

ATTACHMENT 2B

2004 DEMONSTRATION OF NEED REVIEW

DEMONSTRATION OF NEED SUPPLEMENT

MUNICIPAL SOLID WASTE PERMIT APPLICATION REPORT

NORTH COUNTY LINE LANDFILL

February 5, 2004

Mississippi Department of Environmental Quality
Environmental Permits Division - Solid Waste Policy, Planning & Grants Branch
Post Office 10385
Jackson, Mississippi 39289-0385

Attention: Mr. Mark Williams, P.E.

Re: Demonstration of Need Review
Proposed Solid Waste Landfill
Madison County, Mississippi
GeoScience File: 031100

Gentlemen:

Submitted herein is the report of the Demonstration of Need Review for the 166 acres in Madison County proposed for a municipal solid waste disposal facility. This work was authorized by Mr. Mike Bilberry on January 23, 2004.

Plans are being developed to request a permit to operate a solid waste disposal facility on a parcel of land situated in south west Madison County. Currently, Browning Ferris Industries operates a sanitary landfill to the south of the subject property. This report presents data related to needs issues that must be addressed before the property can be included in the Solid Waste Management Plan for Madison County. Details regarding this review and our recommendations are presented in the body of this report.

We appreciate this opportunity to provide you with our services. If we can answer any questions or provide any additional information, please give us a call.

Very Truly Yours,
GeoScience Engineers, LLC

Eugene G. Wardlaw, P.E.

EGW
Copies Submitted: MDEQ (2)
Bilberry (2)

Demonstration of Need Review

***Proposed Solid Waste Landfill
Madison County, Mississippi***

For

***Mississippi Department of
Environmental Quality
Jackson, Mississippi***

**Demonstration of Need
Bilberry Landfill
North County Line Road
Madison County, Mississippi**

1.0 INTRODUCTION

The regulations promulgated by the Mississippi Department of Environmental Quality (MDEQ) requires the permit applicant to prepare a Demonstration of Need for the proposed facility. This Demonstration of Need is required for the Planning Process and Permit Process. The following paragraphs present data and documents related to the Demonstration of Need for the Bilberry Landfill.

1.1 Service Area

The service area for the landfill is Madison County and all contiguous counties. Specifically, the landfill will receive municipal solid waste from Madison, Hinds, Rankin, Copiah, Warren, Leake, Scott, Smith, Simpson, Claiborne, Attala, and Holmes Counties. The service area of the landfill is shown on Figure 1. The populations and estimated annual waste volumes are summarized in Table 1.1.1. Data related to population was obtained from the 2000 Census conducted by the U.S. Census Bureau. Data related to waste volumes, by county, was obtained from the Status Report on Solid Waste Disposal Facilities, Calendar Year 2002 published by MDEQ.

Table 1.1.1 Service Area Populations and Waste Volumes*			
County	Population in Year 2000**	Percent Change in Population from 1990 to 2000, %	Annual Waste Volume* Year 2002
Madison	74,674	38.8	75,100
Hinds	250,800	-1.4	374,909
Rankin	115,327	32.3	57,369
Copiah	28,757	4.2	9,472
Warren	49,644	3.7	6,585
Yazoo	28,149	10.4	8,501
Leake	20,940	13.6	10,220
Scott	28,423	17.8	36,376
Smith	16,182	9.4	4,524
Simpson	27,639	15.4	12,043
Claiborne	11,831	4.1	6
Attala	19,661	6.4	23,490
Holmes	21,609	-1.4	2,642

*Note: Source - MDEQ, Status Report on Solid Waste Disposal Facilities Calendar Year 2002.

****Note:** Source - 2000 Census, U.S. Census Bureau.

The average population change in the counties included in the proposed service area for the Bilberry Landfill from 1990 to 2000 was 12 percent. However, Madison and Rankin Counties had increases in population of over 30 percent. The annual waste volumes were calculated from the county by county data submitted to MDEQ for Little Dixie Landfill, City of Canton Landfill, and Clearview Landfill. *Please note that these values do not include volumes of waste received by Class I and II Rubbish Landfill facilities or what is referred to as inert waste.* The total annual tonnage of Madison County in 2002 increases to 91,000 when the Class I and II rubbish wastes are included. By combining the annual volumes over the service area, we can compute a total annual volume of 621,147 tons of waste for the service area. This total annual volume does not include Class I & II rubbish wastes. Nor does this total include industrial or special waste permitable in a Subtitle D landfill. Assuming a modest growth of 4 percent in annual waste volume over the next 20 years will result in the annual waste volumes summarized in Table 1.1.2.

