FINAL
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

IN THE MATTER OF : City of Stoughton Landfill Site Stoughton, Wisconsin 53589 RESPONDENTS: City of Stoughton Uniroyal Plastics Company, Inc. Proceeding under Section 122(a) and (d)(3) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. §9601 et seq.)	ADMINISTRATIVE ORDER BY CONSENT RE: REMEDIAL INVESTIGATION AND FEASIBILITY STUDY U.S. EPA Docket No. V-W- 88-C-005

The United States Environmental Protection Agency (U.S. EPA), the Wisconsin Department of Natural Resources (WDNR) and the City of Stoughton and Uniroyal Plastics Company, Inc., a New Jersey corporation (the Respondents), have each agreed to the making and entry of this Administrative Order by Consent (Consent Order).

I. JURISDICTION

A. This Consent Order is issued pursuant to the authority vested in the President of the United States by Section 122(a) and (d)(3) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 986, Pub. L. 99-499 (CERCLA), and delegated to the Administrator

of the U.S. EPA on January 29, 1987, by Executive Order 12580, 52 Federal Register 2923, and further delegated to the Assistant Administrator for Solid Waste and Emergency Response and to the Regional Administrator by U.S. EPA delegation No. 14-14C and to the Director, Waste Management Division, Region V. This Consent Order is also issued pursuant to the authority vested in the WDNR by Section 144.442(8) and (9), Wisconsin Statutes.

B. Notwithstanding Section IV.B, below, the Respondents, herein, agree to undertake all actions required by the terms and conditions hereunder, and consent to and will not contest or legally challenge the issuance of this Consent Order or the U.S. EPA's or WDNR's jurisdiction regarding this Consent Order.

II. NOTICE OF ACTION

A. As of the date of entry of this Consent Order, U.S. EPA has notified two potentially responsible parties that it has identified (City of Stoughton, Wisconsin (Stoughton) and Uniroyal Plastics Company, Inc. (Uniroyal)) of this action.

There is not sufficient information in the possession of U.S. EPA at the date of this Consent Order regarding the volume and nature of substances contributed by each of the Respondents to permit a ranking by volume of the substances at the City of Stoughton Landfill Site, pursuant to Section 122(e) of CERCLA. U.S. EPA has furnished Respondents with the HRS information that it has regarding the Site.

B. U.S. EPA has notified the Federal Natural Resource Trustee of this action pursuant to the requirements of Section 122(j) of CERCLA.

III. PARTIES BOUND

A. This Consent Order applies to and binds the following persons:

1. U.S. EPA, through the Director, Waste Management Division, Region V;
2. WDNR, through the Secretary;
3. Respondents and the officers, directors, principals, employees, agents, successors and assignees of the Respondents.

B. Each undersigned representative of the U.S. EPA, the WDNR, and each Respondent certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Order and to execute and legally bind such party to this document.

C. No change in ownership, corporate, or partnership status shall in any way alter the status or responsibility of the Respondents under this Consent Order. The Respondents shall be jointly and severally responsible to U.S. EPA and WDNR for carrying out all actions required of the Respondents by the terms and conditions of this Consent Order, but may enter into such agreements between themselves as they see fit which may limit or define the Respondents' rights and liabilities incurred hereunder solely as between Respondents. Respondents shall be responsible for compliance, by all contractors, consultants, firms and other

persons or entities authorized to act for them with respect to matters included herein, with all applicable terms and conditions of this Order in performing any authorized activities.

IV. STATEMENT OF PURPOSE

A. In entering into this Consent Order, the mutual objectives of the U.S. EPA, WDNR, and the Respondents are for the Respondents:

1. to conduct a remedial investigation (RI) to determine fully the nature and extent if any of the release or threatened release of hazardous substances, pollutants or contaminants from the Site and

2. to perform a feasibility study (FS) to identify and evaluate alternatives for the appropriate extent if any of remedial action to prevent or mitigate the migration or the release or threatened release of hazardous substances, pollutants, or contaminants from the Site.

B. In agreeing to the issuance of and entering into this Consent Order, the Respondents neither admit nor deny the facts, findings, conclusions, determinations, or allegations herein, and specifically deny any and all liability with respect to the Site. The Respondents have entered into this Order in recognition of their status as "potentially responsible parties" with reference to the Site, in order to ensure that the RI/FS is performed appropriately, adequately, and in an expeditious manner and thereby minimize any potential adverse effects related to the Site. In entering into this Order, the Respondents do not waive and specifically reserve any and all rights that each may have as

to and against each other, the U.S. EPA, the WDNR, and any and all other potentially responsible parties with respect to the Site, except that Respondents consent to and will not contest U.S. EPA's jurisdiction in the issuance of this Order or in any future action to enforce this Order.

C. The activities conducted pursuant to this Consent Order are subject to prior approval by the U.S. EPA and WDNR as provided, shall employ sound scientific, engineering and construction practices, and shall be consistent with the National Contingency Plan, 40 CFR §300.68(a)(j) as amended, and CERCLA.

V. FINDINGS OF FACT

Based upon information available on the effective date of this Consent Order, the Director, Waste Management Division of the U.S. EPA, Region V, and the Secretary of the WDNR make the following findings:

A. The City of Stoughton Landfill (hereinafter the "Site") is located in the northeast corner of the City of Stoughton, Dane County, Wisconsin at a location as generally shown on Exhibit A attached hereto. The Site is situated in a predominantly rural setting with some residences in close proximity. The Site covers approximately 15 acres of land that consists mostly of landfill. The Yahara River flows approximately 1,500 feet west of the Site at its closest point.

B. A municipal water distribution system exists within the city limits. The distribution system is fed by four municipal

wells which range in depth from 950 to 1,113 feet. Private residential water wells that exist outside the Stoughton city limits are constructed in both the glacial drift and bedrock aquifers. Human exposure, if any, to hazardous substances emanating from the Site would most likely be via ingestion of drinking water from potentially contaminated ground water supplies. As of the date of this Consent Order, sampling of the municipal wells and surface waters near the Site have not yielded any evidence that these waters are contaminated with the pollutants observed in the landfill area. Groundwater sampling at or near the Site revealed evidence of such contamination.

C. The City of Stoughton purchased the Site in July 1952 and operated the Site as a landfill until 1978 when the Wisconsin Department of Natural Resources (WDNR) required its closure. The Site was conceived to function as a disposal facility for municipal and commercial waste through burning and landfilling. The total quantity of waste disposed of at the Site is unknown, detailed records of users of the Site were not kept during its operating years. In general, the Site accepted waste types such as demolition, rubbish, ash, street refuse, construction debris, nonputrescible industrial waste, commercial waste and until late 1962 unknown quantities of liquid waste. Local industries, commercial establishments and residences were allowed to use the Site free of charge.

D. U.S. Rubber Company owned and operated a manufacturing facility in Stoughton, which utilized the Site for waste disposal

from 1953 until late 1962. The types of waste disposed of by U.S. Rubber included liquid and solid waste containing solvents and vinyl plastic scrap. In late 1962, U.S. Rubber was prohibited from further use of the Site by the City due to the nuisance allegedly created by the burning of its waste.

E. Respondent, City of Stoughton, was the owner and operator of the Site during all relevant times within the meaning of Section 101(20) of CERCLA, and as such may be liable for costs and damages pursuant to Section 107(a)(1) and (2) of CERCLA.

F. Subsequent to 1962, U.S. Rubber Company changed its name to Uniroyal, Inc. Uniroyal Plastics Company, Inc. represents that it is the successor to U.S. Rubber Company/Uniroyal, Inc. as to matters within the scope of this Consent Order. U.S. Rubber generated hazardous substances and arranged for disposal or treatment, or for transport for disposal or treatment at the Site, of hazardous substances which it generated, and therefore respondent Uniroyal Plastics Company, Inc., as successor to U.S. Rubber as to matters within the scope of this Consent Order, may be liable for costs and damages pursuant to Section 107(a)(3) of CERCLA.

G. Based upon U.S. EPA and WDNR investigations, hazardous substances as defined in Section 101(14) of CERCLA are located at the Site including, but not limited to, tetrahydrofuran, toluene, ethyl benzene, tetrachloroethylene, trichloroethylene, 1,2-dichloroethylene, 1,1-dichloroethane and xylene.

H. Based on results of U.S. EPA and WDNR investigations, and taking into account such factors as populations at risk, the potential of hazardous substances being present, the potential for contamination of drinking water supplies and the destruction of sensitive ecosystems, the Site was placed on the National Priorities List (NPL) by U.S. EPA pursuant to Section 105 of CERCLA, see 40 CFR Part 300, Appendix B, and 40 Federal Register 37596 et seq. (September 18, 1985). Respondent City of Stoughton contests the placement of the Site on the NPL and the City of Stoughton has commenced an action seeking removal of the Site from the NPL, entitled City of Stoughton vs. U.S. EPA, Case No. 86-1492, U.S. Court of Appeals for the District of Columbia Circuit.

VI. CONCLUSIONS OF LAW

Based upon information available on the effective date of this Consent Order, the Director, Waste Management Division of the U.S. EPA, Region V, and the Secretary of the WDNR make the following conclusions of law:

A. The City of Stoughton Landfill Site is a "facility" as defined in Section 101(9) of CERCLA and Section 144.442(1)(d), Wisconsin Statutes.

B. During certain time periods while the Site was operating, "hazardous substances" as defined in Section 101(14) of CERCLA and Section 144.01(4m), Wisconsin Statutes, were deposited, stored, disposed of, placed or located at the Site.

The past, present or potential migration of hazardous substances from the Site constitutes an actual and/or threatened "release" as defined in Section 101(22) of CERCLA.

C. Each Respondent is a "person" as defined in Section 101(21) of CERCLA and Section 144.01(9m), Wisconsin Statutes.

D. Each Respondent may be liable for costs and damages pursuant to Section 107 of CERCLA and is a potentially responsible party for the purposes of Section 122 of CERCLA and may be a responsible person under Section 144.442(9), Wisconsin Statutes, for the reasons set forth in Section V of this Consent Order.

VII. DETERMINATIONS

Based on the foregoing Findings of Fact and Conclusions of Law, the Director, Waste Management Division of U.S. EPA, Region V, has determined that:

A. Respondents will promptly and properly take response action at the Site by conducting a remedial investigation and feasibility study (RI/FS) and are qualified to perform the RI/FS; and

B. The actions required by this Consent Order are in the public interest and are consistent with the National Contingency Plan, 40 CFR Part 300, as amended, and with CERCLA.

VIII. WORK TO BE PERFORMED

A. All work to be performed by the Respondents pursuant to this Consent Order shall be under the direction and supervision of a registered professional engineer, qualified geologist or other qualified professional approved by U.S. EPA. Prior to the initiation of work at the Site, the Respondents shall notify the U.S. EPA and WDNR, in writing, of the name, title and qualifications of the proposed engineer or geologist, and of the names of principal contractors and/or subcontractors proposed to be used in carrying out the work to be performed pursuant to this Consent Order. Selection of any such engineer or geologist or contractor and/or subcontractor shall be subject to approval by the U.S. EPA in consultation with the WDNR.

B. Exhibit B to this Consent Order provides a Statement of Work (SOW) for the completion of the RI/FS which is incorporated into and made a part of this Consent Order.

C. The following work shall be performed:

1. Within 60 calendar days of the effective date of this Consent Order, the Respondents shall submit a work plan to the U.S. EPA and WDNR for a complete remedial investigation and feasibility study (hereinafter RI/FS Work Plan). The RI/FS Work Plan shall be developed in conformance with the SOW, and the standards set forth in Section 121 of CERCLA, U.S. EPA "Guidance on Remedial Investigations Under CERCLA," dated May 1985, as amended (the RI Guidance) and U.S. EPA "Guidance on Feasibility Studies Under CERCLA," dated April 1985, as amended (the FS

Guidance), and any additional guidance documents provided by U.S. EPA to the extent applicable.

2. The RI/FS Work Plan submittal shall include, but not be limited to, the following project plans: (1) a sampling plan; (2) a health and safety plan; (3) a plan for satisfaction of permitting requirements; (4) a quality assurance project plan; (5) provisions for the preparation of an endangerment assessment plan; and (6) a schedule for implementation of RI/FS tasks and submission of RI/FS reports. The RI/FS Work Plan shall provide, at a minimum, for the submittal of a preliminary and final Remedial Investigation Report, and a preliminary and final Feasibility Study Report.

3. The RI/FS Work Plan shall be subject to review, modification, and approval by the U.S. EPA in consultation with the WDNR.

4. Within 45 calendar days of receipt of the RI/FS Work Plan, the U.S. EPA Project Coordinator shall notify the Respondents, in writing, of approval or disapproval of the RI/FS Work Plan, or any part thereof. In the event that a longer review period is required, the U.S. EPA Project Coordinator shall notify the Respondents of that fact within 30 calendar days of receipt of the Work Plan. In the event of any disapproval, the U.S. EPA shall specify, in writing, any deficiencies and required modifications to the RI/FS Work Plan, along with a reasonable time period within which a revised Work Plan shall be submitted,

taking into consideration the amount and type of effort projected to be required to address EPA's comments.

5. Within the time period specified in any U.S. EPA RI/FS Work Plan disapproval, the Respondents shall submit a revised RI/FS Work Plan to the U.S. EPA and the WDNR which incorporates the U.S. EPA modifications.

6. In the event EPA disapproves an RI/FS Work Plan that has been resubmitted, EPA retains the right to conduct a complete RI/FS or to enforce the terms of this Consent Order.

7. The Respondents shall proceed promptly to implement the work detailed in the RI/FS Work Plan if and when the RI/FS Work Plan is fully approved by the U.S. EPA. Unless otherwise directed by U.S. EPA, Respondents shall not commence field activities until approval by the U.S. EPA of the RI/FS Work Plan. The fully approved RI/FS Work Plan shall be deemed incorporated into and made an enforceable part of this Consent Order. All work shall be conducted in accordance with the National Contingency Plan, and the requirements of this Consent Order, including the standards, specifications and schedule contained in the RI/FS Work Plan.

IX. PLANS AND REPORTS

A. The Respondents shall provide a preliminary and final Remedial Investigation Report and a preliminary and final Feasibility Study Report.

B. The Respondents shall submit information and written progress reports to the U.S. EPA and the WDNR as follows:

1. Monthly reports of the status of completion of tasks required under the RI/FS Work Plan. At a minimum, these monthly written progress reports shall include the following:

   a. A description of the action which has been taken toward achieving compliance with this Consent Order;

   b. All results of sampling and tests and other raw data produced during the month and related to the Site;

   c. All plans and procedures completed during the past month, as well as such actions, data, and plans which are scheduled for the next month; and

   d. Target and actual completion dates for each element of activity, including the project completion, and an explanation of any deviation from the schedules in the RI/FS Work Plan schedule.

   Such monthly reports shall be submitted to the U.S. EPA and WDNR by the tenth business day of each month following the date of commencement of the work detailed in the RI/FS Work Plan.

2. All lab data.

3. A mid-project progress report.

4. Such preliminary and final reports and memoranda as specified in the RI/FS Work Plan according to the schedule contained in the RI/FS Work Plan.

5. A report upon completion of the RI/FS.

C. The U.S. EPA and the WDNR shall review and the U.S. EPA shall approve all preliminary and final reports specified in the RI/FS Work Plan as requiring U.S. EPA approval.

