construed to create, either expressly or by implication, the relationship of agency between U.S. EPA and the State. Any standards, procedures or protocols prescribed in this contract to be followed by U.S. EPA contractors during the performance of its obligations under this contract are for assurance of the quality of the final product of the actions contemplated by this contract, and do not constitute a right to control the actions of U.S. EPA. U.S. EPA (including its employees, agents, and contractors) is not authorized to represent or act on behalf of the State in any matter relating to the subject matter of this contract, and the State (including its employees, agents and contractors) is not authorized to represent or act on behalf of U.S. EPA in any manner relating to the subject matter of this contract.

Q. Enforcement and Cost Recovery

1. U.S. EPA and the State agree that, with respect to the claims which each may be entitled to assert against any third persons (herein referred to as the "responsible party", whether one or more) for reimbursement of any services, materials, monies or other thing of value expended by U.S. EPA or the State for response activity at the site described in this Contract, neither U.S. EPA nor the State will enter into a settlement with or initiate a judicial or administrative proceeding against a responsible party for the recovery of such sums except after having given notice in writing to the other party to this Contract not less than 30 days in advance of the date of the proposed settlement or commencement of the proposed judicial or administrative proceedings. Neither party to this Contract shall attempt to negotiate for or collect reimbursement of any response costs on behalf of the other party, and authority to do so is hereby expressly negated and denied.

2. U.S. EPA and the State agree that they will cooperate in and coordinate efforts to recover their respective costs of response actions taken at the site described herein, including the negotiation of settlement and the filing and management of any judicial actions against potentially responsible parties. This shall include coordination in the use of evidence and witnesses available to each in the preparation and presentation of any cost recovery action, excepting any documents or information which may be confidential under the provisions of any applicable State or Federal laws or regulations.

3. U.S. EPA and the State agree that any judicial action taken by either party pursuant to CERCLA against a potentially responsible party for recovery of any sums expended in response actions at the site described herein shall be filed in the United States District Court for the Judicial District in which the site described in the Contract is located, or in such other Judicial Districts of the United States District Courts as may be authorized by Section 113 of CERCLA, and agreed to in writing by the parties to this Agreement.
4. Signature of this Contract does not constitute a waiver of U.S. EPA's right to bring an action against any person or persons for liability under Section 106 or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), or any other statutory provisions or common laws.

R. Amendments

Any modifications to this Contract must be agreed to, in writing, by both parties.

S. Resolution of Disputes

1. Any disagreements arising under this Contract shall be resolved to the extent possible by the U.S. EPA Regional Site Project Officer and the State Project Coordinator.

2. If any such disagreement cannot be resolved by the U.S. EPA Regional Site Project Officer and the State Project Coordinator, it shall be referred to the Regional Superfund Director for a final resolution in accordance with the requirements of Subpart L of 40 CFR Part 30. For the purposes of resolving disputes under this Contract, the Director is the disputes decision official provided for in Subpart L.

3. The decision of the disputes decision official will constitute the final agency action, unless MDNR files a request for review of that decision with the Regional Administrator, U.S. EPA, Region V, in accordance with the requirements of Subpart L of 40 CFR Part 30.

4. If the Regional Administrator confirms the decision of the disputes decision official, MDNR may seek review from the Assistant Administrator, OSWER, U.S. EPA, in accordance with the requirements of Subpart L of 40 CFR Part 30.

T. Failure to Comply with Terms of the Agreement

If the State fails to comply with the terms of this Contract [or Agreement], EPA may proceed under the provisions of Section 104(d)(2) of CERCLA. If EPA fails to comply with any requirements of this Contract [or Agreement], the State may, after providing 60 days notice, seek in the appropriate court of competent jurisdiction, to enforce the Contract [or Agreement].

U. Termination of the Contract

1. The parties may enter into a written termination agreement which will establish the effective date for the termination of this Contract, the basis for settlement of termination costs, and the amount and date of any sums due either party. Such settlement costs will include all project costs incurred, as well as any close-out costs.
2. If at any time during the period of this Contract, performance of either all or part of the work described in the SOW is voluntarily undertaken, or undertaken for any other reason by persons or entities not party to this Contract, this Contract will be modified or terminated as appropriate to allow these actions and, upon modification or termination, shall relieve the parties of further duties to perform those actions undertaken by persons or entities not party to this Contract.

3. This Contract remains in effect until all activities described in the SOW have been completed.

In witness whereof, the parties hereto have executed this Contract in two (2) copies, each of which shall be deemed an original.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Regional Administrator

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Deputy Director
Site Description: Charlevoix Municipal Well

The City of Charlevoix is located in Northern Michigan in Charlevoix County or the shores of Lake Michigan. The City's single municipal well supplies potable water to a year-round population of 3,500 which increases to 5,000 during the summer tourist season. The City requires on an average basis a water supply of 0.76 MGD (million gallons/day), with a maximum demand of 2.0 MGO during peak periods.

The City's municipal well consists of a shallow, large-diameter clear well connected to two 225-foot-long horizontal flumes that are buried under the beach of Lake Michigan parallel to the shore. The flumes collect groundwater and lake water and channel it into the well, where it is then pumped into the distribution system. Approximately half of the water entering the flume comes from Lake Michigan, and the remainder from shallow groundwater sources.

In September 1981, the Michigan Department of Public Health (MDPH) detected trichloroethylene (TCE) ranging in concentrations from 13 to 30 parts per billion (ppb) in the Charlevoix water supply. A monitoring program was begun and continued to detect gradually rising levels of TCE in the raw water intake. In December 1982, concentrations of TCE exceeded 100 ppb. At that point, a diffused aeration system was installed in the caisson to remove some of the volatile organic chemicals. The aeration system is able to remove 30 to 40 percent of TCE, and it presently holds the concentration of TCE in the water supply system to below 50 ppb.

