Lauer EIS

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Anthony S. Earl
Secretary

BOX 7921
MADISON, WISCONSIN 53707

June 15, 1978

IN REPLY REFER TO: 4410

Mr. Donald Otter, General Manager
Land Disposal Division
Waste Management of Wisconsin, Inc.
9050 North 124th Street
Milwaukee, WI 53223

Dear Mr. Otter:

The plans and specifications relating to the proposed Lauer Landfill and Ski-Hill Development Project located in Section 36, T9N, R20E, Village of Germantown, Washington County and Section 1, T8N, R20E, Village of Menomonee Falls, Waukesha County, Wisconsin have been reviewed by the Division of Environmental Standards. This proposed landfill expansion, known as Lauer 2 and 3, consists of approximately 166 acres, more or less.

Based on the investigation and review of the submitted details, and the Environmental Impact Report and Statement written on the project, the staff's opinion is that your proposal should provide for a satisfactory solid waste disposal operation provided the recommendations in the attached Division Report are followed. The site and operating plan are, therefore, tentatively approved subject to compliance with Chapter NR 151, Wisconsin Administrative code, and to fulfillment of the recommendations listed in the attached Division Report.

The Division of Environmental Standards reserves the right to require changes to the proposal should conditions arise making such necessary. If the proposed work is not commenced within two years from this date, a new application will have to be submitted prior to any site development.

Please review the attached Report on Examination of Plans and Specifications to determine if the Report accurately sets forth the details and plans of your proposal. Particular attention should be given to the conclusions and recommendations submitted by our staff.

You will be given 30 days following the receipt of this letter in which to respond to any portion of this Report that is in error or with which you do not agree. If no response is received within 30 days, your license, when issued, will be subject to compliance with the conditions and recommendations as set forth in the Report on Examination of Plans and Specifications dated June 15, 1978.

Please be reminded that approval and licensing by the Division of Environmental Standards does not relieve you of the legal obligation to meet all other state and local permit, zoning, and regulatory requirements.

Since you will be expected to operate this site in accordance with the criteria for a sanitary landfill, we are enclosing a copy of the Wisconsin Solid Waste Management Rules for reference. It is suggested that the person responsible for the site operation review with the site operator all operational requirements listed in Section NR 151.12(6) of the Rules. Additional copies of the Solid Waste Management Rules are available on request.

These sites will be constructed in many phases. When you have completed your site preparations for each phase and you have fulfilled the conditions of this approval listed under Site Preparation, please contact the Southeastern District office and arrange for a field inspection of this site. District personnel will inspect the site to determine the extent and completeness of the site preparation. If the site has been prepared in accordance with the engineering plans submitted and this approval, the District will recommend that filling be authorized in those areas. Your license will be issued shortly and this approval will be made part of the license. No waste is to be deposited above the final grades as specified in the Lauer 2 continued use plan dated May 10, 1977 before the license has been issued.

Sincerely,
Bureau of Solid Waste Management

Robert T. Glebs

Robert T. Glebs, P.E.

David G. Nichols

David G. Nichols
Acting Deputy Director

RTG:jq
Enc.
cc: Jim Morgan, Attorney
Elmer Lauer - WMI, Milwaukee
Peter Vardy - WMI, Oakbrook
Greg Woelfel - WMI, Oakbrook
Tim Krueger - SED
Bureau of Env. Impact - 2
Village of Menomonee Falls
Village of Germantown
Washington County Zoning Administrator
Waukesha County Zoning Administrator
Fred Cope - Emcon Associates

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REPORT ON THE EXAMINATION OF PLANS AND SPECIFICATIONS FOR THE LAUER LANDFILL AND SKI-HILL DEVELOPMENT PROJECT

GENERAL INFORMATION

Name of Site: Lauer Landfill and Ski-Hill Development Project.

Owner of Site: Waste Management of Wisconsin, Inc. (WMI)

Licensee of Site: Waste Management of Wisconsin, Inc.

Operator of Site: Waste Management of Wisconsin, Inc.

Location of Site: The proposed site is divided into two 83 acre parcels known as Lauer 2 and Lauer 3. Lauer 2 is located in the SE 1/4 of the SW 1/4 and the W 1/2 of the SE 1/2, Section 36, T9N, R20E, Village of Germantown, Washington County, Wisconsin. Lauer 3 is located in the NE 1/4 of Section 1, T8N, R20E, Village of Menomonee Falls, Waukesha County, Wisconsin. In general terms Lauer 2 is located approximately 1300 feet west of Boundary Road (124th St.) and north of County Line Road. Lauer 3 is located due south of Lauer 2 across County Line Road. The sites, in general, are located at the intersection of Ozaukee, Washington, Waukesha and Milwaukee Counties.

Municipalities to be served: The Lauer Landfill and development project is proposed to serve the municipal, commercial and industrial disposal needs of Milwaukee, Ozaukee, Washington and Waukesha Counties. At the present time the Lauer 2 landfill accepts refuse from the following communities: In Milwaukee County; City of Milwaukee, Village of Bayside, Village of River Hills, Village of Brown Deer, Village of Fox Point, Village of Shorewood, Village of Whitefish Bay, City of Glendale, and Village of West Milwaukee; in Ozaukee County; City of Mequon, Village of Thiensville, Village of Saukville, Town and City of Port Washington, and Village of Grafton; in Washington County; Village and Town of Germantown; and in Waukesha County; Village of Butler, Village and Town of Menomonee Falls and Village of Lannon. Many industrial and commerical establishments throughout the four county area are served by private contractors who dispose of the waste at this site.

Materials to be disposed of: The Lauer 2 and 3 landfills will accept most types of waste including municipal, commercial and industrial solid waste, liquid wastes, sewage sludges, and compatible hazardous materials.

Life expectancy: The overall capacity available at the proposed site, including refuse space and cover material, is estimated to be 12 million cubic yards. At the proposed refuse to cover ratio, including final cover material, there is approximately 9 million cubic yards of refuse disposal space available at the facility.

Phase	Site	Life (yrs)	Refuse (cu yds)	Cover (Daily, Intermediate &Final) (cu yds)
I	Lauer 2	1.9	1,400,000	450,000
	Lauer 3	0.0	0	0
Subtotal Phase I		1.9	1,400,000	450,000
II	Lauer 2	1.8	1,300,000	400,000
	Lauer 3	0.4	300,000	90,000
Subtotal Phase II		2.2	1,600,000	490,000
III	Lauer 2	2.0	1,400,000	500,000
	Lauer 3	0.8	600,000	180,000
Subtotal Phase III		2.8	2,000,000	680,000
IV	Lauer 2	1.7	1,200,000	400,000
	Lauer 3	0.6	400,000	130,000
Subtotal Phase IV		2.3	1,600,000	530,000
V	Lauer 2	0.4	300,000	150,000
	Lauer 3	1.5	1,100,000	370,000
Subtotal Phase V		1.9	1,400,000	520,000
VI	Lauer 2	0.0	0	0
	Lauer 3	1.4	1,000,000	330,000
Subtotal Phase VI		1.4	1,000,000	330,000
TOTALS	Lauer 2	7.8	5,600,000	1,900,000
	Lauer 3	4.7	3,400,000	1,100,000
	PROJECT	12.5	9,000,000	3,000,000

The minimum projected design life of the proposed expansion, if filled at an average projected rate of 120,000 gate yards per month, is estimated to be 12.5 years.

