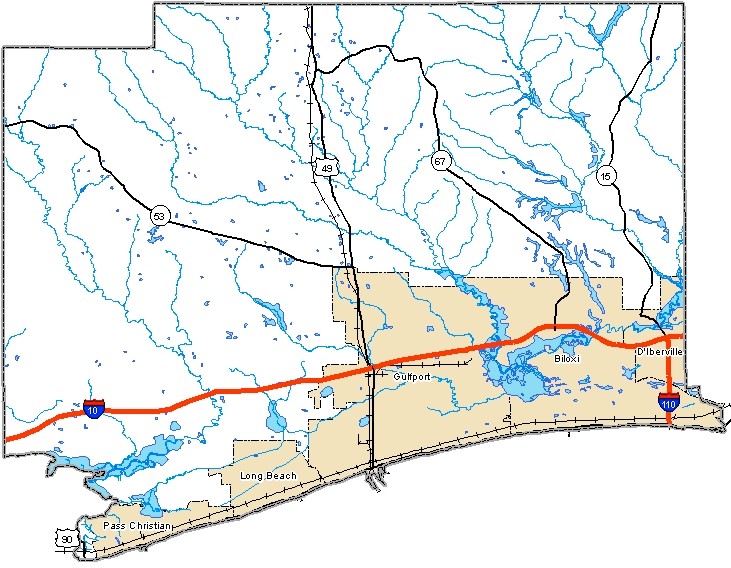
HARRISON COUNTY SOLID WASTE MANAGEMENT PLAN 2012

Amended October 2017



COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN REWRITE FOR HARRISON COUNTY, MISSISSIPPI INCLUDING ALL MUNICIPALITIES ADOPTED BY HARRISON COUNTY JUNE 7, 2012

HARRISON COUNTY UTILITY AUTHORITY

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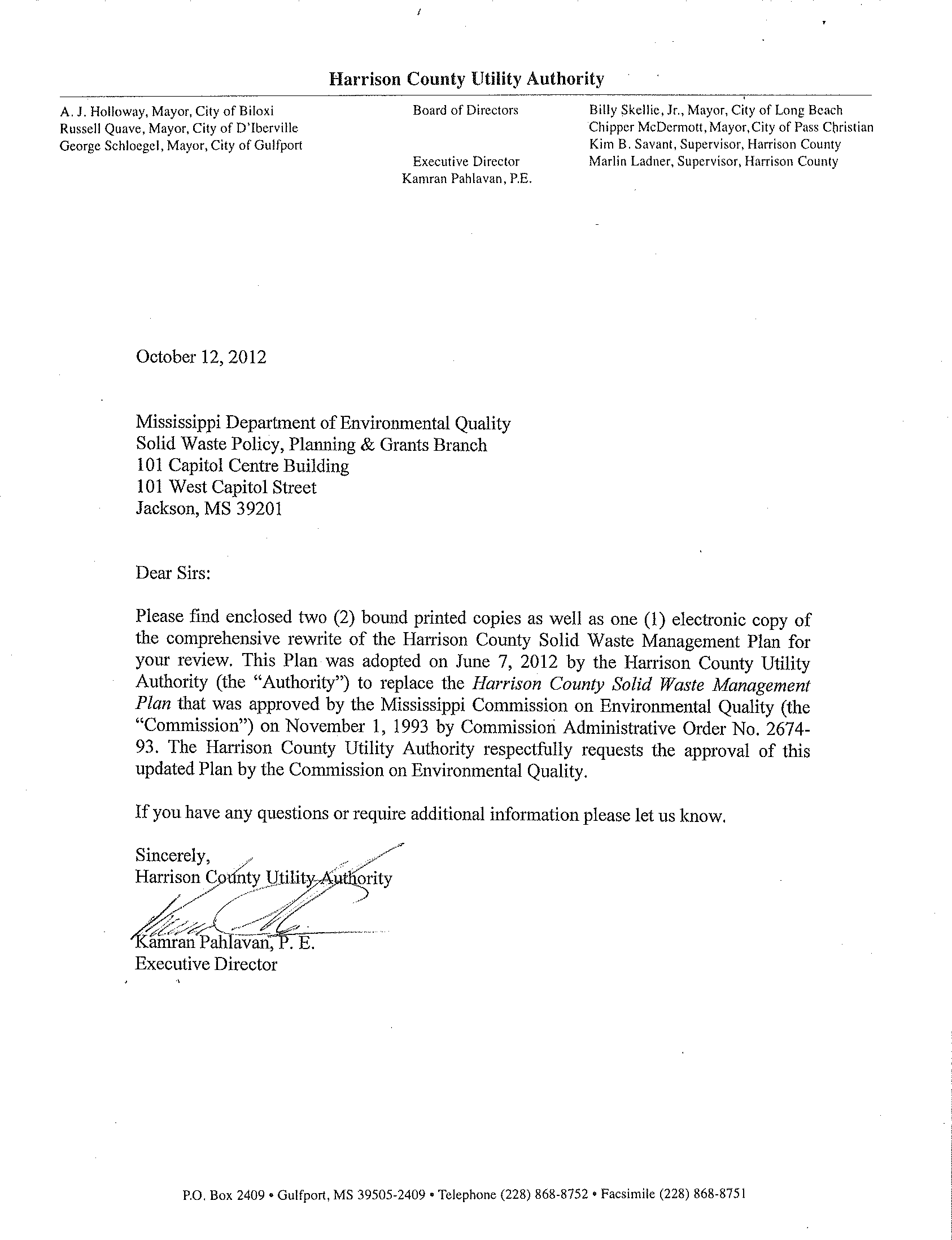
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## Glossary of Terms

The following definitions are being used for the purposes of this solid waste management plan.

“Authority” means the Harrison County Utility Authority created pursuant to Mississippi Code Section 49-17-727.

“Beneficial Fill” means the use of uncontaminated, non-water soluble, non-decomposable Class II rubbish wastes to level an area or bring the area to a grade for beneficial purposes, where an earthen cover is applied upon completion of the fill. Such beneficial purposes must not be conducted for monetary compensation and may include landscaping, erosion control or repair, land stabilization, construction base preparations or other land improvements.

“Beneficial Use” means the legitimate use of a solid waste in the manufacture of a product or as a product, for construction, soil amendment or other purposes, where the solid waste replaces a natural or other resource material by its utilization.

“Beneficial Use Determination” means a written determination issued by the Mississippi Department of Environmental Quality to an applicant after review and approval of an application, to allow the legitimate beneficial use of a solid waste or by-product as a product.

“By-Product” means a solid waste material that is generated as a result of the manufacture of a primary product that, barring any form of alternate or beneficial use of that material, would otherwise be discarded at a landfill or other solid waste disposal facility.

“Commission” means the Mississippi Commission on Environmental Quality.

“Commercial nonhazardous solid waste management facility” means any facility engaged in the storage, treatment, processing, or disposal of nonhazardous solid waste for compensation or which accepts nonhazardous solid waste from more than one generator not owned by the facility owner.

“Department” means the Mississippi Department of Environmental Quality.

“Disposal” means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land or water so that such solid waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwaters.

“Dumpster” means specifically constructed, removable waste container of any size designed to be mechanically picked up, dumped, and/or transported by a specifically constructed vehicle designed for that purpose. (Commonly referred to as roll-off containers, green boxes, or commercial containers).

“EPA” means the U. S. Environmental Protection Agency.

“Garbage” means putrescible animal or vegetable wastes resulting from the handling, preparation, cooking and consumption of food, including wastes from markets, storage facilities, handling and sale of produce or other food products, and excepting such materials that maybe be serviced by garbage grinders and handled as household sewage.

“Generator” means the person, organization, business, industry, agency or institution whose daily activities or business results in the production of a by-product.

HCDC: Harrison County Development Commission.

HDPE: High-density polyethylene (i.e., milk jugs).

"Household waste" means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

“HHW” or “Household Hazardous Wastes” means any waste that would be considered hazardous under the Solid Waste Disposal Law of 1974, Section 17-17-1 et seq., of the Mississippi Code, Annotated, or any rules and regulations promulgated thereto, but for the fact that it is produced in quantities smaller than those regulated under such law or regulations and is generated by persons not otherwise covered by such law or regulations.

"Industrial process waste" means any solid waste generated as a result of the manufacture of a product, except uncontaminated packaging materials and containers, uncontaminated machinery components, tires, land clearing or landscaping wastes, office wastes, cafeteria wastes, and construction and demolition wastes.

“Local Government” means, for the purpose of this guidance document, any county, municipality, regional solid waste management authority, multi-governmental waste district or any other multi-county or municipal entity.

“MSW” or “Municipal solid waste” means any nonhazardous solid waste resulting from the operation of residential, commercial, governmental, industrial, or institutional establishments except oil field exploration and production wastes and sewage sludge.

"Municipal solid waste landfill unit (MSW Landfill)" means a discrete area of land or an excavation that receives household waste (including ash from a municipal solid waste combustion facility) and that is not a land application unit, surface impoundment, injection well, or waste pile. A MSW Landfill may also receive other types of RCRA subtitle D wastes, such as commercial solid waste, nonhazardous sludge, small quantity generator waste and industrial solid waste. Such a landfill may be publicly or privately owned.

Owners of all MSW Landfills must implement a program at the facility for detecting and

preventing the disposal of the following wastes:

1. hazardous waste as defined by and subject to the Mississippi Hazardous Waste Management Regulations and Subtitle C of the Federal Resource Conservation and Recovery Act;
2. polychlorinated biphenyls (PCB) waste;
3. liquid wastes as described in Paragraph B.9 of this section;
4. regulated Asbestos Containing Materials (ACM) which have not been properly bagged or contained in such a manner as to prevent the wastes from becoming airborne; and
5. whole waste tires which have not been shredded, chopped, cut or otherwise processed as described in the Mississippi Waste Tire Management Regulations.

“MDEQ” means the Mississippi Department of Environmental Quality.

“Open dump” means any officially recognized place, land or building which serves as a final depository for solid wastes, whether or not burned or buried, which does not meet the minimum requirements for a sanitary landfill, except approved incinerators, compost plants and salvage yards.

“Per Capita” means per person per day.

“Plan” means Solid Waste Management Plan of Harrison County.

“Post-Closure” means a procedure approved by the Environmental Protection Agency or the MDEQ to provide for the long-term financial assurance, monitoring, and maintenance of solid waste disposal sites to protect human health and the environment.

"Processing facility" means a facility, other than a composting facility or transfer station used to sort, shred, grind, bale, treat or otherwise process solid waste. The term does not include facilities, which receive and manage only recyclable components of solid wastes that are removed at least annually.

“Putrescible Waste” means solid wastes, which are capable of being decomposed by micro- organisms with sufficient rapidity to cause nuisances from odors or gases.

"Recyclables" means materials, which are intended to be sold or delivered to the open market for recycling or processing into a marketable product.

“Recycling” means the use, reuse or reclamation of a waste. Recycling does not include the burning of waste as a fuel for the recovery of energy or the use of waste treatment technologies.

“Rubbish” means non-putrescible solid wastes (excluding ashes) consisting of both combustible and noncombustible wastes. Combustible rubbish includes paper, rags, cartons, wood, furniture, rubber, plastics, yard trimmings, leaves, and similar materials. Noncombustible rubbish includes glass, crockery, metal cans, metal furniture, and like

materials which will not burn at ordinary incinerator temperatures (not less than 1600 degrees F).

A Class I Rubbish Site may receive the following wastes for disposal:

1. construction and demolition debris, such as wood, metal, etc.
2. brick, mortar, concrete, stone, and asphalt
3. cardboard boxes
4. natural vegetation, such as tree limbs, stumps, and leaves.
5. appliances (other than refrigerators and air conditioners) which have had the motor removed
6. furniture
7. plastic, glass, crockery, and metal, except containers
8. sawdust, wood shavings, and wood chips
9. other similar wastes specifically approved by the Department.

A Class II Rubbish Site may receive the following wastes for disposal:

1. natural vegetation, such as tree limbs, stumps, and leaves
2. brick, mortar, concrete, stone, and asphalt
3. other similar rubbish specifically approved by the Department.

The following wastes shall be prohibited from disposal at all rubbish sites:

1. any acceptable waste which has been contaminated by a pollutant, such as a food or chemical, unless it can be demonstrated to the satisfaction of the Department that such waste has no adverse effect on the environment.
2. household garbage and other food and drink waste
3. liquids, sludges, and contaminated soils
4. paint, paint buckets, oil containers and chemical containers
5. engines, motors, whole tires, and all types of batteries
6. toxic or hazardous waste
7. Regulated asbestos and asbestos containing material originating from a facility, as defined by the National Emission Standards for Hazardous Air Pollutants (40 CFR 61, Subpart M)
8. medical waste
9. bulk fabric and paper loads, refrigerators, air conditioners, cut or shredded tires, and any metal, glass, plastic, or paper container, unless specifically approved by the Department. The Department shall consider the characteristics of the waste, the operating plan of the site, and other site specific conditions in determining the acceptability of any such waste
10. other waste which are specifically determined by the Department to have an adverse effect on the environment.

“Rubbish site” means a site, which receives rubbish for the purpose of disposal.

“Small quantity waste tire generator” means any private individual generating 25 or fewer waste tires annually, or a tire retail outlet, automotive mechanic shop or other commercial or governmental entity that generates 10 or fewer waste tires per week.

“Solid Wastes” means any garbage, refuse, sludge, from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, included solid, liquid, semisolid or contained gaseous material resulting from industrial, commercial, mining and agricultural operations and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under Section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880), or source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954.

"Solid waste management facility" means any facility which manages nonhazardous solid waste, including landfills, rubbish sites, land application sites, processing facilities, composting facilities, transfer stations, and waste incinerators, but excluding ordinary storage vessels such as trash cans, dumpsters, etc.

“Storage” means the containment of wastes, either on a temporary basis or for a period of years, in such manner as not to constitute disposal of such wastes.

“Subtitle D” means Subtitle D of the Resource Conservation Recovery Act, which established minimum requirements for location, design and operating criteria for MSW landfills as set forth in 40 CFR 258.

“Treatment” means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any solid waste in order to neutralize such waste or render such waste safer for transport, amenable for recovery, amenable for storage or reduced in volume.

"Waste minimization" means the reduction, to the extent feasible, of waste that is generated or subsequently treated, stored or disposed of. It includes any source reduction or recycling activity undertaken by a generator or facility operator that results in either (i) the reduction of total volume or quantity of waste, or (ii) the reduction of toxicity or other characteristics of hazardous waste, or both, so long as the reduction does not result in the displacement of pollutants from one medium to another and is consistent with the goal of minimizing present and future threats to human health and the environment.

“Waste tire” means a whole tire that is no longer suitable for its original intended purpose because of wear, damage or defect.

“Waste tire collection site” means a site used for the storage of one hundred (100) or more waste tires.

“Yard waste” means the leaves, grass cuttings, weeds, garden wastes, tree limbs, and other vegetative waste generated at residential, commercial, institutional, governmental, or industrial properties.

### References

Cities of Biloxi, D’Iberville, Gulfport, Long Beach and Pass Christian and Harrison County websites.

Chambers of Commerce for Biloxi, D’Iberville, Gulfport, Long Beach and Pass Christian and the HCDC

EPA: Municipal Solid Waste in the United States – Facts and Figures and website.

EPA: Environmental Justice, website: [www.epa.gov/compliance/environmentaljustice/index.html](http://www.epa.gov/compliance/environmentaljustice/index.html)

HCDC: Harrison County Development Commission website information: [www.mscoast.org](http://www.mscoast.org/)

IHL: Mississippi Institutions of Higher Learning Center for Policy Research and Planning. [www.ihl.state.ms.us.](http://www.ihl.state.ms.us/)

MDEQ: “Mississippi Department of Environmental Quality - Status Report on Solid Waste Disposal Facilities” and the MDEQ website [www.deq.state.ms.us](http://www.deq.state.ms.us/)

MDES: Mississippi Department of Employment Security *Labor Market Data for June 2011* ([www.mdes.ms.gov/Home/index.html)](http://www.mdes.ms.gov/Home/index.html))

* 1. Census Bureau

## ACKNOWLEDGEMENTS

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# SECTION A

**INTRODUCTORY COMPONENTS**

**HARRISON COUNTY SOLID WASTE MANAGEMENT PLAN**

EXECUTIVE SUMMARY

### INTRODUCTION

Effective solid waste management and disposal is one of the toughest challenges facing local government leaders. Increased awareness of the environment, changes in federal solid waste disposal regulations and pressure to minimize costs have led to significant changes in how solid waste is managed and disposed of now and in the future.

In 1991 the Mississippi Legislature passed the Nonhazardous Solid Waste Planning Act. This Act is detailed in §17-17-201 through §17-17-235 of the Mississippi Code. This Act requires that local governments prepare, adopt, and submit a local nonhazardous solid waste management plan to the Mississippi Commission on Environmental Quality. The responsibility for development and maintenance for the Harrison County Solid Waste Management Plan has been delegated to the Harrison County Utility Authority (the “Authority”).

This Plan has been prepared in compliance with the Mississippi Nonhazardous Solid Waste Planning Act of 1991 (Mississippi Code Annotated section 17-17-201, et seq.), and with respect to the Mississippi Multimedia Pollution Prevention Act (Miss. Code Ann. § 49-31-3). One key finding of this Act is that “the opportunities for pollution prevention are often not realized because existing regulations focus more upon treatment and disposal than pollution prevention and do not emphasize multimedia management of waste.” The goal of this Act is that “pollution prevention is the ultimate goal in waste management. The use of pollution prevention policies and technologies as an integral part of the waste management system, thereby reducing the need for the creation of additional management capacity, is strongly endorsed.”

To achieve this purpose the goals of the Plan are to:

1. Identify inefficient and improper methods of managing waste that create hazards to public health, cause pollution of the air and water resources and constitute a waste of natural resources
2. Promote more efficient methods of managing and reducing the waste generated in the County
3. Establish a proactive role for the County to assist business, industry, institutions, governmental entities and the residents of the County in the development of a coordinated pollution prevention program that addresses the need for both environmental protection and economic growth
4. Identify opportunities for, educate, inform and encourage residents, businesses, industries, institutions and governmental entities to eliminate or reduce the

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generation of waste at the source through cost-effective pollution prevention technologies and procedures.

The scope of this Solid Waste Management Plan (the “Plan”) is to provide a detailed assessment of nonhazardous solid waste generation, collection and disposal facilities and activities within Harrison County; project future volumes of solid waste generation over the 20 year planning period based on population and industrial growth; provide guidance for achieving the 25 percent waste reduction goal set forth in the Nonhazardous Solid Waste Planning Act of 1991; establish solid waste management needs for the 20 year planning period based on current and projected assessments; and provide an implementation plan and schedule which establishes a timetable for fulfilling these needs.

Specific objectives of the Solid Waste Management Plan are addressed by the major sections of the plan. A brief description of the contents of each section are provided as follows:

* + Description of the Planning Area
  + Evaluation of Current Solid Waste Management System
  + Strategy for Achieving Waste Minimization Goals
  + Evaluation of Future Solid Waste Management Systems Requirements
  + Waste Tire Management System
  + Proposed Solid Waste Management System
  + Comprehensive Inventory of Solid Waste Management Facilities

This Plan presents the findings based upon review and evaluation of the County's existing solid waste management systems and current regulatory requirements. Conclusions and recommendations provide direction for current implementation procedures and recommendation for more detailed evaluation of technologies and management alternatives appropriate for future solid waste management in the County. For a summary of the findings of this Plan, please refer to the “*Solid Waste Needs Assessment Summary*” section of this Plan.

In the planning process, the following solid waste program components were analyzed and future needs were assessed for each:

1. Residential Garbage Management Programs
2. Rubbish Management Systems and Programs
3. Municipal Wastewater Sludge/Bio-solids
4. Special Waste Management Programs
   1. Non-hazardous Industrial Wastes
   2. Construction Debris (Special Waste) Management
   3. Residential and Commercial Bulk Liquid Wastes
   4. Waste Tire Management
   5. Household Hazardous Waste
   6. White Goods
   7. Agricultural Chemical containers
   8. Other Special Wastes
5. Disaster Debris Planning
6. Recycling and Waste Reduction Programs
7. Local Solid Waste Management Facilities
8. Illegal Dumping Prevention and Cleanup Program
9. Closed Solid Waste Facilities

### BACKGROUND

Harrison County’s original Solid Waste Management Plan, Solid Waste Management Plan for Harrison County Wastewater and Solid Waste Management District June 1993, was approved by the Mississippi Commission on Environmental Quality (the “Commission”) on November 1, 1993 by Commission Administrative Order No. 2674-93 (the “1993 Plan”). Since its original approval in 1993 there have been nineteen (19) amendments to the Plan (see Appendix 1 – Plan Amendments for a complete list), which add additional solid waste management facilities or modify current facilities. Although many amendments have been submitted since its inception, a comprehensive update of the original plan has not been submitted or completed since 1993. This Plan represents the first comprehensive update of the Harrison County local Solid Waste Management Plan. Harrison County is one of the most heavily populated Counties in the State and is second in population only to Hinds County. Since development of the original 1993 Plan, the planning area and its solid waste management infrastructure have been significantly impacted by Hurricane Katrina and other factors (i.e. development of land based casinos and shifting demographic patterns). The Authority has since determined that a new comprehensive long-range plan and goals are needed to meet the solid waste needs of the planning area.

The Harrison County Solid Waste Management Plan encompasses all of the geographic area of Harrison County including the unincorporated areas of the county and all five municipalities located within the County. These five municipalities are the cities of Biloxi, D’Iberville, Gulfport, Long Beach and Pass Christian. Harrison County, along with all municipalities in the County, formed the Harrison County Utility Authority (the “Authority” or “HCUA”) to manage its solid waste and wastewater needs. The Authority is taking the lead role in the development of this plan. However, input and participation from the County and municipalities is critical to the development of an effective countywide plan.

The 1993 Plan was completed by the Harrison County Wastewater and Solid Waste Management District. The Harrison County Wastewater and Solid Waste Management District (the “District”) was established by House Bill No. 1149, Chapter No. 862 Local and Private Laws of Mississippi, 1986 regular session, which is also known at the Harrison County Wastewater and Solid Waste Management Act. In 2006 the Legislature passed the Gulf Coast Region Utility Act MISS. CODE ANN. Section 49-17-701 through 775 (1972), which created a successor organization for the District and required the consolidation of the District into the new entity of the Harrison County Utility Authority.

On September 20, 2017, HCUA and the City of Gulfport entered into a Memorandum of Agreement that allowed Gulfport to enter into its own solid waste collection and disposal contracts, separate from those solicited and negotiated by the HCUA.

There has been significant economic and population growth of the County from 1990 to 2000 since the completion of the first Plan in 1993. From 2000 to 2010, there was a slight decrease in population in large extent due to the impact of Hurricane Katrina in 2005. The purpose of this Solid Waste Management Plan (the “Plan”) is to develop and implement a long-term solid waste management and waste minimization strategy that protects the environment and at the same time is cost-effective for Harrison County and its municipalities.

For more information on the general information about the planning area and other introductory components of this Plan, please refer to the “*Introduction to the Planning Jurisdiction*” section of this Plan.

### EXISTING CONDITIONS

In 1990, the population of Harrison County was 165,365. By 2000, the population grew to 189,601. Due to Hurricane Katrina, the 2010 population was 187,105 which was a slight decrease of 1.3% over the ten year period. In 2010 the municipal solid waste (MSW) generated in the County totaled 174,157 tons and the total solid waste (MSW plus rubbish and other solid waste) generated in the County equaled 318,796 tons. The rate of solid waste generation in Harrison County is 9.336 pounds per capita (pounds per person per day). Future solid waste quantities of the County were determined based upon population projections. The assumption is that the municipal waste generation in pounds per person per day will be held constant and commercial and industrial waste will vary but not change significantly through the addition of new industry. As a conservative approach, the impact of further waste reduction through recycling and other methods was not factored into these resulting quantities. The waste reduction efforts can be quantified in the future by using these raw waste generation rates as a benchmark. Projections of solid waste generated in Harrison County are summarized in the Tables that follow:

Table A1

Projections for Solid Waste Generated In Harrison County

|  |  |  |  |
| --- | --- | --- | --- |
| **YEAR** | **POPULATION (EST)** | **Pounds/Person/Day** | **Tons/Year** |
| 2010 | 187,105 | 9.336 | 318,796 |
| 2015 | 188,335 | 9.336 | 320,892 |
| 2020 | 194,060 | 9.336 | 330,646 |
| 2025 | 198,716 | 9.336 | 338,579 |
| 2030 | 203,684 | 9.336 | 347,044 |
| 2035 | 208,776 | 9.336 | 355,720 |

The expected composition of the municipal solid wastes to be generated and managed over the next 20 years in the County is as follows:

Table A2 Summary

Waste Characterization of Projections for Total Solid Waste Generated In Harrison County

|  |  |
| --- | --- |
| **Waste Category** | **Harrison County Estimate** |
| Paper | 14.7 % |
| Glass | 2.5 % |
| Metals | 6.7 % |
| Plastics | 8.7 % |
| Rubber and Textiles | 4.3 % |
| Wood/Yard Waste | 21.8 % |
| Construction/Demolition | 29.0% |
| Industrial | 3.1% |
| Food Scraps | 7.4 % |
| Other | 1.8 % |

For a full and complete analysis of Harrison County’s solid waste projections and characterization, please refer to the “*Solid Waste Characterization and Quantification*” section of this Plan.

### RESIDENTIAL WASTE COLLECTION

HCUA entered into a six-year contract with Pelican Waste on July 7, 2017 for the collection of trash waste which consists of rubbish, yard waste and white goods once a week for all residences in the planning area, excluding Gulfport, for a monthly fee of $2.89 per residence. Under this contract, Pelican Waste remits an annual management fee of $0.50 per residence to the HCUA.