The site was placed on the National Priorities List dated August 1983. U.S. EPA, Region V began a remedial investigation and feasibility study at the site in September 1983. At that time data available from monitoring wells installed by EPA's Technical Assistance Team (TAT) indicated that the aquifer contamination was wide-spread and at low levels, which suggested multiple sources of contamination. Since a quantified public health threat had been identified at the municipal well, and precise data on the source location(s) was not available, Region V EPA and MDNR decided to prepare a Focused Feasibility Study (FFS) to evaluate potential remedies for the contaminated water supply, while work on the remedial investigation continued. The analysis contained in the May 1984 FFS forms the basis of the initial remedial measure (IRM) funding request.

The National Contingency Plan states that IRMs can and should begin if they are determined to be feasible and necessary to limit exposure or threat of exposure to a significant health or environmental hazard, and if they are cost-effective (40 CFR 300.68(e)(1)). Based on the conclusions of the endangerment assessment contained in the FFS, Region V EPA and the Michigan Department of Natural Resources (MDNR) believe that the present levels of TCE (40 ppb) in the municipal well represent exposure to a significant health hazard to the residents of the City of Charlevoix, that requires an IRM as described in the Statement of Work (Attachment B).
Statement of Work: Charlevoix Municipal Well

The project consists of construction of a direct filtration water treatment plant (WTP). The components will be designed to treat the City's maximum day demand (MDD) of 2.0 million gallons per day (MGD). The MDD of 2.0 MGD is based on the 1983 pumping records from the existing municipal water supply. The construction will be phased. Phase I will consist of construction of the raw water intake and in-line chlorination equipment. The chlorine contact/clear well storage reservoir and unit processes required for the WTP will be constructed as Phase II.

Phase I - The raw water intake consists of the following:

- Approximately 1,500 feet of buried 24-inch diameter pipe extending from a new valve vault out into Lake Michigan to the well screen intake.
- Four 25-foot sections of 14-inch diameter stainless steel well screen, buried 5 feet below the lake bottom and backfilled with graded material.

The estimated cost of the Phase I construction is outlined below:

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td>Phase I Construction Contract (South Shore Equipment Company, Avon, OH)</td>
<td>$489,990</td>
</tr>
<tr>
<td>Engineering and Design after Award of Construction Contract</td>
<td>7,350</td>
</tr>
<tr>
<td>U.S. Army Corps of Engineers (USACE) Supervision and Administration During Construction</td>
<td>35,000</td>
</tr>
<tr>
<td>Contingencies</td>
<td>24,500</td>
</tr>
<tr>
<td>TOTAL ESTIMATED PHASE I AMENDED PROJECT COST</td>
<td>$556,840</td>
</tr>
</tbody>
</table>

South Shore was terminated by the USACE prior to completion of the Phase I construction for failure to perform in accordance with the terms of the contract. South Shore's insurance company, Union Indemnity, New York, NY, negotiated a takeover agreement with the USACE which called for Union to complete the remaining Phase I construction for the original contract amount ($489,990). Union undertook a portion of the remaining construction, but they proved to be financially unstable; and in a separate proceeding, the Supreme Court of New York ordered Union's liquidation. In a subsequent action, the USACE terminated Union. Reprocurement by the USACE for completion of the Phase I construction resulted in the award of a construction contract for $335,000 to Ryba Marine, Cheybogan, MI. When Union was terminated, $246,000 remained in the original Phase I construction contract.
Therefore, the differential beyond the original contract amount required to complete the Phase I construction is $89,000.

Repurchased contract $335,000
Amount remaining in
Phase I contract $89,000

The adjusted estimated Phase I Project Cost then is $645,840.

Estimated Phase I Project Cost $556,840
Reprocurement differential $ 89,000

ADJUSTED PHASE I AMENDED PROJECT COST $645,840

Phase II - The major components of the WTP are listed below:

- Low service raw water pumps
- Chemical feed equipment
- Filter backwash equipment and facilities
- High service water pumps
- Clear well storage reservoir
- Rapid mix tank
- Flocculation basins
- Gravity filters
- Laboratory
- Operations and maintenance building

The estimated cost of Phase II construction is outlined below:

Phase II Construction Contract $2,387,187
(Comstock Construction Company, Traverse City, MI)

Engineering and Design after Award of Construction Contract 13,000

USACE Supervision and Administration During Construction 235,661

Contingencies 71,339

TOTAL ESTIMATED PHASE II AMENDED PROJECT COST $2,707,187
Amended Project Cost Summary:

<table>
<thead>
<tr>
<th>Phase</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>$ 645,840</td>
</tr>
<tr>
<td>Phase II</td>
<td>2,707,187</td>
</tr>
<tr>
<td></td>
<td><strong>$3,353,027</strong></td>
</tr>
</tbody>
</table>

The USACE will manage the design, construction and related activities for the remedial action described in the SOW. The USACE project activities are valid remedial response costs and, therefore, are subject to the cost-sharing requirements of CERCLA Section 104(c)(3). The State shall contribute 10 percent of the cost of the USACE's services during construction of the remedial action described in the SOW. When the final costs for the USACE's services have been determined, this contract will be amended pursuant to Paragraph R. Any such amendment shall provide payment terms for the State's additional cost share.

First year operation and maintenance (O&M) costs will be covered under a cooperative agreement between the State and U.S. EPA, at the completion of construction of the IRM. Annual O&M costs are estimated to be $118,000.