Type of Operation

Both landfills will be filled by the area fill method in six distinct phases, to be filled in consecutive order. Portions of the sites will be located below the zone of saturation and require extensive earth excavations. All modules will have, or are presently using, a leachate collection system. The base grade of the facilities will vary from .5 to 1% to insure leachate moves laterally to the leachate collection system once it comes in contact with the clay at the base of the facilities.

Person Responsible for Site Operation: Don Otter, Operations Manager, Waste Management of Wisconsin, Inc.

Final Use

The proposed ultimate final use of the Lauer 2 landfill is as a Ski-Hill recreational area. The proposed final topography of the Lauer 3 site permits a variety of final uses, with the major restrictions being imposed by special designs and construction techniques for buildings, roads and other structures.

District Recommendations

The Southeastern District office recommends that this site be approved, subject to the conditions of operation of this report.

Approval Limitations

This approval is limited in concept to the Lauer 2 and 3 landfills as defined in the EMCON Associates' Operations manual and plans dated September 1977.

Plan Submission

The plans submitted for review and approval of the proposed Lauer Landfill and development project consist of the following:

A. 18 Landfill Development plan sheets dated September 1977, prepared by EMCON Associates.

B. A report entitled "Project Design, Construction and Operating Provisions Lauer Ski-Hill Development Project" dated September 22, 1977, prepared by EMCON Associates.

The following additional information was utilized in the review of the plans and preparation of this plan approval.

1. An Environmental Impact Report prepared by EMCON Associates, dated August 22, 1975 (Part I) and October 28, 1975 (Part II) and all addenda thereto in the years 1976 thru 1978. These include numerous information submittals on: soils, ground water, project costs, leachate handling, hazardous waste disposal, vicinity water well information, interim site use, long-term care post construction, and general project development.

2. A January 23, 1978 letter from the Department's Southeast District Headquarters regarding conditional acceptance of sewage sludge from the Milwaukee Metropolitan Sewage District.

3. A Hazardous Waste Disposal plan submitted by WMI on June 28, 1977 and July 6, 1977 approved August 10, 1977.

4. A Long-Term Care Plan submitted by WMI on April 7, 1977 approved June 2, 1977.

5. The Lauer Continued Use Plan prepared by EMCON Associates dated May 10, 1977 approved August 10, 1977.

6. A Report entitled "Geotechnical Investigation and Waste Management Study, Lauer Landfill, 33 acre, addition, Washington County, Wisconsin" prepared by EMCON Associates dated April 23, 1974.

SITE INVESTIGATION

The proposed site has been investigated and field inspected by personnel from the Bureau office in Madison and the Southeastern District office in Milwaukee. In addition, detailed soils and hydrogeologic investigations were performed at the site between December, 1973 and March, 1977. Over 60 soil borings were drilled at the proposed sanitary landfill site expansion to determine the placement of existing refuse, ground water conditions and soil types. These investigations were conducted by Bendorf Soil Testing, Inc., and Soil Testing Services of Wisconsin under the direction of EMCON Associates and Waste Management, Inc.

The total site investigation was done in several stages, including installation and performance of a number of borings, test pits, ground water observation wells, and piezometers. A detailed description of the field and laboratory studies, field conditions, geologic profiles, and ground water conditions can be found in the engineering and soils reports submitted for the project as listed above under Plan Submission and in the Department's February 1978 Environmental Impact Statement. The major conclusions of those reports are as follows:

Soil

Morainic deposits overlying the project site consist primarily of clay, silt, sand, gravel and boulders. Because these deposits are formed by mechanical action of the glacier, they are unsorted and unstratified. These surficial moraine deposits range from clay-size particles (less than 0.005 millimeters in diameter) to sand and gravel (greater than 2.0 millimeters and less than 64 millimeters in diameter). The surficial materials found at the landfill site are generally the smaller grained clay, silt and fine sand materials. Some outwash deposits in the form of silty sand material are found south of County Line Road and the eastern triangular areas north of County Line Road. The thickness of unconsolidated surficial materials at the proposed landfill site varies from an estimated minimum of 80 feet beneath the deepest excavation of the Lauer 2 facility to a maximum of more than 120 feet along the western edge of Lauer 2. The site soils are predominantly fine-grained silty

clay, glacial till materials with occasional thin horizontally layered lenses of silty-sand and gravel. Silt and clay size particles average over 90 percent. Most of the exploratory borings drilled throughout the project area penetrated these clay-till deposits.

Overlying the glacial till material is a relatively thin deposit of outwash that is part of an extensive north/south oriented strip with a length of several miles. At the project area, the outwash deposits are bounded by till deposits which underlie the topographically higher gently rolling portion of the site. These outwash deposits consist almost entirely of sand and gravel with occasional interbedded horizontal lenses of silt, silty sand and thin layers of clay. Sand and gravel mining operations have removed much of the material from the Lauer 3 facility; however, a significant silty sand layer remains along the east and west sides. Silty sand is present in a 10 to 15-foot layer at the surface on the east side and a 15-foot layer extending from 15 to 30 feet on the west landfilling operations. Glacial outwash at the Lauer 2 facility has been removed or sealed with five feet of clay backfill.

Laboratory permeability tests conducted on undisturbed samples of the silty clay soils at the Lauer 2 and 3 sites indicate vertical permeability in the range of 1×10^{-7} to 1×10^{-9} cm/sec (or 0.1 to 0.001 feet/year). The silty clay material has also been referred to as glacial till. The glacial sand and gravel deposits, also referred to as glacial outwash deposits, were tested for permeability along the west side of the Lauer 3 site. Vertical permeabilities at this location range from 2×10^{-4} cm/sec to 4×10^{-8} cm/sec. The horizontal permeabilities of the medium to coarse gravel with some clay and fine sand or glacial outwash were calculated to be approximately 1.5×10^{-3} cm/sec.

Investigation of the Lauer 3 (Parkview LF) site has revealed extensive and complex interfingered deposits of silty sand beneath the western one-fifth of the site. A (5-10 ft. thick) layer of sandier material also extends from the western edge to near the center of Lauer 3 at approximate elevation 730 MSL. Near elevation 700 there is another layer which appears to extend beneath the entire Lauer 3 area. The materials within these zones consist of soils classified as silty sand, silty coarse sand and gravel, and clayey silt. Although the permeability of these soils is generally higher than the silty clay deposits, it is still in the moderate range (10^{-4}-10^{-6} cm/sec) since the sands are relatively "dirty" with silt-clay contents averaging around 30 percent. Additional information on the soils investigation and soil certification programs can be found in the reports submitted on the project.