HCUA entered into a six-year contract with Team Waste on June 28, 2017 for the collection of solid waste once a week for all residences in the planning area utilizing 95 gallon carts supplied by Team Waste, excluding Gulfport, for a monthly fee of $9.75 per residence. Under this contract, Team Waste remits an annual management fee of $1.00 per residence to the HCUA. Team Waste’s contract also included once a week collection of recyclables for all residences in the planning area utilizing 35 gallon carts supplied by Team Waste, excluding Gulfport. Materials included in the curbside recycling program include newspapers, magazines, glass bottles and jars, metal (steel and aluminum) cans, and plastic drink containers. The cost of the recycling is included in the $9.75 per residence fee charged by Team Waste.

On July 27, 2017, Gulfport entered into a contract with Waste Pro of Mississippi, Inc. for the collection and disposal of all of the residential and light commercial solid waste, trash waste and to handle all recycling for the City of Gulfport. The contract provides for twice a week collection of solid waste for all residences in Gulfport utilizing 95 gallon carts, bi-weekly collection and processing of recyclables for all residences in Gulfport utilizing 18 gallon carts and collection of trash and rubbish on an as needed basis for all residences for a fee of $14.36 per residence per month. Materials included in the curbside recycling program include newspapers, magazines, glass bottles and jars, metal (steel and aluminum) cans, and plastic drink containers. The cost of recycling is included in the $14.36 per residence fee.

In assessing the current residential garbage management programs, the current programs utilized by the municipalities and the County are very comprehensive and adequate to meet the needs of the residents of the planning area. The Authority plans to continue its management of residential garbage collection and disposal by contracting out the services to private company contractors.

For more information on residential waste and rubbish collection and disposal, please refer to the *“Residential Garbage Management Programs”* and *“Rubbish Management Systems & Programs*” sections of this Plan.

### LANDFILL DISPOSAL

On August 25, 2015, HCUA entered into a 10-year contract with four, 5-year extensions with Waste Management of Mississippi (WMMI) for disposal of all of the residential waste collected in the HCUA service area for a fee of $15 per ton. At the time of contract execution, HCUA’s solid waste service area included all municipalities and all the unincorporated areas of Harrison County. With the execution of the MOU between HCUA and the City of Gulfport, Gulfport is no longer included in the HCUA disposal agreement with Waste Management. The City of Gulfport’s agreement with Waste Pro also requires its residential garbage wastes to be disposed of at Waste Management’s facilities. Therefore, all residential garbage wastes disposed of under these agreements shall be placed in WMMI’s Pecan Grove Landfill. In addition to residential waste, under the contract, WMMI shall also provide for a white goods collection and recycling area at the Pecan Grove Landfill. The contract requires WMMI to maintain disposal capacity for the Authority throughout the term of the agreement. The Authority receives a host fee of $1 per ton for all tonnage greater than 33,333 tons disposed of in any month. Additionally, the contract requires that WMMI pay the HCUA a fee of $1 per residence with the HCUA service area per year as a management fee. Gulfport is also required through the MOU between HCUA and the City of Gulfport to pay the HCUA a fee of $1 per residence within Gulfport’s service area per year as a management fee.

On August 20, 2015, HCUA entered into a 10-year contract with four, 5-year extensions with Team Waste for disposal of all rubbish collected in the HCUA service area for a fee of $9.44 per ton at Team Waste’s Coastal Recyclers Landfill and Firetower Landfill, both MDEQ Class I Rubbish Landfills. At the time of contract execution, HCUA’s solid waste service area included all municipalities and all the unincorporated areas of Harrison County. With the execution of the MOU between HCUA and the City of Gulfport, Gulfport is no longer included in the HCUA disposal agreement with Team Waste. The City of Gulfport’s agreement with Waste Pro, however, also requires its residential trash wastes to be disposed of at Team Waste’s facilities. Therefore, all residential trash wastes disposed of under these agreements shall be placed in Team Waste’s Coastal Recyclers Landfill and Firetower Landfill, both MDEQ Class I Rubbish Landfills. Team Waste remits a $0.25 per residence per year management feet to the HCUA.

Gulfport’s contract with Waste Pro included the disposal of all solid waste, trash and rubbish wastes collected at either the WMMI Pecan Grove Landfill, the Coastal Recycler’s Landfill, or the Firetower Landfill depending on whether the waste being disposed of was general household garbage (Pecan Grove) or trash and rubbish (Recycler’s or Firetower Landfills). The cost of disposal was included in the $14.36 per residence per month fee paid by Gulfport to Waste Pro.

There are seven (7) approved rubbish landfills currently located in the Harrison County Solid Waste Management Planning area with five (5) active sites. The active Class I Rubbish Sites are Coast Recycling and Firetower Landfill. The active Class II Rubbish Sites are Canal Road, Ray and D.W. Lamey.

For more information on residential waste and rubbish collection and disposal, please refer to the *“Residential Garbage Management Programs”* and *“Rubbish Management Systems & Programs*” sections of this Plan.

### OTHER SOLID WASTE PROGRAMS

Special waste is generally considered as any waste material, which, because of its physical or chemical characteristics, or biological nature, requires either special handling procedures, or poses an unusual threat to human health, equipment, property, or the environment. Special waste may include non-hazardous industrial waste, construction / demolition debris, bulk liquid waste, waste tires, household hazardous waste, white goods, agricultural chemical containers and other special wastes.

Other special wastes generated in the planning area includes medical waste, electronic waste, universal waste and seafood waste.

Most construction and demolition (C&D) debris is currently collected by private haulers and disposed of at the Pecan Grove MSW Landfill, the MacLand Landfill in Jackson County or one of the seven (7) rubbish landfills in Harrison County. Since C&D debris comprises a significant portion of the County’s overall waste stream, the planning area could benefit from solid waste management facilities that provide composting, mulching and other waste processing and waste minimization programs for C&D materials and debris.

The other special waste management programs in the County such as bulk liquid waste, waste tires, household hazardous waste, white goods and other special wastes are provided by a combination of public and private programs. The Harrison County Work Center on Lorraine Road in Gulfport accepts many types of special wastes. Under its contract with the HCUA, Pelican Waste provides once (1) per week collection of White Goods placed curbside by residents within the HCUA service area. Under its contract with Gulfport, Waste Pro collects and properly disposes of White Goods placed curbside within the city limits of Gulfport on an as needed basis. Items containing Freon must show a certification of removal to be eligible for disposal management. Harrison County also accepts white goods, waste tires and household hazardous waste at the Rocko- McFarland Household Hazardous Waste Collection and Recycling Center at the Lorraine Road location in Gulfport.

Household Hazardous Wastes (“HHW”) consist of items from the home that may contain hazardous characteristics such as residential pesticides and insecticides, paints and solvents, used oil and other automotive fluids, automotive batteries and other household batteries, or general cleaners and other household chemicals. The Rocko-McFarland Household Hazardous Waste Collection and Recycling Center located at 10076 Lorraine Road at the Harrison County Work Center is Harrison County’s permanent HHW collection center. Harrison County also hosts an annual household hazardous waste day. Harrison County uses MDEQ Assistance Grants to fund the permanent location and the annual HHW event.

For more information on management of special wastes, please refer to the *“Special Waste Management Programs*” section of this Plan.

### DISASTER DEBRIS AND ILLEGAL DUMPING PREVENTION

There are three (3) basic types of disasters that can cause disaster debris in Harrison County. These types are natural hazards, manmade hazards and technological hazards. In Harrison County most expected disasters are projected to generate a mix of debris, but are likely to be primarily vegetative debris and rubbish. Burning or chipping operations (for mulching, boiler fuel or volume reduction) will be utilized to reduce vegetative debris where practical. If possible, the County or the public will reuse chipped debris. If reuse is not practical, based on the chip quality or demand, the chipped debris will be disposed at a rubbish site within the County along with disaster-generated rubbish. When the disaster debris contains materials not eligible for rubbish site disposal, the County will dispose of this debris at an appropriate facility, generally a "Subtitle D" landfill. Some debris will require special handling, including asbestos, hazardous waste, and special waste.

The current Harrison County approach in regard to illegal dumping seems to be working very well since the County has cleaned up the eight open dumps detailed in the 1993 Plan in the County and there are no new open dumps to report. However, there continue to be complaints of illegal dump activity in the County. The most frequent complaint concerns or includes waste tires. The Rocko-McFarland Collection and Recycling Center along with the Annual Countywide Household Solid Waste Collection program has had a significant impact on illegal dumps in the County.

For more information on management of disaster debris and illegal dumping prevention, please refer to the *“Disaster Debris Planning”* and “*Illegal Dumping Prevention and Cleanup Programs*” sections of this Plan.

### RECYCLING AND WASTE REDUCTION

A primary goal in developing a comprehensive solid waste management plan is minimization of waste requiring disposal. The solid waste management alternatives discussed in the Plan are intended to reduce landfill disposal and help achieve the goal of 25% waste reduction.

According to State definition, waste minimization is "the reduction, to the extent feasible, of waste that is generated or subsequently treated, stored or disposed of. It includes any source reduction or recycling activity undertaken by a generator or facility operator that results in either:

1. the reduction of total volume or quantity of waste, or
2. the reduction of toxicity or other characteristics of hazardous waste, or both, so long as the reduction is consistent with the goal of minimizing present and future threats to human health and the environment."

Waste minimization may be applied to any component of the waste stream before that component is disposed of as a waste. Waste minimization efforts will result in a decrease in the rate of growth of the waste stream and in the overall quantity of waste requiring disposal, as well as processing.

There are three major methods of waste minimization:

1. Reduction
2. Reuse
3. Recycling

Source reduction includes activities that reduce the toxicity or quantity of discarded products before products are purchased, used and discarded. Recycling, on the other hand, is a form of waste management which occurs after the waste has been generated.

The curbside recycling program in Harrison County is included in the collection and disposal contracts enacted by both the HCUA and the City of Gulfport in 2017. Harrison County is one of a select few or may be the only county in Mississippi that provides curbside recycling for all city and County residences.

In the public sector, the County has a permanent facility at Rocko-McFarland Collection and Recycling Center that accepts recyclables such as White Goods and Waste Tires. This center is strategically located in the County, operated well and is adequate to meet the needs of the citizens.

In 2010, the total tons recycled by solid waste reduction programs in the County per year are estimated at 2,562 tons as compared to 318,796 tons of municipal solid waste generated by the same or 0.8 %.

|  |  |
| --- | --- |
| Waste Minimization Goal: | 25.0% |
| Waste Minimization Actual: | 0.8% |
| Difference | 24.2% |

Due to the overall low waste minimization rate, the planning area entities (i.e. County and Cities) may want to consider and evaluate other waste reduction strategies. Waste reduction strategies to evaluate should include:

* 1. Develop a Recycling and Waste Reduction Policy advocating waste minimization and recycling initiatives (such as preferences for buying recycled products, formal recycling audits and programs established for all city/county departments, etc.).
  2. Establish a County Recycling and Waste Reduction Coordinator to promote public education programs and waste reduction efforts in the County and Cities. Primary responsibility would be to develop and execute an organized and concerted recycling and waste reduction effort with documented goals and objectives.
  3. Develop a Recycling Program for commercial businesses and industries. The commonly recycled categories of paper, glass, plastic, aluminum, and steel are estimated to make up over 50% of the residential waste stream.
  4. Develop or encourage a private company to develop a Yard Waste composting or mulching sites (yard waste accounts for approximately 14% of the residential waste stream).
  5. Develop or encourage a private company to develop a C&D debris composting and processing sites (C&D debris disposed of at Rubbish sites accounts for about 44% of the waste stream in the County).
  6. Establish an HCUA Facebook page to communicate waste minimization/recycling programs and information. This tool can also be used to communicate progress and performance.
  7. Establish a media strategy/program to promote recycling, waste reduction, and litter prevention through the use of billboards, press releases, interviews, and TV/radio commercials.

For more information on recycling and waste reduction programs in the planning area, please refer to the *“Recycling and Waste Reduction Programs”* section of this Plan.

### CLOSING

The Plan comprehensive update is based on current demographic and economic growth patterns. Commercial and industrial growth could significantly increase the County’s population, thus increasing waste disposal and waste minimization demands. The planning area entities (i.e. County and Cities) along with the Authority will use this new information to develop a solid waste strategic plan that allows for continued additions and improvements to environmental programs offered by the County (education, waste minimization, pollution prevention and recycling) and a strategic plan that develops a sustainable system of technologies and procedures for solid waste management.

Use of these technologies and procedures offers business, industry, academic institutions and governmental entities savings in materials, waste management and liability costs. Pollution prevention is the ultimate goal in waste management. The use of pollution prevention policies and technologies as an integral part of the waste management system, thereby reducing the need for the creation of additional management capacity, is strongly endorsed by the Harrison County Utility Authority and the Harrison County Board of Supervisors.

# Section B

**INTRODUCTION TO THE**

**PLANNING JURISDICTION**

1. **Organizational and Planning Structure** 
   1. Background

In 1991 the Mississippi Legislature passed the Nonhazardous Solid Waste Planning Act. This act is detailed in §17-17-201 through §17-17-235 of the Mississippi Code. This act requires that local governments prepare, adopt, and submit a local nonhazardous solid waste management plan to the Mississippi Commission on Environmental Quality. The law also requires local governments to comprehensively update the local nonhazardous solid waste management plan. In addition, Mississippi Code §17-17-5 requires that the Board of Supervisors of each county and that each municipality in the state provide for the collection and disposal of garbage and the disposal of rubbish. Code §17-17-227 specifically places the planning responsibility and authority on the Boards of Supervisors of Mississippi’s counties. Code §17-17-227 also specifically outlines the methods and procedures that must be followed by counties for plan ratification by the local government and for plan approval by the Mississippi Commission on Environmental Quality. The responsibility for development and maintenance for the Harrison Solid Waste Management Plan has been delegated to the Harrison County Utility Authority.

Harrison County’s original Solid Waste Management Plan, *Solid Waste Management Plan for Harrison County Wastewater and Solid Waste Management District June 1993*, was approved by the Mississippi Commission on Environmental Quality (the “Commission”) on November 1, 1993 by Commission Administrative Order No. 2674-93 (the “1993 Plan”). Since its original approval in 1993 there have been nineteen (19) amendments to the Plan (see Appendix 1 – Plan Amendments for a complete list), which add additional solid waste management facilities or modify current facilities. Please refer to the Comprehensive Inventory section of this plan for a complete list of approved solid

waste management facilities. Although many amendments have been submitted since its inception, a comprehensive update or rewrite of the original plan has not been submitted or completed since 1993. This plan represents the first comprehensive rewrite of the Harrison County local Solid Waste Management Plan. Harrison County is one of the most heavily populated Counties in the State and is second in population only to Hinds County. Since development of the original 1993 Plan, the planning area and its solid waste management infrastructure have been significantly impacted by Hurricane Katrina and other factors (i.e. development of land based casinos and shifting demographic patterns). The Authority has since determined that a new comprehensive long-range plan and goals are needed to meet the solid waste needs of the planning area.

The scope of this Solid Waste Management Plan (the “Plan”) is to provide a detailed assessment of nonhazardous solid waste generation, collection and disposal facilities and activities within Harrison County; project future volumes of solid waste generation over the 20 year planning period based on population and industrial growth; provide guidance for achieving the 25 percent waste reduction goal set forth in the Nonhazardous Solid Waste Planning Act of 1991; establish solid waste management needs for the 20 year planning period based on current and projected assessments; and provide an implementation plan and schedule which establishes a timetable for fulfilling these needs.

Specific objectives of the Solid Waste Management Plan are addressed by the major sections of the plan. A brief description of the contents of each section are provided as follows:

* + - Description of the Planning Area
    - Evaluation of Current Solid Waste Management System
    - Strategy for Achieving Waste Minimization Goals
    - Evaluation of Future Solid Waste Management Systems Requirements
    - Waste Tire Management System
    - Proposed Solid Waste Management System
    - Comprehensive Inventory of Solid Waste Management Facilities

The Harrison County Solid Waste Management Plan encompasses all of Harrison County including the unincorporated areas of the county and all five municipalities located within the county. These five municipalities are the cities of Biloxi, D’Iberville, Gulfport, Long Beach and Pass Christian. Please refer to the maps that follow to view the jurisdictional areas of Harrison County and participating municipalities. Harrison County, along with all municipalities, in the County formed the Harrison County Utility Authority (the “Authority” or “HCUA”) to manage its solid waste and wastewater needs. The Authority is taking the lead role in the development of this plan. However, input and participation from the County and municipalities is critical to the development of an effective countywide plan.

* 1. Administrative Structure of Planning Unit

The 1993 Plan was completed by the Harrison County Wastewater and Solid Waste Management District. The Harrison County Wastewater and Solid Waste Management District (the “District”) was established by House Bill No. 1149, Chapter No. 862 Local and Private Laws of Mississippi, 1986 regular session, which is also known at the Harrison County Wastewater and Solid Waste Management Act. In 1982 the Harrison County Wastewater Management District had been formed through similar legislation. The 1986 Act contained provisions for consolidation of the two management districts by concurrent resolutions to that effect. This consolidation was accomplished in early 1992. In 2006 the Legislature passed the Gulf Coast Region Utility Act MISS. CODE ANN. Section 49-17-701 through 775 (1972), which created a successor organization for the District and required the consolidation of the District into the new entity (i.e. Harrison County Utility Authority).

In August 2005 Hurricane Katrina struck the Mississippi Gulf Coast and caused widespread damage to the County and its infrastructure. During the recovery period after Hurricane Katrina, Governor Haley Barbour created a commission to study and offer recommendations for the recovery of the Mississippi Gulf Coast. One of those recommendations was to create an organization to manage sewer, water, storm water, and other utility services of the six Gulf Coast counties (Hancock, Harrison, Jackson, Pearl River, Stone, and George).

The Mississippi Legislature agreed with the Governor and published its legislative findings in § 49-17-703 (please refer to Appendix 2 – Miss. Code to read this code section and others referenced in the section of the plan in their entirety), which states in part:

“In the spirit of the report of the Governor's Commission on Recovery, Rebuilding and Renewal, the Legislature finds that there is a need for consolidation of water, wastewater and storm water services in order to reduce costs, promote resilience in the event of a disaster, improve the quality of the natural environment, and improve the planning and delivery of quality water, wastewater and storm water services within the areas of the Counties of George, Hancock, Harrison, Jackson, Pearl River and Stone. It is further declared that there is the need for the planning, acquisition, construction, maintenance, operation and coordination of water, wastewater and storm water services in order to ensure protection of the waters of the state and to ensure the delivery of water, wastewater and storm water services to citizens of the Gulf Coast Region. The creation of the Mississippi Gulf Coast Region Utility Act is determined to be necessary and essential to the accomplishment of these purposes.”

The Gulf Coast Region Utility Act MISS. CODE ANN. Section 49-17-701 through 775 (1972), passed during the 2006 Regular Session of the Legislature, created six countywide utility authorities, including the Harrison County Utility Authority (the “HCUA”). The act gave to each utility authority the legal authority to oversee water, wastewater and, for Harrison County, solid waste services. Unique to the HCUA, the language creating the HCUA includes the term “solid waste,” since the HCUA is a continuance of the corporate existence of the Harrison County Wastewater and Solid Waste Management District.

MISS. CODE ANN. Section 49-17-727 (1972) specifically authorizes the creation of the Harrison County Utility Authority, which states, in part:

“There is hereby created and established a public body corporate and politic constituting a political subdivision of the State of Mississippi to be known as the "Harrison County Utility Authority." The authority is composed of the geographic area of Harrison County as defined in Section 19-1-47, Mississippi Code of 1972, for the planning, acquisition, construction, maintenance, operation and coordination of water, wastewater, storm water and solid waste systems in order to ensure the delivery of water, wastewater, storm water and solid waste services

to citizens residing within the boundaries of Harrison County.”

This Section also required that “Within thirty (30) days of passage of this act, the Harrison County Utility Authority and the Harrison County Wastewater and Solid Waste Management District shall consolidate into a single agency, to be known as the Harrison County Utility Authority, which shall be a continuance of the corporate existence of the Harrison County Wastewater and Solid Waste Management District.”

The HCUA board of directors by statute (i.e. MISS. CODE ANN. Section 49-17-729 (1972) is composed of the mayors of the Cities of Biloxi, Gulfport, D’Iberville, Long Beach, Pass Christian, and two directors appointed by the Harrison County Board of Supervisors with a specific requirement that one (1) of the Supervisors appointed to the board of directors must be a resident of the unincorporated area of the county. This act states, in part:

§ 49-17-729. Board of Directors for Harrison County Utility Authority

“(1) All powers of the Harrison County Utility Authority shall be exercised by a consolidated board consisting of the Board of Directors of the Harrison County Wastewater and Solid Waste Management District and the additional director provided under this section for a total of seven (7) directors. Upon consolidation, the Board of Supervisors of Harrison County shall appoint one (1) additional director who shall be a resident of the unincorporated area from the county. The director shall serve at the will and pleasure of the board of supervisors. The consolidated board shall consist of the mayor of each city participating in the authority and the directors appointed by the board of supervisors. Each director may appoint a delegate to represent him at a meeting of the board.”

Consequently, the Authority now has all the rights, responsibilities, and assets of its predecessor organization, Harrison County Wastewater and Solid Waste Management District (the “District”).

All service agreements and lease agreements between the District, Biloxi, Gulfport, Long Beach, Pass Christian, D'Iberville, and Harrison County pertaining to wastewater interceptors, treatment plants, and solid waste collection, disposal and all District responsibilities pertaining to these agreements have been assumed by the Authority. However, on September 20, 2017, the Authority and the City of Gulfport executed a Memorandum of Agreement in which Gulfport would be allowed to solicit and negotiate its own contracts for solid waste collection and disposal, separate from those of the Authority.

The Authority’s goal is to provide the citizens of Harrison County with the most environmentally safe and economically feasible water, wastewater, storm water and solid waste operations available. The Authority oversees the residential and small business garbage collection and recycling contract throughout the county.

The Harrison County Utility Authority funds its operations and debt service by assessing each member city and the county an amount in relation to the usage of water, solid waste and sewer by citizens within its boundaries.

The current members of the Board of Directors of the Authority are:

Chipper McDermott, President Mayor, City of Pass Christian George Bass, Vice President Mayor, City of Long Beach Rusty Quave, Secretary Mayor, City of D’Iberville

Andrew Gilich, Director Mayor, City of Biloxi

Marlin Ladner, Director Supervisor, Harrison County

Angel Kibler-Middleton, Director Supervisor, Harrison County Billy Hewes, Director Mayor, City of Gulfport

The Authority Board of Directors meets twice a month, on the first and third Thursday of each month. The meetings begin at 9:00 A.M. and are held at the authority offices located at 10271 Express Drive, Gulfport, MS 39503. Please refer to Figure 1 for an organizational chart.

* 1. Description of the Original Planning Process

The initial stage of the planning process is to complete a first draft of the solid waste management plan. The first draft of this plan was used to initiate the review process by the public and local government. The input from the review process was incorporated into the plan ultimately resulting in a planning document, which meets the approval of all parties concerned. In summary, the following elements were employed in the review of the draft, and in turn resulted in the development of this Solid Waste Management Plan:

* + - In the course of gathering information for the Solid Waste Management Plan, representatives for each municipality and the County were surveyed about their solid waste management practices and concerns.
    - Major commercial businesses, industries, solid waste companies and other regulatory permit holders were sent surveys to gather information and input

during the review of the Plan.

* + - Adjacent counties and officials of state regulatory agencies with whom coordination must take place to allow successful implementation of the plan were notified of the availability of the draft and the draft review process.
    - A thirty-day public comment period on the draft of the Solid Waste Management Plan was provided. During this period the plan was available for

public and local government review and comment. A public hearing was held during the latter part of the public comment period to receive any additional comments concerning the plan.

* + - All issues raised during the public comment period, including the public

hearing, have been included in the plan.

* + - The final plan was reviewed and adopted by the Authority, Authority Board of Directors, Harrison County Board of Supervisors and the Authority member cities (i.e. Biloxi, D’Iberville, Gulfport, Long Beach and Pass Christian).

Harrison County Utility Authority Solid Waste Management Organizational Chart

City of Long Beach

1 Member

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| City of Biloxi  1 Member |  | City of D’Iberville  1 Member |  | City of Gulfport  1 Member |
|  |  |

|  |  |  |
| --- | --- | --- |
| Harrison County |  | City of |
| Board of Supervisors | Pass |
| 2 Members | Christian  1 Member |
|  |
|  |  |

|  |  |
| --- | --- |
| Harrison County Beautification Commission | |
|  | Harrison County Road Department |
|  |

|  |  |
| --- | --- |
| Executive Director | |
|  |  |
| Solid Waste Coordinator | |

Figure 1

The approved plan was submitted to the Mississippi Department of Environmental Quality (MDEQ) for review and approval.

For more detailed information regarding the procedural process of the approval of this Plan, please refer to the *Procedural Information* section of this Plan.

### Planning Area Description

* 1. Physical Description of the Planning Area

Harrison County, Mississippi, is located on the southern coast of the state. Harrison County is named for U.S President William Henry Harrison. The County is bordered on the south by the Gulf of Mexico, Jackson County to the east, Stone County to the north and Hancock County to the west.

Harrison County is located on the Gulf of Mexico coast of the State of Mississippi (Map 1).