D. If the U.S. EPA, in consultation with the WDNR, disapproves any preliminary or final plan or report, the U.S. EPA

shall specify, in writing, any deficiencies and required modifications and the Respondents shall submit a revised plan or report to the U.S. EPA within 45 days or such longer period as the U.S. EPA Project Coordinator may establish, which plan or report shall incorporate any U.S. EPA modifications or additions.

E. In the event of subsequent disapproval of any revised plan or report, the U.S. EPA retains the right to perform additional studies, to conduct a complete or partial RI/FS, and/or to enforce the terms of this Consent Order.

X. ADDRESS FOR ALL CORRESPONDENCE

Documents, including reports, approvals, disapprovals and other correspondence to be submitted pursuant to this Consent Order shall be sent by certified mail to the following addresses, or to such other addresses as the Respondents, the WDNR or the U.S. EPA may hereafter designate in writing:

A. Documents to be submitted to the U.S. EPA should be sent to:

Doug Ballotti
City of Stoughton Landfill Site
Remedial Project Manager
Hazardous Waste Enforcement Branch (5HE-12)
U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, IL 60604

B. Documents to be submitted to the WDNR should be sent to:

Mark Giesfeldt
City of Stoughton Landfill Site
Project Coordinator
Wisconsin Department of Natural Resources
P. O. Box 7921
Madison, WI 53707-7921

C. Documents to be submitted to Respondents should be sent to:

Briand C. Wu
Uniroyal Plastics Company, Inc.
312 North Hill Street
P. O. Box 2000
Mishawaka, IN 46544-1399

With a copy to:

Robert P. Kardasz, P.E.
Director of Public Works
City of Stoughton
P. O. Box 383
211 Water Street
Stoughton, WI 53589

XI. ADDITIONAL WORK

A. In the event that the U.S. EPA, the WDNR or the Respondents determine that additional work, including remedial investigatory work and/or engineering evaluation, is necessary and to accomplish the objectives of the RI/FS, notification of such determination and of said additional work shall be provided to each of the other parties.

B. Any additional work determined to be necessary by the Respondents shall be subject to prior approval by the U.S. EPA, in consultation with the WDNR.

C. Any additional work determined to be necessary by the Respondents or the WDNR and approved by the U.S. EPA, or determined to be necessary by the U.S. EPA in consultation with the WDNR, shall be completed by Respondents in accordance with the standards, specifications, and schedule determined or approved by the U.S. EPA in consultation with the WDNR.

XII. COMPLIANCE WITH APPLICABLE LAWS

All work undertaken by the Respondents pursuant to this Consent Order shall be performed in compliance with all applicable Federal and State laws and regulations, including all Occupational Health and Safety Administration and Department of Transportation regulations. The Respondents shall be responsible for obtaining all State or local permits which are specified by WDNR or necessary for the performance of any work hereunder.

XIII. ACCESS

A. To the extent that the Site or other areas where work is to be performed hereunder is presently owned by parties other than those bound by this Consent Order, the Respondents shall obtain, or shall use due diligence to obtain, access agreements from the present owners within thirty (30) calendar days of approval of the RI/FS Work Plan. Such agreements shall provide access for the U.S. EPA, the WDNR and authorized representatives of the U.S. EPA and the WDNR, as specified below. In the event that such access agreements are not obtained within the time

referenced above, the Respondents shall so notify the U.S. EPA and the WDNR. The U.S. EPA reserves the right to terminate this Consent Order should the Respondents' inability to gain access to the Site or other areas materially affect the Respondents' ability to perform the work required herein.

B. Authorized representatives of the U.S. EPA and the WDNR shall be allowed access to the Site and other areas by the Respondents, and as part of any agreement obtained under paragraph A above, for purposes including, but not limited to: inspecting records, operating logs and contracts related to the Site; reviewing the progress of the Respondents in carrying out the terms of this Consent Order; conducting such tests, inspections, and sampling as the U.S. EPA, in consultation with the WDNR, may deem necessary; using a camera, sound recording, or other documentary tape equipment; and verifying the data submitted to the U.S. EPA and the WDNR by the Respondents hereunder. The Respondents shall permit such authorized representatives to inspect and copy all records, files, photographs, documents and other writings, including all sampling and monitoring data, which pertains to this Consent Order, subject to Paragraph C of Article XV of this Consent Order. All persons with access to the Site pursuant to the Consent Order shall comply with approved health and safety plans.

C. Nothing herein shall be construed as restricting the inspection or access authority of the U.S. EPA or the WDNR under any law or regulation.

XIV. PROJECT COORDINATORS

A. The Project Coordinators for U.S. EPA, the WDNR and the Respondents are those designated in Article X. Each Project Coordinator shall be responsible for overseeing the implementation of this Consent Order. The U.S. EPA Project Coordinator will be the U.S. EPA designated representative at the Site. To the maximum extent possible, communications between the Respondents, the WDNR and the U.S. EPA, and all documents, reports, approvals and other correspondences concerning the activities performed pursuant to the terms and conditions of this Consent Order, shall be directed through the Project Coordinators. During implementation of the RI/FS Work Plan, the Project Coordinators shall, whenever possible, operate by consensus and shall attempt in good faith to resolve disputes informally through discussion of the issues.

B. The U.S. EPA, the WDNR and the Respondents shall each have the right to change their respective Project Coordinators. Such a change shall be accomplished by notifying the other party in writing at least ten (10) calendar days prior to the change.

C. The U.S. EPA Project Coordinator shall have the authority vested in an On-Scene Coordinator (OSC) and a Remedial Project Manager (RPM) by the National Contingency Plan, 40 CFR Part 300, as amended, including the authority to halt, conduct, or direct any work required by this Consent Order, or to direct any response action undertaken by the U.S. EPA when conditions at the Site may present an imminent and substantial endangerment to

the public health or welfare or the environment. In the event that the U.S. EPA Project Coordinator halts work pursuant to this paragraph, the Respondents shall obtain a commensurate modification of the schedule of work described in the RI/FS Work Plan and this Consent Order unless such work stoppage was due to Respondents' failure to properly comply with the terms of this Consent Order or with health, safety or environmental laws or regulations. Where the U.S. EPA Project Coordinator halts work pursuant to this paragraph and such work stoppage is due to Respondents' failure to properly comply with the terms of this Consent Order or with health, safety or environmental laws or regulations, the Respondents may request a modification of the schedule of work described in the RI/FS Work Plan and this Consent Order.

D. The absence of the U.S. EPA or WDNR Project Coordinator from the Site shall not be cause for stoppage of work.

E. The Project Coordinator for the Respondents or his or her representative shall be on-site during all hours of site work and shall be available on reasonable notice during the pendency of this Consent Order.

XV. SAMPLING AND DATA/DOCUMENT AVAILABILITY

A. The Respondents shall make the results of all sampling and/or tests or other data generated by the Respondents, or on behalf of the Respondents, pursuant to implementation of this Consent Order, available to the U.S. EPA and the WDNR, and shall

submit these results in written monthly progress reports as required by Section IX of this Consent Order.

B. At the request of the U.S. EPA or the WDNR, the Respondents shall provide split or duplicate samples to the U.S. EPA or the WDNR of any samples collected by the Respondents pursuant to the implementation of this Consent Order. The Respondents shall notify the U.S. EPA and the WDNR at least five (5) calendar days in advance of any sample collection activity, provided, however, that five (5) days advance notice shall not be required where not reasonably practicable, such as where the date of sampling cannot be determined in advance for reasons such as a specific amount of rainfall being required within a set period, in which case notice to enable each party to have a representative present during said sample collection activity is sufficient.

C. Pursuant to applicable State and Federal laws and regulations (Section 104(e) of CERCLA and 40 CFR Part 2), the Respondents may assert a confidentiality claim with respect to any or all of the information requested or submitted pursuant to the terms of this Consent Order.

As to information which Respondents are willing to disclose to U.S. EPA and WDNR but which they assert should be kept confidential as to the public, the following provisions apply. Such an assertion must be adequately substantiated when the assertion is made. Analytical data and other information described in Section 104(e)(7)(F) of CERCLA shall not be claimed as confidential by the Respondents. Information determined to be

confidential by the U.S. EPA in accordance with applicable federal laws and regulations will be afforded the full protection provided by such laws and regulations. Information determined to be confidential by WDNR pursuant to applicable state laws and regulations will be afforded the full protection provided by such laws and regulations. If no confidentiality claim accompanies information when it is submitted to the U.S. EPA and the WDNR, or if information claimed as confidential is determined by the U.S. EPA or the WDNR not to be confidential, the information may be made available to the public by the U.S. EPA or the WDNR.

With respect to information as to which a confidentiality privilege (including but not limited to privileges governing confidential attorney-client communications or attorneys' work product) applies as against any others, including U.S. EPA, WDNR and other Respondents, the provisions of this Consent Order shall not in any way diminish such Respondent's rights to maintain the confidentiality of such material. All those who seek such material may do so to the extent provided by law, but without the aid of any provision of this Consent Order, or by virtue of the fact that this Consent Order has been entered into, or by virtue of the performance hereof.

XVI. QUALITY ASSURANCE

A. The Respondents shall use quality assurance, quality control and chain of custody procedures in accordance with U.S.

EPA "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans" QAMS-005-80 (U.S. EPA, 1980) throughout all data collection activities.

B. The Respondents shall consult with the U.S. EPA and WDNR Project Coordinators in planning for, and prior to, all sampling and analysis as detailed in the RI/FS Work Plan. In order to provide quality assurance and maintain quality control with respect to all samples collected pursuant to this Consent Order, the Respondents shall:

1. Ensure that the U.S. EPA and WDNR personnel and/or the U.S. EPA and WDNR authorized representatives are allowed access to any laboratories and personnel utilized by the Respondents for analyses;

2. Ensure that all sampling and analyses are performed according to U.S. EPA methods or other methods deemed satisfactory by the U.S. EPA; and

3. Ensure that any laboratories utilized by the Respondents for analyses participate in a U.S. EPA quality assurance/quality control program equivalent to that which is followed by the U.S. EPA, and which is consistent with U.S. EPA document QAMS-005-80. As part of such a program, and upon request by the U.S. EPA, such laboratories shall perform analyses of samples provided by the U.S. EPA or the WDNR to demonstrate the quality of analytical data for each such laboratory.

XVII. FORCE MAJEURE

A. The Respondents shall cause all work to be performed within the time limits set forth herein, unless performance is delayed by events which constitute a force majeure. For purposes of this Consent Order, a "force majeure" is an event beyond the control of the Respondents which cannot be overcome with due diligence and which delays performance of any obligations required by this Consent Order. Increases of costs shall not be considered circumstances beyond the control of the Respondents.

B. The Respondents shall notify the U.S. EPA and the WDNR in writing no later than two (2) business days after any event which the Respondents contend is a force majeure. Such notification shall describe the anticipated length of the delay, the cause or causes of the delay, the measures taken and to be taken by the Respondents to minimize the delay, and the timetable by which these measures will be implemented. The Respondents shall have the burden of demonstrating that the event is a force majeure. U.S. EPA shall promptly provide Respondents with a written decision as to whether the event constitutes a force majeure after receiving notification from Respondents pursuant to this section B.

C. If the U.S. EPA, in consultation with the WDNR, agrees that a delay is attributable to a force majeure, the time period for performance under this Consent Order shall be extended for a time period attributable to the event constituting the force majeure unless U.S. EPA terminates this Consent Order.

D. In the event U.S. EPA agrees that a force majeure has occurred, U.S. EPA cannot recover any stipulated or other penalties as a result thereof. In the event U.S. EPA does not so agree, it reserves its enforcement rights against Respondents. However, if U.S. EPA does not so agree, and does not promptly advise Respondents of its disagreement, then Respondents may, within EPA's discretion, be relieved of liability for stipulated penalties. In exercising said discretion, EPA shall consider the promptness or lack thereof of EPA's response, whether the claim of a force majeure event was reasonable and any other equitable factors.

XVIII. STIPULATED PENALTIES

A. Respondents shall be liable for payment into the Hazardous Substances Response Trust Fund administered by the U.S. EPA of the sums set forth below as stipulated penalties for each week or part thereof that the Respondents fail to submit a report or document or comply with a schedule in accordance with the requirements contained in this Consent Order, unless U.S. EPA determines that such delay is attributable to a force majeure as defined in Article XVII above. Such sums shall be due and payable within fifteen (15) days of receipt of notification from the U.S. EPA assessing the penalties. These stipulated penalties shall accrue in the amount of $1,000.00 for the first week or part thereof, and $2,000.00 for each week or part thereof thereafter.

B. The stipulated penalties set forth in paragraph A of this section shall not preclude the U.S. EPA or the WDNR from electing to pursue any other remedy or sanction because of the Respondents' failure to comply with any of the terms of this Consent Order, including a suit to enforce the terms of this Consent Order. Said stipulated penalties shall not preclude the U.S. EPA or the WDNR from seeking statutory penalties up to the amount authorized by law in the event of Respondents' failure to comply with any requirements of this Consent Order, provided however that in no event may U.S. EPA or WDNR recover both stipulated and statutory penalties for the same failure to comply.

XIX. DISPUTE RESOLUTION

A. The parties shall use their best efforts to in good faith resolve all disputes or differences of opinion informally. If, however, any dispute arises concerning any matter under or subject to this Consent Order, including additional work determined by U.S. EPA to be necessary pursuant to Article XI, which dispute the parties are unable to resolve informally, the Respondents shall present a written notice of such dispute to the U.S. EPA and the WDNR, which shall set forth specific points of dispute, the position of the Respondents and the technical basis therefor, and any actions which the Respondents consider necessary.

B. Within ten (10) calendar days of receipt of such a written notice, the U.S. EPA shall provide a written response to the Respondents setting forth its position and the basis therefor. During the five (5) business days following receipt of the response, the U.S. EPA, the WDNR and the Respondents shall attempt to negotiate in good faith a resolution of their differences.

C. Following the expiration of the time periods described in Paragraph B above, if the U.S. EPA concurs with the position of the Respondents, the Respondents and the WDNR shall be so notified in writing and this Consent Order shall be modified to include any necessary extensions of time or variances of work. If the U.S. EPA does not concur with the position of the Respondents, the U.S. EPA shall resolve the dispute in good faith, taking due account of the position of any Respondent, and, based upon and consistent with the terms of this Consent Order, and shall provide written notification of such resolution to the Respondents.

D. The pendency of dispute resolution set forth in this Article shall not affect the time period for completion of work and/or obligations to be performed under this Consent Order, except that upon mutual agreement of the U.S. EPA and Respondents, any time period may be extended not to exceed the actual time taken to resolve the dispute. Elements of work and/or obligations not affected by the dispute shall be completed in accordance with the schedule contained in the RI/FS Work Plan.

E. Upon resolution of any dispute, whether informally or using the procedures in this Article, any additions or modifications required as a result of such dispute resolution shall immediately be incorporated, if necessary, into the appropriate plan or procedure and into this Consent Order. The Respondents shall proceed with all remaining work according to the modified plan or procedure.

F. In any proceeding to enforce the terms of this Consent Order or to collect penalties for violations thereof, Respondents may defend on the basis that EPA's resolution of any properly-invoked dispute was arbitrary and capricious. If the court finds that U.S. EPA's resolution of any dispute was arbitrary and capricious, the court may exercise such legal and equitable powers as it deems appropriate.

XX. COMMUNITY RELATIONS

The Respondents shall cooperate with the U.S. EPA and the WDNR in providing RI/FS information to the public. As requested by the U.S. EPA or the WDNR, the Respondents shall participate in the preparation of all appropriate information disseminated to the public and in public meetings which may be held or sponsored by the U.S. EPA or the WDNR to explain activities at or concerning the Site, including the findings of the RI/FS.