Bedrock

Underlying the glacial soils are as many as eight bedrock formations listed below in descending order:

Geologic Era	Formation Name	Approximate Thickness (ft.)	Dominant Rock
1. Silurian	Niagara	280	dolomite
2. Ordovician	Maquoketa	90	shale
3. Ordovician	Galena	210	dolomite
4. Ordovician	Platteville	210	limestone
5. Cambrian	St. Peter	60	sandstone
6. Cambrian	Eau Claire	200	sandstone
7. Cambrian	Mt. Simon	240	sandstone
8. Precambrian	Undifferentiated	Basement Comple	crystalline

The Niagara dolomite is an important aquifer for the area and most of the private wells tap this formation. Water originates from crevasses and solution cavities within the dolomite and,therefore,the well yield is highly variable (500-600 gallo minute). The Maquoketa shale yields little water and is considered to be an aquiclude separating the Niagara aquifer from the underlying formations. The Mt. Simon sandstone is the main aquifer for the Milwaukee-Waukesha area and many of the high capacity public water supplies are developed into this formation.

Hydrogeology

The ground waters in the project area can be divided into two separate classifications relevant to the proposed Lauer landfill expansion. The first is the Niagara dolomite bedrock aquifer, and the second is the shallow ground water system.

In order to determine the interrelationship between the shallow ground water and the ground water aquifer in the bedrock immediately underlying the site, nested wells were constructed at several locations including B-6, N1A, B-3, B-2.

Results indicate that the proposed expansion is in a ground water recharge area with a vertical gradient of less than 0.1 foot per foot (ft./ft.) Regional data confirms this relationship and reveals a head in the shallow system which exceeds the pressure head in the bedrock aquifer by 4-25 feet at Lauer 2 and 0-10 feet at the Lauer 3 site. Using high average figures of a head of 10 feet and a gradient of 0.1 ft./ft. and a soil permeability of 10^{-6} cm/sec, the yield is a flow rate of about 12 $ft.^3$/acre/day. This is not a significant recharge. The ground water table gradient averages approximately 0.01 ft./ft. Probable maximum ground water velocity is 40 ft./year, and probable minimum ground water velocity is 0.001 ft./year.

The amount of ground water flowing through the glacial till material at the south end of the Lauer 3 expansion flow has been calculated at approximately 15,000 gal/day. This projected figure could vary by one order of magnitude in either direction. It is estimated that the amount of flow in the till deposits is only one to five percent that of the flow in the dolomite.

2 dilution

The existing landfill has interrupted the shallow ground water regime through dewatering and placement of impervious soil liners. The dewatering operations in the Lauer 3 area have caused a general depression of the water table and induced a local inward flow toward the dewatering sump and trenches. The shallow ground water flow is towards the southeast, discharging into the Lower Menomonee River.

A significant feature of the ground water flow maps in the Milwaukee region is the pronounced depression centered in downtown Milwaukee. This is true for the piezometric surface of the Niagara dolomite and the deeper sandstone aquifer. This depression is caused by heavy pumping in the area from wells open in the Niagara dolomite alone and from wells open in both the Niagara and the sandstone aquifer. Therefore, in the landfill site area, the ground water flow in the Niagara and deeper aquifers is generally toward the Milwaukee area to the southeast.

The water quality in the deeper Niagara dolomite formation is generally classified as very hard, with total hardness of over 300 ppm. Calcium is generally the predominant cation, but magnesium hardness occasionally exceeds calcium hardness. This ground water is relatively high in sulfate content and, in many wells, exceeds the U.S. Public Health Service drinking water standard of 250 mg/l.

Ground water quality tests have been performed on samples taken from shallow well points installed from 1973 through 1977 around the Lauer II (2) area. At this time, the perimeter monitoring wells have not indicated a significant rise in the parameters examined or an increasing trend in leachate content in the ground water. A ground water monitoring nest (Wells 50A, B and C) constructed through refuse placed in 1968-1970 at Lauer 2 indicates no contamination has occurred 15' below the site. There are several private wells in the vicinity of the site drawing both from the dolomite and sandstone formations. These should be adequately protected based on the hydrogeologic setting, however will be monitored as part of an extensive monitoring program set up for this site. The ground water monitoring program will measure water quality and water levels on a quarterly basis for select parameters, to indicate any leachate movement within the ground water system, and continually act as a safeguard to protect vicinity water supplies and quality of underlying ground waters.

SITE CHARACTERISTICS

A detailed description of the site characteristics can be found in the engineering reports prepared by EMCON Associates and in the Environmental Impact Statement for the project. A summary of the major site characteristics is as follows:

Topography

The proposed Lauer 2 and 3 sanitary landfill sites are situated in an area of glacial ground moraine associated with the Lake Michigan lobe of the Wisconsin glacial advance.

The project area and adjacent lands are gently sloping to nearly level; however, the ground moraine forms a curving low ridge with a north-south orientation immediately west of the project area.

Regionally, surface elevations range from 580 feet MSL along Lake Michigan to 1,320 MSL in the Kettle Moraine area of the southwestern Washington County. The surface elevations of the project area range from 750 feet MSL to 840 feet MSL. The topography of the Lauer 2 site slopes from the west to the east at about three percent. The Lauer 2 landfill site currently being operated has been filled with refuse over most of the site acreage to approximate elevation 820-830 feet MSL. Earth fill has been stockpiled to elevation 840 feet MSL in the western portions of the site. Glacial outwash deposits of sand and some gravel have been removed from approximately one-half of the Lauer 3 site, leaving a 25-foot high, steeply sloping bank, adjacent to County Line Road. The excavated area is almost level, broken by occasional sand stockpiles and shallow depressions. Original topography exists along much of the southern and western boundaries of the Lauer 3 site. Ground surface elevations range from 756-780 feet MSL, with most of the area lying between elevations 758 and 763 feet.

Land Use

The Lauer 2 landfill site has been used for landfilling purposes since 1971. The initial 30 acre site was expanded in 1972 to 50.8 acres; in 1974 to 59 acres, and in 1975 to the presently licensed 83 acres. One-half of the Lauer 3 site, along with approximately 9 eastern acres of Lauer 2, has been used as sand and gravel borrow areas.

All areas abutting the sites are presently zoned industrial, light industrial, or heavy industrial.

Surrounding Features

Surrounding features including residences, private wells, highways and roads, houses, commercial or industrial buildings, hospitals and homes, drainage courses, lakes, rivers, streams, property ownership, etc. can be found in the engineering drawings supplied by EMCON Associates and in the Environmental Impact Statement.

Cover Materials

The engineering report for the proposed Lauer Landfill and Development Project indicates a 900,000 cubic yard deficit of earthen materials needed to construct the facility, provide daily cover, and achieve final abandonment. This material will be imported from existing off-site borrow areas and will involve approximately 30 truck trips a day over the life of the project.

SITE OPERATION

A detailed description of the site operational techniques can be found in the site operations manual and engineering drawings prepared by EMCON Associates dated September 26, 1977, and in the Environmental Impact Statement prepared for the site.

Initial Development and Site Preparation

At Lauer 2, relatively little site preparation would be required, since the site is currently filled to approximately 810 feet MSL, and the year extension of filling presently underway is consistent with the proposed final plans. The existing equipment maintenance buildings, scale facilities and access roads at the Lauer 2 site, and the present access road across the Lauer 2 site would be retained until refuse fill operations required relocation. It will, however be required that the two on-site wells #7 and #14 as identified on Exhibit A be abandoned and a new water supply established for the sites.