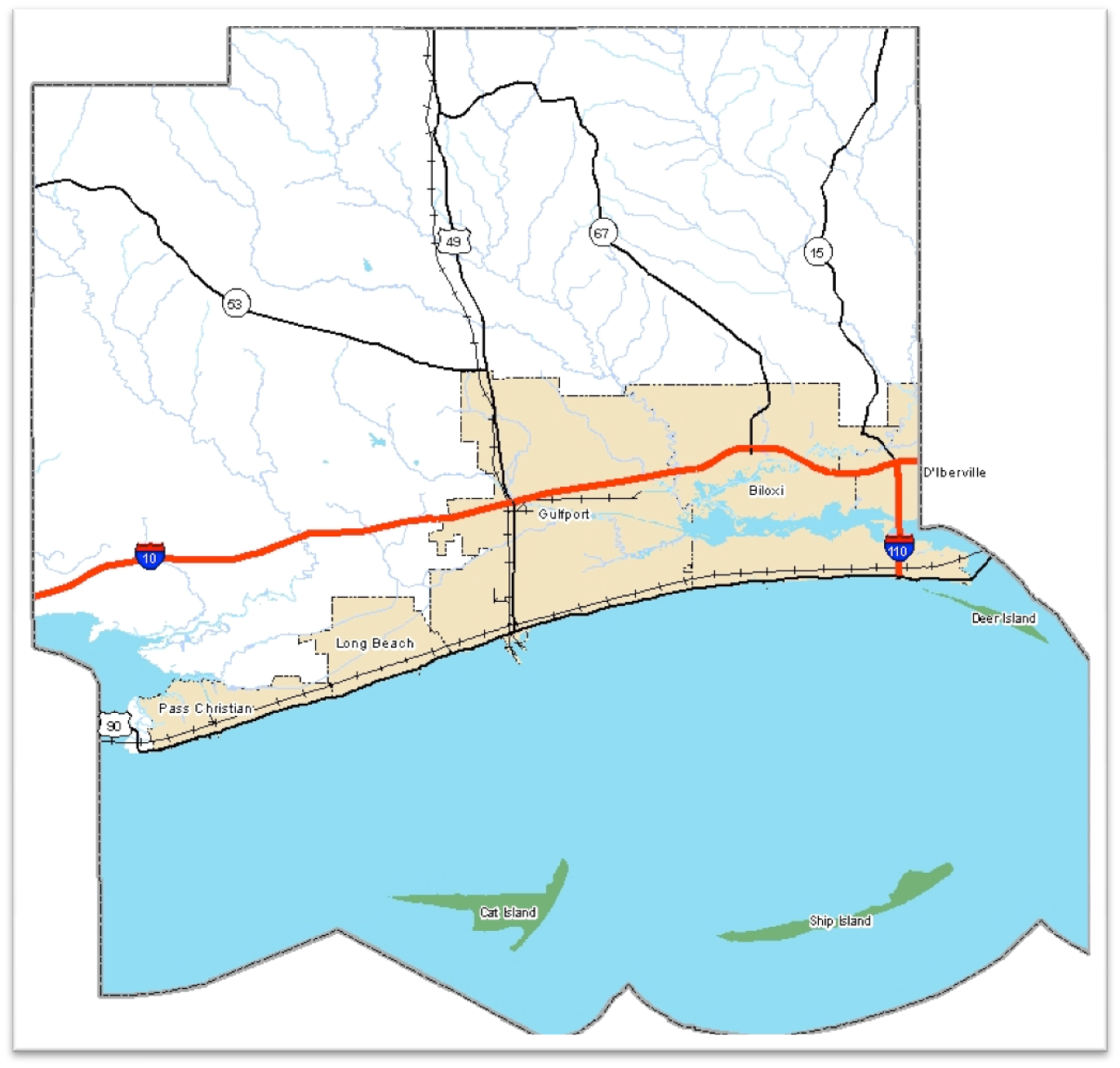
Map 1 Location



According to the U.S. Census, Harrison County has a total area of 976 square miles of which 581 square miles are land and 395 square miles are water. The total area of the County includes Deer, Ship and Cat Islands. A map indicating the total jurisdictional areas of the County addressed by this plan is presented in Map 2.

Map 2

County Jurisdictional Area



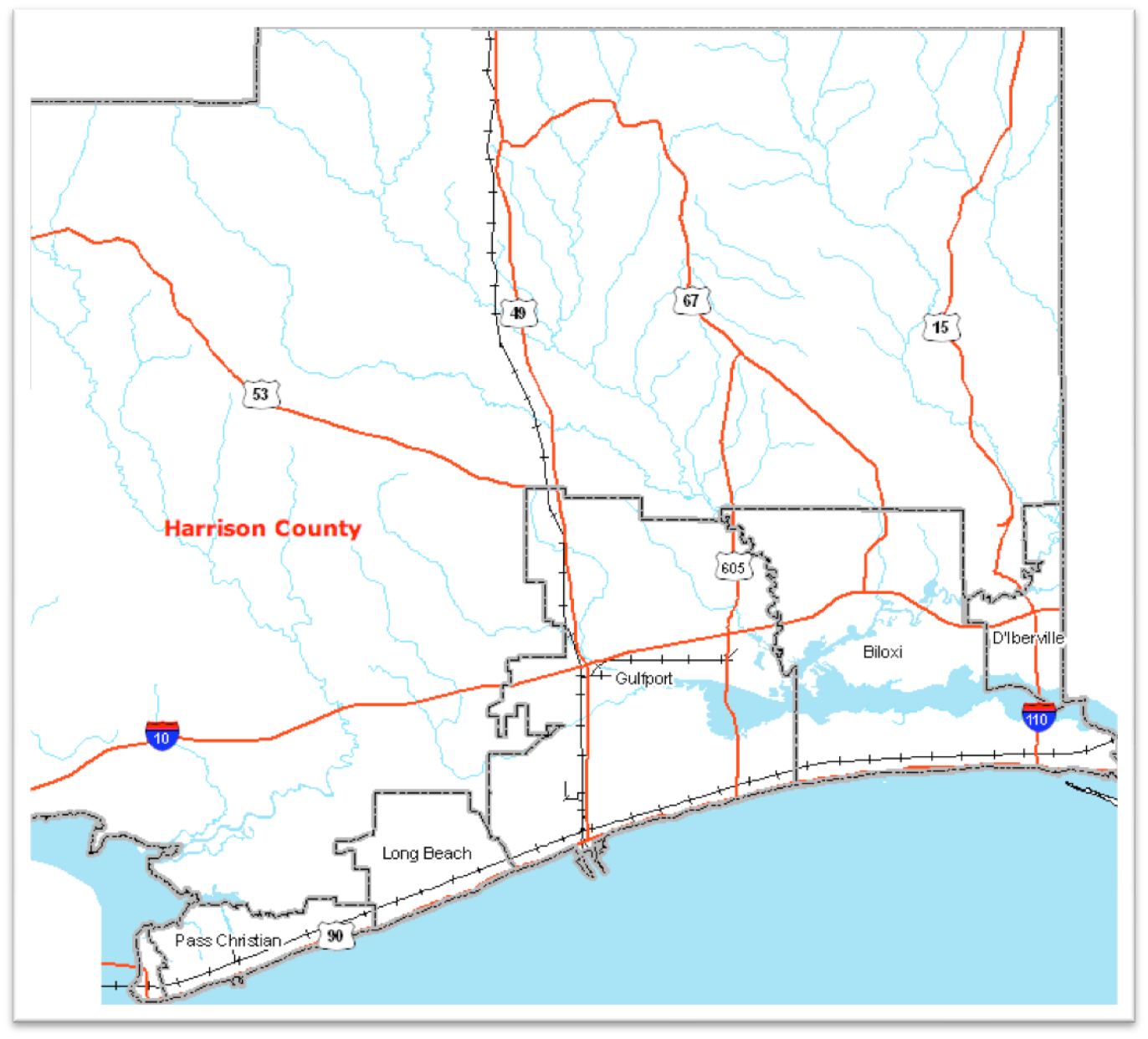
The County has two county seats, Gulfport and Biloxi. Gulfport, situated in the south- central part of the county, is the seat of most county services while Biloxi serves its area in the southeastern part of the County. Other major municipalities in the County and included in the Plan include Long Beach, D’Iberville, and Pass Christian. Unincorporated communities in the County include DeLisle, Henderson Point, Cuevas, Lizana, Lyman, Woolmarket, Handsboro, Howison, Saucier, and Success. A map indicating the total jurisdictional areas of the cities addressed by this plan is presented in Map 3.

The southern land border of all the cities in the County lie directly on the Mississippi Sound with the three barrier islands (i.e. Cat, Ship and Deer Islands) off the coast and

into the Gulf of Mexico. The Cities all share the same main southern highway, which runs along the beach, U.S. Highway 90 (Beach Boulevard), along the southernmost border of each city. Highway 90 connects to the east to the Biloxi Bay Bridge, connecting Biloxi and Ocean Springs in Jackson County. It connects Biloxi to Gulfport and then Long Beach and Pass Christian, respectively. Highway 90 was rebuilt after Hurricane Katrina, and was fully reopened in April 2008.

Map 3

City Jurisdictional Areas



* 1. History

When Mississippi became a state in 1817, the Harrison County geographic area was a part of Jackson County. In 1841, Harrison County was included in an area that was taken from Jackson County to form Harrison County, which at that time also included the area that is now known as Stone County. The jurisdictional area of Harrison County came into

its current form in 1916 when the Mississippi Legislature passed an act allowing Stone County to be formed from lands from the northern portion of Harrison County.

During the 1800’s many of the current cities made their initial incorporations sometimes as townships to become cities later. Biloxi and Pass Christian were the first to incorporate in 1838. Gulfport incorporated in 1898 and was followed by Long Beach in 1905. D’Iberville incorporated much later in 1988.

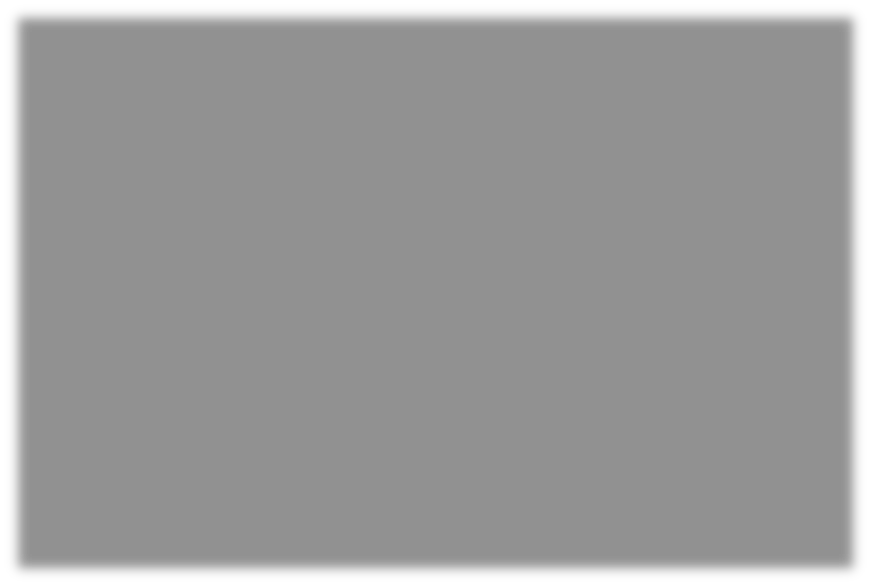
***Biloxi Lighthouse est 1848***

Over the next several decades many improvements were made to Harrison County’s transportation infrastructure plus the incorporated communities began to provide sewer and wastewater services. Following the hurricanes of 1909 and 1915, which damaged much of the coastal highway, a 28- mile seawall was constructed to prevent future damage and erosion. When it was completed in 1927, the seawall in Harrison County

was the longest single concrete structure of its time.

During the 1947 hurricane some of the portions of the seawall were breached. In the 1950’s, the Harrison County Shore Protection Project reconstructed the seawall and created the world’s largest man-made beach, stretching nearly the entire length of the coast. The project raised nearly 13 miles of the Coast to the mean sea level or above, providing communities with an additional buffer from the Gulf of Mexico. With the beach and seawall protection in place, the Mississippi Gulf Coast became a destination for tourists.

In January 1990 the passage of the Mississippi Gaming Control Act permitted certain Mississippi counties to develop casinos in waterfront areas, as long as the casinos were “floating” rather than “on land”. After the passage of this Act the employment base in Harrison County changed. Since 1992, gaming has become a major industry in Harrison County.



***Hard Rock Casino***

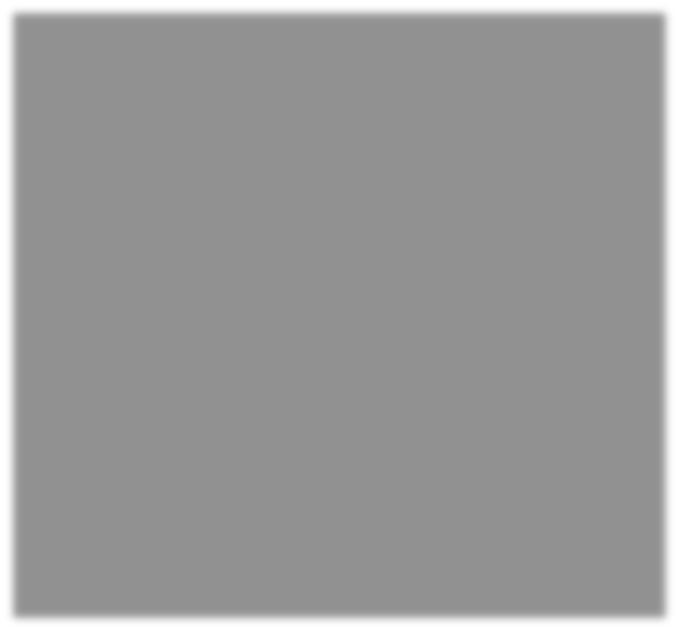
* 1. Climate

Harrison County is located in the Coastal Division of Mississippi. This division is a farm grouping of six counties that share a uniform climate. The County has a subtropical climate that is heavily influenced by the Gulf of Mexico. Winter days are mild and wet. Snow is extremely rare in Biloxi. Summers are hot and humid, bearing the brunt of tropical storms during the late summer to fall. On the coast, January norms are around 52 degrees F and July norms are 82 degrees F. Generally, maximum summer temperatures

are higher and minimum winter temperatures are lower as the distance from the Gulf increases.

Rainfall is usually in the form of showers as prolonged rains are not frequent and generally occur in winter. Summer is generally the wettest season. Annual rainfall totals increases slightly with distance north of the coast. Winds are typically southeasterly or southwesterly and under 10 miles an hour except during storms.

Over the last 100 years many hurricanes have impacted Harrison County. Some of the more notable hurricanes impacting Harrison County in recent history are Camille (1969), Frederic (1979), Elena (1985), Georges (1998), Ivan (2004) and Katrina (2005).



2.3.1. Hurricane Katrina

Hurricane Katrina began as a tropical depression over the Bahamas on August 23, 2005. The depression continued to gain intensity, becoming tropical storm Katrina on August 24th and officially obtaining hurricane status on August 25th. On August 28, Hurricane Katrina intensified from a Category 3 to a Category 5 hurricane with winds reaching over 170 miles per hour and the area of the hurricane’s path increasing to a 200- mile radius. 1

In August 2005 Hurricane Katrina struck

the Mississippi Gulf Coast. It was the costliest natural disaster, as well as one of the five deadliest hurricanes in U.S. history.1 It was the sixth strongest overall Atlantic hurricane ever recorded. At least 1,836 people died in the actual hurricane and in the subsequent floods and total property damage was estimated at $81 billion (2005 USD).1

Katrina had made its final landfall near the Mississippi-Louisiana state line, and the eye passed over the cities of Bay St. Louis and Waveland as a Category 3 hurricane with sustained winds of 120 mph (195 km/h).1 Hurricane Katrina passed over the west and central Mississippi Gulf coast, causing a 27-foot storm surge, which penetrated up to 6 miles inland in many areas and up to 12 miles inland along bays and rivers; in some areas, the surge crossed Interstate 10 for several miles.1 Katrina also brought heavy rains and caused eleven tornadoes in south Mississippi.1

The Gulf Coast of Mississippi suffered massive damage from the impact of Hurricane Katrina which left 238 people dead, 67 missing, and billions of dollars in damage: bridges, barges, boats, piers, houses and cars were washed inland.2 In Harrison County, HUD estimated that as a result of Hurricane Katrina, 24,187 houses sustained minor damage and 24,430 house sustained major damage or were totally destroyed. When

compared to the 2000 U.S. Census, which estimated that Harrison County had 79,636 housing units, this equates to approximately 30% of the houses sustained minor damage and 30% sustained major damage or were totally destroyed. 2

1. Richard D; Rhome, Jamie R.; Brown, Daniel P (December 20, 2005; updated August 10, 2006). “Tropical Cyclone Report: Hurricane Katrina: 23-30 August 2005” (PDF). National Hurricane Center. Retrieved 2006-05-30.
2. Haley Babour (January 6, 2006). “Information Relating to the Federal Appropriations for Katrina Recovery”. Office of the Governor, Mississippi. Retrieved 2006-09-27; and (August 29, 2010) “Katrina Progress Report on Recovery, Rebuilding and Renewal” Office of the Governor, Mississippi.
   1. Geology

General data from the Soil Conservation Service show four major geologic groups are exposed in Harrison County; the Graham Ferry, Citronelle, and Pamlico Formations and Low terrace deposits. The oldest of these formations, the Graham Ferry, is exposed in the northwestern two-thirds of the county at intermediate and lower elevations. Exposed in this area are a few feet of undifferentiated clays, clayey sands, and silty sands.

Exposed on the highest uplands in the county is the Citronelle Formation showing well- drained, reddish soils. Large areas of this formation exist throughout the county. The Pamlico Formation underlies Biloxi, Gulfport, Long Beach, Pass Christian and the Gulf Coast Flatwoods. While much of the outer edge of the formation is capped by dunes and recent beach deposits, the relief is low farther inland causing drainage problems on the flat topography. The Pamlico Formation is also exposed on Deer, Ship, and Cat Islands.

Low terrace deposits, predominately tan, gray, and yellow sands, are exposed in a broken belt several miles wide extending across the county from east to west. Most of the formation exposure is above the 50-foot contour with the soil being mostly loamy and well drained.

* 1. Groundwater

The need for fresh water from groundwater supplies has continually increased as population and industrial growth expands in Harrison County. Potable and industrial water supplies are plentiful and nearly all the needs of the county are being met by deep groundwater wells. Artesian wells receive water from aquifers along the Gulf Coast produced by the Graham Ferry Formation. Groundwater aquifers currently in use include the Citronelle Formation and the Miocene aquifer system, consisting of the Graham Ferry and Pascagoula and Hattiesburg formations. These principal aquifers supplying Harrison County are 600 foot, 800 foot, and 1200 foot sands. There is also a 400-foot sand present on the east and a west side of the county but it is not thought to be continuous. Some wells in other areas may receive water from low-lying river bottoms.

Detailed information concerning drinking water resources can be found in the *Water / Municipal Wastewater* section of this report.

* 1. Wastewater

The Harrison County Utility Authority operates ten (10) wastewater treatment facilities: D’Iberville, West Biloxi, Keegan Bayou, Gulfport South, Gulfport North, Long Beach/Pass Christian, Delisle, Traditions, Riverhills, and South Woolmarket. In areas where sewer service is not available, residents and businesses must install and operate individual on-site wastewater treatment and disposal systems, usually consisting of septic tanks and absorption fields located on the property and regulated by the Mississippi Department of Health (MDH). The Authority, in an effort to eliminate septic systems and smaller package treatment plants, has constructed several interceptor lines to provide connections to plants from outlying areas.

Detailed information concerning wastewater resources can be found in the *Water / Municipal Wastewater* section of this report or on the Authority website at www.hcua- ms.us/wastewater.html.

* 1. Topography

Harrison County contains two distinct physiographic divisions that are easily recognized. A distinctive low, essentially level strip of coastal low lands, the Eastern Gulf Coast Flatwoods, extends along the entire southern boundary of the county averaging 5 miles in width. The other division, Southern Coastal Plain, consists of the mostly undulating land of the interior. The general slope of the county is toward the south.

The drainage of the Gulf Coast Flatwoods is generally restricted and drainage ditches have been dug in several places. The larger streams of the county flow through fairly level flood plains, ranging in width from about one-fourth miles to nearly a mile. A number of the stream terraces of the higher inland division are only slightly higher than the stream bottoms and are subject to flooding at times of exceptionally high water.

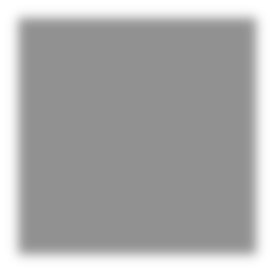
Detailed information concerning regarding the topography can be found in the Appendix 3 – Topography.

Three principal river systems drain Harrison County. The Wolf River drains the western part of the County and flows into St. Louis Bay. The Little and Big Biloxi Rivers drain the north-central portion of the County and form the Biloxi River before emptying into the Back Bay of Biloxi. The Tchoutacabouffa River, the largest tributary in Harrison County, drains the eastern portion of the County and also empties into the Back Bay of Biloxi. These river systems have sufficient gradients to remove quickly any excess precipitation except along their lower courses where the rivers reach tide level. Any solid waste management or disposal facility should be located in an area with adequate drainage. Facilities must be constructed to prevent washout of waste and must not reduce the temporary storage of a floodplain.

* 1. Transportation

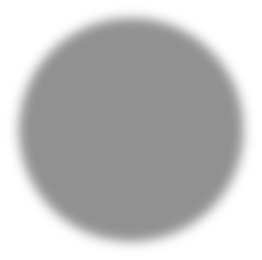
Major highways serving the area are Interstate 10, U.S. Highway 49, U.S. Highway 90, and State Highways 15, 53, and 67. Motor freight carriers are plentiful in the area.

Interstate Highway 10 is a four-lane divided highway with limited access that crosses Harrison County for about 30 miles approximately five miles north of the coast and U.S. Highway 90. I-10 is readily accessible from the other cities and it plays a major roll in transportation to points within and outside of the County. I-10 also provides the area with an important



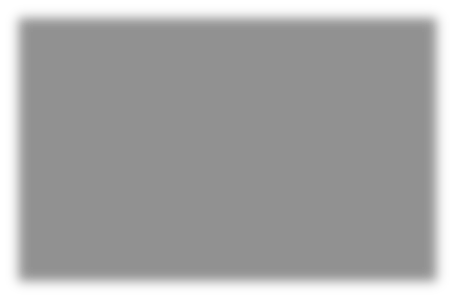
hurricane evacuation route. U.S. Highway 49 is a four-lane divided highway that travels north and south. State Highway 67 runs from U.S. Highway 49 to State Highway 15 through the eastern part of the county. It is also a four-lane divided highway and it crosses through the De Soto National Forest.

CSX Transportation (the “CSX”) and Kansas City Southern (the “KCS”) provide rail service to the county. CSX travels through the three Mississippi coastal counties from Mobile in the east towards New Orleans in the west. CSX is one of three Class I railways serving the eastern portion of the United States. The KCS runs from the Mississippi State Port at Gulfport



north through Harrison and Stone counties. The KCS is a Class I railway that provides services in 12 central and southeastern states. Port Bienville Rail is a switching and terminal railroad that offers services from CSX to the Port Bienville Industrial Park.

The Gulfport-Biloxi International Airport is the only certified commercial airport in the Region. The facility is used by daily commercial jet flights and by the National Guard as a training center. The airport facilities includes a 9,000-foot long all-weather jet runway. This runway routinely accommodates B747 and L1011 aircraft operating on intercontinental flights used by both the military and commercial charters.



A U.S. Port of Entry capable of handling barges and ocean vessels is located at Gulfport. The Mississippi State Port at Gulfport is a deepwater port and is operated by the State of Mississippi. It is located five miles south of Interstate Highway 10 and is a bulk and container seaport. Biloxi is the location of a barge port. The Port of Biloxi serves recreational users and commercial businesses.

Intermodal connections in Harrison County focus on the transfers made between the Port of Gulfport, the Gulfport-Biloxi International Airport, and Interstate Highway 10. Intermodal connections at the port offer transport to and from container, barge, rail, and truck. Intermodal connections at the airport offer transport to and from air, rail, and truck. The port is 4 miles south of the airport and 5 miles south of Interstate 10.

Harrison County is host to four (4) areas that are located within Foreign Trade Zone No.

92. These areas are the Port of Gulfport, Gulfport-Biloxi International Airport, Bernard

Bayou Industrial District and the Long Beach Industrial District. This zone offers tax advantages for imports and exports at these locations.

* 1. Demography
     1. Population Factors

The 2010 U.S. Census determined the population for Harrison County was 187,105. Gulfport’s 2010 U.S. Census population was 64,316 and Biloxi’s was 44,342. U.S. Census 2010 information is not available for the other cities in Harrison County but the

U.S. Census 2009 estimates for those areas are as follows: Long Beach (population 12,245), D’Iberville (population 8,954), and Pass Christian (population 4,073). (Please refer to Appendix 4 – Census for reports referenced in this subsection). Prior to Hurricane Katrina, the U.S. Census Bureau estimated low to moderate growth in Harrison County’s population. It estimated that Harrison County’s population grew a modest two percent from April 2000 through July 2005.

After Hurricane Katrina, there was uncertainty regarding the storm’s effect on Harrison County’s population. Planners could not predict whether a population migration to inland counties would continue in the years after Hurricane Katrina or whether a significant number of persons would return to the coastal counties. In March 2007, the Census Bureau estimated Harrison County’s population loss as of July 1, 2006, as nine percent from the 2000 census population. By 2010 the population of Harrison County, as a whole, had almost returned to the pre-Katrina 2000 levels. The 2010 U.S. Census (online at <http://www.census.gov/.)> reported a total County population of 187,105 versus the 2000 population of 189,601 or a -1.3% growth. This placed Harrison County as the second most populous county in the State (i.e. behind Hinds County with a population of 250,800 and ahead of DeSoto County with a population of 161,252). The 2010 population by City and County from 1990 to 2010 is detailed in Table 1.