XXI. RECORD PRESERVATION

The Respondents agree to preserve, during the pendency of this Consent Order, and for a minimum of five (5) years after termination of this Consent Order, one original or one legible copy of all records and documents of the Respondents which are in the possession of the Respondents, or in the possession of any division, employees, agents, accountants, or contractors, or attorneys of the Respondents, which relate in any way to the Site. Upon request by the U.S. EPA or the WDNR, the Respondents shall make available to the U.S. EPA or the WDNR such records, or copies of any such records, subject to Paragraph C of Article XV of this Consent Order. This Article is intended to preserve Respondents' records and is not intended nor shall it be construed to be a waiver or in any other way diminish the full availability to Respondents of any attorney-client or other privileges that may apply.

XXII. CERCLA FUNDING

A. The Respondents waive any claims or demands for compensation or payment under Sections 111 and 112 of CERCLA against the United States or the Hazardous Substance Response Trust Fund established by Section 211 of CERCLA for or arising out of any activity performed or expenses incurred pursuant to this Consent Order.

B. This Consent Order does not constitute any decision on preauthorization of funds under Section 111(a)(2) of CERCLA.

XXIII. RESERVATION OF RIGHTS

A. The U.S. EPA and the WDNR reserve all rights and defenses that they may have pursuant to any available legal authority. Respondents reserve all rights against all parties hereto as set forth in Section IV.B, above.

B. Nothing herein shall waive the right of the U.S. EPA to enforce this Consent Order, or to take action pursuant to Sections 104, 106(a) and 107 of CERCLA. In addition, U.S. EPA reserves the right, following thirty (30) days' written notice to the Respondents, to undertake the work that is the responsibility of Respondents under this Consent Order or to enforce the terms of the Consent Order if the Respondents fail satisfactorily to perform the tasks required of them under this Consent Order by the end of the thirty (30) day notice period. If U.S. EPA conducts any work that is the responsibility of Respondents under this Consent Order, it cannot also commence or maintain an action to compel Respondents to conduct work already completed by U.S. EPA in a manner consistent with this Consent Order. U.S. EPA will not undertake the work that is the responsibility of respondents under this Consent Order without a material failure of one or more Respondents satisfactorily to perform the tasks required of them under this Consent Order. The U.S. EPA and the WDNR reserve the right to take any enforcement action pursuant to CERCLA and/or any available legal authority, including the right to seek injunctive relief, monetary penalties, and punitive damages, except as such may be limited by execution and

performance of this Consent Order. In addition, the U.S. EPA reserves the right to undertake any remedial investigation/feasibility study work, and/or any removal, remedial and/or response actions relating to the Site, and to seek recovery from the Respondents for any costs incurred in undertaking such actions upon the failure of Respondents, their agents, contractors or subcontractors to proceed according to the Work Plan.

C. Nothing herein is intended to release, discharge, or in any way affect any claims, causes of actions or demands in law or equity which each party may have against any person, firm, partnership or corporation for any liability it may have arising out of, or relating in any way to, the generation, storage, treatment, handling, transportation, release or disposal of any materials, hazardous substances, hazardous wastes, contaminants, or pollutants at, to, or from the Site. The parties to this Consent Order expressly reserve all rights, claims, demands, and causes of action they have against any and all other persons and entities.

D. The U.S. EPA and the WDNR recognize that the Respondents may have the right to seek contribution, indemnity and/or any other available remedy against any person found to be responsible or liable for contributions, indemnity or otherwise for any amounts which have been or will be expended by the Respondents in connection with the Site.

E. Nothing herein shall be construed to release the Respondents from any liability for failure of the Respondents to

perform the RI/FS in accordance with the RI/FS Work Plan attached hereto and incorporated herein. The parties further expressly recognize that this Consent Order and the successful completion and approval of the RI/FS do not represent satisfaction, waiver, release, or covenant not to sue (except as provided in Article XXXII, below), of any claim of the United States or the State of Wisconsin against the Respondents relating to the Site (including claims to require Respondents to undertake further response actions and claims to seek reimbursement of response costs pursuant to Section 107 of CERCLA), except that, upon receipt of written notice of satisfaction as provided in Article XXIX of this Consent Order, Respondents shall have no further obligations under this Consent Order.

F. Nothing herein is intended to be a release or settlement of any claim for personal injury or property damage by any person not a party to this Consent Order.

XXIV. REIMBURSEMENT OF COSTS

A. At the end of each twelve (12) month period beginning with the effective date of this Consent Order, the U.S. EPA and the WDNR shall submit an accounting to the Respondents of all oversight costs incurred by the U.S. EPA and the WDNR with respect to this Consent Order during the previous twelve (12) month period including, but not limited to, the costs incurred by the U.S. EPA in having a qualified person oversee the conduct of this RI/FS pursuant to Section 104(a) of CERCLA. Within thirty

(30) calendar days of receipt of each such tabulation, the Respondents shall remit a check to the U.S. EPA and/or the WDNR for the full amount of their respective statutorily recoverable costs.

B. Payment to the U.S. EPA for oversight costs incurred by the U.S. EPA shall be made to the order of the Hazardous Substance Response Trust Fund forwarded to the U.S. EPA, Superfund Accounting, P. O. Box 371003M, Pittsburgh, Pennsylvania 15251, Attn: Superfund Collection Office. Copies of all payments to the U.S. EPA shall be provided at the time of such payments to the U.S. EPA Project Coordinator and to: U.S. EPA, Region V, SWER Branch, Attention: Ms. Isalee Coleman, Office of Regional Counsel, 5CS-TUB-3, 230 South Dearborn Street, Chicago, Illinois 60604.

C. Payment to the WDNR for oversight costs incurred by the WDNR shall be payable to the Wisconsin Department of Natural Resources, and forwarded to: Wisconsin Department of Natural Resources, Bureau of Solid Waste Management, SW/3, Environmental Response and Restoration Unit, P. O. Box 7921, Madison, Wisconsin 53707-7921. A copy of the transmittal letter and check shall be sent to the WDNR Project Coordinator.

D. The U.S. EPA and the WDNR reserve the right to bring an action against the Respondents for recovery of any past and future costs incurred by the United States or the State of Wisconsin in connection with any response activities conducted or to be conducted at the Site, other than those response activities

completed pursuant to this Consent Order to the satisfaction and approval of the U.S. EPA in consultation with the WDNR.

XXV. INDEMNIFICATION OF THE UNITED STATES

A. The Respondents agree to indemnify and save and hold the United States Government and the State of Wisconsin harmless from any and all claims or causes of action arising from, or on account of, acts or omissions of the Respondents, their officers, employees, receivers, trustees, agents, or assigns, in carrying out the activities pursuant to this Consent Order.

XXVI. U.S. EPA AND WDNR NOT PARTIES TO RI/FS CONTRACTS

Neither the U.S. EPA nor the WDNR is a party to any contract involving the Respondents at the Site.

XXVII. EFFECTIVE DATE OF CONSENT ORDER

This document shall be executed by Respondents and WDNR before being executed by U.S. EPA. When U.S. EPA executes the document, the U.S. EPA shall enter an Effective Date immediately below U.S. EPA's signature which shall be a minimum of five (5) business days after the date of mailing (first class, postage prepaid) by U.S. EPA to the Respondents of a fully executed copy of the Consent Order.

XXVIII. SUBSEQUENT AMENDMENT

In addition to the procedures set forth in Sections XI, XIV, XVII, and XVIII of this Consent Order, this Consent Order may be amended by mutual agreement of the U.S. EPA, the WDNR and the Respondents. Any amendment of this Consent Order shall be in writing, signed by the U.S. EPA and the WDNR and Respondents, and shall have as the effective date that date on which the last party signs such amendment.

XXIX. TERMINATION AND SATISFACTION

The provisions of this Consent Order shall be deemed satisfied upon receipt by the Respondents of written notice from the U.S. EPA that the Respondents have demonstrated that all of the terms of this Consent Order, including any additional work, modifications or amendments, have been completed in accordance with the terms hereof to the satisfaction of the U.S. EPA in consultation with the WDNR. Upon such demonstration by the Respondents, said written notice shall not be unreasonably withheld or delayed.

XXX. OTHER PRPs

U.S. EPA agrees to cooperate with Respondents fully in investigating information submitted to it by Respondents regarding whether other PRPs should be identified for this Site.

XXXI. PENDING LITIGATION

If the Court of Appeals for the District of Columbia Circuit renders a final decision in favor of the City of Stoughton in the litigation now pending in that Court (City of Stoughton vs. U.S. EPA, Case No. 86-1492) in which the Court finds that there is not a legally sufficient basis for maintaining the Site on the NPL on the administrative record before that Court, then this Consent Order shall immediately become voidable at the option of one or both Respondents. If only one Respondent exercises this right, this Order shall have no further force or effect as to the exercising Respondent. The other Respondent which has not yet exercised the right to void this Consent Order may elect to continue to perform under the Consent Order.

XXXII. COVENANT NOT TO SUE

Except as otherwise provided herein, from the date of this Consent Order, for as long as the terms herein are complied with, and upon or after termination of this Consent Order pursuant to provisions of Article XXIX (Termination and Satisfaction) and reimbursement to U.S. EPA and WDNR of amounts due as stipulated penalties and oversight costs under this Consent Order, U.S. EPA covenants not to sue Respondents regarding work satisfactorily performed by Respondents hereunder or for amounts actually reimbursed to U.S. EPA or WDNR by Respondents hereunder, subject to rights reserved in Section XXIV (Reimbursement of Costs)

regarding past and future response costs. Work shall be deemed to have been satisfactorily performed if it was performed in accordance with all applicable requirements as contained in Section IV (Statement of Purpose) in effect at the time of the performance of the work as determined by U.S. EPA.

IT IS SO AGREED:

CITY OF STOUGHTON

BY: _____ 3/11/88
Its: MAYER Date

BY: _____
Its: City Clerk

UNIROYAL PLASTICS COMPANY, INC.

BY: _____ March 15, 1988
Its: V. P. & Chief Operating Officer Date

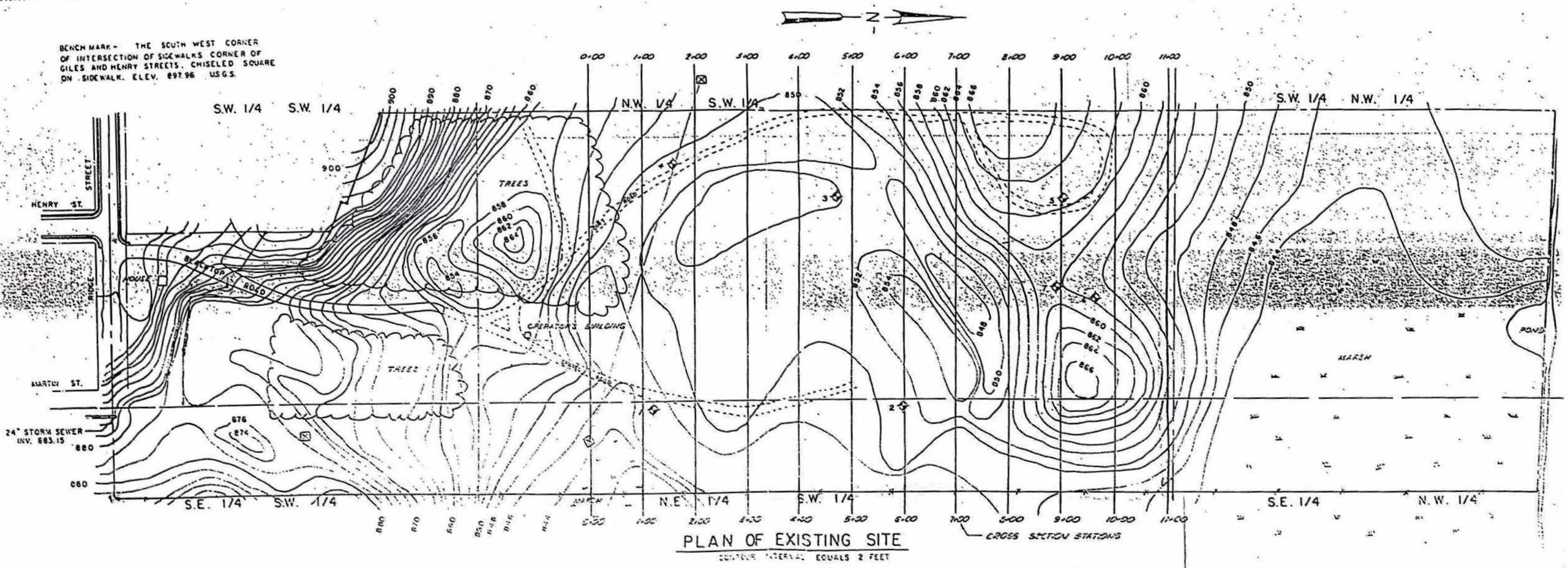
BY: _____
Its: _____

IT IS SO ORDERED AND AGREED:

BY: _____ March 29 1988
Carroll D. Besadny Date
Secretary
Wisconsin Department of Natural Resources

BY: _____ April 15, 1988
Basil G. Constantelos, Director Date
Waste Management Division
U.S. Environmental Protection Agency,
Region V

EFFECTIVE DATE: May 2 1988



PLAN OF EXISTING SITE

CONTOUR INTERVAL EQUALS 2 FEET

EXHIBIT A

LANDFILL SITE

STOUGHTON, WISCONSIN

PART OF W 1/2 OF SECT. 4, T5N, R11E

EXHIBIT B

DETAILED STATEMENT OF WORK

FOR

REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

STOUGHTON CITY LANDFILL
STOUGHTON, WISCONSIN

REVISION NO. 3

SUBMITTED BY:

STOUGHTON LANDFILL STEERING COMMITTEE

MARCH 15, 1988

PREPARED BY:

ENVIRONMENTAL RESOURCES MANAGEMENT-NORTH CENTRAL, INC.
102 WILMOT ROAD, SUITE 300
DEERFIELD, ILLINOIS 60015

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SECTION 1.0

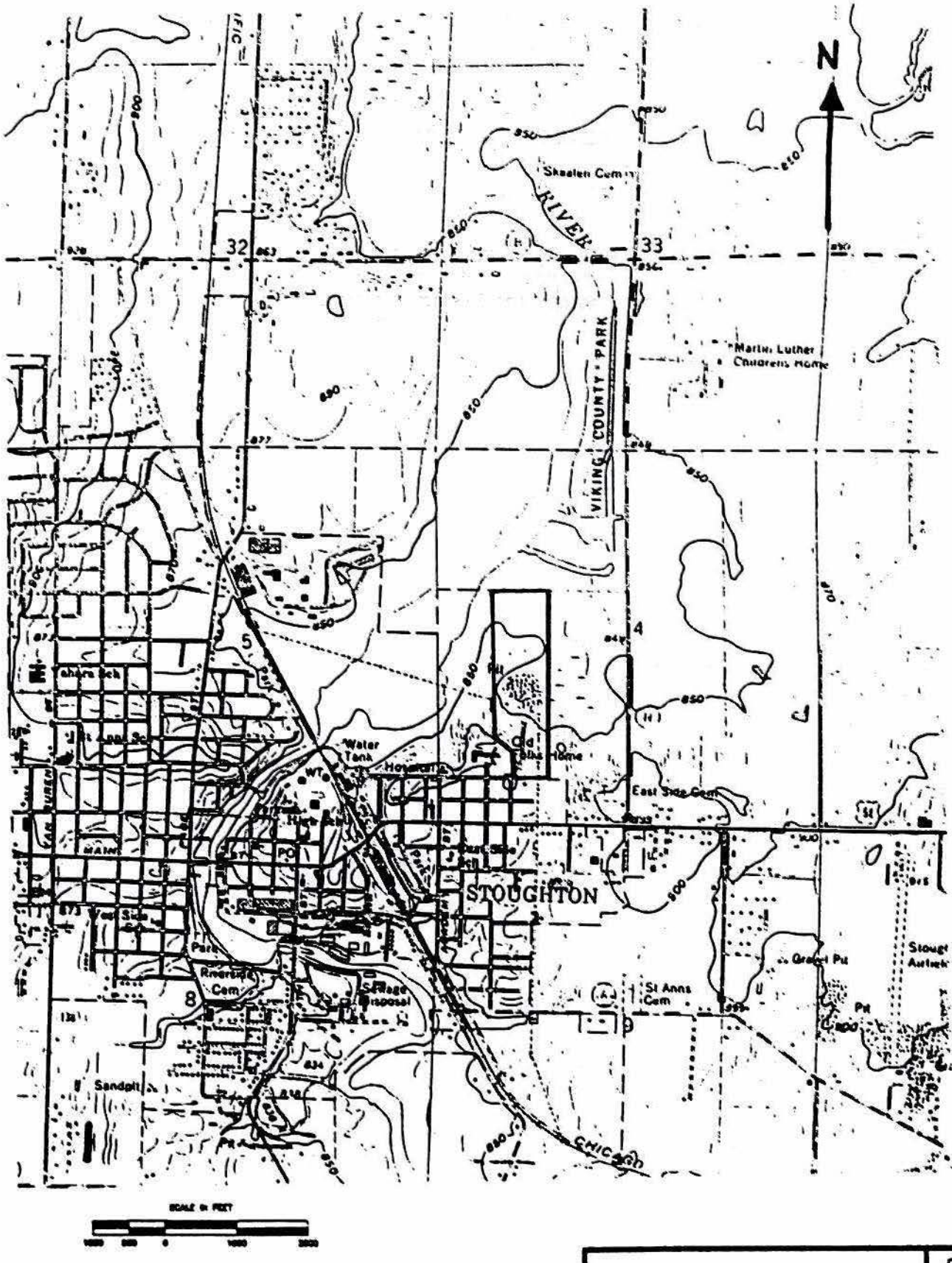
INTRODUCTION

1.1 Site Location and History

The Stoughton City Landfill is located in Dunkirk Township, Dane County, Wisconsin and occupies portions of the S1/2 of the NW1/4 and the SW1/4 of Section 4, T5N, R11E. The original Landfill property occupied approximately 40 acres, although landfilling has occurred on only about 15 acres of the property, as shown in Figure 1-1. Since 1982, land exchanges between the City and an adjacent land-owner have modified the original site boundary as shown in Figure 1-2.

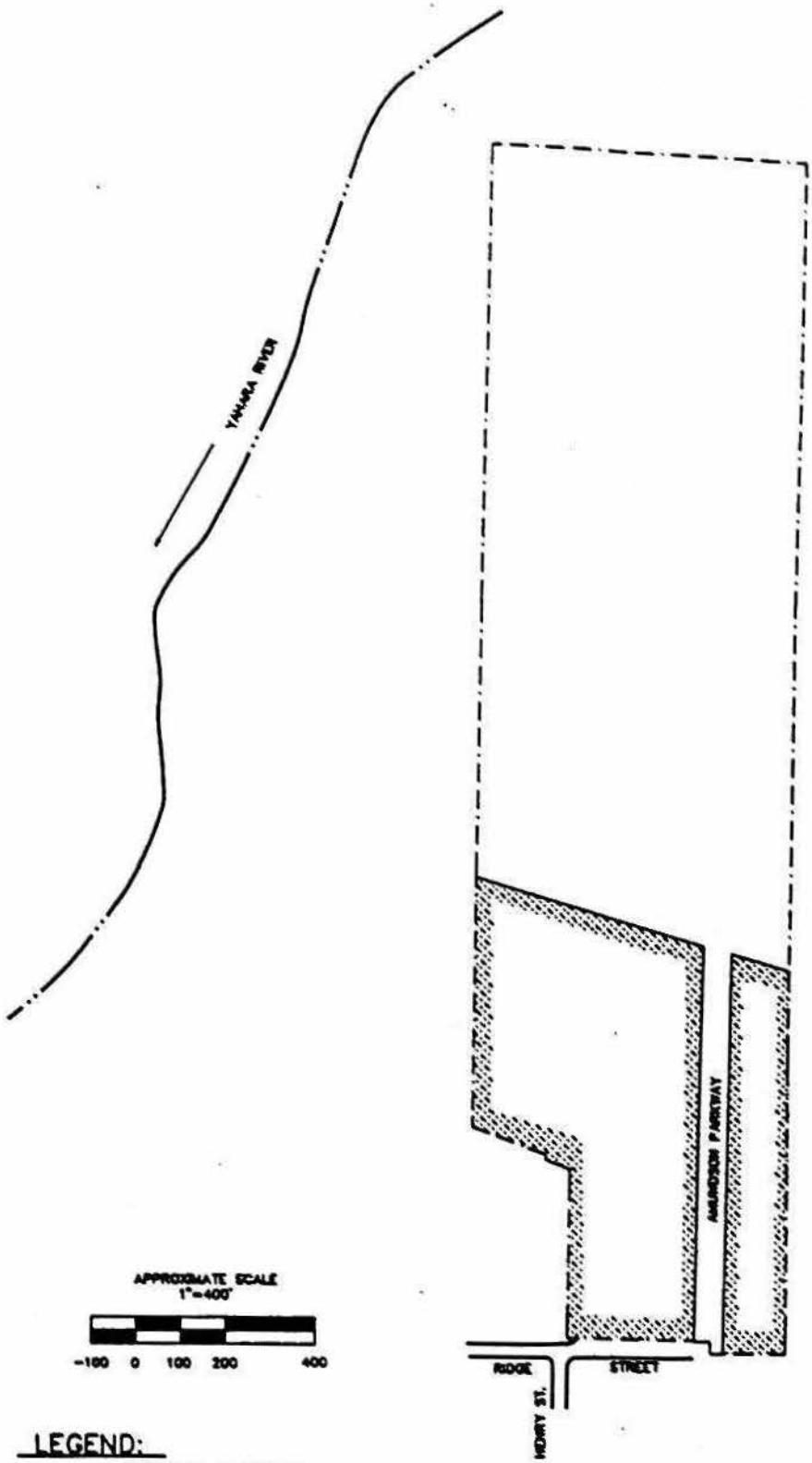
The original site was purchased in July, 1952 by the City of Stoughton which then annexed the site in September, 1952. Landfill operations commenced after this latter date. Between 1952 and 1972 the site was operated as an uncontrolled dump site. During this time, burning was common and refuse was at times covered by dirt. In 1972, the site began to be operated as a State licensed landfill. In 1978, the Wisconsin Department of Natural Resources (WDNR) required that the site be abandoned according to State regulations. From 1978 to 1982, only brick, rubble, etc. were accepted at the site while closure work was performed. The unit was officially closed in 1982.

The Landfill was established for use by residents of the City, including commercial and industrial operations in the City. This would include major industries as well as smaller scale machine shops, auto body/repair operations, dry cleaners, and other



SOURCE: USGS, 7.5 MINUTE STOUGHTON QUADRANGLE, DANE CO., WISCONSIN

STOUGHTON CITY LANDFILL LOCATION MAP	FIGURE 1-1
ERM ERM-North Central, Inc.	



STOUGHTON CITY LANDFILL PROPERTY BOUNDARIES	FIGURE 1-2
ERM ERM-North Central, Inc.	

maintenance facilities. Uniroyal Plastics (formerly US Rubber) disposed of liquid wastes from 1953 until they halted disposal at this site in late 1962. Most of those liquid wastes were disposed by burning in the refuse burning areas; however, some of these liquid wastes are reported to have been disposed down boreholes drilled by a local firm which tested truck mounted earth auger equipment on high ground within the west-central portion of the Landfill. In 1962 the City contracted for the collection of garbage and rubbish from residences and commercial places of business, and this waste was reportedly disposed at a site other than the City-owned site. Large items of residential rubbish such as appliances, furniture, etc. were not picked up by the contractor but were carried to the Landfill by the property owner. The City disposed of street refuse, trees, and grit from the wastewater treatment plant.

1.2 Site Status

The Stoughton City Landfill is currently an inactive facility. Vehicular access to the site is controlled by two gates which are locked at all times; however, security fencing is not in place around the site.

1.3 Statement of Work Overview

This Detailed Statement of Work (SOW) is incorporated into a Consent Order requiring a RI and FS study of the site to be conducted by PRP's. This SOW has been prepared in accordance with the Model Statement of Work for Conducting a Remedial Investigation and Feasibility Study (RI and FS), as provided by USEPA staff and the USEPA guidance documents for Remedial Investigations and Feasibility Studies (EPA/540/G-85/002 and

EPA/540/G-85/003 dated June, 1985). A Work Plan for the RI and FS will be prepared by the PRP's pursuant to the requirements of the Consent Order, in conformance with this SOW, and applicable USEPA Guidance Documents.

The purpose of the RI and FS is to evaluate the extent and magnitude of contamination attributable to the Stoughton City Landfill and to recommend viable remedial action alternatives for mitigating any potential hazard posed by the site. Specific objectives of the RI, consistent with the model statement of work, include investigations to:

- Determine the characteristics and extent of contamination attributable to the Stoughton City Landfill.

- Define the pathways of contaminant migration from the Stoughton city Landfill.

- Define the physical features which could affect migration, containment, or remediation of contamination attributable to the Stoughton City Landfill.

- Quantify risk to public health and the environment attributable to Stoughton City Landfill.

- Gather information necessary to support the FS for the Stoughton City Landfill.

This Statement of Work presents the site background, the technical approach to proposed site investigations and feasibility study activities, and a proposed schedule for RI and FS project execution at the Stoughton City Landfill site. The following tasks, which are described in the Statement of Work, have been established for the RI and FS, consistent with the Model Statement of Work and USEPA Guidance Documents:

Remedial Investigation

- Task 1 - Site Reconnaissance and Current Situation Assessment
- Task 2 - Site Investigation
- Task 3 - Site Investigation Analysis
- Task 4 - Laboratory and Bench-Scale Studies
- Task 5 - Remedial Investigation Reports

Feasibility Study

- Task 6 - Remedial Alternatives Screening
- Task 7 - Remedial Alternatives Evaluation
- Task 8 - Feasibility Study Report

This RI and FS Statement of Work has been designed so that the Stoughton City Landfill project can be conducted in a phased approach. Specifically, results of Task 1 activities will be

reviewed with USEPA and WDNR personnel to modify, as necessary, subsequent tasks to further investigate and characterize the nature and extent of contamination in areas identified by Task 1 activities. This may include, but not be limited to, monitoring well distribution, as well as limits of the site investigations with regard to site boundaries and media to be sampled.

Technical memoranda will be prepared at the completion of work for each task, and those memoranda will be provided to USEPA and WDNR for review and comments. Subsequent task modification, consistent with the objectives of the Stoughton City Landfill RI and FS, can then be evaluated in the context of available data prior to the preparation of formalized RI or FS final reports.

SECTION 2.0

INITIAL SITE EVALUATION

Section 2 summarizes readily available information regarding the site's environmental setting and operations history. It includes a discussion of a generalized characterization of waste handled at the site, the expected behavior of those contaminants in the environment, and the potential effect of those materials on the environment.

2.1 Site Description

2.1.1 Environmental Setting

The Stoughton City Landfill property originally occupied approximately 40 acres in the S1/2 of the NW1/4 quarter and in the SW1/4 of Section 4, T5N, R11E in Dane County, Wisconsin (Figure 1-1). Landfilling has occurred on only about 15 acres of the property. The site is located in the northeast portion of the City of Stoughton and borders marshy areas east of the Yahara River.

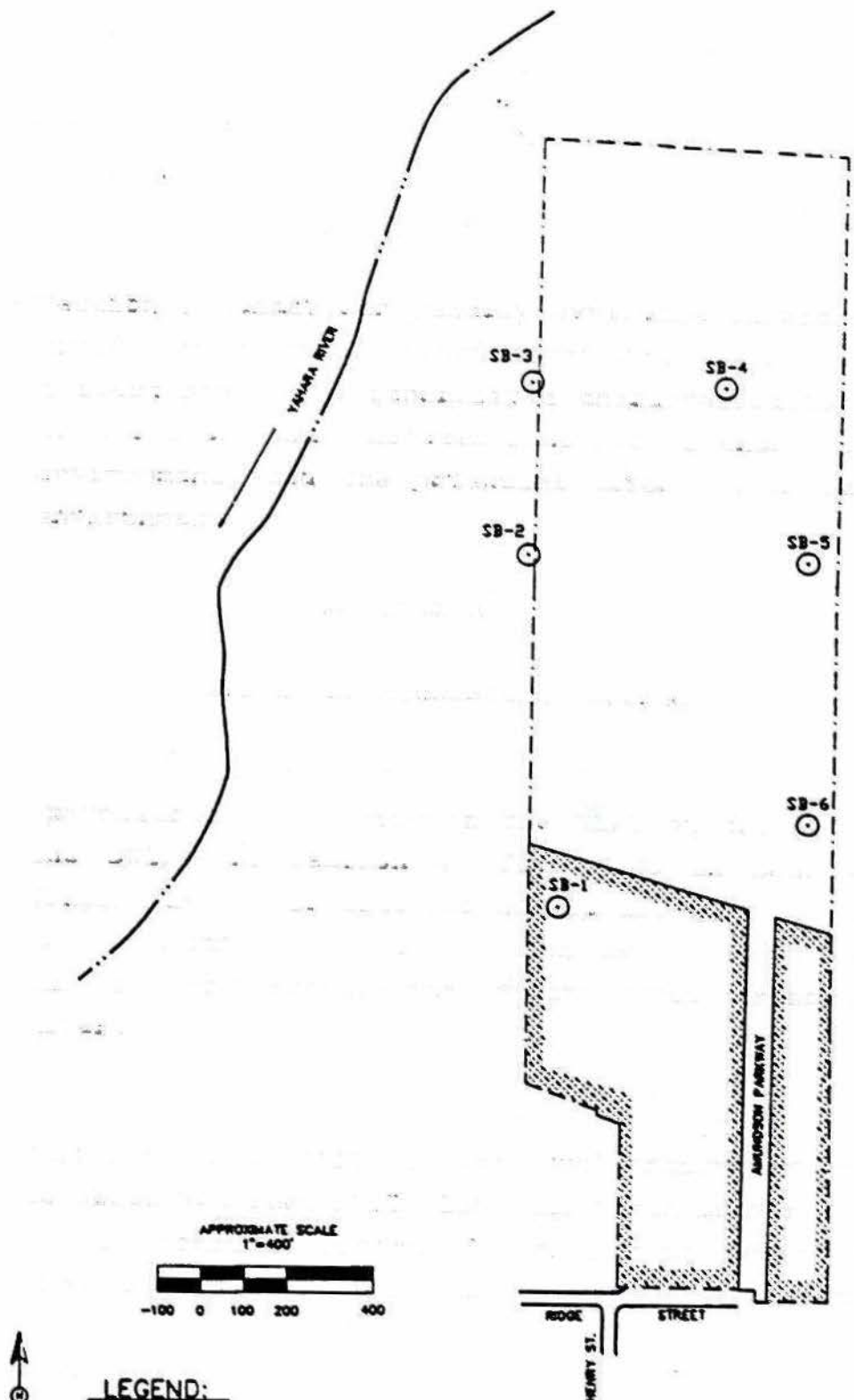
Land surface elevation ranges from a high of about 900 feet above mean sea level (AMSL) in the southwestern portion of the Landfill to about 840 feet AMSL along the north border of the Landfill and in its central portion. A relatively marshy area in the east central portion of the site, bounded on the north, west and south by higher ground, was the primary area of waste disposal. The approximate north one quarter of the site also contained an area

of lowland. Land exchanges since 1982 have modified the original property boundaries.