Site preparation work needed for Lauer 2 will include: Construction of ditches and/or sedimentation control facilities along project boundaries in accordance with drainage and sedimentation control provisions, commencement of regrading operations within the area northwest of Lauer 2, inspection and placement of any needed erosion protection in existing ditches, installation of an equipment underpass beneath County Line Road, installation of a sump and riser in the existing refuse adjacent to County Line Road near State Plane Coordinate E2, 514,500, and placement of additional soil cover on several areas of the outside slopes.

Preparations for the Lauer 3 area include: Excavation of soils to subgrades, investigations to identify slope and subgrade areas over which impervious soil barriers are required in advance of refuse fill operations, installation of leachate collection facilities in advance of refuse placement, and construction of access roads to active fill areas.

Additional work will be required to prepare each module, and that, along with the items as mentioned above, will be certified as part of the detailed certifications program required on this project. Each phase of the project will be independently certified and must be reviewed by the Department prior to filling.

Typical Operations

Both landfills will be filled by the area method, in which waste is spread and then compacted and cover material is spread and compacted over the refuse. Refuse fill will be placed in lifts up to 15 feet thick. Refuse will be spread and compacted in two-foot thick layers on a 200-foot wide 3:1 sloped working face or on a horizontal surface. Layers will be separated by soil. The top of any lift that would be inactive for six or more months will be covered with a foot of intermediate cover.

Disposal operations will be concentrated at Lauer 2 initially to permit the excavation of soils from Lauer 3 that are needed for cover at the Lauer 2 site. While landfilling would start at Lauer 3 during the second phase, most of the disposal activities at Lauer 3 will be deferred until the fifth phase, when Lauer 2 would reach completion, and during the sixth phase when only the Lauer 3 site would be operational.

At Lauer 2, refuse would be placed by advancing one or more lifts in each of the three modules to the immediate fill surfaces of each successive phase shown on the plans. Specific operations at Lauer 2 would initially include:

1. Filling the southerly areas to an intermediate surface at elevation 815± feet by advancing lifts from north to south and progressing the fill operation to the east.

2. Constructing an all-weather connecting road between the refuse vehicle access road and the earthmoving equipment access road.

3. Constructing a screening berm along the east perimeter of Module 1.

4. Filling Module 2 to the intermediate surface at elevation 830±.

Subsequent phase operations would include:

1. Filling Modules 2 and 3 during dry weather conditions in single or multiple refuse lifts to the subsequent phase limits shown in the figure.

2. Filling Module 1 during wet weather conditions in single or multiple refuse lifts to the subsequent phase limits shown in the figures.

3. Constructing a roadway on the next lift surface when refuse fill has advanced across Module 1, by filling in the previous roadway by advancing fill from south to north, and commencing operations for the subsequent lift.

4. Installing the inlet and oversize drain, and grading the tributary ditch when refuse fill is placed above elevation 890±.

At Lauer 3, refuse would be placed by advancing four multiple lifts to final grade sequentially in the five site modules. Excavations would be advanced in two successive cuts of about 15 feet each, sequentially in the five site modules, as soils are needed at both sites. Whenever possible, soils excavated from the upper cut would be used as the primary cover source at Lauer 2 and soils excavated from the lower cut, would be removed as necessary to achieve subgrade elevations in advance of fill operations at Lauer 3. Specific operations at Lauer 3 would include:

1. Placing refuse fill and advancing the first and second lifts of refuse for Module 1 by routing refuse vehicles down ramps to the base of excavations.

2. Concurrently constructing the impervious soil barriers along the site perimeter and over other permeable soils as refuse fill is advanced.

3. Installing the storm drain as the impervious soil barrier is advanced along the southerly edge of West County Line Road (Module 1).

4. Placing refuse fill and advancing the third and fourth lifts of refuse for Modules 1 and 3 by routing refuse vehicles over the all-weather access road on the unexcavated roadway corridors. (Applicable for Modules 1,2,3, and 5).

5. Relocating the all-weather refuse vehicle access road near the railroad to the unexcavated corridor area between Modules 2 and 5 prior to excavating Module 2.

6. Constructing the 5 foot thick impervious soil barrier over the regraded area of the site, Module 4.

7. Placing refuse fill in Module 4 to final grade by advancing one or two lifts from the site perimeter to the road corridor and progressing the fill to the north.

8. Placing earthfill in the roadway corridors as refuse fill is placed to final grade in Module 5.

Drainage containment structures would be constructed for temporary use during active fill operations as well as permanent control of ground and surface water. Erosion and sedimentation would be controlled during all operational phases of the landfill as well as following completion. A variety of ditches, earth fills, temporary Corrugated Metal Pipes (CMP) cross-drains, CMP drainage inlet and oversized drains are proposed to control site runoff. The locations, elevations and details of the major temporary structures and all permanent facilities are shown on several figures, especially the development, phasing, site preparation, excavation and final contour figures. All permanent drainage ditches constructed over refuse fill areas would be underlain with a five-foot minimum thickness of impervious earth fill. All permanent drainage ditches (existing and proposed) with slopes greater than 1 percent would be seeded to establish a grass lining to minimize soil erosion. Other specific operational details may be found in the Department's February 1978 EIS on the project or in the EMCON Associates' plans and specifications for the project.

Major Engineering Modifications

The major engineering modifications for this site are as follows: First, this site will have a combined ground water and leachate collection system which will include facilities for leachate recirculation. The leachate and ground water collection systems have already been installed in Lauer 2 and leachate recirculation is currently being used. Any leachate head levels above 770 feet MSL for Lauer 2 and 755 feet MSL for Lauer 3 will be treated at the South Shore Sewage Treatment Plant. or RECIRCULATED

Second, the base soils at this facility must be documented to have a permeability of no greater than 10^{-6} cm/sec and a gradation in which at least 50% of the soil material passes the number 200 sieve, U.S. standard. It must be shown through a detailed soils testing program that a minimum of five feet of this material lies under the entire base of the facility, on the side walls of the facility, and under the leachate collection system. The conditions of operation of this approval will require infield controls for elevation and location of all aspects of construction and operation. These controls are to be utilized to construct, operate, and abandon the facility. Additional engineering modifications such as a clay cap and gas venting system have been designed for the facility and will be installed during the abandonment process.

Abandonment

The proposed Lauer Landfill and Development Project has been designed and will be operated in six distinct phases. The abandonment of this facility will occur in distinct stages associated with the filling operations. As the portion of each module, which is brought to final grades under each phase, reaches final grades, it will be covered with two to four feet of clay soils, depending on slope, and properly topsoiled, seeded and mulched. A vegetative growth will be established and maintained on the surface. On the Lauer 2 side, this will consist of all outside perimeter slopes as the height of fill varies; at Lauer 3, it will include sequential abandonment of each phase in its entirety. The final covering requirements shall be as indicated in the engineering plans and specifications.

The Lauer 2 area will create a three-knolled ski hill with elevational relief of approximately 150 to 200 feet. The Lauer 3 area will be filled to a relatively flat terrain with approximately the same elevations as adjacent lands. At the end of site operations of Lauer, a maintenance program will be established to provide continued maintenance of the final grade and abandoned surfaces. One full growing season after the initial planting of grasses and forbs, the actual landscaping with trees and shrubs would take place.