Table 1.1.2 Projected Annual Waste Volumes - 4 Percent Increase Per Year			
Year No.	Annual Volume, tons	Year No.	Annual Volume, tons
1	621,147	11	919,449
2	645,993	12	956,227
3	671,833	13	994,476
4	698,706	14	1,034,255
5	726,654	15	1,075,626
6	755,720	16	1,118,651
7	785,949	17	1,163,397
8	817,387	18	1,209,933
9	850,083	19	1,258,330
10	884,086	20	1,308,663

This growth projection indicates that in the 20th year the annual volume for the service area will be 1,308,663 tons.

1.2 Existing Landfill Facilities

Currently, there are 17 permitted Subtitle D landfills in the state of Mississippi. With the advent of EPA Subtitle D regulations and the adoption of State of Mississippi NonHazardous Waste Management Regulations in 1993, the number of landfills and waste space availability is decreasing rapidly, not only in Mississippi, but in other states as well. Local governments and other producers of waste will continue to have fewer options for waste disposal.

In 1998 there were four Subtitle D landfills in the service area for the Bilberry Landfill. These included the City of Durant Landfill, which has been closed. Presently there are two municipal solid waste facilities in Madison County. These facilities consist of Little Dixie Landfill operated by BFI and Canton Landfill operated by The City of Canton. Further, there is a municipal solid waste landfill in Scott County designated as Clearview Landfill and operated by Waste Management, Inc. that includes Madison County in their service area. Information specific to these landfills are presented in Table 1.2.1.

Table 1.2.1 Year 2002 Area Landfill Data					
Landfill	County	Operator	Current Tipping Fee	Daily Volumes, tons/day*	Annual Volumes, tons*
Little Dixie Landfill	Madison	BFI	\$26/ton	1,245	386,027
Clearview Landfill	Scott	Waste Management, Inc.	\$33/ton \$28/ton @ Xfer Station	1,026	318,020
City of Canton Landfill	Madison (Canton)	City of Canton	\$22/ton	127	39,267

*Note: Source - MDEQ, Status Report on Solid Waste Disposal Facilities Calendar Year 2002

Waste Management operates Clearview Landfill and a transfer station. The transfer station is located on Country Club Drive in the western portion of Jackson, Mississippi. While the Clearview Landfill includes Madison County in its service area, this landfill is located 65 miles from the Waste Management Transfer Station. Waste collected at the transfer station is trucked the 65 miles to Clearview for disposal. This transportation is significant in computing the cost of solid waste disposal and can add about \$10 per ton to the solid waste disposal costs. This can be seen in the tipping fee rates presented in Table 1.2.1. Clearview Landfill is located on the eastern edge of Bilberry Landfill service area and any reasonable service area that includes Madison County. Therefore, the use of Clearview Landfill for disposal of municipal solid waste from Madison County has some significant logistical and cost problems.

In order to analyze the current capacity for municipal solid waste disposal, we must estimate that Little Dixie Landfill and Clearview can receive maximum daily volumes of waste on the order of about 1,700 and 1,100 tons per day, respectively. Correspondingly, we have estimated that the Canton Landfill would have a maximum daily volume capacity of about 300 tons per day. Therefore, these three existing solid waste landfills would provide a combined maximum daily volume capacity of about 3,100 tons per day or an annual volume of 886,600 tons. According to the

growth projections presented in Section 1.1, Table 1.1.2, this disposal volume would create a disposal capacity shortfall in about year 10. Therefore, Madison County would not be assured the disposal capacity for years 11 through 20 of this analyses. Results of this analysis indicate that Madison County needs to plan for additional disposal capacity in the form of another solid waste landfill. The additional capacity provided by a third landfill in Madison County will provide appropriate disposal capacity for the next 20 years.

1.3 Incoming Waste Volumes

When the Bilberry landfill is fully operational, projections indicate that the landfill will receive the disposal volumes presented in Table 1.3.1.