Table 1 Population Growth

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **City/County** | **Population** | | | **Growth 2000 to 2010** |
| **1990** | **2000** | **2010** |
| Biloxi | 46,319 | 50,644 | 44,342 | -12.4% |
| D'Iberville **1** | 6,566 | 7,608 | 8,954 | 17.7% |
| Gulfport **2** | 40,775 | 71,127 | 64,316 | -9.6% |
| Long Beach **1** | 15,804 | 17,320 | 12,245 | -29.3% |
| Pass Christian **1** | 5,557 | 6,579 | 4,073 | -38.1% |
| Unincorporated Area | 50,344 | 36,323 | 53,175 | 46.4% |
| Harrison County Total | 165,365 | 189,601 | 187,105 | -1.3% |

1. 2010 U.S. Census figures are not available for these cities therefore 2009 Census estimated data was used for comparison.
2. The City of Gulfport annexed the Orange Grove area of the unincorporated area of the County in 1994.

Since 2000 and after Katrina, Table 1 illustrates that the cities along the Mississippi Gulf Coast have experienced negative growth while D’Iberville and the unincorporated area of the County have experienced very positive growth. It should be noted that during this period, 2004, the City of D’Iberville annexed a 2.5 square mile area, which contributed to its population growth.

This Plan uses the population projections from the Mississippi Institutions of Higher Learning Center for Policy Research and Planning (the “IHL”). The IHL projected that Harrison County’s population in 2015 would be lower than the 2000 census population by almost 1%. The center also projected that the county’s population in 2025 would be approximately 5% above the 2000 census population. These and other figures are outlined in Table 2.

Table 2 Population Growth Forecasts

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Description** | **Year** | | | | | |
| **2010** | **2015** | **2020** | **2025** | **20301** | **20351** |
| Harrison County Total Population | 187,105 | 188,335 | 194,060 | 198,716 | 203,684 | 208,776 |
| Growth Rate  from Prior 5 Year Period | -1.3% | 0.7% | 3.0% | 2.4% | 2.5% | 2.5% |
| Growth Rate/Year | -0.13% | 0.13% | 0.61% | 0.48% | 0.50% | 0.50% |

1. Population projections for 2030 & 2035 were not available in the IHL report so the figures for 2030 & 2035 were extrapolated from the IHL projections for 2020 and 2025.

In Table 2, the population figures for 2010 are actual population from the U.S. Census Bureau. Figures for 2015, 2020 and 2025 are from the IHL’s Mississippi Population Projections report dated September 2008. Since the IHL report did not provide any projections for 2030 and 2035, these figures were extrapolated from the IHL projections for 2020 and 2025. Please refer to Appendix 5 – IHL for detailed information on the population projections. These projections are also available online at: [www.ihl.state.ms.us](http://www.ihl.state.ms.us/) (select: (1) Institutional Research; (2) University Research Center; (3) Economics Department; and (4) Population Projections).

The vast majority of the population of the County lives in the southern portion of the County near the coast. Table 3 illustrates that most of the population of Harrison County (72%) lives within the incorporated cities even though the land area of the cities only represents 20% of the total land area of the county. The population density of the cities, on average, is almost 10 times greater than the population density of the unincorporated area of the County (i.e. 1,134 persons/square mile

versus 115 persons/square mile). Still, it is important to note, that the population density of Harrison County as a whole is almost 5 times greater than that of the State as a whole, on average (i.e. 322 persons/square mile versus 63 persons/square mile).

According to the U.S. Census records the population density of Biloxi and Gulfport twenty years ago in 1990 were 1,332 persons/square mile and 1,250 persons/square mile respectively. This indicates there has been about a 10% – 12% decrease in population density over the last 20 years. This reduction in population density is probably driven in part by annexations into less densely populated areas and the impact of Hurricane Katrina is moving some residential populations further inland from the coastal areas. (In the 1990’s, Biloxi, Gulfport and Long Beach annexed adjacent land, thus increasing each city’s land mass and population. Biloxi annexed the Woolmarket community, significantly increasing the city’s land area. The annexation of Orange Grove in 1994 helped to make Gulfport the second largest city in Mississippi.)

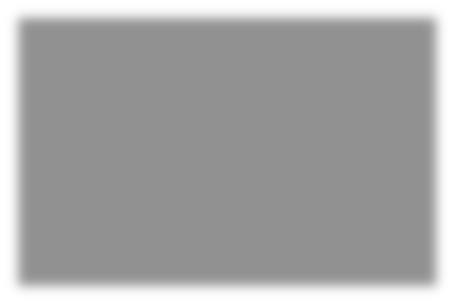
Table 3 Population Density

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **City/Area** | **2010**  **Population** | **Square Miles** | **Persons Per**  **Sq. Mile** | **Percent of Population** |
| Biloxi | 44,342 | 38.0 | 1,167 | 24% |
| D'Iberville | 8,954 | 4.7 | 1,905 | 5% |
| Gulfport | 64,316 | 56.9 | 1,130 | 34% |
| Long Beach | 12,245 | 10.1 | 1,212 | 7% |
| Pass Christian | 4,073 | 8.4 | 485 | 2% |
| City Subtotal | 133,930 | 118 | 1,134 | 72% |
| Unincorporated Area | 53,175 | 462.9 | 115 | 28% |
| Harrison County | 187,105 | 581.0 | 322 |  |
| State of Mississippi | 2,967,297 | 46,907 | 63 |  |

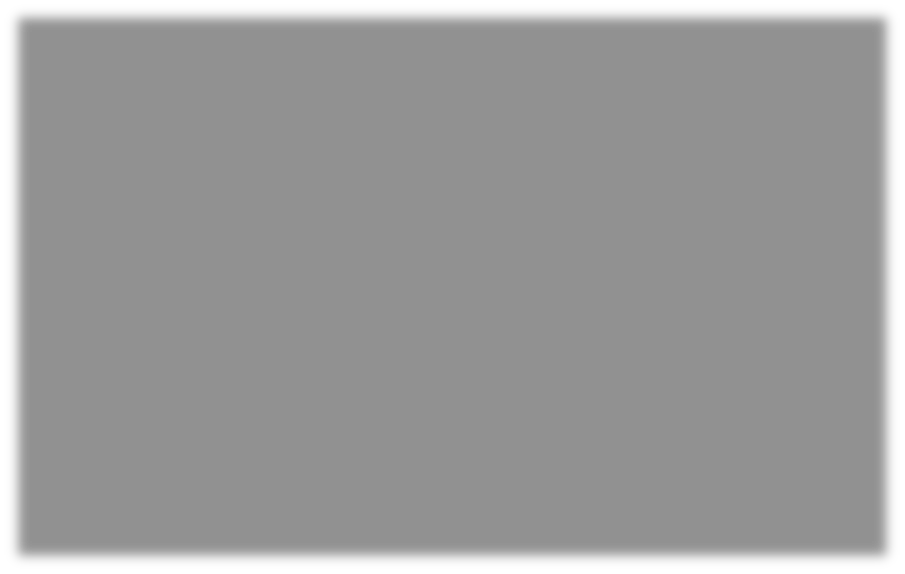
* + 1. Labor Force/Unemployment

The MDES (Mississippi Department of Employment Security) ([www.mdes.ms.gov/Home/index.html)](http://www.mdes.ms.gov/Home/index.html)) in its *Labor Market Data for June 2011* reported that Harrison County’s June 2011 Unemployment Rate was 9.5%. This rate ranks the County 8th out of the 82 counties in the State (Appendix 6). This was based on a Harrison County Labor Force of 92,360 persons with 83,560 employed. Also, this report put the Gulfport-Biloxi MSA Labor Force at 120,670 persons, which means the Harrison County Labor Force accounted for 76% of the Gulfport-Biloxi MSA’s Labor Force in June 2011. (See Appendix 6).

Major employers and industries in the county include the seafood (fresh and frozen), casino gaming, hotels and restaurants, chemical industry, machine and other manufacturing, banking, healthcare, electrical power generation, retail shopping, ship building and national security.



Keesler Air Force Base is located within the County. It is home to the 81st Training Wing and the 403d Wing of the U.S. Air Force. The County is also the East Coast home to the Seabees (i.e. U.S. Naval CBC “Construction Battalion”).



Commercial employment areas in the county are generally located near major roadways. Retail areas south of Interstate 10 are composed of strip shopping centers along major roadways, within the casinos, and at the restored Edgewater Mall. Large retail developments are located along U.S. Highway 49 and Interstate 10 in D’Iberville.

***Members of the Blue Angles, the U.S. Navy air demonstration team, visited Keesler Nov. 18, 2010, for a preseason site visit.***

The Mississippi Department of Employment Security (the “MDES”) ([www.mdes.ms.gov/Home/index.html)](http://www.mdes.ms.gov/Home/index.html)) in its *Mississippi Business Population 2009* reported that in the 4th Quarter of 2008 that Harrison County had 4,541 active business establishments. It also reported that in 2008 in Harrison County there were 308 business births or an accession rate of 6.7% as compared to 261 business deaths or a separation rate of 5.7% (Appendix 7 – MDES Report). This difference netted the County a gain of 47 net new businesses in the County. The report indicated that net gains were in the manufacturing, finance and services sectors; and, the net losses were in the trade and construction sectors. The report also indicates that Harrison County has the second highest number of business establishments in the State behind Hinds County. (See Appendix 7).

Harrison County is part of a multi-county regional economy made up of Harrison, Hancock, and Stone Counties in the Gulfport-Biloxi Metropolitan Statistical Area (“MSA”) (See Appendix 8 MSA Map). Harrison County is the major center for population and employment in the region. Gulfport-Biloxi is one of 366 Metropolitan Statistical Areas (MSA) in the nation. Its 2009 population of 238,772 ranked 187th in the nation.

Detailed information regarding major employers and industries in Harrison County can be found in the *Non-hazardous Industrial Wastes* subsection of this report.

* 1. Local Governmental Units in Harrison County

The Harrison County Board of Supervisors is the governing body that supervises the operation of the County. One Supervisor is elected from each of the five districts in the county to serve a four-year term (see Appendix 9 – Supervisor Map to see district areas). The Board has legislative and executive powers. It acts as an administrative division of a state. Under the Board's legislative powers, the supervisors have the ability to pass and repeal ordinances. Under the Board's executive powers, the Board controls other county departments. In general, the Board has the power to adopt, modify, alter, or repeal orders, resolutions, or ordinances in the county not inconsistent with law. In general, Supervisors have jurisdiction over roads, bridges, tax levies, courthouses, jails, county-owned real property, appropriation of funds, and contractual power as well as other powers expressly authorized by law.

As mandated by State statute, the Board meets on the first Monday of each month in the Board Meeting Room at the First Judicial District Courthouse in Gulfport. The Board also meets on the second Monday of each month in the Board Meeting Room at the Second Judicial District Courthouse in Biloxi.

The type of governing body used by the cities in the County is as follows:

|  |  |  |
| --- | --- | --- |
| **City** | **Governing Type** | **No. & Type Board Members** |
| Biloxi | Mayor/Council | 7 Council members |
| D’Iberville | Council/Manager | 5 Council members (1 at large) |
| Gulfport | Mayor/Council | 7 Council members |
| Long Beach | Mayor/Aldermen | 7 Aldermen (1 at large) |
| Pass Christian | Mayor/Aldermen | 5 Aldermen (1 at large) |

General information for the incorporated entities participating in the Harrison County planning process can be found in Table 4 “General Information”.

For information, service requests or complaints regarding the regular household garbage and recycling collection and/or trash collection within the HCUA service area, residents of the entire County can call the Authority or HCUA at 228-868-8752 or [www.hcua-ms.us/contact.html.](http://www.hcua-ms.us/contact.html)

The principal contact for this solid waste management plan and related questions (i.e. amendment of the Plan, reporting illegal dumping activity etc.) is HCUA’s Solid Waste Coordinator 228-868-8752.

The principal contacts for solid waste management issues (i.e. contracts, service complaints, enforcement, collection of garbage fees, collection of non-standard or irregular waste items (i.e. tires, large items or volumes) etc.) for the County and each City are as listed in Table 5 “Specific Contact Information.”

Table 4 General Information

|  |  |  |  |
| --- | --- | --- | --- |
| **Planning**  **Entity City/County** | **Street Address** | **Mailing Address** | **General Phone No. & Website** |
| Authority - HCUA | 10271 Express Drive  Gulfport, MS 39505 | 10271 Express Drive  Gulfport, MS 39505 | 228-868-8752  [www.hcua-ms.us/contact.html](http://www.hcua-ms.us/contact.html) |
| Biloxi | 140 Lameuse Street, Biloxi MS 39530 | P.O. Box 429 Biloxi, MS 39533 | (228) 435-6254  [www.biloxi.ms.us/](http://www.biloxi.ms.us/) |
| D’Iberville | 10383 Automall Parkway,  D’Iberville, MS 39540 | P.O. Box 6519 D'Iberville, MS 39540 | (228) 392-7966  <http://diberville.ms.us/> |
| Gulfport | 2309 15th Street, Gulfport, MS | P.O. Box 1780 Gulfport, MS 39502 | (228) 868-5700  [www.ci.gulfport.ms.us/](http://www.ci.gulfport.ms.us/) |
| Harrison County | 1801 23rd Avenue, Gulfport, MS 39501 | P.O. Box CC Gulfport, MS 39502-0860 | (228) 865-4001  <http://co.harrison.ms.us/> |
| Long Beach | 201 Jeff Davis Avenue, Long Beach, MS | P.O. Box 929 Long Beach, MS 39560 | (228) 863-1556  [www.cityoflongbeachms.com/](http://www.cityoflongbeachms.com/) |
| Pass Christian | 200 W. Scenic Dr. Pass Christian, MS 39571 | P.O. Box 368  Pass Christian, MS 39571 | (228) 452-3310  <http://ci.pass-christian.ms.us/> |

Table 5

Specific Contact Information

|  |  |  |
| --- | --- | --- |
| **Planning Entity City/County** | **Title** | **Contact Email/Phone** |
| Authority – HCUA  Plan Amendment, Report illegal dumping activity etc. | Donald Scharr, PE  Executive Director | [DScharr@hcua-ms.us](mailto:DScharr@hcua-ms.us) 228-868-8752 |
| Harrison County –  Collection of large volumes of waste and tires | Russell Weatherly Road Manager | [rweatherly@co.harrison.ms.us](mailto:rweatherly@co.harrison.ms.us) 228-896-0210 |
| Harrison County –  Household hazardous waste center | Kevin Felsher  Beautification Director | beautification@co.harrison.ms.us/  228-214-1405 |
| Harrison County – Billing Questions | Pam Ulrich  County Administrator | [pulrich@co.harrison.ms.us](mailto:pulrich@co.harrison.ms.us)  228-865-4116 |
| Biloxi –  Collection of large volumes of waste | Billy Ray Allen  Director, Public Works | [ballen@biloxi.ms.us](mailto:ballen@biloxi.ms.us)  228-435-6271 |
| Biloxi - Billing Questions | Dianne Merrill  Office Manager | [dmerrill@uosglobal.com](mailto:dmerrill@uosglobal.com)  228-435-6240 |
| D’Iberville –  Collection of large volumes of waste | Al Gombos Municipal Operations | [agombos@diberville.ms.us](mailto:agombos@diberville.ms.us) 228-273-3332 (direct office) |
| D’Iberville - Billing Questions | Al Gombos Municipal Operations | [agombos@diberville.ms.us](mailto:agombos@diberville.ms.us) 228-273-3332 (direct office) |
| Gulfport - Billing Questions | Water and Sewer Dept. | 228-868-5720 |
| Long Beach – Billing Questions | Water Billing Department | 228-864-8531 |
| Pass Christian –  Billing Questions | Water Billing Department | [watermgr@ci.pass-christian.ms.us](mailto:watermgr@ci.pass-christian.ms.us)  228-452-3312 or 228-452-3318 |

# Local Laws and Ordinances

* 1. Comprehensive Development Plans

Harrison County and all cities in the County have comprehensive development plans. These comprehensive land use plans address land use and transportation; natural, cultural, and historic resources; community facilities and services; and housing and economic development. The legal authority for the comprehensive plans is found under Section 17-1-1 through 17-1-21 of the Mississippi Code of 1972, as amended.

This Mississippi Law requires that a comprehensive plan, at a minimum, include:

* + Goals and objectives for the long-­‐range (20–25 years) that address, at a minimum, residential, commercial and industrial development; parks, open space and recreation; street or road improvements; and public schools and community facilities
  + A land use plan with projections of population and economic growth for the

planning area

* + A transportation plan, depicting all existing and proposed improvements, which shall be a basis for a capital improvements program; and
  + A community facilities plan, depicting housing, schools, parks and recreation, public buildings and facilities, and utilities and drainage, which shall be a basis for a capital improvements program.

A number of the cities have utilized the SmartCode planning process to complete their comprehensive development plans.

The comprehensive development plans for the Harrison County area are:

*2030 Harrison County Comprehensive Plan* co.harrison.ms.us/departments/zoning/ *Biloxi Comprehensive Plan (2009)* [www.biloxi.ms.us/CompPlanDraft.htm](http://www.biloxi.ms.us/CompPlanDraft.htm) *D’Iberville, Citizens Master Plan* (2011) <http://diberville.ms.us/smartcode/> *Comprehensive Plan for Gulfport* (2007) [www.gulfport-ms.gov/planning.shtml](http://www.gulfport-ms.gov/planning.shtml) *Long Beach, Comprehensive Plan* (2009) [www.cityoflongbeachms.com/](http://www.cityoflongbeachms.com/)

*The City of Pass Christian Comprehensive Plan* (2008) [www.planthepass.org/](http://www.planthepass.org/)

Harrison County’s *2030 Harrison County Comprehensive Plan* was prepared by group of firms including:

The Ohio State University, Knowlton School of Architecture, Project Manager Ellen Cowell

Gulf Regional Planning Commission Neel-Schaffer

Southern Mississippi Planning and Development District

Even though it is primarily a development plan, the *2030 Harrison County Comprehensive Plan* does include a goal to promote the reduction of solid waste. It lists several strategies to achieve this goal including:

1. Encourage appropriate disposal and recycling of solid waste.
2. Collaborate with waste disposal providers to develop an education campaign to reduce waste and increase recycling.
3. Coordinate with local grocery stores and Advanced Disposal to offer plastic bag recycling.
4. Work with local food banks to coordinate donations of perishable produce from wholesale and retail sources and prepared foods from the food service industry.
5. Increase efforts to prevent illegal dumping.
   1. Solid Waste Ordinances

Harrison County and the Cities all have ordinances that address solid waste. These ordinances are summarized in Table 6.

Table 6

Local Ordinances Affecting Solid Waste Management Facilities and Solid Waste Collection

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Description** | **Harrison**  **County** | **Biloxi** | **D’Iberville** | **Gulfport** | **Long**  **Beach** | **Pass**  **Christian** |
| Definitions | Yes | Yes | Yes | Yes | Yes | Yes |
| Solid Waste Collection | Yes | Yes | Yes | Yes | Yes | Yes |
| Fees | No | Yes | No | Yes | Yes | Yes |
| Littering | Yes | Yes | Yes | Yes | Yes | Yes |
| Illegal Dumping | Yes | Yes | Yes | Yes | Yes | Yes |
| Penalties | Yes | Yes | Yes | Yes | Yes | Yes |
| Zoning or Land Use | Yes | Yes | Yes | Yes | Yes | Yes |
| Noise | Yes | Yes | Yes | Yes | Yes | No |

The penalty for non-compliance with the ordinances is fairly standard. All Cities and the County consider non-compliance with any ordinance a misdemeanor punishable with a fine of up to $1,000 per each occurrence and/or, depending on the jurisdiction, 60 to 180 days of jail time (i.e. Harrison County 60 days, Biloxi and Gulfport 90 days, Long Beach 180 days).

The City of Biloxi has an additional ordinance relating to the refuse dumpsters that

containing seafood or poultry. Basically, refuse dumpsters containing waste from seafood or poultry handling or from seafood or poultry hatcheries shall be removed or emptied within six hours of the time they are either (1) filled or (2) caused to contain waste or materials which create a noxious odor so offensive to smell as to be a nuisance to the neighborhood or adjacent property owners. It also unlawful for any person to throw any shrimp hulls, remains of dead fish, crabs or any related waste material into the waters of the Back Bay of Biloxi or of the Gulf of Mexico adjacent to the city limits.

Biloxi is unique in that by ordinance it has an Environmental Advisory Board. This Board, among other issues, is responsible for the assessment of noise and solid waste disposal. Section 2-12-1 of the Biloxi code states:

In order to improve the quality of life for the citizens of the city through the assessment, investigation, maintenance and improvement of environmental factors, including but not limited to historic properties, wetlands protection, water quality, air quality, noise levels, wastewater disposal, solid waste disposal, storm drainage disposal, water resources, surface water systems, floodplains, coastal zones, transportation systems, visual pollution, fish and wildlife management, land development, environmental design, open spaces in recreation, unique natural features in undeveloped or agricultural lands, vegetation and wildlife, and any other factors that have an impact upon the quality of life in the city, there is hereby created an advisory board to be known as the environmental advisory board, referred to in this article as the board. This board shall assume all duties previously assigned to the mayor's advisory committee on the environment.

All of the planning entities have ordinances to control littering and illegal dumping. A summary of these ordinances is as follows:

Harrison County has an ordinance that prohibits littering and illegal dumping. The ordinance places the responsibility for littering and illegal dumping on the landowner. The ordinance is fairly comprehensive and addresses other litter related issues such as securing/covering loads on trucks to prevent litter and the proper containerization of solid waste to prevent littering. The penalty for violating the ordinance is a fine of not less than $25.00 nor more than $1,000.00 or a sentence up to 60 days in the County Jail. A conviction is defined as a misdemeanor. In addition to the fines, a court could also impose community service such as picking up litter.

Biloxi, in section 9-1-18 of its ordinance, has an ordinance that prohibits littering and illegal dumping. The Biloxi ordinance makes it unlawful for any person to throw, discard, place or deposit any garbage or litter in any manner or amount on any public or private property within the corporate limits of the city, except in containers or areas lawfully provided for such purpose. In Biloxi the ordinance states “any person who shall fail to comply with or shall violate or attempt to violate any of the provisions of this chapter shall be guilty of a misdemeanor, and subject to the penalties 1-1-8 shall be punished by a fine not exceeding $1,000.00

or imprisonment for a term not exceeding 90 days, or by both such fine and imprisonment, or by any other appropriate sentence in the discretion of the municipal judge.”

The City of D’Iberville has a very specific and detailed Anti-Littering ordinance (i.e. Section 22-1). Generally, it requires that “no person shall deposit any litter within the city except in public receptacles, in authorized private receptacles for collection or in any duly licensed disposal facility.” The ordinance also places littering restrictions on several specific areas including private property, public places, vehicles and loading/unloading areas. It also requires the owner of private property to remove any litter from the property. The penalty for violating the ordinance is a fine of not less than $50.00 nor more than $500.00 for each offense, and a requirement to perform not less than ten (10) hours of community service consisting of litter pickup throughout the city. A separate offense shall be deemed committed on each day during or on which a violation occurs or continues. There are also separate litter ordinance sections in the “Garbage, Trash and Weeds” Chapter 14 sections 14-34 and 14-36. These separate sections reflect requirements outlined in Anti-Littering ordinance.

The City of Gulfport, in sections 4-170 and 4-173 of its code of ordinances, has an ordinance that prohibits littering and illegal dumping. Section 4-143 and 4-170 states “It shall be unlawful for any owner, occupant or lessee of any building, yard, or lot of ground within the city to allow garbage, refuse or rubbish of any kind to accumulate or remain in such building or upon such yard or lot, except where garbage, trash, or refuse is placed in a corrugated metal or plastic container.” Section 4-173 states “It shall be unlawful for any person to dump or place or cause to be dumped or placed any garbage, refuse or trash of any kind whatsoever upon any public or private property of another located within the city.” Violation of any ordinance provisions against littering or unauthorized dumping as specified in sections 4-141 through 4-145, inclusive, shall be a separate misdemeanor for each violation thereof, and each and every offender shall be punished for each violation by a fine of one thousand dollars ($1,000.00) (the court, in its discretion, may suspend a portion of the fine) or by imprisonment not exceeding ninety (90) days, or by both fine and imprisonment. Any such violation punished and not cured within thirty (30) days after being found or pled guilty of the offense or after final adjudication of the offense by a court of competent jurisdiction, whichever shall be later, shall constitute a separate and repeat offense in which the fine provided for herein shall be imposed (no portion may be suspended) and imprisonment not to exceed ninety (90) days shall be imposed.

The City of Long Beach, in its code of ordinances, has an ordinance that prohibits littering and illegal dumping. Section 12-15 makes it unlawful for any person to place or deposit any refuse in any manner or amount on any public or private property within the corporate limits of the city, except in containers or areas lawfully provided for such purpose. Any littering or illegal dumping act that is

declared to be unlawful is considered a misdemeanor. In Long Beach such a violation of the Code or ordinance may be punished by a fine not exceeding three hundred dollars ($300.00) or by imprisonment not exceeding ninety- (90) days, or both. Every day any violation of the Code or any ordinance shall continue shall constitute a separate offense.

The City of Pass Christian has a “Litter Control” ordinance (i.e. Article II of Chapter 66) that prohibits littering and illegal dumping. Section 66-42 of the ordinance makes littering unlawful. Section 66-44 makes it unlawful for “any owner, occupant or lessee of any building, yard or lot of ground within the city limits to allow garbage, refuse or rubbish of any kind to accumulate or remain outside such buildings or upon such yards or lots, except as may be provided otherwise by statute or contracts.”