Associated with the ultimate abandonment of the landfill site in each phase will be the utilization of a gas venting system which is to be installed during the final abandonment of each phase. A continuous ground water monitoring, leachate head monitoring and collection, gas venting, and overall site maintenance program will be required for a minimum of 15 years after the landfill has been abandoned. If this landfill is incorporated under the Long-Term Care Provisions, defined in Chapter 377, Laws of 1977, passed May 20, 1978, long-term care requirements will change appropriately dependent on waste type received and other provisions of the Administrative Code when adopted.

RECOMMENDATIONS AND CONDITIONS OF OPERATION

From our review of the plans and specifications for the proposed Lauer landfill and development project, it is our opinion that this solid waste disposal facility can be satisfactorily established, constructed, operated, abandoned, and maintained subject to the following conditions:

(Note: All conditions marked * indicate changes to the plans as proposed or time specific requirements.)

1. All items of construction and methods of operations for this site shall be in accordance with these conditions; the EMCON Associates plans and specifications dated September 1977, (18 plan sheets, 23 written pages); the August 10, 1977 plan approval for interim operation of the Lauer 2 facility and any addenda thereto; the June 2, 1977 approval for long term care fund establishment and implementation; the January 23, 1978 letter regarding sewage sludge disposal from the Department's Southeast District; the April 13, 1978 letter regarding hazardous waste disposal and leachate recirculation; and Chapter NR 151, Wisconsin Administrative Code.

23 written pages
Aug 10, '77 interim approval
June 2, '77 long term care fund
Jan 23, '78 sewage sludge disposal
April 13, 78 haz. waste disp. & recirculation

2. Copies of the plans and specifications, the Environmental Impact Statement dated February 1978, and other information as listed in Item #1 above shall be kept at the operational facilities for reference by the site operator at all times.

SITE PREPARATION:

GENERAL CONDITIONS:

*3. The equipment underpass as described in the EMCON Associates September 1977 plans and specifications shall be installed as designed. The design of this underpass has accounted for drainage, traffic routing, and other items relating to the operation of this site; however, the structural integrity of the underpass has not been discussed, nor has Waste Management, Inc. provided the Department with copies of other required approvals or permits required to construct this facility. Prior to construction of this facility, the Department is requiring that Waste Management, Inc. submit copies of all necessary approvals from other state and local agencies. It has been indicated that Waste Management, Inc. is considering relocation of the underpass and/or not installing an underpass. Prior to construction of an underpass in any location other than as specified in the September 1977 plans, or if it is decided that the underpass is not going to be installed; the Department is requiring Waste Management, Inc. resubmit plans specifically addressing all operational aspects of either a new location for the underpass, or not installing an underpass. If no underpass is proposed traffic across County Line Road must be addressed in detail and provisions made to insure the impact of that is adequately addressed. Waste Management, Inc. must receive plan approval from the Department prior to implementing any of the options as discussed above. Once a decision is made, the construction of this underpass shall be certified to the Department. A final decision must be made and implemented by June 1, 1979.

4. All earth fills as described on sheet C-6 of the EMCON Associates' "Project Design, Construction and Operating Provisions" and as indicated on sheets 1 and 2 of the plans sheets of those plans, must be completed as part of the site preparations prior to implementation of Phase 1 under this approval. All earth fills on the Lauer 3 side of the facility shall be done in accordance with the plans and specifications during site preparation of each individual module and documented as part of the site certification for Lauer 3 as required in Condition 18 below.

5. A means for establishing horizontal and vertical control shall be utilized and maintained in the field. A series of monuments is to be placed throughout and around both Lauer 2 and 3 to provide for elevation and grid control. It is required that the grid system as indicated on the EMCON Associates plans and specifications be established in the field around the perimeter of the site and permanently protected. If any monument is destroyed during the process of site preparation or operation it must be replaced immediately and horizontal and vertical control reestablished on that monument. That information shall be submitted to the Department.

6. Sedimentation control facilities as listed on page C-8 of the EMCON Associates' September 1977 "Project Design, Construction and Operating Provisions" shall be constructed as part of the site preparations for this project. Horizontal locations are shown on the plan sheets.

*7. All surface water drainage facilities shall be constructed in accordance with the EMCON Associates' September 1977 plans and specifications. Various ditches, earthfills, CMP cross drains, and other drainage control facilities are needed to control site runoff. Permanent drainage ditches constructed over refuse fill shall be underlain with a minimum of five foot thickness of clay earthfill. All permanent drainage ditches with slopes greater than 1% shall be seeded to establish a grass lining to minimize erosion of soil. If grass lining cannot be adequately established either riprap or erosion matting shall be used to stabilize ditches. Any permanent perimeter ditches, erosion control facilities, etc. to be used in subsequent phases, shall be constructed and functional prior to filling operations beginning in those phases. All permanent ditches around Lauer 2 shall be stabilized by September 30, 1978.

*8. The two on-site private wells at Lauer 2 and 3 respectively, (numbered 7 and 14 on Exhibit A attached), shall be abandoned as follows: (a) Well 7 shall be abandoned once the existing equipment maintenance shop is moved from the Lauer 2 facility prior to refuse being deposited over that area. This shall be done in accordance with Chapter NR 112, Wisconsin Administrative Code; (b) Well 14 shall be abandoned within sixty days of the date that filling commences in Lauer 3. This shall also be done in accordance with Chapter NR 112, Wisconsin Administrative Code.

If a new water supply is established on site, or within 1200 feet of either the Lauer 2 or Lauer 3 landfills, that well must be approved in accordance with the provisions of Chapter NR 112, Wisconsin Administrative Code at a minimum. A report shall be submitted indicating that abandonment has taken place.

*9. All existing risers on the Lauer 2 facility shall be clearly marked and protected by permanent structure established around them by September 30, 1978 to insure they do not get destroyed. If any riser is destroyed, DNR must be notified immediately and remedial action will be required, the extent of which will be determined based on the extent of the damage.

*10. Waste Management, Inc. shall, within 90 days of the date of this approval, submit to the Department of Natural Resources a proposal to monitor fugitive dust within the vicinity of the site. The proposal shall be coordinated through the Department of Natural Resources Air Pollution offices in Madison and Milwaukee and be submitted to the Bureau of Waste Management in final form, for approval; an addendum to this approval will be issued at that time.

*11. Fencing shall be established around the entire perimeter of both Lauer 2 and Lauer 3 for windblown paper control and to restrict access to the sites. This shall consist of either chain link fence or other similar type fencing as currently used at Lauer 2. This perimeter fencing is to insure that access is restricted in off-hours regardless of the fact that Waste Management currently has a security system with security controls on weekends and off-hours. Because of the nature of the operation and the wide variety of excavations and disposal areas throughout the 163 acres over time, the fencing has been determined to be necessary. Also, internal fencing shall be established as filling progresses as part of the preparation of each module to insure windblown paper control as means of cutting off and reducing the amount of windblown litter which would ultimately reach the perimeter fences. This fencing shall be installed so it is no greater that 500' downwind of the active area at any time, and should be located on perimeter berms at Lauer 2 as the height of fill increases. Regardless of the plans to move operations to low areas during windy weather, it has been determined that there is going to be a need to maintain windblown paper control barriers as close to the active area as possible to insure paper is controlled. Additional requirements for fencing in subsequent modules will be reviewed in light of the overall effectiveness of the fences required along the perimeter of the site and near the active area.