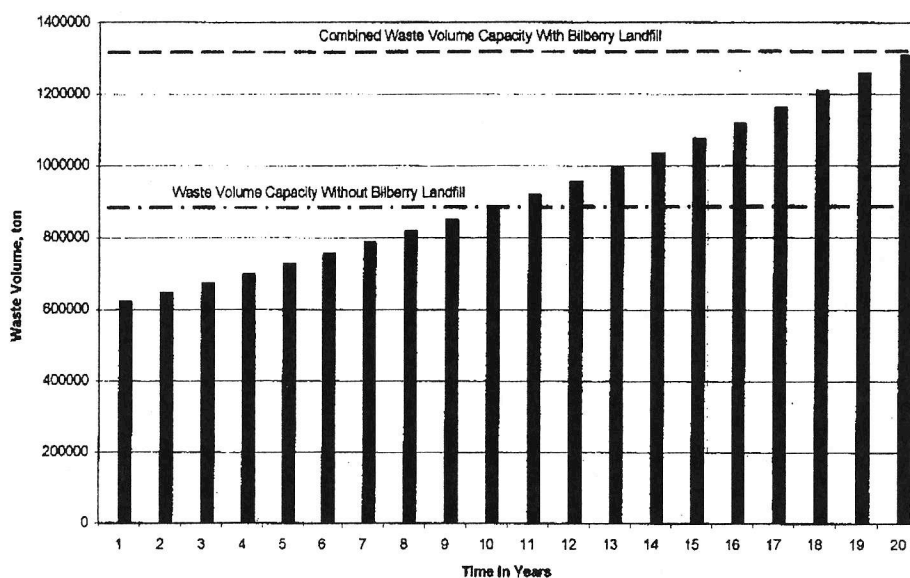
Table 1.3.1 Projected Disposal Volumes Bilberry Landfill		
Disposal Year	Disposal Volume, tons per day	Annual Disposal Volume, tons
1	500	143,000
2	600	171,600
3	720	205,920
4	864	247,104
5	1,037	296,525
6	1,244	355,830
7	1,306	373,621
8	1,372	392,302
9	1,440	411,917
10	1,512	432,513
11 through 20	1,512	432,513

The projected disposal volumes presented in Table 1.3.1 were taken from information developed by IESI and published in the *Madison County, Request for Proposals for Disposal Services and Host Agreement, Committee's Review and Recommendation, dated September 13, 2002*. The growth in disposal volume represents a twenty percent increase in years 1 through 6, five percent increase in years 7 through 10, and no increase in years 11 through 20. This waste volume model results in cumulative total volume across the twenty year period of 7,354,653 tons.

This quantity of waste, when compacted to 1,200 pounds per cubic yard will fill 12,257,755 cubic yards of air space in 20 years. The disposal area proposed for permitting will provide 13,555,079 cubic yards of air space available for waste (daily cover and final cover included). This air space is about 9.5 percent more than required for 20 years capacity.

The IESI model indicates the Bilberry Landfill will have a daily disposal volume of about 1,500 tons per day. The additional capacity provided by the Bilberry Landfill when combined with that of Little Dixie Landfill, Clearview Landfill, and Canton Landfill would result in a daily volume of about 4,600 tons per day or 1,315,600 tons annually. The additional capacity of the Bilberry Landfill provides landfill capacity that extends through year 20 of the projected growth in landfill waste tonnages discussed in Section 1.1 and presented in Table 1.1.2. and Figure 1.3.1.

Figure 1.3.1. Service Area Growth In Volume



Thus, the Bilberry Landfill will provide additional capacity to meet the solid waste disposal requirements of Madison County. BFI has been disposing of municipal solid waste at Little Dixie Landfill since August, 1979. In 2002, the possible entry of the Bilberry Landfill into the market resulted in the negotiation of a Host Fee agreement between BFI and Madison County. This Host Fee Agreement has allowed Madison County to finally benefit from hosting Little Dixie Landfill. The financial benefit in 2003 to Madison County by virtue of this agreement was \$798,934.61. Further, the operation of the Bilberry Landfill will afford Madison County additional revenue in the form of host fees. In addition to the host fees, Madison County also saved \$36,751.77 from a reduction in disposal costs negotiated with BFI from \$18 per ton in 2002 to \$15 per ton in 2003. These financial benefits are two examples of the benefit to Madison County when there is competition in the solid waste disposal market. The amendment of the Madison County Solid Waste Management Plan to include the Bilberry Landfill will result in additional competition in the solid waste disposal market and reduce the possibility of a monopolistic environment that would result in unfair disposal fees for the citizens of Madison County and restriction of the free market concept.