Please refer to Appendix 10 to review these and other ordinances.

* 1. Zoning Ordinances

Harrison County has a zoning ordinance for the unincorporated area of the county (see Appendix 10 – Ordinances or [*http://co.harrison.ms.us/departments/zoning/*](http://co.harrison.ms.us/departments/zoning/) for more information.)

Harrison County defines landfills and solid waste management facilities as Public/Quasi- Public Facilities and Utilities in section 500.02.03 Public/Quasi-Public Facilities and Utilities, which states, in part:

Any building, structure, system, use or combination of uses, which is customarily and ordinarily provided by either public or private agencies, groups, societies, corporations, or organizations, whose purpose is the provision of necessary and desirable services for the general public health, safety, and welfare. Such uses shall include, but are not limited to: Major governmental or private facilities, such as water pumping stations, sewage treatment plants, sanitary landfills and the like.

Landfills are considered a special use in I – 1 (Light Industrial) and I – 2 (Heavy Industrial) Districts. Also, waste collection or recycling companies are considered as an approved use in I – 2. Solid waste or recycling transfer stations are considered conditional use in I – 1 and an approved use in I – 2. Maximum structure height is 35’ in I – 1 Light Industrial and 50’ in I – 2 Heavy Industrial.

### Biloxi

The Industrial (I) District is established and intended to accommodate light and moderate manufacturing, assembly, fabrication, processing, distribution, warehousing, outdoor storage, research and development, and other industrial uses, with heavy industrial uses permitted after special review. The district may also accommodate limited commercial uses incidental to the district's predominantly industrial nature. Residential uses, other

than caretaker dwellings as an accessory use, are not permitted. Industrial zoning is appropriate in and adjacent to regional activity centers or other areas with good interstate access, as designated on the comprehensive plan's future land use map. Industrial zoning and uses other than that directly related to the commercial seafood industry are limited on the peninsula. District standards are intended to minimize potential nuisances or damage to the environment and adverse impacts on surrounding uses. The maximum building height in the Industrial District is 75’.

### D’Iberville

In D’Iberville landfills are allowed as a Conditional Use by Public Hearing in the Industrial District.

### Gulfport

In Gulfport landfills are permitted as a special use in I – 2 Heavy Industrial District. Recycling and other solid waste management facilities are not specifically identified in the Gulfport ordinance but “Garbage Dumping” is permitted as a special use in I – 2. Also, junkyards are permitted as an approved use in the I – 2 District. Generally the I – 2 District is described as follows:

*I-2 districts: Heavy industry districts.* These districts are composed of land and structures occupied by or suitable for heavy manufacturing and related activities. Located for convenient access from existing and future arterial thoroughfares, highways, railway lines or waterways, these districts are usually separated from residential areas by business or light industry areas or by natural barriers; where they are adjacent to residential areas some type of artificial separation may be required. The district regulations are designed to permit the development of the districts for their purpose, including almost any industrial uses but subject to conditions necessary for the mutual protection of the uses and the city generally.

*Building height limit.* Except as provided in section IV, no structure shall exceed one hundred (100) feet in height.

### Long Beach

In Long Beach Section 612.1.2 of its ordinance identifies uses requiring Planning Commission Approval. The uses listed in subsection 611.12 are permitted upon approval of location and the site plan thereof by the Planning Commission as being appropriate with regard to transportation and access, water supply, waste disposal, fire and police protection,, and other public facilities, as not causing undue traffic congestion or creating a traffic hazard, and as being in harmony with the orderly and appropriate development of the district in which the use is located. “Garbage Dumping” is a use which requires Planning Commission Approval in the Industrial District.

# Public Involvement and Outreach

* 1. Public Involvement

During the course of compiling information for updating Harrison County’s Solid Waste Plan and drafting of the Plan, public involvement included:

* + - Representatives for each municipality and the County were surveyed about their solid waste management practices and concerns.
    - Major commercial businesses, industries, solid waste companies and other

regulatory permit holders were sent surveys to gather information and input during the review of the Plan.

* + - Adjacent counties and officials of state regulatory agencies with whom coordination must take place to allow successful implementation of the Plan were notified of the availability of the draft and the draft review process.
    - County and municipal elected officials were encouraged to invite people to

attend and give presentations at local gatherings.

For more detailed information regarding the procedural process of the approval of this Plan, please refer to the *Procedural Information* section of this Plan.

* 1. Outreach

In order to become fully involved and play an effective role in waste minimization programs, the public should be informed and educated (i.e. public outreach) as to what opportunities are available to them. Outreach can fall into one of three (3) main areas: Public Education, Promotion, and Technical Assistance Program. Education provides factual information to the public to assist them in making responsible choices. Promotion is designed to inform residents of an event, program, or project in which they may choose to participate. Technical assistance provides direct aid to residents/businesses in implementing their choices.

The Mississippi Department of Environmental Quality also provides information to assist in waste reduction and recycling. The following is a list of some of the available free brochures and information:

*Proper Disposal of Motor Oil Proper Disposal of Paint & Thinner How to Reduce Junk Mail Mississippi Recycling Directory*

*Enviroshopping: Shop Smart to Reduce Waste & Increase Recycling Precycling and Recycling Information*

*Alternatives to Household Hazardous Waste Products Setting Up an Office Recycling Program*

*Setting Up a College Recycling Program*

*Setting Up an Apartment Complex Recycling Program Video List of Recycling and Solid Waste Reduction Topics Breaking the Waste Habit – A Guide to Waste Reduction What You Should Know About Recycling*

*How Recycling Programs Work*

*Consumer Guide to Household Hazardous Waste Recycling and Solid Waste Questions and Answers A Small Town Guide to Recycling*

*Facts About Recycling*

*Helpful Hints for Curbside Recycling Programs Helpful Hints for Drop-off Recycling Programs*

*Sample Recycling Education Brochures for Curbside or Drop-off Programs Home Composting for Yard and Food Waste*

*Landscaping for Energy Savings*

*Curriculum for Solid Waste Awareness: K-6, 7-12*

*Brochure for Papermaking – 12 Simple Steps to Making Paper from Paper Waste Reduction & Recycling Ideas for Conferences and Seminars*

*Baler Guidance Information Baler Manufacturers List Brokers and End-users Directory Paper/Corrugated Market Plastic Market*

*Electronics Market*

*Processing Recyclables for Markets: A One Stop Commodity Guidebook for Government and Private Sector*

*Containers and Trailers for Collecting Recyclables – Directory with photos of manufactured products for collecting recyclables – For checkout and return only Teacher Education Packet for Recycling and Solid Waste Reduction*

*Hands-on Recycling Activities for Environmental Educators*

*Recycling and Solid Waste Assistance Grant Information for Counties and Municipalities*

To receive any of the above publications, contact the Mississippi Department of Environmental Quality’s Pollution Prevention Program at 601-961-5171, P. O. Box 10385, Jackson, MS 39289-0385 or online at the following link: [http://www.deq.state.ms.us/MDEQ.nsf/$$SearchTemplateDefault?OpenForm&QueryStr](http://www.deq.state.ms.us/MDEQ.nsf/%24%24SearchTemplateDefault?OpenForm&amp;QueryStr)

=brochures

In addition to brochures, other community outreach tools should include newsletters, website(s), television and radio PSA’s, promotional items, representation in community events and other promotional events (i.e. public meetings, educational programs at schools, media coverage, information at special events, and speakers at civic, government and special interest group meetings).

For more detailed information regarding the public outreach, please refer to the *Recycling and Waste Reduction Programs* section of this Plan.

# Environmental Justice Issues

Environmental justice addresses the disproportionate use and abuse of natural resources that negatively impact a particular group within the population based on discriminatory factors. The EPA defines Environmental Justice (please refer to EPA website: [www.epa.gov/compliance/environmentaljustice/index.html](http://www.epa.gov/compliance/environmentaljustice/index.html) for more information) as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. “Fair treatment” means that no group of people, including a racial, ethnic, or a socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies. “Meaningful involvement” means that:

1. potentially affected community residents have an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health
2. the public's contribution can influence the regulatory agency's decision
3. the concerns of all participants involved will be considered in the decision making process
4. the decision makers seek out and facilitate the involvement of those potentially affected.

Precautions should be taken to ensure the placement of any and all new landfills, rubbish sites and/or other waste facilities is not done in a manner that impacts a particular group of the local population based on race or income. To minimize the opportunities for injustices against minority and low-income populations, the Board may follow the “EPA’s Environmental Justice Collaborative Problem Solving Model” of December 2006. This model stresses the need to involve all parties that will be affected. These parties include: developers, nearby residents, local environmental groups and local health officials. There is utmost importance placed on ensuring the placement of a new facility is non-discriminatory. The goal of the community involvement during the site selection/location process is to gather information and opinions from various views.

As input for this Plan was sought from the various interested parties in the County, minority participation was encouraged through the elected officials. The 2010 U.S. Census showed that about 70% of the county’s population is white, 30% is minority (i.e. black 22%, Hispanic 5% and Asians 3%). This Census also reported that in Harrison County 18% of persons are living below the poverty line versus 22% statewide. There were no apparent environmental justice issues that came up during the solid waste planning process. However, local officials and staff will continue to solicit opinions and input from all segments of the community as solid waste services and programs are implemented in order to prevent creation of any environmental justice issues.

While there are currently no identified environmental issues within Harrison County, the Board will make every effort to ensure that all new facilities and current facility expansions are being considered on a case by case basis with environmental justice in mind. The Board will also try to ensure that no particular area of the county has a disproportionate number of waste facilities. The location of new or expanded solid waste management facilities within Harrison County should be evaluated with consideration of the location/proximity of existing landfill facilities as well as population demographics. The Board will evaluate the approval of site locations by looking at cost, feasibility, environmental impact, environmental justice, solid waste planning guidelines and zoning.

Environmental Business Services B - 32 Harrison County

# SECTION C

**SOLID WASTE CHARACTERIZATION**

**& QUANTIFICATION**

1. Background and Overview

The purpose of this section is to identify the sources, composition, and quantities of solid waste generated and managed in Harrison County. Using this information, along with population data from U.S. Bureau of the Census and the Mississippi Institutions of Higher Learning Center for Policy Research and Planning (the “IHL”), a per capita waste generation rate is calculated and projections of future municipal solid waste quantities are established.

The first step in the solid waste characterization and quantification process was to identify the generators, collectors, and disposal facilities for Harrison County solid waste. Information about the waste stream volumes and composition was gathered through surveys, interviews, and reports filed with the Mississippi Department of Environmental Quality. The collected data was cross-checked to confirm consistency and accuracy.

Surveys were sent to the following:

* + Harrison County Utility Authority and municipalities
  + Industrial and commercial operations, including the non-profit sector
  + Institutions, including schools and churches
  + Collectors of solid waste in the county, including residential and commercial
  + Operators of all disposal and recycling facilities, both public and private, which manage any solid waste from generators in Harrison County.

Follow-up personal interviews were conducted either in-person or by phone when information was unclear, incomplete, or in possible conflict with other gathered data. For the purposes of this section, we will focus on the cumulative information. More specific details about the individual waste streams in Harrison County will be provided in the section entitled “Primary Solid Waste Program Components” which follows.

Annual reports filed with MDEQ for each of the disposal facilities managing Harrison County solid wastes were reviewed. In addition, the Harrison County Utility Authority provided records from the county’s contractor for disposal services and the corresponding volumes. In 2010 there are eight (8) active solid waste management facilities in Harrison County that accepted solid waste. These eight (8) active solid waste management facilities include one (1) MSW Landfill, three (3) Class I Rubbish Sites (“Class I”) and four (4) Class II Rubbish Sites (“Class II”). For definitions and details of these type facilities and the types of waste managed at these different types of facilities, please refer to the “*Glossary of Terms*” or “*Waste Characterization*” Section C (4).

Exact volumes of recycled or composted household waste is difficult to measure because private individuals may take recyclables to drop-off sites out of the county and the extent of backyard composting is unknown. However, through County records and surveys, we were able to identify an estimate of recycled volumes. Rubbish sites are not required to submit detailed reports regarding the point of generation of waste accepted for disposal. For the purposes of the quantification for this report it will be assumed that all volumes of rubbish received at the Rubbish Sites were generated in Harrison County.

Information about the quantities and composition of Harrison County waste was gathered from the surveys and other sources. However, in order to more specifically understand the characterization of the waste stream, the following additional sources were used to calculate composition: EPA publication *Municipal Solid Waste in the United States: 2009 Facts and Figures* (see Appendix 11 - EPA MSW Report) and the *Solid Waste Management Plan for Harrison County Wastewater and Solid Waste Management District (1993).*

The per capita waste generation rate was calculated using the quantity information supplied by the disposal facilities and population data from the U.S. Bureau of the Census. Likewise, projections for future municipal solid waste quantities were made for each five-year period for the twenty years covered in the plan using population estimates from the U.S. Bureau of the Census.

2. Solid Waste Quantities

* 1. Solid Waste Generated Inside and Outside of the Planning Area

In 2010 there are eight (8) active solid waste management facilities in Harrison County that accepted solid waste. Only one of those facilities is permitted to accept MSW (i.e. municipal solid waste) and the remaining facilities are rubbish sites. The MSW landfill facility in Harrison County is the Waste Management of Mississippi Inc, Pecan Grove Landfill and Recycling Center and Rubbish Site (the “Pecan Grove Landfill”). Waste Management of Mississippi, Inc owns this site. Pecan Grove includes a 176-acre permitted MSW Landfill in addition to other facilities located on the 1,243-acre facility property. The Pecan Grove Landfill is permitted per MDEQ Solid Waste Management Permit SW00101B0412 and is located at 9685 Firetower Road, Pass Christian, Mississippi 39571. According to the company’s website, [www.wmsolutions.com/facilities/,](http://www.wmsolutions.com/facilities/) the Pecan Grove Landfill accepts Asbestos (Friable and Non-Friable), Construction & Demolition Debris, Drums of Liquids or Solids, Industrial & Special Waste, Liquifix (Solidification Services) and Municipal Solid Waste. Please note that any liquids, drums or otherwise, received at the facility would be required to be solidified prior to being disposed of in the Landfill.

In 2010 the Pecan Grove Landfill accepted a total of 379,714 tons of MSW. The majority of the MSW disposed of at the site (i.e. 98%) was from in-state sources and the remaining 2% from out-of-state sources came from nearby counties and parishes in Alabama and

Louisiana. Of the in-state sources, generators from Harrison and Jackson Counties each contributed about 43% (i.e. 162,198 tons from Harrison County and 160,337 tons from Jackson County sources) of the MSW disposed of at the landfill. A little more than 50% of the Jackson County volume is transported into Harrison County through the Jackson County Transfer Station. The Pecan Grove Landfill also reports, as of the end of 2010, it has a remaining life of 21.1 years based on a remaining capacity of 8,991,518 cubic yards and 58.8 acres to be filled. Please refer to Appendix 12 – Landfill Annual Reports for a copy of the Pecan Grove Landfill 2010 Annual Report.

There are two (2) Municipal Solid Waste Landfills, which are outside the county, that manage MSW from Harrison County. These MSW Landfills are the Central Landfill owned by Trans American Waste located in Pearl River County and the MacLand Disposal Center Landfill owned by the MacLand Disposal Center and located in Jackson County. It should be noted that the MacLand Disposal Center Landfill is permitted only to accept non-residential MSW.

Of the MSW generated in Harrison County, 93% of it was disposed of in the MSW Landfill located in the County (i.e. Pecan Grove Landfill) with the remaining 7% being disposed of in MSW Landfills outside of Harrison County. A breakdown of the tonnage received in 2010 at these three (3) MSW Landfills is illustrated in Table 7 below.

TABLE 7

Tons and Percent of MSW Generated in

Harrison County and Disposed of in MSW Landfills in 2010

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **MSW Landfill Name** | **Residential**  **Waste (Tons)** | **Non - Residential**  **(Tons)** | **Total Volume**  **(Tons)** | **Percent** |
| Central | 11 | 25 | 36 | <0.1% |
| MacLand Disposal Center | 0 | 11,923 | 11,923 | 6.9% |
| Pecan Grove | 83,313 | 78,885 | 162,198 | 93.0% |
| Total | 83,324 | 90,833 | 174,157 | 100.0% |

In addition to the Pecan Grove Landfill there are eleven (11) other approved solid waste management facilities. These other facilities include Class I and Class II Rubbish Sites. Some of these facilities are currently inactive. The active Class I Rubbish Sites includes the Blackmer Disposal Facility, Coastal Recycling and Firetower Landfill. The inactive Class I sites includes Pecan Grove Rubbish Site and S & S Enterprises. The active Class II Rubbish Sites includes Blackmer, Canal Road, Ray and the D. W. Lamey Rubbish Sites while the East Harrison County and Brown’s Class II Rubbish Sites are inactive. For more information regarding these facilities, please refer to the section entitled “*Comprehensive Inventory of Local Solid Waste Management Facilities.*”

Table 8 above only includes the total tons of MSW and not solid waste managed by other facilities including rubbish sites and recycling facilities. The total tons of solid waste generated in Harrison County will include these other solid waste management facilities. When all the facilities are totaled and compared together, the majority (i.e. 53%) of solid waste generated in Harrison County is MSW. The remaining amount is Class I and II rubbish at 46% and the remainder is recycled. It is important to note that these figures primarily represent solid waste that enters into the commercial and public waste streams and does not include certain special waste items such as waste tires, white goods, automobile batteries and items recycled on-site by the generator. For more information regarding these special wastes and related special waste programs, please refer to the section entitled “*Special Waste Management Programs.*” There are three (3) Tables that follow that provide a summary of MSW and Rubbish solid waste generated inside and outside of the planning area and disposed of inside and outside of the planning area. A summary of MSW and rubbish solid waste generated in the planning area, Harrison County, and disposed of in can be found in Table 8 below.

TABLE 8

Solid Waste Generated Only Inside Planning Area and

Managed at a Solid Waste Management Facility Inside or Outside of the Planning Area

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Facility Name** | **Type Facility** | **Type of Waste (2010 Tons)** | | | | **Total Tons** |
| MSW | Class I | Class II | Recycled |
| Blackmer I | Class I |  | 7,275 |  |  | 7,275 |
| Blackmer II | Class II |  |  | 1,194 |  | 1,194 |
| Canal Road | Class II |  |  | 18,623 |  | 18,623 |
| Central | MSW | 36 |  |  |  | 36 |
| Coastal | Class I |  | 84,958 |  | 2,343 | 87,301 |
| Firetower Rd | Class I |  | 24,757 |  |  | 24,757 |
| D. W. Lamey | Class II |  |  | 5,483 |  | 5,483 |
| MacLand | MSW | 11,923 |  |  |  | 11,923 |
| Pecan Grove | MSW | 162,198 |  |  |  | 162,198 |
| Ray | Class II |  |  | 6 |  | 6 |
| Subtotal Tons |  | 174,157 | 116,990 | 25,306 | 2,343 | 318,796 |
| Percent Type |  | 54.6% | 36.7% | 7.9% | 0.7% | 100% |

* 1. Solid Waste Generated Outside of the Planning Area – Managed at Facilities within the Planning Area

In 2010 only two (2) solid waste management facilities reported accepting solid waste from outside of the planning area. These facilities are the Pecan Grove Landfill and Coastal Recycling. In 2010 approximately 57.3% of the volume disposed of in the Pecan Grove Landfill was imported into the planning area and 5.1% of the volume disposed of at Coastal Recycling was imported into the planning area. The majority, 94%, of the solid waste that is generated outside of the planning area and managed at facilities in the planning area is transported from the adjacent counties of Hancock and Jackson (respectively 20% and 74%), neither, of which have a MSW Landfill in its county. The total volume generated outside of, transported into and disposed of in the planning area was 222,111 tons (i.e. 4,595 tons from Coastal Recycling and 217,516 tons from Pecan Grove). For a breakdown of these volumes, please refer to Table 9 below.

TABLE 9

Solid Waste Generated Outside of the

Planning Area and Managed at a Facility Within the Planning Area in 2010

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Mississippi County or State** | **Coastal Recycling – C&D** | | **Pecan Grove - MSW** | | **Total** | |
| **(Tons)** | **Percent1** | **(Tons)** | **Percent1** | **(Tons)** | **Percent1** |
| George | 37 | 0.8% | 1,493 | 0.7% | 1,530 | 0.7% |
| Hancock | 76 | 1.7% | 44,643 | 20.5% | 44,719 | 20.1% |
| Jackson | 4,320 | 94.0% | 160,337 | 73.7% | 164,657 | 74.1% |
| Stone | 162 | 3.5% | 1,670 | 0.8% | 1,832 | 0.8% |
| Other MS Counties | 0 | 0.0% | 1,576 | 0.7% | 1,576 | 0.7% |
| Alabama | 0 | 0.0% | 6,858 | 3.2% | 6,858 | 3.1% |
| Louisiana | 0 | 0.0% | 939 | 0.4% | 939 | 0.4% |
| **Total - Outside**  **Planning Area** | **4,595** | **100.0%** | **217,516** | **100.0%** | **222,111** | **100.0%** |
| Facility Total  All Volumes | 89,553 |  | 379,714 |  |  |  |
| Percent Outside  Planning Area | 5.1% |  | 57.3% |  |  |  |
| Percent By Site | 2% |  | 98% |  |  |  |

1. Percent of “Total Volume from Outside Planning Area.”
2. Percent of the Volume from Outside the Area compared to Total Annual Facility All Volumes.
   1. Solid Waste Generated Inside and Outside of the Planning Area – Managed at Facilities within the Planning Area

The solid waste management facilities inside the planning area accepted a total of 528,948 tons from generators inside and outside of the planning area in 2010. The majority of the solid waste managed in the planning area is MSW (72%) followed by Class I waste at 23%. Class II waste and Recycled waste are the smallest categories at 4.8% and 0.4% respectively. Table 10 below charts these volumes according to “Facility” and Table 11 charts the same volumes by “Origin of Waste.”

TABLE 10

Solid Waste Generated Inside and Outside Planning Area and Managed At a Solid Waste Management Facility Inside Planning Area (by “Facility”)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Facility Name** | **Type Facility** | **Type of Waste (2010 Tons)** | | | | **Total Tons** |
| **MSW** | **Class I** | **Class II** | **Recycled** |
| Blackmer I & II | Class I |  | 7,275 | 1,194 |  | 8,469 |
| Canal Road | Class II |  |  | 18,623 |  | 18,623 |
| Coastal | Class I |  | 89,553 |  | 2,343 | 91,896 |
| Firetower Rd | Class I |  | 24,757 |  |  | 24,757 |
| D. W. Lamey | Class II |  |  | 5,483 |  | 5,483 |
| Pecan Grove | MSW | 379,714 |  |  |  | 379,714 |
| Ray | Class II |  |  | 6 |  | 6 |
| Subtotal Tons |  | 379,714 | 121,585 | 25,306 | 2,343 | 528,948 |
| Percentage |  | 71.9% | 22.9% | 4.8% | 0.4% | 100% |

Figure 2

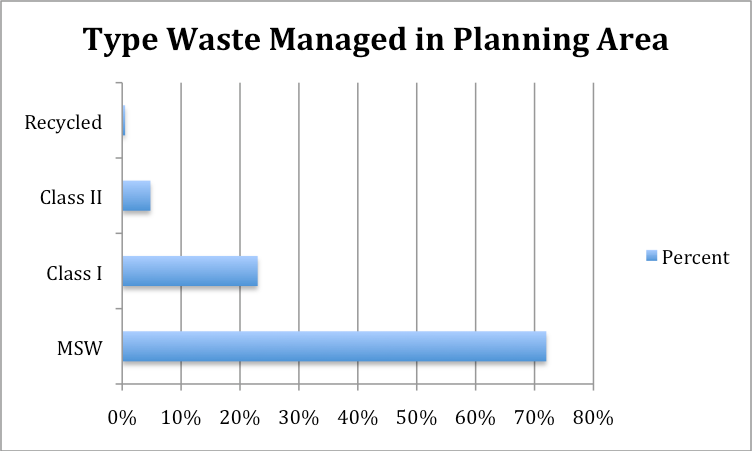


TABLE 11

Solid Waste Generated Inside and Outside Planning Area and Managed

At a Solid Waste Management Facility Inside Planning Area (by “Origin of Waste”)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Origin** | **Type of Waste (2010 Tons)** | | | | **Total Tons** | **Percent** |
| **MSW** | **Class I** | **Class II** | **Recycled** |
| Inside Planning Area | 162,198 | 116,990 | 25,306 | 2,343 | 306,837 | 58% |
| Outside  Planning Area | 217,516 | 4,595 | 0 | 0 | 222,111 | 42% |
| Total | 379,714 | 121,585 | 25,306 | 2,343 | 528,948 | 100% |
| Percentage | 71.9% | 22.9% | 4.8% | 0.4% | 100% |  |

Figure 3

Tons of Solid Waste Generated Inside and Outside Planning Area and Managed At a Solid Waste Management Facility Inside Planning Area (by “Origin of Waste”)

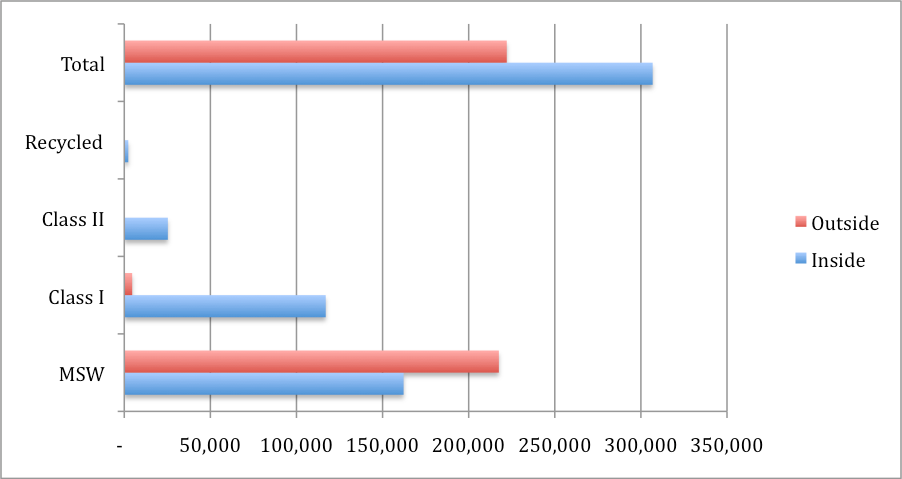


Figure 3 illustrates that the majority of solid waste managed in the planning area is generated in the planning area; but, it also illustrates that the majority of MSW managed in the planning area is generated outside of the planning area. Over 94% of the MSW from outside Harrison County that is imported into the Harrison County comes from Hancock County (20.5%) and Jackson County (73.7%) (see Table 9 for a complete analysis). Neither Hancock County nor Jackson County has an MSW Landfill located in its County; however, both Hancock County and Jackson County have several rubbish sites.