*12. Permanent protection devices shall be placed around all monitoring wells. All monitoring wells shall be provided with locking caps before the fall 1978 sampling period.

LAUER 2

*13. All areas on Lauer 2 currently at final grades (outside slopes) shall be abandoned in accordance with the EMCON plans and specifications dated September 1977, by September 1, 1978. This shall include the minimum four foot thickness of clay soil, proper topsoiling, seeding, fertilizing, mulching, and other items as necessary to insure a vegetative growth is established and maintained on those outside slopes as filling progresses upward. Abandonment shall also include stabilization of the old Midland property northeast of the Lauer 2, to insure proper drainage and vegetative growth.

14. The sump and riser as specified on page C-9 of the EMCON Associates' September 1977 "Project Design, Construction and Operating Provision", shall be installed in the existing refuse fill adjacent to West Countyline Road near E2,514,500. This shall be monitored as part of the requirements of conditions number 3 below.

15. The reports as specified in the Department's April 13, 1978 letter regarding leachate recirculation, evaluation of leachate quality, and evaluation of the characteristics of liquid, sludge and slurry waste disposed of at the facility, shall be submitted to the Department within thirty days of the date of this approval. This is an extension of time as specified in the April 13, 1978 letter because of the complexities involved in providing the information. The information regarding characteristics of liquid, sludge and slurry waste disposed of at the facility and a plan for limiting the volumes of the wastes at the site should include a discussion on the Milwaukee Metropolitan (Met) sewage sludge and/or additional waste proposed to be handled, (as screenings from the grit chambers of the Met). After this information is submitted, the Department will be reviewing it and making determinations on overall liquid, sludge and slurry disposal quantity and quality acceptable to be disposed at this site over time.

16. The inlet and oversized drain on the Lauer 2 side of the facility and grading of the tributatory ditch shall be done as refuse fill is placed above elevation 890±. (See Plan Sheet 10 of the plans and specifications dated September 1977).

*17. Screening berms shall be constructed as filling progresses in accordance with the plans. Prior to utilizing each module perimeter earth-covered refuse screening berms shall be placed on the west, south and east perimeter of each lift of refuse. The berm shall be constructed by placing refuse fill 15 feet high by 150 feet wide with an intermediate and final cover on the inboard and outboard sides respectively. A 50 foot wide strip of intermediate cover shall be removed from all intermediate lifts at or above ground level along the perimeter of the landfill as the subsequent lifts of refuse are being advanced to insure refuse-to-refuse contact and prevent seepage of leachate through the final cover. Abandonment of outside perimeter slopes shall take place sequentially to insure no greater than 500' in length remains in an unabandoned state at one time. These berms shall not be constructed in the winter or the spring when weather conditions are poor for covering with clay soils.

LAUER 3

be required to

18. All items of construction for the development of modules at the Lauer 3 facility as mentioned in this approval and the engineering reports for the project, shall be completed prior to use of any of those modules. It is hereby required that modules on Lauer 3 either be constructed in their entirety or in no less than 8 acre segments to insure the number of certifications are kept to a minimum and that preparation occurs well in advance of filling. Three copies of a report shall be submitted to the Department by a registered professional engineer under his seal certifying

that site preparations are in accordance with site plans, this approval, and any subsequent modifications of this approval prior to final use of those areas. One copy of the report shall be sent to the Southeastern office and two copies of a report shall be sent to the Bureau of Waste Management in Madison. Included in this report shall be:

A. Two copies of a topographic map showing as-built conditions including (1) excavation boundaries, slopes, and elevations; (2) locations, material and pipe sizes of leachate drainage sumps and risers; (3) location, elevation, and identification numbers of test borings or pits dug on 200 foot grids in the base and side slopes of excavations to establish the presence of five feet of inpervious soil surrounding disposal areas; (4) location of constructed impervious soil barriers.

B. All original cross sections shall be annotated as construction of the facility proceeds to reflect current construction status. The cross sections shall be annotated to show the following as-built conditions:

(1) Excavation limits
(2) Leachate collection facilities
(3) Earthfill and permanent perimeter drainage ditches

C. Documentation of soil conditions encountered in test pits or borings on 200 foot ± grid in the disposal area excavations including:

(1) Logs of borings and test pits indicating soil type by the Unified Soil Classification System

(2) Representative Atterberg, grain-sized analysis, and permeability tests at the base of the facility as follows:

Grain-size analysis at each backhoe pit may be done on mixed samples of soil obtained from the test pits at the direction of the professional engineer reviewing the pit if soils are consistent. In some cases more than one grain-size analysis may be necessary per pit if soils vary a great deal within the pit. At least two Atterberg limit tests per acre on representative soils and one permeability test on an undisturbed sample per acre shall also be performed. In the areas which require undercutting or backfilling, because the soils do not meet the required specifications as listed in the plans and specifications by EMCON Associates dated September 1977 it shall be done in accordance with the plans. This shall include proper compaction in a minimum 8 inch maximum 12 inch lift of silty clay soils meeting the specifications to at least 90-95% maximum density and at no time shall the base of this facility be excavated any lower than elevation 730± U.S. G.S. Datum.

D. Data sheets on constructed impervious soil barriers, including:

(1) Barrier identifications keyed to the as-built topographic map.
(2) Barrier thickness
(3) Fill material tests, (Atterberg limits, grain size analysis, and relative compaction tests results at frequent enough intervals to insure uniformity of soil used and placement for these barriers.

E. A description of impervious barrier construction and a statement certifying conformance to construction certifications signed by a registered professional engineer.

*19. The leachate collection system on Lauer 3 shall be installed in accordance with the plans and specifications to the horizontal and vertical locations as specified in the EMCON Associates' plans and specifications dated September 1977. The leachate collection system shall be installed around the entire perimeter of each module (to form a loop) and construction shall proceed in a logical manner to insure the leachate collection system and certification thereof is done as required in number 18 above. This is a change from the plan and specifications which require only partial perimeter collection systems in each of the five modules in the Lauer 3. These leachate and gas control facilities shall be constructed as specified on pages C-8, C-9, and C-10 of the written plan of operation. Particular attention should be given to the construction of the leachate facility temporary berms, leachate recirculation wells, surface water leachate separation control measures, etc.

20. As excavations proceed on Lauer 3, topsoil which exists on this facilty shall be stockpiled for use in the abandonment of the facility or utilized on those areas brought to final grade as filling progresses. This topsoil stockpile shall be protected from erosion by proper seeding. Drainage ditches shall be constructed around the topsoil stockpile area to insure drainage.

21. Interior slopes of the excavation shall be constructed to grade as indicated in the plans and specifications submitted by EMCON Associates submitted September 1977.

22. All borings and well points within Lauer 3 shall be abandoned in accordance with Chapter NR 151, with the abandonment of the borings and well points certified by a soils engineer and reported as part of the certification requirements in number 18 above.