2.0 Local Approval

The property which is the site of the Bilberry Landfill is currently zoned for industrial use (I-1), which is appropriate for the intended use. A copy of the approved zoning request and resolution

from the Madison County Board of Supervisors will be added to this document after the Madison County Solid Waste Management Plan has been amended to include the Bilberry property.

3.0 Solid Waste Reduction Program

MDEQ has required local governments to implement a waste reduction plan that would reduce solid waste disposal by such means as recycling. The program works with municipal, county, state and federal governments, commercial and industrial facilities, military facilities, schools, institutions including colleges, universities and hospitals, and the general public. The goal of the program is as follows:

- Increase the amount of recycling and composting in the state;
- Increase awareness and efforts of non-hazardous and hazardous waste pollution prevention;
- Increase awareness and efforts of buying products manufactured from recycled materials; and
- Educate the public of the importance of recycling and solid waste reduction.

The Madison County Solid Waste Management Plan included recommendations to accomplish the required minimization goal of 25 percent by 1996. The plan recommended implementing the following methods.

- Source Reduction
- Recycling
- Composting

Madison County filed a joint response with the City of Madison regarding recycling. The City of Ridgeland has also filed a response regarding recycling to MDEQ. Copies of these responses are presented in Appendix A.

An additional method of reducing municipal solid waste volumes is through the operation of permitted Class I & II rubbish landfills. Currently there is one rubbish landfill in Madison County which is adjacent to The City of Canton Landfill in Canton, Mississippi. Further, there are seven Class I & II Rubbish facilities in Hinds County.

4.0 Service Area Certification

A letter of certification from the Bilberry Family Limited Partnership indicating that the service area of the proposed landfill project is consistent with the Madison County Solid Waste Management Plan will be executed after the Madison County Solid Waste Management Plan has been amended to include the subject facility.

5.0 Replacement of Existing Facilities

Within the service area of the proposed municipal solid waste landfill there are currently three active municipal solid waste landfills. Those active landfills include Little Dixie Landfill, City of Canton Landfill, and Clearview Landfill. These facilities and accompanying volume data are presented in Section 1.2 of this report. The development of the subject facility does not contemplate the immediate replacement of an existing municipal solid waste landfill within the service area.

APPENDIX A

Solid Waste Reduction Information

RECYCLING IN MADISON AND MADISON COUNTY

MATERIAL	WHERE TO RECYCLE	HOW TO PREPARE IT FOR RECYCLING
Newspapers	Curbside in plastic bin provided by city 601/856-8958	Newspaper should be clean and dry Do not put newspapers out on a rainy day
Aluminum Cans Clean foil and pie pans	Curbside in plastic bin provided by city 601/856-8958	Rinse aluminum cans Stomp cans flat to save space
Plastic Bottles – Only clear and opaque #1's and #2's (number is found on the bottom of the plastic bottle). Soft drink, milk and water bottles, and some others. Do not include plastic tubs (margarine, yogurt and ice cream containers, etc.), motor oil bottles or plastic bags.	Curbside in plastic bin provided by city 601/856-8958	Rinse plastic bottles Remove and throw away plastic caps Stomp flat to save space
Both Madison and Madison County		
Used Motor Oil	Advance Auto Parts - 1 to 3 gallons Auto Zone - 1 to 3 gallons Wal-Mart Tire and Lube Express - 1 to 3 gallons For a detailed list of oil recycling sites in Madison, contact Miss. DEQ at 601/961-5171.	Place used motor oil in empty milk or oil bottle(s) with screw-on cap.
Tires and Lead Acid Batteries	Advance Auto Parts will take your old lead acid batteries at no charge without the purchase of a new one. Autozone, NAPA and Wal-Mart will take your old battery with the purchase of a new battery. Call 601/859-4331 for your nearest waste tire disposal site in Madison County.	Leave old tires and lead acid batteries with the retailer who sells and/or installs the new one on your vehicle. They are required to accept them by law. Tires and lead acid batteries are banned from landfills, the waste hauler will not collect them with your household garbage.
Textiles	Goodwill Industries 930 Palmyra Street, Jackson, MS 39203 Phone: 601/948-4087	Old clothing, except for shoes. Clean and dry clothing only. Tax Deductible!
Nickel-Cadmium (Ni-Cd) Rechargeable Batteries - batteries that power camcorders, cordless and cellular phones, laptop computers, and cordless power tools.	Call 1-800-8-BATTERY for the nearest retail drop-off site in Madison.	N/A
Household Hazardous Materials -paint, motor oil, oil filters, anti-freeze, brake fluid, batteries, pesticides, fluorescent light bulbs, photographic chemicals, and other items.	City of Jackson's Environmental Service Center at 1708 Terry Road just north of Highway 80. 601/960-0000 Open Tuesday & Thursday from 8 - 3 and on the 4th Saturday of the month from 8 - 3.	No ammunition or explosives Paint cans are not collected at the curb for disposal
Computer CPU's, Monitors, and Printers	Computer Electronics Recycling Facility at Jackson State University Call 601/979-8261.	Call JSU for pickup or carry to them. Can be tax deductible!