## Per Capita Waste Generation Rates

Per capita generation rates were calculated based on a pounds of waste generated per person per day (365 day year). For the purposes of calculating the per capita waste generation rates for Harrison County, the total amount of waste generated in the planning area was compared to the total population of the planning area for the same time period. The U.S. Census Bureau determined the population for Harrison County in 2010 was 187,105 (refer to Table 2). Solid waste management facility and Authority records provided the quantities used in the calculations and the quantities of solid waste generated within the planning area (refer to Tables 7 and 8).

For municipal solid waste generated within Harrison County, the calculation for the residential per capita generation rate is:

174,157 MSW tons  187,105 persons = 0.9308 tons per person per year; multiplied by 2,000 = 1,861 pounds per person per year; divided by  365 days = 5.10 pounds per capita (pounds per person per day) MSW generated in the planning area. The per capita rate for all solid waste generated in Harrison County was 9.34 pounds per person per day. The amount (in tons) of other types of solid waste generated in Harrison County in 2010 and the resulting per capita amounts are as follows:

TABLE 12

Per Capita Waste Generation for Solid Waste Generated in Harrison County (by Type)

|  |  |  |  |
| --- | --- | --- | --- |
| **Type** | **Tonnage** | **Per Capita 1** | **Percent** |
| MSW Residential | 83,324 | 2.44 | 26.1% |
| MSW Non-Residential | 90,833 | 2.66 | 28.5% |
| MSW Subtotal | 174,157 | 5.10 | 54.6% |
| Class I | 116,990 | 3.43 | 36.7% |
| Class II | 25,306 | 0.74 | 7.9% |
| Rubbish Subtotal | 142,296 | 4.17 | 44.6% |
| Recycled | 2,343 | 0.07 | 0.7% |
| Total – All Types | 318,796 | 9.34 | 100.0% |

* 1. Per Capita = pounds of waste (i.e. tons x 2,000) generated per person per day (365 day year).

This MSW generation rate is about 17.5% higher than the 2009 EPA MSW generation rate of 4.34 per capita. For more information regarding EPA generation rates, please refer to Appendix 11 - EPA Report to review the executive summary from EPA publication *Municipal Solid Waste in the United States: 2009 Facts and Figures.*

## Waste Characterization

* 1. Methodology

To determine the waste characterization, this Plan classified the waste stream into three

(3) basic types and then broke down those types into the waste materials according to established criteria. The three (3) types waste stream types are MSW (subtypes: residential and non-residential), C & D (i.e. Class I and II Rubbish) and Industrial Process Waste.

* + 1. MSW or Municipal Solid Waste

The MDEQ defines MSW (municipal solid waste) as:

“Municipal solid waste” means any nonhazardous solid waste resulting from the operation of residential, commercial, governmental, industrial, or institutional establishments except oil field exploration and production wastes and sewage sludge.

Reports supplied by the Authority and site operators filed with MDEQ provided some information about the types of waste generated in Harrison County; however, to develop a complete waste characterization, this Plan used information from the EPA publication *Municipal Solid Waste in the United States: 2009 Facts and Figures* (the “EPA MSW Report”) and information in the *Harrison County Solid Waste Management Plan* (1993) (the “1993 Plan”).

When Harrison County completed its 1993 Plan it conducted a sampling of its waste stream to determine the composition and characterization of its waste stream (Appendix 13 - 1993 Waste Characterization). The results of this sampling are depicted in Table 13. For comparison purposes Table 13 also includes EPA’s characterization of the national waste stream in 1990 and 2009.

The results of 1993 Plan sampling mirror the EPA results for 1990 for some of the major categories; however, the 1993 Plan sampling did not measure as many categories as the EPA. For evaluation purposes this Plan reviewed the results of a detailed waste characterization sampling that was conducted in Georgia in 2005. Georgia has a statewide ban on the disposal of yard trimmings into lined MSW Landfills and consequently this is reflected in its sampling.

After reviewing and comparing the differing waste characterization studies outlined in Table 13, the Authority determined that the EPA MSW Report in 2009 best reflects the assumed conditions in Harrison County in 2010. This is based on the close similarity of the 1993 Plan and EPA 1990 waste characterization studies and the fact that State of Georgia has a statewide ban on yard trimmings in lined MSW Landfills. The EPA MSW Report is based on 243 million tons of waste disposed of prior to reduction for recycling

activities (see Figure 4 from EPA publication *Municipal Solid Waste in the United States: 2009 Facts and Figures*).

TABLE 13

Comparison of MSW Characterization Studies

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Waste Material** | **Waste Characterization Study** | | | |
| **EPA 1990** | **1993 Plan** | **GA 2005** | **EPA 2009** |
| Paper | 34.9% | 35.0% | 38.7% | 28.2% |
| Glass | 6.3% | 2.0% | 3.7% | 4.8% |
| Metals | 7.9% | 16.0% | 7.4% | 8.6% |
| Plastics | 8.2% | 13.0% | 15.8% | 12.3% |
| Rubber/Leather | 2.8% | DNM 1 | 5.6% | 3.1% |
| Wood | 5.9% | DNM 1 | 4.4% | 6.5% |
| Textiles | 2.8% | DNM 1 | N/A | 5.2% |
| Yard Waste | 16.8% | 21.0% | 2.7% | 13.7% |
| Food Scraps | 11.5% | 13.0% | 12.0% | 14.1% |
| Other | 2.9% | DNM 1 | 9.8% | 3.5% |
| Total | 100.0% | 100.0% | 100% | 100.0% |

1. DNM means did not measure.

Figure 4

Chart U.S. Total Waste Generation

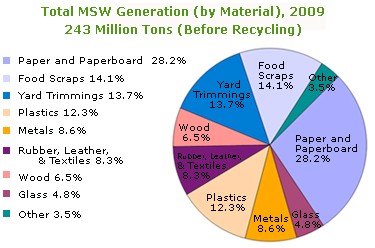


Chart from EPA Report *Municipal Solid Waste in the United States: 2009 Facts and Figures.*

Consistent with the MDEQ definition, the EPA’s 2009 figures include municipal solid waste from homes, institutions such as schools and prisons, and commercial sources such as restaurants and small businesses. The EPA figures do not include wastes of other types or from other sources, including automobile bodies, municipal sludges, combustion ash, and industrial process wastes that might also be disposed in municipal waste landfills or combustion units. Also, municipal solid waste as defined in the EPA 2009 does not include construction and demolition debris, biosolids (sewage sludges), industrial process wastes, or a number of other wastes that, in some cases, may go to a municipal waste landfill. EPA has addressed several of these materials separately, for instance, in *Biosolids Generation, Use, and Disposal in the United States*, EPA530-R-99-009, September 1999, and *Estimating 2003 Building-Related Construction and Demolition Materials Amounts*, EPA530-R09-002, March 2009 (the “EPA C&D Report”).

* + 1. Class I and II Rubbish

The MDEQ defines Class I Rubbish to include:

* + construction and demolition debris, such as wood, metal, etc.
  + brick, mortar, concrete, stone, and asphalt
  + cardboard boxes
  + natural vegetation, such as tree limbs, stumps, and leaves.
  + appliances (other than refrigerators and air conditioners) which have had the motor removed
  + furniture
  + plastic, glass, crockery, and metal, except containers
  + sawdust, wood shavings, and wood chips

The MDEQ defines Class II Rubbish to include:

* + natural vegetation, such as tree limbs, stumps, and leaves
  + brick, mortar, concrete, stone, and asphalt

In 2003 EPA estimated that 170 million tons of building-related C&D materials were generated nationwide or an average of 3.2 pounds per capita per day. The EPA estimates that:

* + The majority of C&D waste comes from building demolition and renovation and

the rest comes from new construction.

* + Equal percentages of building-related waste are estimated to come from the residential and commercial building sectors.

The composition of C&D materials varies significantly, depending on the type of project from which it is being generated. For example, materials from older buildings are likely to contain plaster and lead piping, while new construction materials may contain significant amounts of drywall, laminates, and plastics. For building materials, EPA estimates the overall percentage of debris in C&D materials falls within the following ranges:

Composition of Class I Solid Waste

|  |  |  |
| --- | --- | --- |
| **Material** | **EPA Ranges** | **Estimated**  **Composition of C&D** |
| Concrete and mixed rubble | 40-50% | 45% |
| Wood | 20-30% | 25% |
| Drywall | 5-15% | 10% |
| Asphalt roofing | 1-10% | 5% |
| Metals | 1-5% | 5% |
| Bricks | 1-5% | 5% |
| Plastics | 1-5% | 5% |
| Total |  | 100% |

* + 1. Industrial Process Waste

The MDEQ defines "industrial process waste" as any solid waste generated as a result of the manufacture of a product, except uncontaminated packaging materials and containers, uncontaminated machinery components, tires, land clearing or landscaping wastes, office wastes, cafeteria wastes, and construction and demolition wastes. Based on MDEQ definitions industrial process waste would not necessarily include waste materials contaminated by a non-manufacturing process such as a spill. To estimate the amounts of industrial waste, this Plan surveyed the Industrial Process Waste Profiles on file at the MDEQ for the Pecan Grove Landfill located in Harrison County, the MacLand Landfill located in Jackson County, Mississippi and the Turkey Trot Landfill in Washington County, Alabama. Based on these reviews it is estimated that approximately 10,000 tons of industrial process waste from outside the planning area and 10,000 tons of industrial process waste from within the planning area was disposed of in the Pecan Grove Landfill in 2010.

* 1. Solid Waste Generated Outside of the Planning Area – Managed at Facilities Within the Planning Area

The majority, 94%, of the solid waste that is generated outside of the planning area and managed at facilities in the planning area is transported from the adjacent counties of Hancock and Jackson (respectively 20% and 74% - see Table 9). Table 14 below shows that 98% of the solid waste that is imported into the County goes to the Pecan Grove MSW Landfill. This is primarily due to the fact that neither of these adjacent counties has an MSW Landfill but both Hancock County and Jackson County have several Rubbish Sites for their C & D waste. The total volume generated outside of, transported into and disposed of in the planning area was 222,111 tons (i.e. 4,595 tons disposed at Coastal Recycling and 217,516 tons disposed at Pecan Grove). For a breakdown of these volumes, please refer to Table 14 below.

TABLE 14

Solid Waste Generated Outside of the

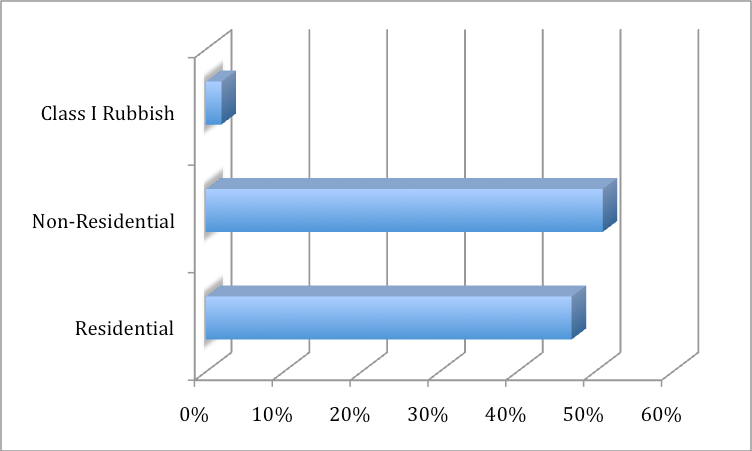
Planning Area and Managed at a Facility Within the Planning Area

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Area of Origin** | **Coastal Recycling**  **2010**  **Class I Tons** | **Pecan Grove 2010 MSW Tons** | | **Total Tons** | **Percent** |
| **Residential** | **Non – Residential** |
| Hancock County | 76 | 16,490 | 28,153 | 44,719 | 20.1% |
| Jackson County | 4,320 | 81,490 | 78,847 | 164,657 | 74.1% |
| Other MS Counties | 199 | 1,432 | 3,308 | 4,939 | 2.2% |
| Alabama | 0 | 4,891 | 1,966 | 6,858 | 3.1% |
| Louisiana | 0 | 1 | 939 | 939 | 0.4% |
| Total Imported | 4,595 | 104,304 | 113,212 | 222,111 | 100.0% |
| Percent Imported | 2% | 47% | 51% |  | 100% |

Figure 5

Chart Solid Waste Generated Outside of the

Planning Area and Managed at a Facility Within the Planning Area



Because the type of waste imported into the County is 98% MSW (see Table 14) the resulting characterization of the imported waste is different than that of waste generated within the County which is 54.6% MSW (see Table 16). Using the waste characterization percentages from the EPA’s C&D Report on C&D composition and the EPA’s MSW Report on MSW characterization, a resulting characterization of the solid waste generated outside of the planning area and managed at a facility within the Planning Area can be found in Table 15 below and illustrated in Figure 6 below.

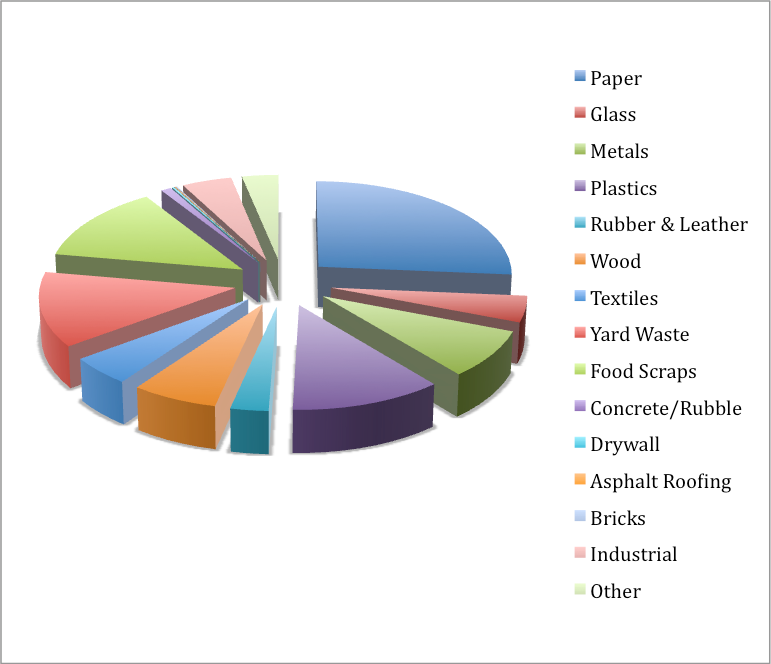
TABLE 15

Waste Characterization of Solid Waste Generated Outside of the Planning Area and Managed at a Facility Within the Planning Area

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Waste Material** | **MSW EPA**  **2009** | **MSW**  **Tons** | **C&D EPA**  **2003** | **C&D Tons** | **Total Tons** | **Resulting**  **Waste**  **Charc.** |
| Paper | 28.2% | 58,520 | 0.0% | 0 | 58,520 | 26.3% |
| Glass | 4.8% | 9,961 | 0.0% | 0 | 9,961 | 4.5% |
| Metals | 8.6% | 17,846 | 5% | 230 | 18,076 | 8.1% |
| Plastics | 12.3% | 25,524 | 5% | 230 | 25,754 | 11.6% |
| Rubber/Leather | 3.1% | 6,433 | 0.0% | 0 | 6,433 | 2.9% |
| Wood | 6.5% | 13,489 | 25% | 1,149 | 14,637 | 6.6% |
| Textiles | 5.2% | 10,791 | 0.0% | 0 | 10,791 | 4.9% |
| Yard Waste | 13.7% | 28,430 | 0.0% | 0 | 28,430 | 12.8% |
| Food Scraps | 14.1% | 29,260 | 0.0% | 0 | 29,260 | 13.2% |
| Concrete/Rubble | 0.0% | 0 | 45% | 2,068 | 2,068 | 0.9% |
| Drywall | 0.0% | 0 | 10% | 460 | 460 | 0.2% |
| Asphalt Roofing | 0.0% | 0 | 5% | 230 | 230 | 0.1% |
| Bricks | 0.0% | 0 | 5% | 230 | 230 | 0.1% |
| Industrial | 0.0% | 10,000 | 0.0% | 0 | 10,000 | 4.5% |
| Other | 3.5% | 7,263 | 0.0% | 0 | 7,263 | 3.3% |
|  | 100.0% | 217,516 | 100.0% | 4,595 | 222,111 | 100.0% |

Figure 6

Chart of Resulting Waste Characterization Table 15



Waste materials of less than 0.5% not charted.

* 1. Solid Waste Generated Inside of the Planning Area – Managed at Facilities Within the Planning Area

The majority of the waste generated within the Planning area is MSW (54.6%) followed by C&D (i.e. Class I 36.7% and II Rubbish 7.9%) at 44.6% and Recycled waste at 0.7%. These amounts and percentages are summarized in Table 16 and Figure 7 below.

Table 16

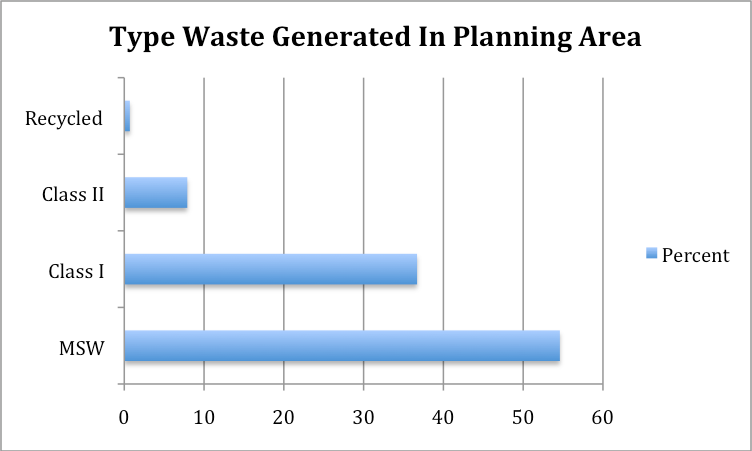
Waste Characterization of Solid Waste Generated Inside Planning Area and Managed at a Solid Waste Management Facility Inside or Outside of the Planning Area

By Type of Waste

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Description** | **Type of Waste (2010 Tons)** | | | | **Total Tons** |
| **MSW** | **Class I** | **Class II** | **Recycled** |
| Tons | 174,157 | 116,990 | 25,306 | 2,343 | 318,796 |
| Percentage | 54.6% | 36.7% | 7.9% | 0.7% | 100% |

Figure 7

15



Using the waste characterization percentages from the EPA’s C&D Report on C&D composition to breakdown the C&D waste and the EPA’s MSW Report on MSW characterization to breakdown the MSW the resulting characterization was developed a complete characterization of the waste stream. A resulting characterization of the solid waste generated within the planning area and managed at a facility inside or outside of the planning area can be found in Table 17 below and illustrated in Figure 8 below.

Table 17

Waste Characterization of Solid Waste Generated Only Inside Planning Area and Managed at a Solid Waste Management Facility Inside or Outside of the Planning Area By Waste Material

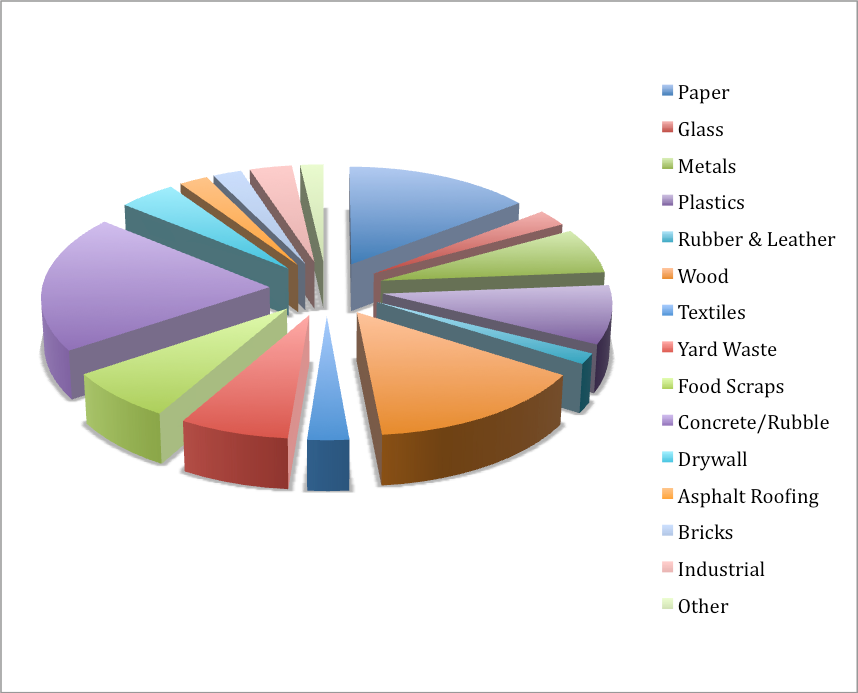
|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Waste Material** | **MSW EPA**  **2009** | **MSW 1**  **Tons** | **C & D**  **EPA 2003** | **C & D Tons** | **Total Tons** | **Resulting**  **Waste Charc.** |
| Paper | 28.2% | 46,953 | 0.0% | 0 | 46,953 | 14.6% |
| Glass | 4.8% | 7,992 | 0.0% | 0 | 7,992 | 2.5% |
| Metals | 8.6% | 14,319 | 5% | 7,115 | 21,434 | 6.7% |
| Plastics | 12.3% | 20,480 | 5% | 7,115 | 27,594 | 8.6% |
| Rubber/Leather | 3.1% | 5,162 | 0.0% | 0 | 5,162 | 1.6% |
| Wood | 6.5% | 10,823 | 25% | 35,574 | 46,397 | 14.6% |
| Textiles | 5.2% | 8,658 | 0.0% | 0 | 8,658 | 2.7% |
| Yard Waste | 13.7% | 22,811 | 0.0% | 0 | 22,811 | 7.1% |
| Food Scraps | 14.1% | 23,477 | 0.0% | 0 | 23,477 | 7.3% |
| Concrete/Rubble | 0.0% | 0 | 45% | 64,033 | 64,033 | 20.3% |
| Drywall | 0.0% | 0 | 10% | 14,229 | 14,230 | 4.5% |
| Asphalt Roofing | 0.0% | 0 | 5% | 7,115 | 7,115 | 2.3% |
| Bricks | 0.0% | 0 | 5% | 7,115 | 7,115 | 2.3% |
| Industrial | 0.0% | 10,000 | 0.0% | 0 | 10,000 | 3.3% |
| Other | 3.5% | 5,828 | 0.0% | 0 | 5,828 | 1.8% |
| Total | 100.0% | 176,500 | 100.0% | 142,296 | 318,796 | 100.0% |

1. Recycled tons were added to MSW Tons for characterization purposes.

Figure 8

Chart of Waste Characterization Data of Solid Waste Generated Only Inside Planning Area and Managed at a Solid Waste Management Facility Inside or Outside of

the Planning Area By Waste Material



When the amount of solid waste generated outside of the planning area and managed at a facility within the planning area (i.e. Table 15) is added to the amount of solid waste generated within the planning area and managed at a solid waste management facility inside or outside of the planning area (i.e. Table 17), the total waste generated in 2010 is 540,907 tons. The largest waste material is “Paper” at 105,473 tons or 19.5% of the total waste stream. This is followed by “Concrete and Rubble” at 66,101 tons or 12.2%; and, “Wood” 11.3% and “Yard Waste” 9.5%. Please refer to Table 18 for a complete analysis.

TABLE 18

Waste Characterization of Solid Waste Generated Inside Planning Area and Managed at a Solid Waste Management Facility Inside or Outside of the Planning Area Added to Solid Waste Generated Outside of the Planning Area and Managed at a Facility

Within the Planning Area

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Waste Material** | **Generated Within Planning Area** | | **Generated Outside Planning Area** | | **Total** | **Waste Charc. Percent** |
| **MSW**  **Tons** | **C&D Tons** | **MSW**  **Tons** | **C&D Tons** |
| Paper | 46,953 | 0 | 58,520 | 0 | 105,473 | 19.5% |
| Glass | 7,992 | 0 | 9,961 | 0 | 17,953 | 3.3% |
| Metals | 14,319 | 7,115 | 17,846 | 230 | 39,510 | 7.3% |
| Plastics | 20,480 | 7,115 | 25,524 | 230 | 53,349 | 9.9% |
| Rubber/Leather | 5,162 | 0 | 6,433 | 0 | 11,594 | 2.1% |
| Wood | 10,823 | 35,574 | 13,489 | 1,149 | 61,034 | 11.3% |
| Textiles | 8,658 | 0 | 10,791 | 0 | 19,449 | 3.6% |
| Yard Waste | 22,811 | 0 | 28,430 | 0 | 51,240 | 9.5% |
| Food Scraps | 23,477 | 0 | 29,260 | 0 | 52,736 | 9.7% |
| Concrete/Rubble | 0 | 64,033 | 0 | 2,068 | 66,101 | 12.2% |
| Drywall | 0 | 14,230 | 0 | 460 | 14,689 | 2.7% |
| Asphalt Roofing | 0 | 7,115 | 0 | 230 | 7,345 | 1.4% |
| Bricks | 0 | 7,115 | 0 | 230 | 7,345 | 1.4% |
| Industrial | 10,000 | 0 | 10,000 | 0 | 20,000 | 3.7% |
| Other | 5,828 | 0 | 7,263 | 0 | 13,091 | 2.4% |
| Total | 176,500 | 142,296 | 217,516 | 4,595 | 540,907 | 100% |

## 5. Projections of Future Solid Waste Quantities

All the volumes used in calculations for this plan are based on 2010 records and reports. Therefore, the base for projections for future solid waste quantities is 2010 information, including population estimates from the U.S. Census Bureau.