*23. A plan for screening the Lauer 3 operations shall be submitted to the Department by September 30, 1978. Either perimeter berms and/or opaque fencing should be considered to insure the operations are properly screened.

24. The clay liner to be installed in module 4 in the western portion of Lauer 3 shall be certified by a registered professional engineer as being in accordance with the plans and specifications proposed by EMCON Associates on the project. As that area is prepared, a five foot clay liner required therein shall be properly tested and certified in accordance with the general conditions for soil certification as listed in number 18 above.

25. Access road construction on Lauer 3 as filling progresses shall proceed as follows: Those portions of the roadway which will remain unchanged for over two-year periods shall be paved with asphalt or concrete. This will both enhance the aesethics of the site as well as reduce the areas that have the greatest potential for dust emissions. Also, internal access roads constructed using random fill shall not include wood building demolition or other demolition materials other than clean inert materials. On road corridors, only clean earth shall be used for backfill. Also on Lauer 2, only clean earthfill shall be used for construction of roadways on the outside slopes.

*26. Once the equipment shop presently on Lauer 2 is moved to Lauer 3 its location shall be defined on a map and that submitted to the Department of Natural Resources offices in both Madison and Milwaukee. If it is proposed to excavate soils in this area a plan must be submitted showing the limits of excavations and extent of fill and how they blend into the overall site plan. Also the through-area on the eastern portion of the site must be filled with earth only unless otherwise approved. Bases of these areas shall be certified to have 5' clay bases as outlined in number 18 above.

27. At the completion of site preparations of either the modules or specified segments of the modules and the submittal of a construction certification report as required by certain conditions of this approval, a site inspection is to be scheduled by Waste Management, Inc. to include personnel from the Southeast District office and a representative of the Bureau office in Madison, the persons responsible for site preparation, the soils engineer responsible for certification of the clay soils, and other personnel from Waste Management, Inc. or representatives thereof who have participated in the work preparing these segments.

SITE OPERATIONS

*28. Adequate signs shall be prepared to direct site traffic to the proper disposal areas on site.

29. All interior surface water drainage control features as culverts under access roads, drainage sumps, and other features shall be constructed and operated in accordance with EMCON Associates' plans and specifications for the project dated September 1977 and any revisions thereto. Each sump shall have a pump installed in it which can be utilized to pump uncontaminated water which enters the sump area. Water will be considered contaminated when conductivity readings are 1,000 umhos per centimeter. Any surface water contaminated during disposal operations shall be handled and treated as leachate. Records shall be kept regarding amount pumped and submitted to the Department as part of the quarterly monitoring program in number 31 below.

30. The following proposed leachate head maintenance level shall be monitored and maintained within the Lauer 2 and Lauer 3 fills respectively. 770 MLS Lauer 2 easterly 775 MLS Lauer 2 westerly, 755 MSL Lauer 3. If during the operations of these areas the required maintenance levels cannot be maintained by recirculation of leachate back into the fill, leachate will be required to be removed from that area and treated at the southwest sewage treatment plant. Records should be kept on the amount of leachate handled and on the levels of leachate within those sumps from this point forth. Leachate levels shall be recorded from each sump on monthly basis. The water quality shall be performed on a quarterly basis with a quarterly sampling.

The results of the leachate level monitoring and water quality results on the leachate shall be submitted on a quarterly basis in conjunction with the water quality monitoring results.

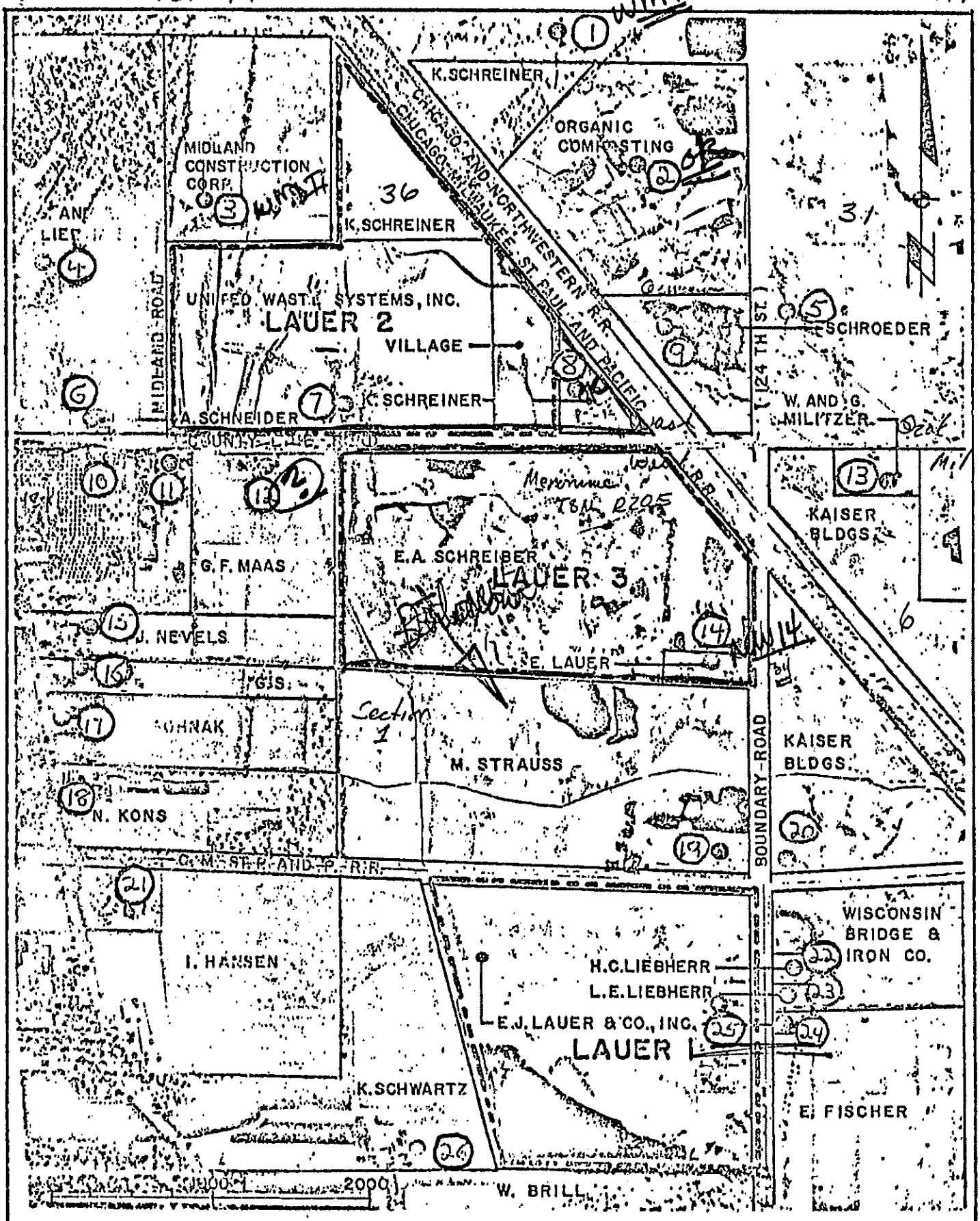
*31. A continuous ground water monitoring system shall be established and maintained throughout the active life of this landfill and for at least fifteen years after final abandonment. This program shall include monitoring wells B-1, B-2, B-3, 4-H, 5-H, 6-A, 6-B, the well nest at 50 A, B, and C, the reason as specified in number 14 above, and private wells 1,2,3,4,5,6,8,9,10,11, and 12 as well as wells 7 and 14 prior to their abandonment. These are identified on Exhibit A attached. Sampling shall be done on a quarterly basis on or about March 1, June 1, September 1, December 1 of each year. The private wells shall have an extended list of parameters monitored for initially. Thereafter the private wells and the on-site wells shall be analyzed for pH, COD, hardness, total dissolved solids, conductivity, chlorides, iron, and sulfates. In addition to water quality on-site wells that have water level readings taken on them prior to extracting samples, the water levels on the on-site wells and the results of the water quality analysis on all wells shall be submitted to the Department in duplicate. One copy shall be sent to the Southeast District in Milwaukee, and one copy to the Bureau of Waste Management in Madison. At the discretion of the Department this level of testing may be increased and expanded if the results indicate that the landfill is affecting ground or surface water quality. Sample collection, preservation and analysis procedures shall utilize methods and materials that minimize the possibility of sample contamination and insure the most accurate results. (All wells shall be tied vertically to USGS Datum and so shall water levels of each submittal.