-over->

Did You Know . . .

Each year in Mississippi we throw away enough garbage to cover 600 football fields to a depth of 6 feet in compacted garbage!!!

Our garbage is made up of the following: 41% paper, 18% yard waste, 9% metals, 8% glass, 8% food waste, 7% plastic, and 9% other.

Approximately 40 to 60% of our waste stream is recyclable.

Newspapers are recycled into new newspapers, paper egg cartons, cereal boxes, cellulose household insulation, and acoustical ceiling tiles.

Corrugated boxes are recycled into new corrugated containers.

Aluminum cans and/or aluminum scrap are recycled into metal products made of aluminum including airplanes, cars, and more soda cans.

Steel cans and/or steel scrap are recycled into metal products made of steel including structural steel in building, bolts and nuts, coathangers and more steel cans.

Plastic bottles are recycled into plastic lumber for picnic tables and park benches, carpet, clothing, and more plastic bottles.

Used motor oil is recycled into re-refined motor oil or fuel blended with other fuels to be burned at industry boilers for energy.

Recycling Publications

How to Reduce Junk Mail

Household Hazardous Waste Disposal

Proper Disposal of Paints and Thinners

Establishing a Backyard Compost Area

Establishing a Backyard Worm Bin for Composting Food Waste

Landscaping for Energy Savings

Alternatives to Household Hazardous Waste Products

Contact MDEQ for copies of these brochures

For information about litter free Mississippi, call Keep Mississippi Beautiful at 1/800-545-3764. To report people who litter, call 1/800-545-3764 or cellular users dial *47. Give vehicle license number, brief description of vehicle, location, time and date. Be apart of the recycling team, join the Mississippi Recycling Coalition(MRC) by calling the MRC at 1/800-545-3764 and request membership information. **Checkout Earth's 911 website at www.cleanup.org or call 1/800cleanup for more information on recycling in Madison.**

If you have questions or need more information about recycling, composting, or pollution prevention, or would like to have a recycling presentation given at your organization, contact the Recycling and Solid Waste Reduction Program at the Mississippi Department of Environmental Quality at 601/961-5171. This educational flyer was developed and produced by the Recycling and Solid Waste Reduction Program at the Mississippi Department of Environmental Quality.

MISSISSIPPI RECYCLES JOIN IN TODAY!!!