It is anticipated that there will be increasing volumes in Harrison County solid waste commensurate with population growth as outlined in Table 2 Population Growth Forecasts. In Harrison County at this time there are no new waste minimization plans or other changes proposed that would significantly alter the waste generation or characterization. The projections below (Table 19) are based on the current waste generation per capita rate (see Table 12) established for 2010. The resulting waste characterization for these projections is shown in Table 20.

TABLE 19

Projections for Total Solid Waste Generated In Harrison County

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **Population (Est.)** | **Per Capita (Pounds/Person/Day)** | **Total Tons/Year** |
| 2010 | 187,105 | 9.336 | 318,796 |
| 2015 | 188,335 | 9.336 | 320,892 |
| 2020 | 194,060 | 9.336 | 330,646 |
| 2025 | 198,716 | 9.336 | 338,579 |
| 2030 | 203,684 | 9.336 | 347,044 |
| 2035 | 208,776 | 9.336 | 355,720 |

TABLE 20

Waste Characterization of Projections for Total Solid Waste Generated In Harrison County

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Material** | **Waste Charc.** | **Tons Per Year** | | | | |
| **2015** | **2020** | **2025** | **2030** | **2035** |
| Paper | 14.7% | 47,262 | 48,698 | 49,867 | 51,113 | 52,391 |
| Glass | 2.5% | 8,045 | 8,289 | 8,488 | 8,700 | 8,918 |
| Metals | 6.7% | 21,575 | 22,231 | 22,764 | 23,333 | 23,916 |
| Plastics | 8.7% | 27,776 | 28,620 | 29,307 | 30,039 | 30,790 |
| Rubber/Leather | 1.6% | 5,195 | 5,353 | 5,482 | 5,619 | 5,759 |
| Wood | 14.6% | 46,702 | 48,121 | 49,276 | 50,508 | 51,770 |
| Textiles | 2.7% | 8,715 | 8,980 | 9,195 | 9,425 | 9,661 |
| Yard Waste | 7.2% | 22,960 | 23,658 | 24,226 | 24,832 | 25,452 |
| Food Scraps | 7.4% | 23,631 | 24,349 | 24,933 | 25,557 | 26,196 |
| Concrete/Rubble | 20.1% | 64,454 | 66,413 | 68,007 | 69,707 | 71,450 |
| Drywall | 4.5% | 14,323 | 14,759 | 15,113 | 15,490 | 15,878 |
| Asphalt Roofing | 2.2% | 7,162 | 7,379 | 7,556 | 7,745 | 7,939 |
| Bricks | 2.2% | 7,162 | 7,379 | 7,556 | 7,745 | 7,939 |
| Industrial | 3.1% | 10,066 | 10,372 | 10,621 | 10,886 | 11,158 |
| Other | 1.8% | 5,866 | 6,044 | 6,189 | 6,344 | 6,502 |
| Total | 100.0% | 320,892 | 330,646 | 338,579 | 347,044 | 355,720 |

The majority, 94%, of the solid waste that is generated outside of the planning area and managed at facilities in the planning area is transported from the adjacent counties of Hancock and Jackson (respectively 20% and 74% see Table 9). 98% of the solid waste that is imported into the County is MSW. This is primarily due to the fact that neither of these adjacent counties has an MSW. The total volume generated outside of, transported into and disposed of in the planning area was 222,111 tons (i.e. 4,595 tons disposed at Coastal Recycling and 217,516 tons disposed at Pecan Grove, see Table 14). In Hancock and Jackson Counties, at this time, there are no new MSW Landfills, no new waste minimization plans or other changes proposed that would significantly alter their waste generation. The future projection of waste generated outside of the planning area and managed at a facility inside the planning area (Table 21) is based on the current 2010 volumes and increased at a rate of 0.5% every year (i.e. 2.5% every five (5) years which is a growth rate consistent of the estimated growth for the State of Mississippi as estimated by the IHL.

TABLE 21

Tonnage Projections and Waste Characterization of Projections for Solid Waste Generated Outside of Harrison County and Managed at a Solid Waste Management Facility Inside of the Planning Area

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Material** | **Waste Charc.** | **Tons Per Year** | | | | |
| **2015** | **2020** | **2025** | **2030** | **2035** |
| Paper | 26.3% | 59,876 | 61,372 | 62,907 | 64,479 | 66,091 |
| Glass | 4.5% | 10,245 | 10,501 | 10,764 | 11,033 | 11,308 |
| Metals | 8.1% | 18,441 | 18,902 | 19,374 | 19,859 | 20,355 |
| Plastics | 11.6% | 26,409 | 27,069 | 27,746 | 28,440 | 29,151 |
| Rubber/Leather | 2.9% | 6,602 | 6,767 | 6,936 | 7,110 | 7,288 |
| Wood | 6.6% | 15,026 | 15,401 | 15,786 | 16,181 | 16,586 |
| Textiles | 4.9% | 11,156 | 11,434 | 11,720 | 12,013 | 12,314 |
| Yard Waste | 12.8% | 29,141 | 29,869 | 30,616 | 31,382 | 32,166 |
| Food Scraps | 13.2% | 30,052 | 30,803 | 31,573 | 32,362 | 33,171 |
| Concrete/Rubble | 0.9% | 2,049 | 2,100 | 2,153 | 2,207 | 2,262 |
| Drywall | 0.2% | 455 | 467 | 478 | 490 | 503 |
| Asphalt Roofing | 0.1% | 228 | 233 | 239 | 245 | 251 |
| Bricks | 0.1% | 228 | 233 | 239 | 245 | 251 |
| Industrial | 4.5% | 10,245 | 10,501 | 10,764 | 11,033 | 11,308 |
| Other | 3.3% | 7,513 | 7,701 | 7,893 | 8,091 | 8,293 |
| Total | 100.0% | 227,664 | 233,355 | 239,189 | 245,169 | 251,298 |

Table 22 adds the projections of the amount of solid waste generated outside of the planning area and managed at a facility within the planning area (i.e. Table 21) to the projections of the amount of solid waste generated within the planning area and managed at a solid waste management facility inside or outside of the planning area (i.e. Table 20).

TABLE 22

Projections of Solid Waste Generated Inside Planning Area and

Managed at a Solid Waste Management Facility Inside or Outside of the Planning Area Added to Solid Waste Generated Outside of the Planning Area and Managed at a Facility Within the Planning Area

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Material** | **Waste Charc.** | **Tons Per Year** | | | | |
| **2015** | **2020** | **2025** | **2030** | **2035** |
| Paper | 19.5% | 107,137 | 110,071 | 112,773 | 115,593 | 118,483 |
| Glass | 3.3% | 18,289 | 18,790 | 19,251 | 19,733 | 20,226 |
| Metals | 7.3% | 40,015 | 41,132 | 42,138 | 43,192 | 44,271 |
| Plastics | 9.9% | 54,185 | 55,689 | 57,053 | 58,479 | 59,941 |
| Rubber/Leather | 2.1% | 11,798 | 12,121 | 12,418 | 12,729 | 13,047 |
| Wood | 11.3% | 61,727 | 63,523 | 65,062 | 66,689 | 68,356 |
| Textiles | 3.6% | 19,870 | 20,414 | 20,916 | 21,438 | 21,974 |
| Yard Waste | 9.5% | 52,101 | 53,528 | 54,842 | 56,213 | 57,619 |
| Food Scraps | 9.8% | 53,682 | 55,152 | 56,506 | 57,919 | 59,367 |
| Concrete/Rubble | 12.2% | 66,503 | 68,514 | 70,160 | 71,914 | 73,711 |
| Drywall | 2.7% | 14,778 | 15,225 | 15,591 | 15,981 | 16,380 |
| Asphalt Roofing | 1.4% | 7,389 | 7,613 | 7,796 | 7,990 | 8,190 |
| Bricks | 1.4% | 7,389 | 7,613 | 7,796 | 7,990 | 8,190 |
| Industrial | 3.7% | 20,311 | 20,873 | 21,384 | 21,919 | 22,467 |
| Other | 2.4% | 13,379 | 13,745 | 14,082 | 14,434 | 14,795 |
| Total | 100.0% | 548,555 | 564,002 | 577,768 | 592,213 | 607,018 |

# SECTION D

**PRIMARY SOLID**

**WASTE PROGRAM COMPONENTS**

1. Residential Garbage Management Programs

A description of the residential waste collection services provided by the Authority (for the unincorporated areas of the county and Biloxi, D”Iberville, Long Beach and Pass Christian) and by the City of Gulfport is detailed in this section. These details will confirm that the County and municipalities comply with the requirement of Mississippi Code Annotated Section 17-17-5, which requires that every board of supervisors and/or municipal governing body provide for the collection and disposal of garbage within its jurisdiction.

This section specifically addresses the management of residential garbage. Yard trash in some circumstances is managed separately from residences in the county. A more detailed description of the management of this yard waste and rubbish is in the section entitled “Rubbish Management Systems and Programs.” Similarly, services relating to recycling and white goods are addressed in the appropriate sections in the plan.

* 1. Background of Authority

The Mississippi Legislature during the 2006 Regular Session of the Legislature, it passed the Gulf Coast Region Utility Act Mississippi Code Annotated Section 49-17-701 through 775 (1972) creating six countywide utility authorities, including the Harrison County Utility Authority (the “Authority” or “HCUA”). The Act gave to each utility authority the legal authority to oversee water, wastewater and, for Harrison County, solid waste services. Unique to the HCUA, the language creating the HCUA includes the term “solid waste,” since the HCUA is a continuance of the corporate existence of the Harrison County Wastewater and Solid Waste Management District which had been in existence since 1986. The Harrison County Wastewater and Solid Waste Management District (the “District”) was established by House Bill No. 1149, Chapter No. 862 Local and Private Laws of Mississippi, 1986 regular session, which is also known at the Harrison County Wastewater and Solid Waste Management Act.

The HCUA board of directors by statute (i.e. Mississippi Code Annotated Section Section 49-17-729 (1972)) is composed of the mayors of the Cities of Biloxi, Gulfport, D’Iberville, Long Beach, Pass Christian, and two directors appointed by the Harrison County Board of Supervisors with a specific requirement that one (1) of the Supervisors appointed to the board of directors must be a resident of the unincorporated area of the county.

The Harrison County Utility Authority has the primary responsibility for residential garbage management programs in Harrison County including the unincorporated areas of

the county and four municipalities located within the county. These four municipalities are the Cities of Biloxi, D’Iberville, Long Beach and Pass Christian. Gulfport was originally included in the Authority’s jurisdiction for residential garbage management. However, on September 20, 2017, the Authority and the City of Gulfport signed a Memorandum of Agreement which allows Gulfport to solicit and negotiate its own solid waste collection and disposal contracts separate from those of the HCUA.

The Authority provides the residential waste collection and disposal services for all residences within the County’s incorporated and unincorporated areas, with the exception of Gulfport, by utilizing the services of four (4) separate contractors. The Authority contracts with two private company contractors to provide the residential waste collection services and two other private company contractors to provide the disposal services.

Pursuant to the HCUA and City of Gulfport MOA dated September, 20, 2017, Gulfport solicited and negotiated its own solid waste collection and disposal contract. Gulfport utilizes the services of a single contractor for the collection and disposal of residential waste within its city limits.

* 1. Residential Garbage Collection and Disposal Services
     1. Residential Garbage Collection Services

The Authority contracts with Team Waste to provide the residential solid waste and recycle collection services for all residences in the planning area excluding the City of Gulfport. The current contract with Team Waste began on October 1, 2017 and has a term of six years. Under this contract, each residence in the Authority’s solid waste planning area is supplied a 95 gallon cart for general solid waste and a 35 gallon cart for recyclables. Under this contract, Team Waste collects general solid waste and recyclables once a week curb side for all residences. Team Waste is also responsible for processing of the single stream recyclables which includes newspapers, magazines, glass bottles and jars, metal (steel and aluminum) cans, and plastic drink containers. The recycling services are more fully described in the “Recycling and Waste Reduction Programs” section of this Plan.

All solid waste collected by Team Waste pursuant to this contract is taken to the Waste Management of Mississippi Inc, Pecan Grove Landfill and Recycling Center and Rubbish Site (the “Pecan Grove Landfill”). Waste Management of Mississippi, Inc owns this site. Pecan Grove includes a 176-acre permitted MSW Landfill in addition to other facilities located on the 1,243-acre facility property. The Pecan Grove Landfill is permitted per MDEQ Solid Waste Management Permit SW00101B0412 and is located at 9685 Firetower Road, Pass Christian, Mississippi 39571. The Authority pays for the disposal of all solid waste collected under a separate contract with Waste Management.

The solid waste collection contract with Team Waste includes garbage collection from single- family dwellings and multi-family dwellings (including duplexes, triplexes and apartments having four (4) or less units). Small commercial businesses generating no more than 1-1/2 cubic yards of solid waste per week are also included in Team Waste’s services. Commercial businesses generating more than 1-1/2 cubic yards of solid waste per week are not included in this contract and are required to have their own contracts for solid waste collection and disposal.

Under the current contract with the Authority, Team Waste charges the Authority $9.75 per residence a month for both general solid waste collection and recyclable collection and processing. The total initial number of contracted units at the beginning of the contract was 43,454. Team Waste is not responsible for billing and collecting the fees for service from the residents nor is it responsible for disposal of the general solid waste.

County residents pay Harrison County for the solid waste collection and disposal services through millage assessed in their property taxes. County residents are not allowed to opt out of the solid waste collection services as may be allowed by Mississippi Code Annotated Section 19-5-21 (5)a. City residents pay for solid waste collection and disposal services on their water/sewer utility bill from their respective city. The County and cities, with the exception of Gulfport, in turn pay the Authority their *pro rata* share for the solid waste collection and disposal services.

The City of Gulfport contracted with Waste Pro on July 27, 2017 for collection and disposal of all residential and light commercial solid waste within the city limits for a fee of $14.36 per residence per month. The initial number of contract units (residences) included in the contract was 24,533. This fee covers twice per week collection of residential garbage placed in 96 gallon carts, bi-weekly collection of single stream recyclables placed in 18 gallon bins and as needed collection of trash (yard clippings, limbs) and other rubbish placed curbside by residents. Waste Pro is also responsible for processing of the single stream recyclables which includes newspapers, magazines, glass bottles and jars, metal (steel and aluminum) cans, and plastic drink containers. The recycling services are more fully described in the “Recycling and Waste Reduction Programs” section of this Plan. The term of this contract is six years.

All residential solid waste collected by Waste Pro pursuant to this contract is taken to the Waste Management of Mississippi Inc, Pecan Grove Landfill and Recycling Center and Rubbish Site (the “Pecan Grove Landfill”). Waste Management of Mississippi, Inc owns this site. Pecan Grove includes a 176-acre permitted MSW Landfill in addition to other facilities located on the 1,243-acre facility property. The Pecan Grove Landfill is permitted per MDEQ Solid Waste Management Permit SW00101B0412 and is located at 9685 Firetower Road, Pass Christian, Mississippi 39571. Under its contract with the City of Gulfport, disposal of all solid waste collected is included in the $14.36 per month fee.

For more information regarding the financing of the solid waste collection and other services, please refer to the “Financing of Primary Solid Waste System Components” section.

* + 1. Residential Garbage Disposal Services

Team Waste, by contract with the Authority, is required to dispose of all residential waste collected at the only MSW Landfill located in the County (i.e. Pecan Grove Landfill). Pursuant to the Authority’s Disposal Service Agreement with Waste Management of Mississippi, Inc. (“WMMI”), residential waste from all of the unincorporated and incorporated areas is directed only to the Pecan Grove Landfill and to no other solid waste transfer station or landfill. The residential waste tonnage generated within Harrison County and received in 2010 at the Pecan Grove MSW Landfill is illustrated in the Table below.

TABLE 23

Tons of Residential Waste Generated in Harrison County 2010

|  |  |
| --- | --- |
| **Pecan Grove Landfill and Recycling Center and Rubbish Site** | |
| **Item Description** | **Data 1** |
| 2010 Harrison County Residential Tons | 83,313 Tons |
| Physical Location | 9685 Firetower Rd, Pass Christian, MS  39571 |
| Available Disposal Capacity (yards) | 8,991,518 cubic yards |
| Remaining Estimated Life (years) | 21 years |
| Total Approved Disposal Acreage | 176 acres |
| Approved Service Area | 100 miles from Harrison County excluding  the City of New Orleans |

1. Based on 2010 Landfill Annual Report submitted to MDEQ.

Waste Management of Mississippi, Inc owns the Pecan Grove Landfill which includes a 176-acre permitted MSW Landfill in addition to other facilities located on a 1,243-acre facility property. The Pecan Grove Landfill is permitted by the MDEQ per Solid Waste Management Permit SW00101B0412 and is located at 9685 Firetower Road, Pass Christian, Mississippi 39571. According to the company’s website, [www.wmsolutions.com/facilities/,](http://www.wmsolutions.com/facilities/) the Pecan Grove Landfill accepts Asbestos (Friable and Non-Friable), Construction & Demolition Debris, Drums of Liquids or Solids, Industrial & Special Waste and Municipal Solid Waste. Any liquids, drums or otherwise, received at the facility would be required to be solidified prior to being disposed of in the Landfill.

In 2010, of the MSW generated in Harrison County, 93% of it was disposed of in the Pecan Grove Landfill with the remaining 7% being disposed of in MSW Landfills outside of Harrison County. In 2015, Pecan Grove Landfill reported receiving 376,996 tons for the year or an average of 1,216 tons per day based on 310 days per year. At the end of 2015, with an estimated remaining air space of 7,796,649 cubic yards, Pecan Grove reported having an estimated remaining life of 18 years. In accordance with the Disposal Agreement with the Authority, the facility has a service area of one-hundred (100) miles from Harrison County excluding the areas within the corporate boundaries of the City of New Orleans.

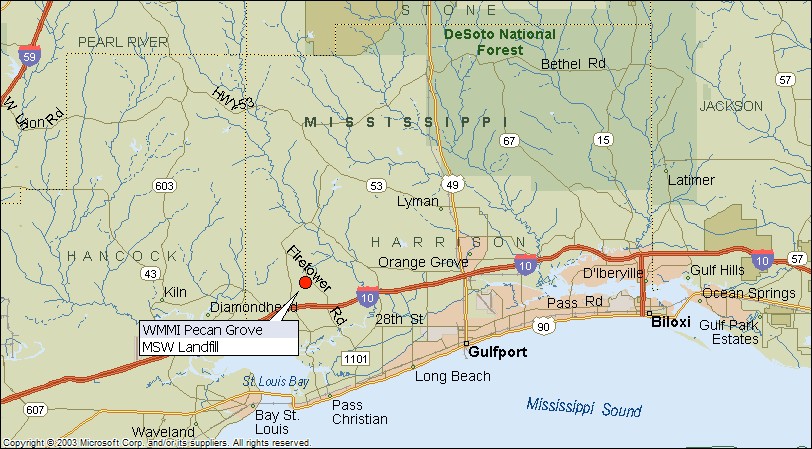
The Authority entered into the Disposal Agreement with WMMI on August 25, 2015. The term of the Disposal Agreement is ten (10) years with the option to exercise a maximum of four, 5-year extensions, resulting in a total possible term of 30 years. Under this agreement, WMMI receives $15/ton for all waste disposed of for the Authority. In turn, WMMI pays the Authority $1 per HCUA-serviced residence per year as a management fee. WMMI is also contracted to pay the Authority $1/ton for all tonnage greater than 33,333 tons per month of waste disposed of for the Authority at the Pecan Grove facility. The Disposal Agreement also requires WMMI to provide white goods recycling at the Pecan Grove facility for Harrison County homeowners. WMMI is required to maintain disposal capacity for the Authority throughout the term of the agreement.

Gulfport’s contract with Waste Pro requires Waste Pro to dispose of all residential solid garbage waste collected within the city limits of Gulfport at the WMMI Pecan Grove facility. The cost of disposal is included in the $14.36 per month per resident fee charged by Waste Pro to Gulfport. The City of Gulfport is required under its Memorandum of Understanding with HCUA to pay the Authority $1 per Gulfport residence per year as a solid waste management fee.

The location of the Pecan Grove Landfill is identified on Map 4.

Map 4

Pecan Grove MSW Landfill Location



* 1. Needs and Assessments

The current residential garbage management programs utilized by the municipalities and the County are, based on a continuation of the current solid waste collection levels of service and landfill disposal host agreement benefits, adequate to meet the needs of the planning area. The current level of services and rates to customers for solid waste collection services are very reasonable and the landfill disposal rates are very competitive.

The Authority and the City of Gulfport plan to continue their management of residential garbage collection and disposal by contracting out the services to private company contractors. The Authority and the City of Gulfport plan to conduct procurement processes at the appropriate time before the expiration of the current solid waste collection and disposal contracts in order to solicit new or renewed contracts for these services.

**SECTION D, CONTINUED**

# PRIMARY SOLID

**WASTE PROGRAM COMPONENTS**

## Rubbish Management Systems & Programs

Rubbish is defined as non-putrescible solid wastes (excluding ashes) consisting of both combustible and noncombustible wastes. Combustible rubbish includes paper, rags, cartons, wood, furniture, rubber, plastics, yard trimmings, leaves, and similar materials. Noncombustible rubbish includes glass, crockery, metal cans, metal, furniture and like materials which will not burn at ordinary incinerator temperatures (not less than 1600 degrees F). Rubbish is generated by homeowners, commercial businesses and private contractors. Yard waste is a subset of rubbish wastes. According to the U.S. EPA, yard waste accounts for as much as 20% of the overall municipal solid waste stream.

In Mississippi rubbish and rubbish disposal sites are classified as either Class I Rubbish or Class II Rubbish.

The MDEQ defines Class I Rubbish to include:

* + construction and demolition debris, such as wood, metal, etc.
  + brick, mortar, concrete, stone, and asphalt
  + cardboard boxes
  + natural vegetation, such as tree limbs, stumps, and leaves.
  + appliances (other than refrigerators and air conditioners) which have had the motor removed
  + furniture
  + plastic, glass, crockery, and metal, except containers
  + sawdust, wood shavings, and wood chips

The MDEQ defines Class II Rubbish to include:

* + natural vegetation, such as tree limbs, stumps, and leaves
  + brick, mortar, concrete, stone, and asphalt

There are seven (7) approved rubbish sites in Harrison County. Some of these facilities are currently inactive. Annual reports filed with MDEQ for each of the active rubbish sites managing Harrison County solid wastes were reviewed to complete this Plan. In 2015 there were five (5) active rubbish sites in Harrison County that accepted solid waste. These five (5) active sites include two (2) Class I Rubbish Sites (“Class I”) and three (3) Class II Rubbish Sites (“Class II”). The two active Class I Rubbish Sites are Coastal Recycling and Firetower Landfill. The inactive Class I sites includes Pecan Grove Rubbish Site and Highway 15 Rubbish Site. The active Class II Rubbish Sites include Canal Road, Ray and the D. W. Lamey Rubbish Sites. For more information regarding these facilities, please refer to Table 27 at the end of this section or the section entitled “*Comprehensive Inventory of Local Solid Waste Management Facilities.*”

* 1. Quantification of Rubbish

The exact amount of rubbish generated in Harrison County is somewhat difficult to estimate with a high degree of accuracy. Much of the rubbish generated in the County is commingled with residential and commercial garbage at the source and disposed of in MSW landfills or directly disposed of in MSW landfills due to host agreement conditions.

Annual reports filed with MDEQ for each of the active rubbish sites managing Harrison County solid wastes were reviewed to quantify the rubbish waste generated in Harrison County for the year 2010.

TABLE 24

Rubbish Generated Only Inside Planning Area and Managed at a Rubbish Site Inside of the Planning Area

|  |  |  |  |
| --- | --- | --- | --- |
| **Facility Name** | **Type Facility** | **Type of Waste (2010 Tons)** | |
| Class I | Class II |
| Blackmer I | Class I | 7,275 |  |
| Blackmer II | Class II |  | 1,194 |
| Canal Road | Class II |  | 18,623 |
| Coastal | Class I | 84,958 |  |
| Firetower Rd | Class I | 24,757 |  |
| D. W. Lamey | Class II |  | 5,483 |
| Ray | Class II |  | 6 |
| Subtotal Tons |  | 116,990 | 25,306 |
| Percent Type |  | 82.2% | 17.8% |

The majority of the rubbish generated within the Planning area and disposed of at Rubbish Sites was disposed of at Class I Rubbish Sites (82.2%). The remainder (17.8%) was disposed of at Class II Rubbish Sites. (See Tables 27 and 28 at the end of this section for a complete description of these Rubbish Sites).