32. Filling during windy and wet weather will be confined to those areas specified by the plans and specifications. During windy conditions fill operations shall be conducted at the lower areas in Lauer 3.

33. All operations of this facility are to minimize erosion, protect surface and ground water from contamination, prevent vector and nuisance conditions, and maintain an environmentally acceptable operation at this sanitary landfill site. All solid waste materials are to be covered at the end of each working day with no less than 6 inches of soil. No burning is to take place at this landfill site. Failure to meet the operational conditions of this approval and NR 151 and any revisions thereto may result in immediate enforcement action.

EXHIBIT "A"

REC 2/17/78



○ New well # 2/13/78

⊗ Existing water wells

FIG. 21

PROPOSED LAUER LANDFILL and DEVELOPMENT PROJECT

LAND OWNERSHIP IN VICINITY OF PROJECT AND EXISTING WELLS

PREPARED BY EMCON ASSOCIATES

34. Windblown papers shall be controlled at all times. Temporary fencing shall be placed downwind from the working face. Regular policing of the perimeter and internal fences of the site should be done to remove any accumulated litter from the fences and clean up the site with this waste being deposited at the active area at the end of each day as required by NR 151.

*35. The dust monitoring program which is ultimately approved pursuant to condition number 10 of this approval must be implemented and carried out throughout the life of this project.

*36. The hazardous waste disposal plan as submitted by Waste Management, Inc. and approved August 10, 1977 is currently under evaluation. Specifically it will be anticipated that that plan be followed in accordance with condition 13 of the August 10, 1977 plan approval until otherwise specified by the Department. Currently the hazardous waste disposal plan is under review by Waste Management regarding the continued acceptance of certain liquid sludges and slurries and if an evaluation is submitted, reviewed, and approved by this Department and the determination made on the final outcome of hazardous waste disposal at this facility, an approval addendum will be issued to this approval. The Department of Natural Resources will be adopting certain hazardous waste management administrative codes pursuant to Chapter 377, Laws of 1977, passed May 20, 1978 during the life of this project and will determine their applicability and requirements as related to this site at the time the administrative code is promulgated and notify Waste Management of any additional requirements and/or limitations regarding disposal at this facility.

37. If it is determined that leachate must be handled by the Milwaukee (MMSD) Metropolitan Sewage District because recirculation fails to relieve the leachate head monitoring levels as established in Condition 2 above, the Department and Milwaukee Metropolitan Sewage District must be immediately notified of this and all requirements of the Department's Water Quality Section regulating waste water treatment plants, Milwaukee Metropolitan Sewage District, and the Bureau of Waste Management, shall be followed explicitly if leachate is to be disposed of in that means. Records must be kept of volumes of leachate disposed of and chemical quality thereof and that must be submitted to the Department of Natural Resources for its records.

38. If the MMSD refuses to accept leachate and pretreatment is required, a plan shall be submitted by WMI within 30 days of the date of refusal addressing how WMI will treat and dispose of this leachate to insure leachate head levels are maintained.

*39. It has been documented through the submittal of the plans and specifications that the site will require approximately 900,000 cubic yards of soil imported during its life. It has also been indicated that this soil import will be obtained through local contractors in a phased manner over the life of the project. Therefore, it is required that as part of the operational assessment required in number 40 below, a detailed plan for importing this material be developed and submitted to the Department by June 1, 979. Thereafter, it will be required that an equal portion of the 900,000 cubic yards of cover material be required to be hauled to the facility on an annual basis over the 12.5 year life of the site. It will be required that this annual import be documented and that documentation be submitted to the Department to insure that cover is available at all times at this facility during the project life.

Cont - Maintain 100,000 yds cover material at all times.

*40. Annually three copies of the report reviewing the operation of this site and discussing the environmental effectiveness, the operational problems and experiences, and the proposed changes in the operation, ground water quality results and an analysis thereof, etc. shall be submitted to the Department beginning one year after the date of this approval. A copy of this report shall be submitted to the Southeast District office and two copies will be sent to the Bureau of Waste Management in Madison.

SITE ABANDONMENT

41. Both the Lauer 2 and Lauer 3 landfills are to be abandoned in accordance with this approval and the engineering reports and drawings for the project submitted by EMCON Associates dated September 1977. Positive surface water drainage shall be maintained on all portions of the abandoned site. All surface water drainage features as specified on Sheet 1 of the plans and specifications shall be constructed as designed. Ultimate final abandonment of this site's individual modules is to be in accordance with this approval and ss 151.12(10), Wisconsin Administrative Code. Final uses of the Ski Hill and of Lauer 3 shall be implemented within 5 years of abandonment of the site.

42. The gas venting system shall be installed in accordance with the plans and specifications submitted for the project, as the facility is abandoned in stages. At the time the facility is abandoned the monitoring program is to determine whether or not gas produced is being properly vented will be required.

*43. The long term care fund shall begin to be established immediately as proposed and approved June 2, 1977 by the Department of Natural Resources. This fund shall insure the proper maintenance of this facility at least 15 years after site abandonment including land surface care, leachate and ground water monitoring, gas monitoring, and other provisions as necessary. If this facility is allowed to be part of the long term care fund under Chapter 377, Laws of 1977, passed May 20, 1978, additional requirements may be required for maintenance.

44. All portions of this approval are subject to change in conjunction with the detailed review of the monitoring results from both leachate and gas and continuous review of the site operations and working of the plans in the field, other environmental concerns, Chapter NR 151, Wisconsin Administrative Code, other applicable provisions of Chapter 377, Laws of 1977, State of Wisconsin, Laws of 1976 PL-94-500; the Resource Recovery and Conservation Act, if the Department determines it necessary.

You will be given 30 days following the receipt of this approval in which to respond to any portion of this approval that is in error or with which you do not agree. If no response is received within 30 days, the preparation of the site and your license will be subject to the conditions and operations of this approval. It should be noted that the approval issued August 10, 1977