Surficial deposits in the vicinity of the site include ice-contact stratified deposits and lacustrine plain sediments (Mickelson and McCartney, 1979). Ice-contact stratified deposits generally include significant sand and gravel deposits and landforms such as kames and eskers. These deposits occupy higher ground within the Landfill. Lacustrine plain or glacial lake bottom sediments are generally comprised of fine-grained silt and clay with some sand present near former shorelines and stream inlets. These areas are often flat, poorly drained and show evidence of peat accumulation. Lacustrine plain deposits occupy the east-central portion of the site which was developed for primary waste disposal and the low-lying north portion of the site. Approximately 150 to 250 feet of unconsolidated glacial sediments are reported to overlie Cambrian sandstone bedrock in the vicinity of the site.

Surface water drainage features on the site are limited to a drainage ditch along the south portion of the primary disposal area and a ditch which runs along the north property boundary. As noted previously, the Yahara River flows in a southerly direction approximately 800 feet west of the primary disposal area and marshlands exist adjacent to the east property boundary.

A total of six monitoring wells have been installed in and adjacent to the Stoughton City Landfill. These monitoring wells were installed in 1978 and designated wells SB-1 through SB-6. Four of these wells (SB-1, SB-4, SB-5, and SB-6) were destroyed by landfill operations and were replaced in 1982. Figure 2-1 shows the current location of these monitoring wells.



CURRENT MONITORING WELL LOCATIONS STOUGHTON CITY LANDFILL	FIGURE 2-1
ERM ERM-North Central, Inc.	

At least one of these wells, SB-6, is completed in landfill materials while others are screened in surficial sand and gravel or clay. Ground water flow direction within the upper surficial sediments is uncertain based on review of available data. Both northwest and southeast flow directions have been indicated.

Water supply for the City of Stoughton is derived from wells completed in the deeper Cambrian sandstone strata. The closest City well is located about 3,500 feet due west of the Landfill across the Yahara River and is designated Well No. 3. This well penetrated a 75-foot thick clay layer from 85-160 feet below ground surface. Well No. 3 encountered Franconia Sandstone at a depth of 210 feet and is open hole to a total depth of 950 feet.

2.2 History of Site Contamination

No records are available of specific hazardous wastes that were disposed of at the Landfill.

Volatile organic compounds have been consistently detected in three on-site monitoring wells. Well SB-1 has shown the presence of ethyl benzene and xylenes while wells SB-2 and SB-3 have shown the presence of various chlorinated solvent compounds at low levels. In addition, tetrahydrofuran has been detected in Well SB-3. Analytical results on samples collected from all municipal wells in 1982 and 1986 did not detect any compounds attributable to the landfill site. The above sampling was conducted by the City, its contractors or the WDNR while analyses were performed by commercial laboratories or the Wisconsin State Laboratory of Hygiene.

A single surface water sample was collected by the City of Stoughton on September 22, 1984 from the Yahara River. No volatile organic compounds were detected in that sample. Sample collection and analytical procedures for that sampling episode will be reviewed during Task 1 to determine utility and relevance of those results.

Ambient air sampling was conducted by Wisconsin DNR during October 1985. Air samples were collected using Tenax sampling tubes. WDNR concluded that there were no detectable volatile organic compounds in the ambient air samples. As discussed above, these data will be reviewed with respect to collection and analytical procedures to determine utility and relevance to this study.

It is recognized by the PRPs that these data may not have been collected or analyzed under currently rigorous protocols, therefore the data must be further reviewed to evaluate them for quality and applicability. Furthermore, it is recognized that the sufficiency of the data may not be adequate to fully evaluate the actual or potential impact of the site on environmental receptors.

No additional site investigations have been conducted with regard to either waste characterization/distribution or potential for ground water contamination.

The scope of work presented in Section 3.0 of this Statement of Work details investigations which will delineate the extent and degree of contamination at the Landfill Site.

2.3 Potential Receptors

Ground water users and, potentially surface water bodies, are anticipated to be the primary receptors of concern for contamination attributable to the Landfill site, based on available data. However, other potential migration pathways will also be evaluated during the RI. A survey of ground water utilization in the site vicinity will be conducted during the RI to determine the potential risk to ground water users caused by contaminant migration from the Landfill Site. Likewise, surface water/sediment samples from adjacent wetlands and the Yahara River may be taken to assess potential contamination migration to area surface water.

Potential contaminant migration routes and receptors will be re-evaluated during the initial phase of the RI to assure sufficient scope for subsequent phases of the RI.

SECTION 3.0

REMEDIAL INVESTIGATION SCOPE OF WORK

Prior to field sampling and other information gathering an overall Work Plan must be prepared. The Work Plan will include an outline of the proposed investigation activities as well as a time schedule for the implementation of those activities. A Site Investigation Plan (also known as Site Sampling Plan) and a Quality Assurance Project Plan will be prepared as integral components of the overall Work Plan. Supporting plans to guide the field investigations and the recordkeeping/reporting will be the Health and Safety Plan and Data Management Plan, respectively.

The Work Plan will detail the site investigation activities to be conducted during the remedial investigation. Detail included in the Work Plan will describe the methods and procedures for determining the exact sampling locations, well types, analytical parameters for each set of samples, and objectives for individual tasks. The Work Plan will also contain supporting rationale for the types and quantities of samples collected during the site investigation.

In accordance with the statement of work, the RI will include and, therefore, the Work Plan must describe, five tasks as follows:

- Description of the Current Situation
- Site Investigation
- Site Investigation Analysis
- Laboratory and Bench Scale Studies
- Reporting Requirements

As previously noted the overall Work Plan provides the primary framework for conduct of the RI and subsequent FS. The necessary operational support plans are as follows:

- Site Investigation Plan (Sampling Plan) - The Site Investigation Plan will specify the types of samples to be collected for this investigation, the specific types of equipment to be utilized in the sampling, analytical parameters for each type of sample, the conceptual sample locations or the methods to determine sample locations, and frequency of sampling in each location. In addition the site investigation plan will describe any field screening techniques which may be utilized to reduce the number of samples requiring off-site, laboratory analysis.

- Quality Assurance Project Plan (QAPP) - The QAPP, prepared in accordance with USEPA document "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans," (QAMS-005/80, December 29,

1980), and other applicable guidance, will specify all necessary calibration, maintenance, and operational procedures for field equipment and all analytical equipment at the off-site laboratory to be used for this program. All procedures utilized for this project will be in compliance with any applicable administrative agreement concerning the site as well as USEPA guidance on contract laboratory procedures. The QAPP will cross-reference to the site investigation plan providing detailed descriptions of sampling requirements, including sampling vessels, field decontamination procedures, sample preservation techniques for shipment, and maximum allowable holding times prior to analysis.

- Health and Safety Plan - The Health and Safety Plan developed for investigation of the Stoughton Landfill Site will be consistent with USEPA guidance and site conditions. The Health and Safety Plan will address any hazardous conditions which may exist for the on-site investigation team and the surrounding community as a result of the investigation activities. This plan will address all applicable regulatory requirements including USEPA Standard Operating Safety Guides and the OSHA Hazardous Waste Operations and Emergency Response, Proposed Rule, which amends Subpart H of 29 CFR Part 1910. The plan will provide detail regarding specific responsibilities for site personnel, specific protective equipment which may be required on-site, procedures and protocol for utilization of equipment,

as well as the identification of the need for the use of the equipment.

The Health and Safety Plan will also detail necessary personnel and equipment decontamination procedures, training, and medical surveillance documentation and requirements. To the extent possible, any problems or hazards which can be identified prior to the field investigation will be addressed and a solution presented in the Health and Safety Plan. Specific procedures for protection of any visitors to the site or the surrounding community will also be detailed.

- Data Management Plan - A Data Management Plan will be developed to document and track investigation data and results. The Plan will identify and establish laboratory and data documentation materials and procedures, project file requirements, and project-related progress and financial reporting procedures and documents.

The Work Plan to be developed pursuant to this Detailed SOW will present a phased, iterative approach that recognizes the interdependency of the RI and the FS. The primary intent of the phased approach is to minimize the need for conducting supplemental RI and FS activities by thorough characterization of the migration pathways and early identification of the site-specific data requirements associated with the applicable remedial technology. Accordingly, results of site background investigations and reconnaissance activities conducted under Task

1 will be reviewed with USEPA and WDNR personnel to modify, as necessary, subsequent tasks necessary to characterize the site and its potential hazard to public health and the environment.

3.1 Task 1 - Description of Current Situation

Task 1 activities comprise the initial phase of the RI and FS program. The purpose of the initial phase is to describe the background information pertinent to the site such that potential migration pathways may be clearly identified for subsequent, more detailed study under the site investigation phase of the RI. In this way, activities conducted under Task 1 provide focus and support for subsequent tasks.

Beyond general background information gathering, certain specific activities are proposed under Task 1. These include: 1) geophysical surveys to delineate disposal area limits and areas potentially characterized by near-surface soil contamination, 2) a soil gas investigation to evaluate the areal distribution of volatile organic compounds (VOCs) in the refuse and in the ground water at the landfill, and 3) the installation of surface water staff gages and piezometers for the determination of ground water flow direction. The inclusion of these activities in Task 1 is necessary because of data deficiencies that currently exist with regard to the above aspects, and the need to clarify these items prior to the initiation of the site investigation.

3.1.1 Site Boundary Survey

A site boundary survey will be conducted to define the study boundaries and delineate the Stoughton Landfill property line. Existing land use information available from public records will be used to determine owners of adjacent properties who would have to be contacted if off-site investigation activities are required.

A detailed land survey of the Stoughton Landfill property will be conducted to locate any features that may be of significance in conducting the site investigation. The land survey will be conducted by a licensed Wisconsin surveyor. Based on this survey, a detailed site map will be prepared, which will include all pertinent site features as well as any wetlands, floodplains, water features, easements, and other features of the surrounding properties.

3.1.2 Site Grid and Topographic Survey

A grid system will be established on the Stoughton Landfill site to allow accurate siting of sampling points and delineation of contaminated areas. The site grid will consist of two perpendicular baselines with 25 foot grid intervals, and will be used to establish transect lines for geophysical surveys and sampling locations for the soil gas survey.

Ground elevation data will be collected at a sufficient number of grid points to establish one (1) foot elevation contours across the entire site. These data will be used as ground control

during site investigation activities to determine the locations of geologic cross-sections and in estimating contaminated soil quantities. Surface runoff patterns will be evaluated using this topographic map to assess for potential off-site impact to adjacent surface water bodies.

3.1.3 Historical Aerial Photograph Analysis

All available historical aerial photographs, from the beginning of site operations to the present, will be obtained for review. These photos will be used to determine the growth and expansion sequence of the Stoughton Landfill operations and to identify any past waste disposal or storage areas. The previous location of identifiable disposal or storage areas will be of special interest. In addition, historical run-off patterns will be studied to guide an assessment of potential off-site surface water impact.

3.1.4 Area Ground Water Usage Survey

A survey of residential, municipal, and industrial wells in the vicinity of the Stoughton Landfill site will be conducted. Municipal and state records will be searched to obtain drilling logs and well installation records for existing wells within three (3) miles of the site. The objectives of this survey are to:

- identify usable aquifers in the area.

- identify the number, type, and location of wells in the vicinity of the Stoughton Landfill site. Information concerning well construction (depth, casing and screen materials, screened interval, etc.) will be obtained.

- determine if any wells are pumped from surficial or bedrock aquifers in the vicinity of the Stoughton Landfill Site.

3.1.5 History of Response Actions

A summary of all response actions and previous site investigations conducted by any regulatory agencies or private parties will be compiled. This summary will include a review of technical reports and any other documentation of sampling results prepared subsequent to each response action or site investigation. A chronological summary indicating the date, principal investigator, and results of all response actions and site investigations will be prepared.

Background information collected during this subtask will be used to refine the scope of work for the detailed site investigation conducted in Task 2.

3.1.6 Source Characterization

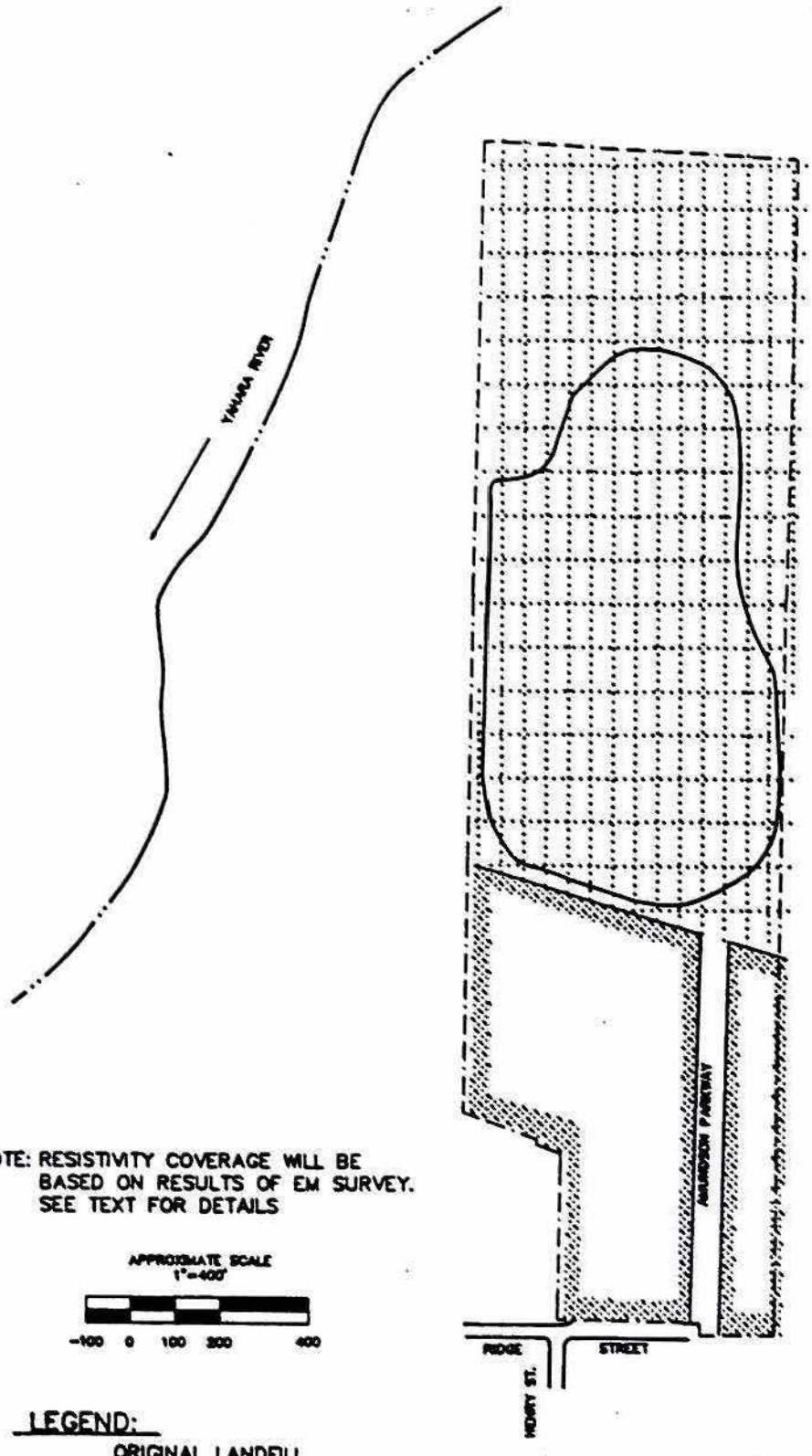
The objective of the source characterization sampling program is to delineate areas characterized by near-surface soil contamination or potential burial sites that are potential sources for contamination of ground water at the Stoughton

Landfill site or pose a risk due to contact exposure. Site investigations will focus on the Landfill property; however, investigation outside the property boundaries will be required to detail the full extent of refuse disposal and to evaluate the contamination detected in monitoring well SB-1.