RECYCLING IN RIDGELAND

MATERIAL	WHERE TO RECYCLE	HOW TO PREPARE IT FOR RECYCLING
Newspapers	Curbside in plastic bin provided by city 601/853-2027	Newspaper should be clean and dry Do not put newspapers out on a rainy day
Aluminum Cans and clean foil and pie pans No steel(tin) cans are accepted at this time	Curbside in plastic bin provided by city 601/853-2027	Rinse aluminum cans Stomp cans flat to save space
Plastic Bottles - Only clear and opaque #1's and #2's (# is found on the bottom of the plastic bottle). Soft drink, milk and water bottles. Do not include plastic tubs (margarine, yogurt and ice cream containers, etc.), or motor oil bottles.	Curbside in plastic bin provided by city 601/853-2027	Rinse plastic bottles Remove and throw away plastic caps Stomp flat to save space
Used Motor Oil	Advance Auto Parts - 1 to 3 gallons Auto Zone - 1 to 3 gallons Wal-Mart Tire & Lube Express - 1 to 3 gallons For a detailed list contact Miss. DEQ at 601/961-5171.	Place used motor oil in empty milk or oil bottle(s) with screw-on cap.
Tires and Lead Acid Batteries	Advance Auto Parts will take your old lead acid batteries at no charge without the purchase of a new one. Autozone, NAPA and Wal-Mart will take your old battery with the purchase of a new battery. Call 601/859-4331 for your nearest waste tire disposal site in Madison County.	Leave old tires and lead acid batteries with the retailer who sells and/or installs the new one on your vehicle. They are required to accept them by law. Tires and lead acid batteries are banned from landfills, the waste hauler will not collect them with your household garbage.
Textiles	Goodwill Industries 930 Palmyra Street, Jackson, MS 39203 Phone: 601/948-4087	Old clothing, except for shoes. Clean and dry clothing only. Tax Deductible!
Nickel-Cadmium (Ni-Cd) Rechargeable Batteries - batteries that power camcorders, cordless and cellular phones, laptop computers, and cordless power tools.	Call 1-800-8-BATTERY for the nearest retail drop-off site in Ridgeland.	N/A
Household Hazardous Materials -paint, motor oil, oil filters, anti-freeze, brake fluid, batteries, pesticides, fluorescent light bulbs, photographic chemicals, and other items.	City of Jackson's Environmental Service Center at 1708 Terry Road just north of Highway 80. 601/960-0000 Open Tuesday & Thursday from 8 - 3 and on the 4th Saturday of the month from 8 - 3.	No ammunition or explosives Paint cans are not collected at the curb for disposal
Computer CPU's, Monitors, and Printers	Computer Electronics Recycling Facility at Jackson State University Call 601/979-8261.	Call JSU for pickup or carry to them. Can be tax deductible!

-over->

Did You Know . . .

Each year in Mississippi we throw away enough garbage to cover 600 football fields to a depth of 6 feet in compacted garbage!!!

Our garbage is made up of the following: 41% paper, 18% yard waste, 9% metals, 8% glass, 8% food waste, 7% plastic, and 9% other.

Approximately 40 to 60% of our waste stream is recyclable.

Newspapers are recycled into new newspapers, paper egg cartons, cereal boxes, cellulose household insulation, and acoustical ceiling tiles.

Corrugated boxes are recycled into new corrugated containers.

Aluminum cans and/or aluminum scrap are recycled into metal products made of aluminum including airplanes, cars, and more soda cans.

Steel cans and/or steel scrap are recycled into metal products made of steel including structural steel in building, bolts and nuts, coathangers and more steel cans.

Plastic bottles are recycled into plastic lumber for picnic tables and park benches, carpet, clothing, and more plastic bottles.

Used motor oil is recycled into re-refined motor oil or fuel blended with other fuels to be burned at industry boilers for energy.

Recycling Publications

How to Reduce Junk Mail

Household Hazardous Waste Disposal

Proper Disposal of Paints and Thinners

Establishing a Backyard Compost Area

Establishing a Backyard Worm Bin for Composting Food Waste

Landscaping for Energy Savings

Alternatives to Household Hazardous Waste Products

Contact MDEQ for copies of these brochures

For information about litter free Mississippi, call Keep Mississippi Beautiful at 1/800-545-3764. To report people who litter, call 1/800-545-3764 or cellular users dial *47. Give vehicle license number, brief description of vehicle, location, time and date. Be apart of the recycling team, join the Mississippi Recycling Coalition(MRC) by calling the MRC at 1/800-545-3764 and request membership information. **Checkout Earth's 911 website at www.cleanup.org or call 1/800cleanup for more information on recycling in Ridgeland.**

If you have questions or need more information about recycling, composting, or pollution prevention, or would like to have a recycling presentation given at your organization, contact the Recycling and Solid Waste Reduction Program at the Mississippi Department of Environmental Quality at 601/961-5171. This educational flyer was developed and produced by the Recycling and Solid Waste Reduction Program at the Mississippi Department of Environmental Quality.

MISSISSIPPI RECYCLES JOIN IN TODAY!!!