3.1.6.1 Geophysical Surveys

Two survey techniques are proposed for the geophysical survey of the site. An electromagnetic (EM) survey will be conducted utilizing an EM31 to evaluate the perimeter of the site for discrete ground water plumes and to map the disposal areas on-site (Figure 3-1). As noted in the analytical data for the site, typical leachate will result in an increase in electrical conductivity of the ground water. This change in conductivity will be sensed by the EM instrumentation. Potentially discrete contaminant plumes can be mapped.

In support of and to complement the EM survey, an electrical resistivity survey will also be conducted around the perimeter of the site and across disposal boundaries as mapped using the EM. The survey will consist of vertical electrical soundings to assist in the identification of subsurface lithologies, in addition to profiling to support the EM surveys. Both survey techniques will provide information to guide the location of monitoring wells to be installed as part of the site investigation.



NOTE: RESISTIVITY COVERAGE WILL BE BASED ON RESULTS OF EM SURVEY. SEE TEXT FOR DETAILS

APPROXIMATE SCALE
1"=400'

-100 0 100 200 400

LEGEND:

- ORIGINAL LANDFILL BOUNDARY
- ORIGINAL LANDFILL PROPERTY SOLD TO SKAALEN
- APPROXIMATE FILL AREA LIMITS
- EM-SURVEY LINES

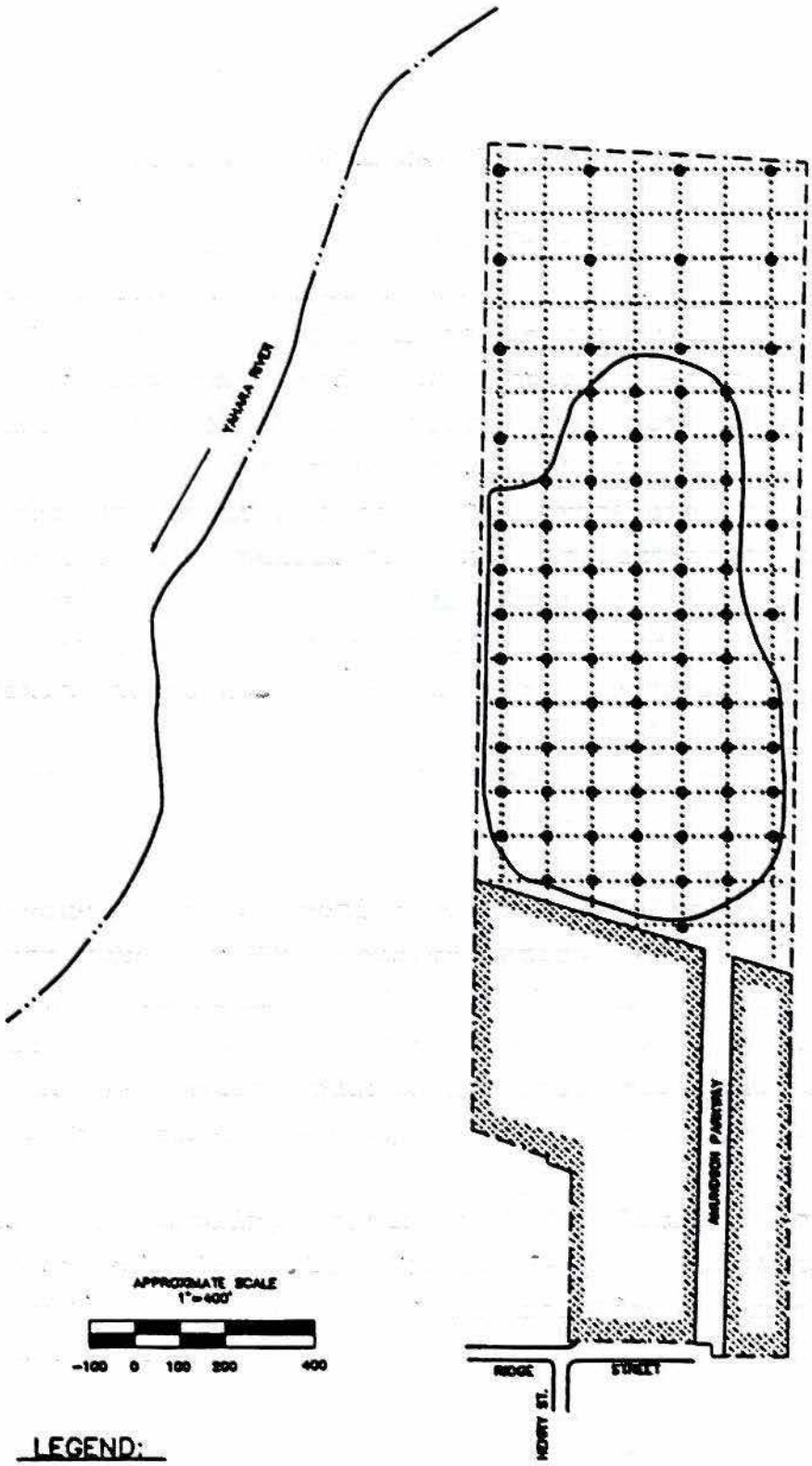
ELECTROMAGNETIC (EM) SURVEY LOCATION STOUGHTON CITY LANDFILL	FIGURE 3-1
ERM ERM-North Central, Inc.	

3.1.6.2 Soil Gas Investigation

A soil gas survey will be conducted to evaluate the areal distribution of volatile organic contamination at the Stoughton Landfill site. Source areas or any zones of contaminated soil will be located. Soil gas sampling permits the measurement of organic vapors which volatilize from contamination in the subsurface soil or ground water and are present in the soil pores of the unsaturated zone. The procedure involves pumping soil vapor from the unsaturated zone, collection of it on carbon tubes and analyzing it for volatile organic compounds. This technique will enable the quantitative analysis of specific volatile organic compounds. Field and laboratory protocols will be detailed in the Work Plan and the QAPP and they are subject to the approval by USEPA's Quality Assurance Section and Central Regional Lab.

Subsequent to collecting a soil gas sample on the activated carbon tube, an HNu photoionization meter will be used to obtain a field measurement of the total volatile organic concentration in the soil gas. If a zone of elevated concentration is detected by the HNu meter, additional soil gas sampling points may be added to further investigate the contaminated zone.

Soil gas sampling points will be located across the cleared portion of the site (Figure 3-2). Sampling locations will coincide with the grid system established during the land survey of the site.



SOIL GAS SAMPLING POINTS
STOUGHTON CITY LANDFILL

FIGURE
3-2

ERM-North Central, Inc

Results of the soil gas survey will be plotted, and iso-concentrations lines for each detected compound will be constructed to evaluate the areal distribution of volatile organic compounds below the site. Based on each compound's solubility, air to water partitioning coefficient, and depth to ground water, an assessment will be made as to whether or not concentrations in the soil gas represent contaminated ground water or separate phase contamination within the soil/refuse matrix.

3.1.7 Review of Air Sampling Data

As stated in Section 2.2, historical air data will be evaluated for adequacy and to determine if they meet the requirements for data to be used in the RI report. An additional air sampling program will be proposed under Task 2 of the RI in order to assess potential contaminant release through the air medium as described in Section 3.2.3.

3.1.8 Surface Water Evaluation

As stated in Section 2.2, historical surface water data will be reviewed for potential incorporation into the RI. Additional surface water sampling may be necessary as noted in Section 3.2.2.

During Task 1, water-level staff gages will be established in the adjacent wetlands and the Yahara River, and tied into the Site Evaluation Survey. These data will facilitate the understanding of surface-water and ground-water interrelationships within and

adjacent to the landfill. As noted in Sections 3.1.2 and 3.1.3, current and historical surface run-off patterns will be evaluated for potential off-site impact. These data will be incorporated along with the ground water data to define the scope of surface water investigations.

3.1.9 Evaluation of Ground-Water Flow Direction

Ground water flow direction in the upper surficial deposits is uncertain based on a review of available data. Therefore, three to six piezometers will be installed to evaluate shallow ground-water flow direction in association with the surface water staff gages described above. Final location of monitoring well clusters will be established based on these and other data generated during Task 1. Piezometers will be constructed of one inch I.D. PVC and will not be used as sampling points.

3.1.10 Technical Memorandum - Task 1

Results of activities under Task 1 will be compiled and interpreted for presentation in a technical memorandum. This technical memorandum will be submitted to USEPA and the WDNR for their review prior to initiation of Task 2. Based on this review, appropriate modifications, in conformance with the objectives of the RI and FS, may be made to the Work Plan.

A summary of actual and potential on-site and off-site health and environmental effects will be included in the memorandum. This may include, but not be limited to, the types of hazardous substances; affected media and pathways of exposure; contaminated

releases such as leachate or runoff; and any human and/or environmental exposure. Threats or potential threats to public health and the environment will be emphasized.

3.2. Task 2 - Site Investigation

Detailed investigations conducted during Task 2 will be designed to characterize the site and its potential hazard to the public health and the environment. These studies will provide the additional data needed for the development and evaluation of remedial alternatives during the FS. The goals of the detailed site investigation are to:

- characterize the nature of potential contamination at the site.
- locate and delineate contaminant sources at the site.
- evaluate the vertical and horizontal extent of contamination potentially originating from the Stoughton Landfill site.
- evaluate the nature and magnitude of ground water contamination which is not attributable to the Stoughton Landfill site.
- identify and evaluate potential contaminant migration characteristics.

- collect sufficient data to support an Endangerment Assessment and Feasibility Study of the Stoughton Landfill site.

It is anticipated that the primary focus of initial site investigations will be a hydrogeologic investigation. These investigations are designed to characterize contamination on-site and evaluate the suspected primary contaminant migration route (ground water). The scope of surface water or flora/fauna surveys will be evaluated based on the results of Task 1 and additional data provided by the installation and sampling of monitoring wells. This will enable focusing on those areas with potential for impact from a known suite of contaminants.

3.2.1 Hydrogeological Investigation

3.2.1.1 Overview

Monitoring wells, water samples, water level measurements, in situ permeability tests, and geotechnical testing of soil samples will be used to characterize the hydrogeologic environment of the site. Private water supply wells which may be shown to be potentially at risk will be sampled to evaluate the potential risk to public health and to provide additional off-site information regarding the potential extent of contamination.

3.2.1.2 Objectives

The objectives of the hydrogeologic investigation for the Stoughton Landfill RI are:

- determine details of stratigraphy and geotechnical characteristics of subsurface materials at the site.

- determine hydrogeologic conditions in the aquifers at the site, including vertical and horizontal flow rates and directions. These will be critical design information for the FS.

- characterize the interrelationship of area surface water features to the subsurface hydrogeology.

- characterize the vertical and horizontal extent and migration characteristics of ground water contamination attributable to the Stoughton Landfill site.

- determine if private and municipal ground water use is potentially affected by contamination attributable to the Stoughton Landfill site.

3.2.1.3 Monitoring Well Installation

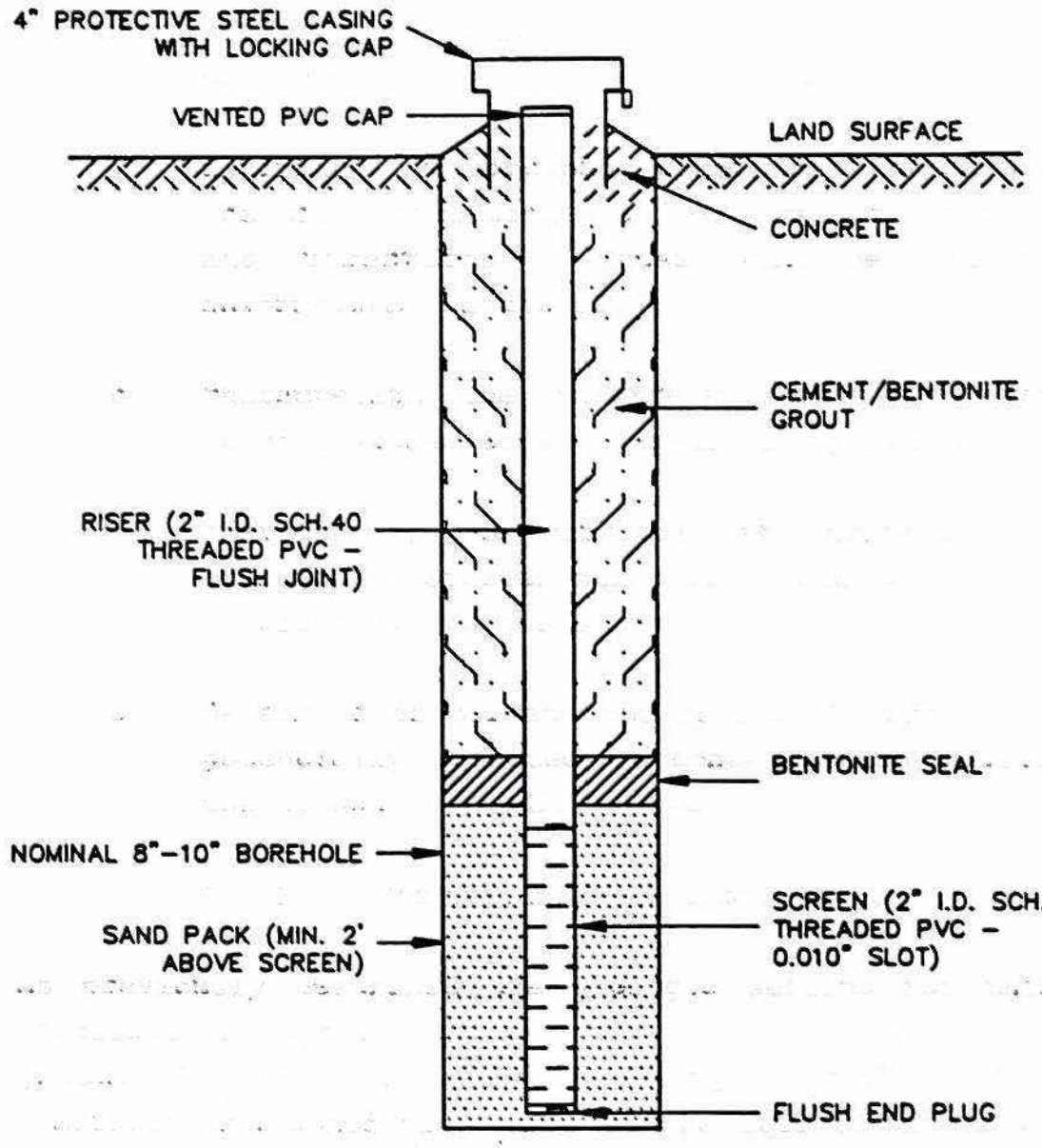
As previously described the geologic setting for this site is comprised of approximately 150 to 250 feet of unconsolidated glacio-fluvial sediments overlying bedrock. These units generally are considered as a single aquifer in most places in Dane County; however, water movement between the units may be retarded by low permeability silts and clays (Cline, 1965). As noted previously, a 75-foot thick dolomitic clay layer was encountered in Stoughton City Well No. 3 in the depth interval

85-160 feet. The areal extent of this low permeability zone is not currently known.

We anticipate six, 2-well monitoring clusters will be installed during the initial field investigation of the Stoughton Landfill. Additional monitoring wells or monitoring well clusters may be added based on results of Task 1, and the initial monitoring results. It is proposed that wells will be constructed of 2-inch I.D., Schedule 40, threaded PVC as shown on Figure 3-3. Although there has been significant controversy regarding the use of PVC for monitoring wells, it should be appropriate for use at this site. Concentrations of solvent in the ground water are extremely low compared to the percentage levels required to degrade the PVC. Monitoring well construction techniques and materials will be consistent with any current or pending Wisconsin Regulations. Additionally, each well will be purged immediately prior to sampling, resulting in insufficient time for chemical interaction of the ground water with well materials.

The shallow well in each cluster will be constructed such that the screen interval will be completely submerged, although the top of the screen will be as close to the water table as practical and still maintain a submerged screen. It is necessary to have a fully submerged screen to provide reliable in situ permeability results.

The deeper well in each cluster will be screened at a depth of 70-80 feet. This will provide an intermediate sampling interval between water table and bedrock to evaluate the vertical distribution of contaminants. Vertical gradients in the aquifer



NOT TO SCALE

TYPICAL MONITORING WELL STOUGHTON CITY LANDFILL	FIGURE 3-3
ERM-North Central, Inc.	

will also be determined by comparing the two wells in each cluster. The need for and specifications of any deeper wells at the site will be evaluated based on the analytical results of ground water sampling and assessment of vertical gradient.

If during the drilling program a potential aquitard/aquiclude is located, drilling procedures for the deeper wells will be modified to prevent possible communication between separate aquifers. In such an instance, the deeper well will be finished in the upper-most portion of the lower aquifer.

Sediment samples for each boring will be screened in the field for total volatile organics using an HNu photoionization detector. We anticipate that the sample collected from above the water table exhibiting the highest concentration from each boring will be collected for laboratory analysis for the TCL compounds. At a minimum a soil sample will be collected from the screened interval from each monitoring well installed at the site, and that sample will be submitted to a geotechnical laboratory for analysis. In the event that a potential confining layer is encountered during monitor well drilling, an undisturbed sample will be taken for analysis of laboratory permeability.

Locations for monitoring well clusters will be finalized based on the results of Task 1. It is anticipated that one cluster will be located up gradient and that additional well clusters will evaluate ground water contamination detected in existing wells SB-1, SB-2 and SB-3.

Existing monitoring wells SB-1 through SB-6 will be permanently abandoned in accordance with applicable Wisconsin regulations. Due to the age and uncertain installation practices for these wells, it would be inappropriate to compare results for the old wells with wells installed under more rigorous QA/QC and materials specifications.

3.2.1.4 Ground Water Sampling and Monitoring

Prior to sampling, each well will be purged by pumping a minimum of three casing volumes to remove potentially unrepresentative ground water. These samples will be analyzed in the field for pH, specific conductance, and temperature. One duplicate sample will be obtained for every 10 ground water samples collected. Details of the sampling procedures will be presented in the Site Sampling Plan.

Initial ground water samples, duplicate samples, and blank samples will be analyzed for the complete Target Compound List (TCL).

Static water level readings will be taken at each sampling episode and on a monthly basis during the field investigations.

Hydraulic conductivity of the aquifer will be evaluated during the field investigation by performing slug tests in the completed monitoring wells. The slug test technique involves the instantaneous displacement of a known volume of water and the measurement of the subsequent water level recovery to static conditions.

It is anticipated that the determination of hydraulic conductivity through slug tests will be suitable for ground water flow path definition; however, if data are insufficient or inadequate, an aquifer pumping test may be required. Aquifer pumping tests characterize a greater proportion of the subsurface, but when conducted in settings affected by ground water contamination, they may present problems such as the storage/disposal of potentially contaminated ground water and the potential effects of pumping on an existing waste plume. Such a test would be more appropriately conducted during any bench-scale studies or modeling to ensure that data collected during the test will be sufficiently comprehensive to support later phases of the RI and the FS.

3.2.1.5 Private Water Well Sampling

A survey of ground water utilization in the vicinity of the Stoughton Landfill site will be conducted during Task 1. Area ground water flow patterns and private well construction details will be evaluated. If any of these wells are down gradient from the site or potentially affected by the existing site conditions, it will be assessed for sampling. This sampling would occur after analytical results from the site monitoring wells are available and have been reviewed. Chosen wells will then be sampled and the water analyzed for compounds detected in the site wells.

3.2.2 Surface Water Investigation

Hydrogeological investigation results, as well as current and historical surface run-off data, will be used to reevaluate the potential for surface water impact. Surface water sampling locations will be established after reviewing results of ground water sampling on-site. Potentially impacted areas include the Yahara River and apparent wetlands adjacent to the site.

A water level staff gage will be established and tied into the site evaluation survey, as noted during Task 1. River elevations would be collected at each well sampling and water level measurement event during Task 2. Available data will also be acquired regarding average flow rates/volumes for the Yahara River.

3.2.3 Air Investigation

The potential release of contaminants to air at the site will be monitored as part of the RI. Downwind sampling locations will be developed on the perimeter of the property based on readings obtained from portable wind direction/wind speed instrumentation. At each sampling location a known quantity of air will be drawn through an activated charcoal tube. Upon removal of any organic contaminants from the charcoal tube, the extract will be analyzed for VOCs.

3.3 Task 3 - Site Investigation Analysis

At the onset of Task 3, a quality assurance and data sufficiency evaluation for the RI will be conducted to validate the sufficiency and quality of the supporting data for the Endangerment Assessment and Feasibility Studies. All of the acquisition procedures and the laboratory data will be reviewed to ensure that Quality Assurance/Quality Control (QA/QC) has been maintained. The validation analysis will ensure that data quality meets the requirements of the QAPP and will be conducted in accordance with USEPA guidance documentation such as "Laboratory Data Validation Functional Guidelines." Once the data validation and QA/QC subtask is completed, a QA/QC and data sufficiency evaluation will be submitted to the USEPA and the WDNR as a technical memorandum for their review.

Concurrent with and subsequent to the data sufficiency review, a thorough analysis and summary of all site investigations and results will be prepared for presentation in the RI final report. The organization of data for that report will follow the USEPA "Guidance Manual on Remedial Investigations" (EPA/540/G-85/002, June, 1985). All site investigation data will be analyzed and a summary interpretation will be developed for the type and extent of contamination at the site. Technical memoranda will also be developed during the RI at the completion of each task as specified in the Statement of Work. The memoranda for individual investigative activities will be included as appendices for the RI report, and the RI report itself will present a summary of their findings and an overall interpretation of all data generated during the RI.

The Endangerment Assessment which will be conducted as part of the RI will evaluate the actual or potential threat to public health, welfare, or the environment resulting from no action at the site. In addition, all data will be submitted, as directed by the USEPA, for a health assessment by the Agency for Toxic Substances and Disease Registry (ATSDR). It is understood that the results of the ATSDR health assessment may not be available prior to completion of the RI report and that the RI report may be finalized without that input.

The focus of the site investigation analysis will be to evaluate contaminant extent, migration rate, and migration routes. This evaluation will then be used as the basis for the Endangerment Assessment. The primary data resulting from the contamination characterization tasks will include the following:

- type of contaminants present.
- extent of contamination.
- physical properties or contaminants present such as solubility, density, vapor pressure, and air-to-water partitioning coefficient.
- potential for migration of contaminant transport, including, but not limited to, soil absorption/adsorption, biodegradation, volatilization, etc.

Sampling and analysis of ground water, geotechnical testing of site soils, and in situ permeability testing, in combination with specific contaminant characteristics, as detailed above, will allow determination of the following:

- projected direction and rate of contaminant transport in the ground water system.
- estimated volume of contaminated water.
- estimated volume of contaminated soils.
- estimated duration of contaminant source.
- prediction of the ultimate fate for contamination attributable to the Stoughton Landfill site.

Finally, an Endangerment Assessment will be conducted as part of the site investigation data analysis. The Endangerment Assessment will evaluate the demographic, geographic, physical, chemical, and biological factors at the site to determine whether there is a risk to public health or the environment. Guidelines, prepared by the USEPA, will be used in the preparation of the Endangerment Assessment. These guidelines will include but may not be limited to: Draft Endangerment Assessment Handbook (USEPA, 1985), Superfund Public Health Evaluation Manual (USEPA, October 1987), Superfund Exposure Assessment Manual (USEPA, September 1987), Toxicology Handbook (USEPA, 1986) and "Endangerment Assessment Guidance", a memorandum prepared by USEPA, November 22, 1985.

The Endangerment Assessment will evaluate conditions at the site in the absence of remedial actions. The following factors will be considered:

- Specific contaminants found at the site
- Factors affecting migration
- Environmental fate
- Exposure evaluation
- Toxicity evaluation
- Environmental impact

Modeling of the hydrogeological system including and surrounding the Stoughton Landfill site may be necessary to evaluate the adequacy of the data base generated during the RI and to provide sufficient predictive information to support both the Endangerment Assessment and subsequent FS. A ground water model will not provide precise answers, but rather will generate predictive information to guide subsequent work effort. When sufficient data are available to evaluate appropriate flow, transport, and fate models, meetings will be held with the USEPA and WDNR to review the chosen models, input parameters, and their basic assumptions. The results of the ground water modeling activities will then be presented in the RI report as part of the

data evaluation in addition to necessary support for the Endangerment Assessment.

The Endangerment Assessment will be based exclusively on analytical data subjected to approved QA/QC procedures. Moreover, the results of any data processing or technical interpretation including transport modeling, exposure assessment, and toxicity assessment will also be subject to quality assurance review.

3.4 Task 4 - Laboratory and Bench-Scale Studies

During the development and initial screening of alternatives conducted as part of the RI, specific laboratory and bench-scale studies, or modeling may be identified as necessary to determine implementability, operability, reliability, and effectiveness of any particular alternative. The need for, design, of, and implementation of any laboratory or bench-scale testing will be discussed with the USEPA and WDNR during the progress of the RI to ensure that necessary data are available for conducting the FS.

The primary focus of any activity under this task will likely be treatability studies and compatibility studies. Treatability investigations may include the evaluation of waste fixation technologies to evaluate containment, as well as physical/chemical or biological processes to evaluate loading effectiveness, sizing, and materials requirements for treatment facilities. An aquifer pump test may also be appropriate under this task.

Compatibility studies may be necessary to evaluate remedial alternatives that incorporate the use of contaminant migration barrier walls. In addition, the synergistic reactions which may occur when different waste materials or contaminants are combined during treatment or decomposition require evaluation.

3.5 Task 5 - Remedial Investigation Reports

During the course of the RI, monthly progress reports will be submitted. The content of these reports, as presented in the Consent Order, will be detailed in the Data Management Plan submitted as part of the overall Work Plan.

At the conclusion of the RI, a draft RI report will be produced to summarize conclusions drawn from all investigative areas and levels. All technical memoranda submitted during the RI will be included as appendices to the RI report.

3.5.1 Draft Remedial Investigation Report

The following is a summary of the draft RI report contents:

- **EXECUTIVE SUMMARY**

  Key information and major investigation findings will be briefly summarized to provide a concise overview of site characterization, contaminant pathways, Endangerment

Assessment, and preliminary screening of remedial alternatives.

o INTRODUCTION

The introduction section will address four areas: (1) site background information, (2) nature and extent of contamination at the site, (3) investigative objectives and activities, and (4) an overview of the report contents. This section will review significant features and parameters of the site that are required to characterize site contamination, contaminant pathways, and select remedial action alternatives.

o SITE FEATURES INVESTIGATION

The following significant features of the site will be summarized: (1) demography, (2) land use, (3) natural resources, and (4) climatology. Discussion of each area will include key parameters investigated for the site, and all information pertinent to the applicability of remedial alternatives being considered.

o HAZARDOUS SUBSTANCES INVESTIGATION

This section will be organized into two subsections: (1) waste types and (2) waste component characteristics and behavior. The first subsection will address waste

quantities, location, components, and composition. It will cover all source areas located on site as well as contaminant migration. The second subsection will summarize results of the analysis of waste component characteristics, including: waste constituent toxicity, bioaccumulation, metabolism, environmental transformation, or other characteristics.

o HYDROGEOLOGIC INVESTIGATION

The hydrogeologic investigation will summarize data collected on the soils, geology, and ground water of the site. The soil analyses will include data and characteristics that would affect decisions on remedial alternatives such as: soil classification, stratigraphy, and contamination levels. The geology section will summarize geologic features and characteristics that have potential impacts on choosing remedial solutions. The ground water flow, delineation of the contaminant plume, plume migration and aquifer systems underlying the site. The results of any ground water modeling activities will be presented in this section.

o SURFACE WATER INVESTIGATION

The surface water investigation will summarize data and information collected to evaluate the potential for surface water impact. This material will include the

results of review of current and historical surface water run-off data, an interpretation of ground water/surface water interrelationships and the results of surface water sampling, if any.

o AIR INVESTIGATION

The air investigation will summarize the VOC and wind profile data collected from sampling locations located on the perimeter of the property to assess the potential for air contamination.

o BENCH AND PILOT STUDIES

The results of any bench scale or pilot scale testing conducted during the RI will be summarized in this section. These test results will provide data for the selection and design of remedial alternatives.

o ENDANGERMENT ASSESSMENT

The Endangerment Assessment will present demographic, physical, chemical and biological factors at the site used to determine if there is a risk to public health or environment in the absence of any remedial actions. The following factors will be evaluated and summarized: (1) specific contaminants, (2) factors effecting migration, (3)

the environmental fate of contaminants, (4) exposure evaluation, (5) toxicity evaluation, and (6) environmental impact.

- CONCLUSIONS AND FEASIBILITY STUDY OVERVIEW

Major conclusions from the site characterization, contaminant transport analysis, and Endangerment Assessment of the RI will be presented in this section. Based on these conclusions, a list of preliminary remedial alternatives will be identified, evaluated, and summarized.

- APPENDICES

While the text of the RI report will summarize information collected and analyzed during the investigative process, it will not contain a detailed description of sample collection, data gathering, and all analytical data. These detailed items will be presented in technical memoranda generated during the RI, which will be attached as appendices to the RI report.

3.5.2 Agency Review

Copies of the draft RI report will be submitted to USEPA and WDNR for review and comments. Upon completion of agency review, a meeting will be held to discuss the contents of the RI report and corresponding agency comments. On the basis of the review

meeting, a revised draft RI report will be prepared and will include all appropriate USEPA and WDNR review comments.

SECTION 4.0
FEASIBILITY STUDY SCOPE OF WORK

The Feasibility Study (FS) for the Stoughton Landfill site will consist of the identification, development, and evaluation of alternative remedial action plans based on engineering feasibility, environmental impact, and cost criteria. As a result of this process, an alternative action or a combination of alternatives will be selected that will be cost effective, reliable, and implementable and will mitigate the hazards at the site. The development of alternatives will require a definition of site specific remedial response objectives, the identification of available and appropriate remedial technologies, and the identification of alternative remedial actions.

Site specific remedial action objectives for the Stoughton Landfill site will be established in consultation with the USEPA and WDNR. These objectives will be based on the Endangerment Assessment completed during the RI. Criteria for achieving these objectives will be developed in consultation with the USEPA and WDNR. At a minimum, these criteria will include compliance with 40 CFR 300.68 of the National Contingency Plan, Section 121 of SARA, USEPA and WDNR guidelines, and applicable federal and/or state laws.

The FS for the Stoughton Landfill site will consist of three primary tasks with multiple subtasks. The primary tasks include:

Task 6 - Remedial Alternatives Screening

Task 7 - Remedial Alternatives Evaluation

Task 8 - Feasibility Study Report

The following sections describe the planned technical approach designed to conduct each of these tasks and their subtasks.

4.1 Task 6 - Remedial Alternatives Screening

Task 6 entails the development and preliminary screening of feasible technologies to remediate the site. When these subtasks are completed, an alternatives array document will be prepared and submitted to the USEPA and the WDNR for review. This document will contain a detailed description of the proposed remedial alternatives including the expected extent of remediation, contaminant levels, and the treatment methods. The results of this task will provide a basis for the development of the standards of performance required by the WDNR and USEPA.

Potentially feasible technologies identified during Task 6 will include on-site and off-site remedies. An initial list of technologies will be screened and modified based on site conditions, waste characteristics, implementation difficulties, implementation schedules, and the state of development of the technologies. Emerging or state of the art technologies will be evaluated and may be carried through this screening process even if insufficient data exist to provide a full evaluation.

Site specific remedial objectives for the FS will be established to evaluate remedial alternatives. These objectives will be based on RI data, the results of the Endangerment Assessment, USEPA interim guidelines, applicable USEPA or state environmental standards, as well as guidelines and advisories as defined under Section 121 of the Superfund Amendment and Reauthorization Act of 1986 (SARA). Preliminary clean-up standards and objectives will be developed in formal consultation with the USEPA and WDNR.

Alternative remedial actions will then be developed that incorporate the identified available technologies and are responsive to the established site specific remedial response objectives. These remedial actions will include treatment alternatives for source control that will eliminate the need for long-term management and treatment alternatives that will reduce the toxicity, mobility, or volume of the Stoughton Landfill site waste. At a minimum, two of the alternatives will be:

1. a containment option that involves little or no treatment, but provides protection of human health and the environment primarily by preventing potential for exposure or reducing mobility of the waste.

2. a no action alternative.

If remedial alternatives involving ground water management and treatment are appropriate, a number of alternatives will be developed which reduce cancer health risk potentially attributable to the Stoughton Landfill site to within the range

of 10^{-4} to 10^{-7} for maximum lifetime exposure. The ground water restoration alternatives will also include a range in the rate of restoration. Where feasible, at least one alternative will be included that would restore ground water to a 10^{-6} cancer risk potentially attributable to the Stoughton Landfill site within five years of implementation.

Combinations of remedial alternatives may possibly involve both source control and ground water restoration. The combined elements will be evaluated to ensure that the comprehensive remedial action is effective and the source and ground water restoration elements are complementary. However, each element will be detailed separately in the development and analysis of alternatives.

The final subtask will be to subject the identified alternatives and associated technologies to an initial screening considering the effectiveness, implementability, and cost for each alternative. The effectiveness evaluation will determine if an alternative: (1) adequately protects human health and the environment; (2) attains federal/state applicable or relevant and appropriate requirements (ARARs); (3) significantly and/or permanently reduces the toxicity, mobility, or volume of hazard constituents; and (4) is technically reliable, including the potential for failure and a need for replacement of the remedy. Implementability will be based on the feasibility and availability of the technologies for each alternative. This includes both the technical and institutional ability to monitor, maintain, and replace technologies as needed and the administrative ability to implement the alternative.

Finally, the cost of construction and long-term maintenance will be evaluated for each alternative. During the initial screening, cost will be a significant factor in comparing alternatives that provide similar results. However, cost will not be used to compare treatment versus nontreatment alternatives.

The objectives for screening alternatives will be used through the remainder of the FS with the most promising alternatives based on effectiveness and implementability. Alternatives chosen for more detailed analysis must also satisfy the requirements for treatment alternatives which eliminate long-term management or reduce the toxicity, mobility, and volume of site waste. State of the art or innovative alternative technologies will be carried through the screening process if they offer potential for better treatment performance or lower costs while achieving similar levels of performance. The containment and no action alternatives will be carried through the initial screening to the detailed analysis regardless of their relative effectiveness, implementability, or cost.

4.2 Task 7 - Remedial Alternatives Evaluation

Three subtasks will be necessary to complete the evaluation of remedial alternatives for the Stoughton Landfill site. The initial subtask will be to provide individualized evaluation of each proposed alternative against the review criteria. Secondly, alternatives will be compared to develop a ranking for the criteria of effectiveness, implementability, and costs. Finally, the conclusion of Task 7 and as a separate chapter in the FS Final Report, the preferred alternative or combination of

alternatives will be discussed in detail with respect to all review criteria. In the case of combined alternatives, this section will present the rationale supporting the combination and discuss the interrelationship between the components of the combined remedy.

The initial evaluation of alternatives will consist of a detailed description of the alternative; specific federal and state ARARs; and other criteria, advisories, or guidelines to be used in the selection of remedies. The alternatives will be analyzed in sufficient detail to allow selection of a site remedy from a well-defined set of hazardous waste management approaches.

The alternatives will then be evaluated for both short-term and long-term considerations for technical effectiveness, implementability, and costs. A detailed analysis within these major criteria will include specific review criteria such as protection of the public health and environment, compliance with ARARs, reliability, and technical feasibility. Specific review criteria necessary to evaluate the effectiveness of a particular alternative include the:

- degree to which the alternative is protective of human health and environment.

- reliability of the remedy, including the need for and cost of replacement.

- impact on specific environmental receptors.

- degree to which the mobility, toxicity, or volume of the contaminant source is reduced.

In instances where health based levels are not available, risk assessments will be used to establish levels appropriate for the site. In the case of ground water response actions, the potential for further migration of any contaminant and the technical limits of aquifer restoration will be necessary review factors.

Specific review criteria associated with evaluating the implementability of any response action include the technical feasibility of that alternative, the administrative feasibility of implementing and monitoring the alternative, and the availability of necessary equipment or off-site support facilities. A significant component of this evaluation will be the effectiveness and reliability of any institutional controls that may be required for an alternative.

Cost component review criteria will include an evaluation of short-term capital, operational costs, and any long-term operation/maintenance costs. A present value cost analysis will also be used to compare alternatives.

Once the detailed review of each alternative is completed, alternatives will be compared one to another. Combinations of alternatives that complement each other with respect to technical effectiveness and operational compatibility will be developed and evaluated. Combinations of remedial alternatives will be

compared by using the same criteria applied to individual alternatives.

The major objective for Task 7 is to present a detailed analysis of the preferred remedy for the Stoughton Landfill site. The preferred remedy may be a combination of several individual alternatives and may consist of a program of phased alternatives to be implemented over a period of time. The preferred remedy will reflect a preference for treatment which significantly reduces toxicity, mobility, or volume of hazardous constituents and minimizes the requirements for long-term management. The following guidelines will be satisfied by the chosen remedy:

- the alternative will be protective of human health and the environment.
- the alternative shall attain ARARs identified for the site.
- the alternative shall be cost effective.
- the alternative will utilize treatment technologies and permanent solutions to the extent practicable.

There are conditions under which a preferred remedy may not be required to meet ARARs established for the site. These include the following:

- the alternative chosen is considered an interim measure which will become part of a comprehensive remedy that will satisfy the ARARs.

- compliance with the ARARs would result in a greater risk to human health and the environment.

- compliance with the ARARs is technically unfeasible.

- the alternative chosen will attain a standard of performance which is equivalent to the ARARs.

- the state of Wisconsin has not consistently applied or demonstrated the intention to consistently apply ARARs at other remedial actions within the state.

4.3 Task 8 - Feasibility Study Report

The FS Report will summarize the findings of Tasks 6 and 7, and present a full and detailed description of the preferred remedy for the site. This report will be prepared in accordance with the USEPA's "Guidance on Feasibility Studies under CERCLA" (EPA/540/G-85/003). Copies of the draft FS Report will be submitted to the USEPA and the WDNR for review and comment. Subsequently, a meeting will be held with the USEPA and WDNR to discuss those review comments and the manner in which they should

be incorporated within the final FS Report. Comments will be incorporated as appropriate, and a public comment draft which includes a description of the preferred alternative(s) will be prepared for review. The final FS Report will be prepared at the conclusion of the public comment period and will incorporate any additional comments as necessary and appropriate. The final report will then be submitted to the USEPA and WDNR.

SECTION 5.0

SCHEDULE

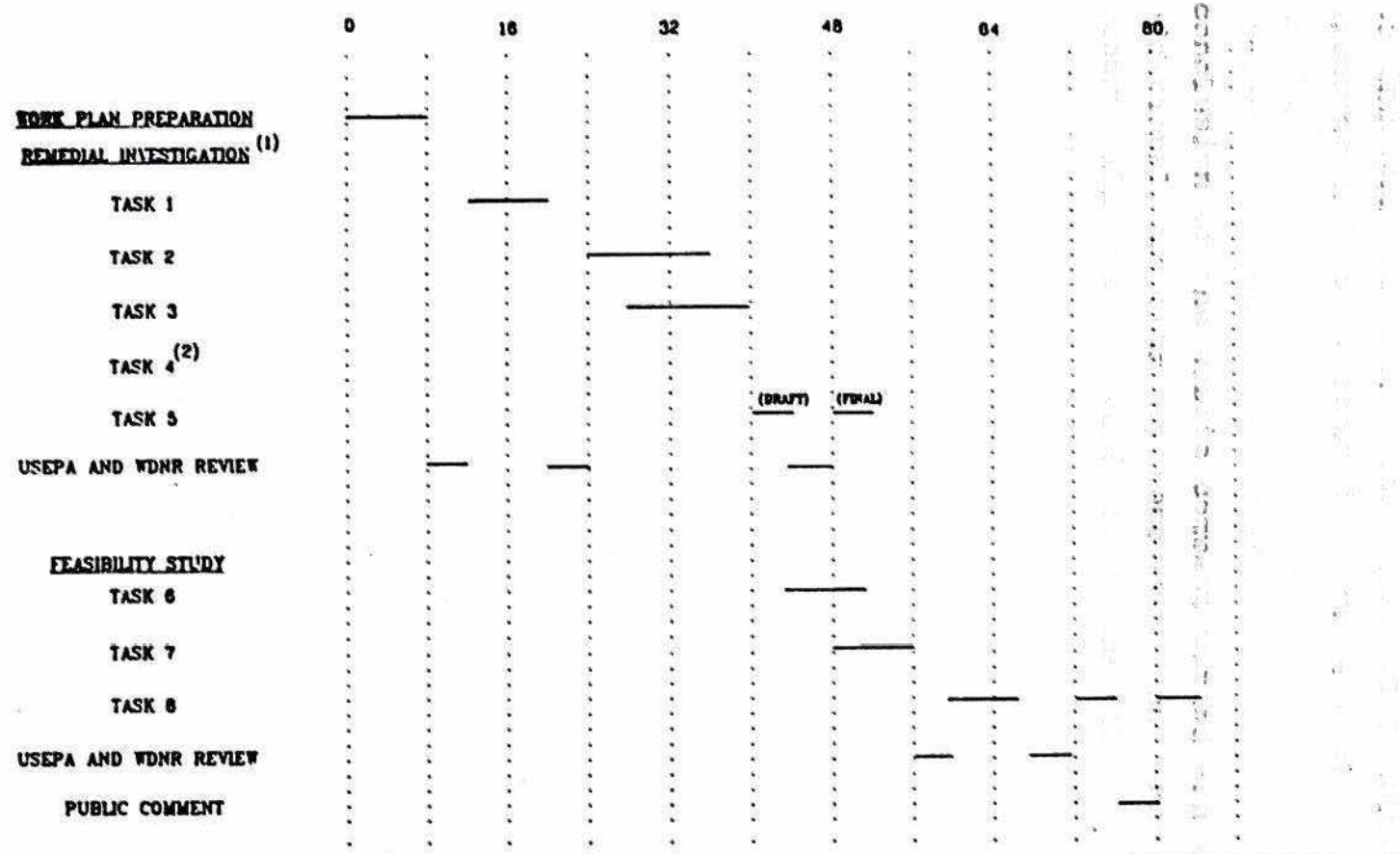
The schedule for completion of the scope of work discussed in the proposal is presented in Figure 5-1. The anticipated start and completion dates for each major project task are indicated as number of weeks following award of project. The estimated time from project initiation to presenting the Public Comment Draft of the FS is 76 weeks, with approximately 52 weeks to complete the RI and approximately 32 weeks to complete the FS.

The overall Work Plan and supporting plans will be submitted to the USEPA and WDNR within 60 days of official notice for the Consent Order.

Technical memoranda will be prepared and submitted to the USEPA and WDNR during the coarse of the RI and FS, prior to preparation and submittal of RI or FS report. The technical memoranda anticipated during the Stoughton Landfill RI and FS in the expected preparation dates in terms of weeks from initiation of project are listed on Table 5-1.

The anticipated dates for the drafts and the final submittals for the RI and FS reports are indicated in Figure 5-1. This schedule for deliverables is based on a regulatory review period of 30 days and a 30 day public comment, where necessary.

ESTIMATED PROJECT SCHEDULE
STOUGHTON LANDFILL
WEEKS FROM EFFECTIVE DATE OF CONSENT ORDER



(1) REMEDIAL INVESTIGATION TO BE CONDUCTED USING PHASED APPROACH. PHASE I INCLUDES ALL TASK 1 ITEMS WHILE PHASE II INCLUDES TASKS 2-8.

(2) SCHEDULE AND NEED UNDETERMINED

NOTE: SCHEDULE ASSUMES 30-DAY REVIEW BY USEPA/WDNR

ESTIMATED PROJECT SCHEDULE	FIGURE NO. 5-1
ERM ERM-North Central, Inc.	

TABLE 5-1

ESTIMATED SUBMITTAL DATES FOR TECHNICAL MEMORANDA
DURING THE STOUGHTON LANDFILL RI and FS

TITLE	SUBMITTAL DATE* (WEEKS)
Task 1 Technical Memorandum	20
1.1 Site Boundary/Topographic Survey	
1.2 Historical Aerial Photo Analysis	
1.3 Area Ground Water Usage Survey	
1.4 History of Response Action Survey	
1.5 Geophysical and Soil Gas Surveys	
1.6 Review of Air Sampling Data	
1.7 Surface Water Evaluation	
1.8 Ground Water Flow Direction Evaluation	
Report of Monitoring Well Installation	32
Results of Ground Water Sampling at Landfill	40**
Results of Soil Sampling at Landfill	40**
Results of Residential Well Sampling (If necessary)	44**
Results of Surface Water Sampling (If necessary)	44**
Results of Air Sampling	44**
Results of Remedial Alternative Screening	56

* Dates are in reference to effective date for Consent Order.

** Estimated submittal, actual date will be 4 weeks after receipt of laboratory results to enable validation.