Per capita rubbish generation rates were calculated based on pounds of rubbish generated per person per day (365 day year). For the purposes of calculating the per capita rubbish generation rates for Harrison County, the total amount of rubbish generated in the planning area was compared to the total population of the planning area for the same time period. The U.S. Census Bureau determined the population for Harrison County in 2010 was 187,105 (refer to Table 2). Rubbish Site records provided the quantities used in the calculations and the quantities of solid waste generated with the planning area.

For rubbish generated within Harrison County, the per capita generation rate is:

142,296 tons  187,105 persons = 0.7605 tons per person per year; multiplied by 2,000 = 1,521 pounds per person per year; divided by  365 days = 4.17 pounds per capita (pounds per person per day) rubbish generated in the planning area. The per capita rate for all solid Class I and Class II Rubbish generated in Harrison County is as follows:

TABLE 25

Per Capita Rubbish Generation for Rubbish Generated in Harrison County (by Type)

|  |  |  |  |
| --- | --- | --- | --- |
| **Type** | **Tonnage** | **Per Capita 1** | **Percent** |
| Class I | 116,990 | 3.43 | 82.2% |
| Class II | 25,306 | 0.74 | 17.8% |
| Rubbish Subtotal | 142,296 | 4.17 | 100.0% |

* + 1. Per Capita = pounds of rubbish (i.e. tons x 2,000) generated per person per day (365 day year).
  1. Rubbish Sites Outside of Planning Area

In 2010 there were twenty-five (25) approved Rubbish Sites located in the four (4) counties contiguous to Harrison County (i.e. Hancock, Jackson, Pearl River and Stone). Most of these Rubbish Sites, twenty-three (23), are located in Hancock and Jackson Counties. Of these twenty-five (25), seventeen (17) of the sites are active and eight (8) are inactive. Of the active Rubbish Sites in the contiguous counties only three (3) sites reported taking rubbish generated in Harrison County. These three (3) sites were all Class I Rubbish Sites and are the Applewhite, John Ward and Talley Class I Rubbish Sites all located in Jackson County. None of the Rubbish Sites accepting Rubbish from Harrison County quantified the amount of Rubbish received from Harrison County. Remaining capacity and location information regarding these three (3) Rubbish Sites is as follows:

Table 26 Rubbish Sites Outside of

Planning Area Accepting Rubbish in 2010

|  |  |  |  |
| --- | --- | --- | --- |
| **Facility Name/ Permit No.** | **Class** | **Street Address** | **Remaining Capacity 2010 (Years or**  **Acres)** |
| Applewhite Recycling/  SW0300050519 | Class I | 4501 Beasley Road,  Gautier, MS 39553 | 1 Year/  4 Acres |
| John Ward Sand  and Clay Mining/R1-096 | Class I | 8400 Jim Ramsey Road, Vancleave, MS 39565 | 20 Years/  28 Acres |
| Talley/R1-076 | Class I | 13229 Seaman Rd.,  Vancleave, MS 39565 | 20 Years |

* 1. Rubbish Collection and Disposal

On July 12, 2017, the Authority entered into an agreement with Pelican Waste for Trash Waste collection. Under this contract, Pelican Waste provides once weekly pick-up at all residences of trash waste, defined as rubbish, bulky waste, yard waste and white goods. Bulky waste was defined as stoves, refrigerators, water heaters, automobile parts, washing machines, furniture and other waste material other than construction debris, dead animals, and hazardous waste. In order for air conditioners and refrigerators to be eligible for pick up, they must display a tag certifying that all chlorofluorocarbons (CFC’s) have been removed. Yard waste was defined as all wood waste, wood products, wood chips, trees, tree limbs, bagged leaves, bagged saw dust, bagged grass clippings, bagged pine cones, bagged pine straw, shrub trimmings, Christmas trees, dead plants, weeds and straw. Rubbish and white goods under this contract followed the standard MDEQ definition of such. Pelican Waste receives a fee of $2.89 per house per month from the Authority. Also as part of the contract, Pelican Waste remits a fee of $0.50 per house per year to the Authority as a management fee. The term of this agreement was for six years.

On August 26, 2015, the Authority entered into an agreement with Team Waste for disposal of the all rubbish collected on behalf of the Authority at either of their MDEQ permitted Class I Rubbish Landfills (Coastal Recyclers or Firetower). Team Waste collects a fee of $9.44 per ton for all rubbish disposed of on behalf of the Authority. Team Waste remits a fee $0.25 per house (including both HCUA and City of Gulfport customers) per year to the Authority as a management fee. The term of this agreement is for 10 years with the option of four, 5-year extensions.

Under its contract with Waste Pro, all trash, rubbish and white goods within Gulfport’s city limits are picked up on an as needed basis curbside from all residences. The cost of this service is included in Waste Pro’s $14.36 per month per residence fee. The City of Gulfport has committed that all its trash, rubbish, and white goods will be disposed of at the Team Waste landfills utilized by HCUA.

County residents pay Harrison County for the solid waste collection and disposal services through millage assessed in their property taxes. County residents are not allowed to opt out of the solid waste collection services as may be allowed by Mississippi Code Annotated Section 19-5-21 (5)a. City residents pay for solid waste collection and disposal services on their water/sewer utility bill from their respective city. The County and cities, with the exception of Gulfport, in turn pay the Authority their *pro rata* share for the solid waste collection and disposal services. For more information regarding the financing of the solid waste collection and other services, please refer to the “Financing of Primary Solid Waste System Components” section.

2.4. Beneficial Fills and Uses

In Mississippi, the MDEQ has identified two categories in which solid wastes may be used for beneficial purposes. One category is “beneficial fill” and the other is “beneficial use.” MDEQ defines a “Beneficial Fill” as the use of uncontaminated, non-water soluble, non-decomposable class II rubbish wastes to level an area or bring the area to a grade for beneficial purposes, where an earthen cover is applied upon completion of the fill. Such beneficial purposes must not be conducted for monetary compensation and may include landscaping, erosion control or repair, land stabilization, construction base preparations or other land improvements.

Inert rubbish wastes such as concrete, brick and other similar materials that comply with the MDEQ’s definition of Beneficial Fill may be used in Harrison County in beneficial fill applications. In Harrison County beneficial fill and beneficial use proposals must be reviewed and approved by the appropriate local government through the local planning and the local zoning processes as required, prior to MDEQ’s giving consideration to such projects subject to its regulation. Beneficial fill projects involving an area occupying less than one (1) acre for less than 120 days are excluded from the Mississippi Nonhazardous Solid Waste Management Regulations and do not require MDEQ approval but still require the approval of the appropriate local government. Beneficial fill projects involving more than one (1) acre or for a timeframe of more than 120 days would require MDEQ review and approval. Upon the appropriate local approval and subsequent approval of such proposals by MDEQ, a beneficial fill project may be approved by MDEQ as a conditional exemption to state solid waste regulations. There are currently no Authority or MDEQ approved beneficial fills located in Harrison County.

MDEQ defines a “Beneficial Use” as the legitimate use of a solid waste in the manufacture of a product or as a product for construction, soil amendment, or other purposes, where the solid waste replaces a natural or other resource material by its utilization.

On June 30, 2005, the Mississippi Commission on Environmental Quality adopted the “Mississippi Regulations for the Beneficial Use of Nonhazardous Solid Waste” to provide a formal process for evaluating certain by-product materials for beneficial use as products. Prior to the adoption of these regulations, many by-product materials generated by industries were regarded as solid waste and were required to be managed as solid waste. This regulatory requirement sometimes resulted in potentially useful by-products being disposed of in a landfill. These Beneficial Use Regulations provide a mechanism where industries with eligible by-products and legitimate end uses may provide their by- products to end users after review and approval. This program helps to increase opportunities for recycling and re-using industrial by-products and helps to reduce the amount of solid wastes disposed in landfills.

Beneficial Use Regulations do not apply to:

* Solid wastes in beneficial fill activities
* Common residential or commercial recyclable materials such as steel, aluminum, plastic, glass, paper, cardboard, wood or other materials that are post-consumer materials or pre-consumer off-specification materials where such materials are processed and/or managed as recyclable commodities or compost materials.
* Hazardous wastes as defined by the Mississippi Hazardous Waste Management Regulations and Subtitle C of the Federal Resource Conservation and Recovery Act.

2.5. Assessment of Needs and Alternatives

The planning area could benefit by solid waste management facilities that provide composting, mulching and other waste processing and waste minimization programs for yard waste and other rubbish. The planning entities should encourage existing or new solid waste management facilities to include such services.

TABLE 27

Approved **Class I** Rubbish Landfills Located in Harrison County

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Landfill Name / Permit** | **Address** | **Location (Section/ Township/**  **Range)** | **Owner / Operator** | **Approved**  **Disposal Acreage** | **Service Area** | **Remaining Capacity 2010**  **(Years or**  **Acres)** |
| Blackmer I Disposal/ R1-071 (Inactive) | 24306 East Dubuisson  Road, Pass Christian, MS 39571 | S13/7S/13W | Mark Blackmer | 15 | N/A**1** | 5 Years |
| Coastal Recyclers/ R1-052 | 14339 Hudson Krohn Road,  Biloxi, MS 39532 | S25/6S/10W | Advanced Disposal Services, Inc. | 60 | N/A**1** | 19 Acres |
| East Harrison County Class I Rubbish Landfill/  R1-100 (Inactive) | 17278 Highway 15 North, Saucier, MS  39574 | S7/6S/9W | Don Williams/East Harrison County Rubbish Landfill,  LLC. | 27 | Harrison County | 20 Years/  27 Acres |
| Firetower Landfill/ R1-097 | 8280 Firetower Road, Pass Christian, MS 39571 | S25/7S/13W | Firetower Landfill, LLC. | 37 | Harrison County | 14 Years |
| Pecan Grove Landfill and Recycling Center and  Rubbish Site/R1-098 (Inactive) | 9685 Firetower Road, Pass Christian, MS 39571 | S22/7S/13W | Waste Management of Mississippi, Inc. | 100 | Harrison County | 100 Acres |
| S & S Enterprises/ SW0240020451 (Inactive) | 14160 Crown Road,  Gulfport, MS 39503 | S26/6S/11W | S & S Enterprises of MS, LLC. | 12 | 100-mile radius from site | 12 Acres |

* + 1. Service Area not specified in original 1993 Solid Waste Plan or in MDEQ authorization.

TABLE 28

Approved **Class II** Rubbish Landfills Located in Harrison County

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Landfill Name / Permit** | **Address** | **Location (Section/ Township/**  **Range)** | **Owner / Operator** | **Approved**  **Disposal Acreage** | **Service Area** | **Remaining Capacity 2010**  **(Years or**  **Acres)** |
| Blackmer II Disposal/ R2-056 (Inactive) | 24306 East Dubuisson  Road, Pass Christian, MS 39571 | S13/7S/13W | Mark Blackmer | 23.5 | N/A**1** | 20 Years |
| Brown’s Class II/ R2-049 (Inactive) | 22509 County Road 331, Pass Christian, MS 39571 | S29/7S/12W | Earl Brown | 6.7 | N/A**1** | 7 Years |
| Canal Road Rubbish/ SW0240020341 | Canal Road at 28th Street, Gulfport, MS | S31/7S/11W | City of Gulfport | 5.7 | Harrison County | 46 Years |
| D. W. Lamey/ R2-105 | 17346 Road 510  Biloxi, MS 39532 | S9/6S/10W | D. W. Lamey Fill & Trucking, Inc. | 40 | Harrison, Hancock, Jackson &  Pearl River | 20 Years/  30 Acres |
| East Harrison County Class II Rubbish Landfill/  R2-110 (Inactive) | 17278 Highway 15  North, Saucier, MS 39574 | S7/6S/9W | Don Williams/ East Harrison County  Rubbish Landfill, LLC | 20 | Harrison &  Jackson Counties | 20 Years/  20 Acres |
| Ray/ R2-088 | 9149 Road 328, Pass  Christian, MS 39571 | S19/7S12W | Dan Ray Construction Company | 8 | N/A**2** | 1. Years/ 2. Acres |

1. Service Area not specified in original 1993 Solid Waste Plan or in MDEQ authorization.
2. Approved in 4/10/1990, which was prior to service areas being defined or required.

**SECTION D, CONTINUED**

# PRIMARY SOLID WASTE PROGRAM COMPONENTS

3. Municipal Wastewater and Water Treatment Sludges/Bio-Solids

Drinking water services in Harrison County are provided by different public water systems or self-supplied depending upon the community in which the businesses are located. Wastewater treatment services for municipal residents and businesses in Harrison County are provided by the Harrison County Utility Authority and in the unincorporated areas wastewater services is either self-supplied or supplied by a subdivision developer.

After Hurricane Katrina, Congress appropriated approximately $5.05 billion to the State of Mississippi to aid in the long-term recovery of the State. Governor Haley Barbour decided to utilize a portion of these monies to fund water, wastewater, and storm water infrastructure projects in the Mississippi Gulf Region. The Gulf Region Water and Wastewater Plan [(gulfregionplan@deq.state.ms.us](mailto:(gulfregionplan@deq.state.ms.us) ) was developed. It is an overall plan to identify water, wastewater, and storm water infrastructure needs in the six Gulf Region counties of Hancock, Harrison, George, Jackson, Pearl River and Stone. The purpose of the Plan is to provide infrastructure for long-term growth and recovery in these counties.

* 1. Water

Drinking or potable water in Harrison County is supplied by one of four types of entities: government agencies, utility service districts, non-profit rural water associations or private entities. There are approximately 58 different service providers in the county (see Appendix 14 - Public Water Systems). Those systems that provide potable water service to at least 15 service connections or serves an average of at least 25 people for at least 60 days each year in an area are monitored by the Mississippi Department of Health (MDH). According to the MDH there are three types of public water systems (“PWS”). PWSs can be community (such as towns), non-transient non-community (such as schools or factories), or transient non-community systems (such as rest stops or parks). Harrison County currently has 38 community water systems, 14 non-transient non-community water systems, and 6 transient non-community water systems on the active inventory. Mississippi currently has 1,211 community water systems, 109 non-transient non- community water systems, and 140 transient non-community water systems on the active inventory.

Data on historical water consumption shows that groundwater provides the major source of potable water for domestic demands in Harrison County. Groundwater aquifers used by public supply wells in Harrison County include the Citronelle Formation and the Miocene aquifer system, consisting of the Graham Ferry and Pascagoula and Hattiesburg formations. The average depth of public water system wells in Mississippi is about 780

feet. In Harrison County there are approximately 170 public water system wells at an average depth of about 796 feet. Public water system wells range in depths from 260 feet to almost 1,785 feet. (see Appendix 15 - “Public Supply Wells in Mississippi”). Most public water systems operating in Harrison County obtain their water from deep confined aquifers that are afforded a great deal of natural protection from contamination. While the quality of drinking water supplied by public water systems is controlled and monitored by MDH, the installation, permitting and quantity of water withdraws of the well itself are controlled by the Office of Land and Water Resources (“OLWR”) at the MDEQ (www.deq.state.ms.us).

According to the U. S. Geological Survey (the “USGS”) ([http://water.usgs.gov/ogw/),](http://water.usgs.gov/ogw/)) during 2005 in Harrison County 67% of the populations’ water is supplied by public water systems and the remainder, or 33% of the population is supplied by self-supplied water wells. All of the domestic drinking water in Harrison County is supplied from ground water withdrawals and not surface water. Total ground water withdraws for drinking water totaled 26.45 million gallons per day (“MGD”) for the public water systems and 6.33 MGD for the self-supplied drinking water wells. Also, all industrial water use that is self- supplied (self supplied water and non-thermoelectric) by industries in Harrison County is from ground water resources. These industrial withdraws totaled 6.81 MGD.

Table 29

Drinking and Industrial Water Use

|  |  |
| --- | --- |
| **Supply Description** | **MGD**  **(Million Gallons/Day)** |
| Public Supply, groundwater withdrawals | 26.45 |
| Domestic, total self-supplied | 6.33 |
| Total Domestic Use Withdraws | 32.78 |
| Industrial, self-supplied groundwater withdrawals, | 6.81 |
| Total Domestic and Industrial | 39.59 |

In Harrison County, a great deal of water is used in the generation of thermoelectric power. According to the USGS during 2005 this process used 155.45 MGD. Most of this water was from fresh and salt-water surface withdraw 154.31 MGD and only 1.14 MGD from ground water withdraw. The Biloxi River is the main source of surface water in Harrison County used to provide certain process water supplies for industrial activities. Other minor uses of ground water and surface water in Harrison include irrigation, livestock and mining.

In Harrison County all drinking water comes from groundwater sources and not surface

water so there is no large-scale water treatment process that produce sludge (i.e. flocculation). In Harrison County water treatment and water treatment sludge is limited due to the good quality and quantity of groundwater.

* 1. Wastewater

The Harrison County Utility Authority was created in 2006 when Governor Haley Barbour signed into law a bill creating the Gulf Region Water Utility Authority Act. The purpose of the Utility Authority is to coordinate, consolidate, plan, and acquire water, wastewater, storm water, and solid waste services to promote resilience and reduce the cost of these services within Harrison County. The Harrison County Utility Authority operates ten (10) wastewater treatment facilities: Gulfport South, Gulfport North, Keegan Bayou, West Biloxi, Long Beach/Pass Christian, North D’Iberville, Delisle, Traditions, River Hills, and South Woolmarket. Discharge at these plants ranges from 0.18 to 10.0 MGD (million gallons per day) and a total combined design capacity of all facilities of 43.3 MGD.

Table 30

Wastewater Treatment Facilities Capacity

|  |  |  |
| --- | --- | --- |
| **Wastewater Treatment Facility** | **Design Capacity**  **(MGD)** | **Peak Flow Capacity (MGD)** |
| Delisle | 0.80 | 0.80 |
| Gulfport North | 7.75 | 22.80 |
| Gulfport South | 8.22 | 40.00 |
| Keegan Bayou | 10.00 | 17.90 |
| Long Beach/ Pass Christian | 7.00 | 18.00 |
| N. D'Iberville | 2.00 | 2.00 |
| River Hills | 0.50 | 0.50 |
| S.Woolmarket | 2.00 | 2.00 |
| Traditions | 2.00 | 2.00 |
| West Biloxi | 9.00 | 25.20 |
| Total | 49.27 | 131.20 |

Specific operating characteristics of the wastewater treatment facilities are as follows:

* + 1. Gulfport South Wastewater Treatment Facility - The trickling filter-activated sludge process at the Gulfport South Facility is designed to treat 8.22 million gallons per day (MGD) with a peak flow capacity of 40 MGD. Last renovated in 1986, this facility consistently produced effluents with TSS and BOD concentrations of 10mg/l or less with ammonia concentrations of 1 mg/l or less. The plant was named Mississippi “Plant of the Year” and EPA Region IV Second Place Plant in 1993. The Individual processes at this facility are as follows:
       1. Preliminary Treatment: A combination of two channels with mechanical screens and a third equipped with manually cleaned course screen are used to screen the influent. Two manually cleaned aerated grit channels are employed during preliminary treatment following grit removal. The effluent flows to two primary clarifiers.
       2. Primary Treatment: Two primary clarifiers are utilized to reduce TSS prior to biological treatment. Waste sludge from the system is pumped to these clarifiers.
       3. Secondary Treatment: A multi-step secondary treatment process is utilized at this facility. BOD removal is accomplished in two plastic media trickling tillers. Effluent from these filters is discharged into a small activated sludge system where additional settling and BOD removal occur. Next, the wastewater flows to four secondary clarifiers. The final phase of the biological process includes two second state trickling filters which are designated for the removals of ammonia nitrogen.
       4. Disinfection/Dechlorination: Effluent disinfection is accomplished through the use of chlorine gas injection and a similar injection of sulfur dioxide is used to remove any residual chlorine from the treated effluent.
       5. Sludge Handling: Stabilized sludge from three anaerobic digesters is de-watered on two belt filter presses and transported by a sludge contractor to its permitted facility for land application.
    2. Gulfport North Wastewater Treatment Facility - The Gulfport North Wastewater Treatment Facility is designed to treat an average flow of 7.75 million gallons per day (MGD) with a peak design capacity of 22.8 MGD. The facility was completed in 1998 at a cost of $17,340,000. The plant consistently produces effluents with BOD, TSS and NH3 concentrations of less than 1 mg/l. This plant was named Mississippi “Plant of the Year” in 2004 and was nominated for EPA Region IV “Plant of the Year” in 2005. The individual processes at this facility are as follows:
       1. Preliminary Treatment: Screening and grit removal are accomplished at the headwork, which consists of two channels with mechanical bar screens and grit removal equipment.
       2. Secondary Treatment: This activated sludge plant utilizes an oxidation ditch with mechanical aerators for extended aeration followed by secondary clarifiers. In anticipation of future effluent requirements, the

aeration basins contain anoxic zones for the removal of nitrates.

* + - 1. Effluent Filtration: Four gravity sand filters with automatic backwash systems are utilized to produce a polished high-quality effluent which enhances the operation of the UV disinfection system.
      2. Ultraviolet Disinfection: A state of the art “high intensity, medium pressure” ultraviolet disinfection system is utilized at this plant to reduce the discharge of chlorine and sulfur dioxide into Gulfport Lake.
      3. Post Aeration: Floating mechanical aerators in a post aeration system are utilized to ensure that this facility achieves its dissolved oxygen requirements of a minimum of 6 mg/l.
      4. Sludge Handling: Waste sludge from the secondary clarifiers is thickened on belt thickeners and sent to the aerobic digesters for stabilization. Belt filter presses then de-water the sludge. De-watered sludge is then transported by a sludge contractor to its permitted site for land application.
    1. Keegan Bayou Wastewater Treatment Facility - The Keegan Bayou Wastewater Treatment Facility is designed to treat 10 million gallons per day (MGD) with a peak capacity of 17.9 MGD. In 1998 the plant underwent a complete upgrade expansion. The activated sludge process featured four sequencing batch reactors (SBR’s). Effluents with TSS and BOD’s of less than 5mg/l are typical at this plant. The previous plant configuration earned a second place “Plant of the Year” award from EPA Region IV in 1994. The individual processes at this facility are as follows:
       1. Preliminary Treatment: Two mechanical screens and two circular grit basins with automated grit removal systems provide preliminary treatment at the headworks area of this plant.
       2. Secondary Treatment & Effluent Equalization: All secondary treatment is accomplished in the Sequencing Batch Reactor units. Biological treatment occurs during the computer-controlled filling, aeration, settling, sludge wasting, and discharge of the treated wastewater. Effluent equalization, to allow for uniform flow to the disinfection chambers, is accomplished in two equalization basins which are retro- fitted portions of the previous plant configuration.
       3. Disinfection/Dechlorination: Chlorine gas injectors provide the effluent disinfection. Sulfur dioxide injected with similar systems is used to remove residual chlorine from the effluent.
       4. Post Aeration: Two post-aeration basins employing fixed mechanical aerators are utilized to achieve the permit dissolved oxygen minimum requirement of 6 mg/l.
       5. Sludge Handling: Sludge from the reactor basins are pumped to sludge holding tanks prior to thickening on rotary drum thickeners. The thickened sludge is then stabilized into aerobic digesters followed by de- water on belt filter pressers. The de-watered sludge is then hauled by a sludge contractor to its permitted facility for land application.
    2. West Biloxi Wastewater Treatment Facility - The West Biloxi Wastewater Treatment Facility is designed to treat an average flow of 9 million gallons per day (MGD) with a peak flow capacity of 25.2 MGD. This conventional activated sludge plant was most recently expanded and renovated in 1992. Effluents from this plant have consistently had concentrations of 5mg/l or less for TSS and BOD and 1mg/l or less for NH3. This plant was named Mississippi “Plant of the Year” in 1995 and EPA Region IV “Plant of the Year” in 1999.” The individual processes at this facility are as follows:
       1. Preliminary Treatment: Screening is accomplished in the headworks area by two mechanical screens and a third manually cleaned screen. Two aerated channels are employed to separate the grit, which is removed by way of a mechanical lift.
       2. Secondary Treatment: Biological treatment (BOD and ammonia removal) occurs in the aeration basins, operations in parallel, followed by two secondary clarifiers where solids are removed. Return activated sludge from these clarifiers is returned to head of the activated sludge process.
       3. Disinfection /Dechlorination: A chlorine injection system is used to disinfect the effluent, and a similar sulfur dioxide injection system is used to remove residual chlorine prior to discharge.
       4. Post Aeration: Finally, two post-aeration basins, equipped with floating aeration, are utilized to achieve the discharge dissolved oxygen permit requirement of a minimum of 6 mg/l.
       5. Sludge Handling: Biological sludge from the clarifiers is pumped to the aerobic digesters (some sludge may require prior thickening on gravity belts) for stabilization. Following stabilization, the sludge is de-watered on belt filter presses. The sludge is then hauled by a sludge contractor to its permitted site for land application.
    3. Long Beach/Pass Christian Wastewater Treatment Facility - The Long Beach/Pass Christian Wastewater Treatment Facility, completed in 1987, is designed to treat 7 million gallons per day (MGD) with a peak flow capacity of 18 MGD. This extended aeration activated sludge process produces effluents with TSS and BOD concentrations of 5 mg/l or less and ammonia concentration of 1 mg/l or less. This facility was named Mississippi “Plant of the Year” in 1992 and EPA Region IV “Plant of the Year” for 1992 and 1997. The individual processes at this facility are as follows:
       1. Preliminary Treatment: Screening and grit removal are accomplished in the headworks area. Two rotary screens with bypass channels and manual bar racks accomplish the screening. Grit removal is accomplished in an aerated channel with a grit pump and clarifier mounted on a traveling bridge.
       2. Secondary Treatment: Two oxidation ditch aeration basins operated in series provide BOD and ammonia removal. The flow then passes through four secondary clarifiers where solids are removed. Activated sludge is

returned to the process from these clarifiers.

* + - 1. Disinfection/Dechlorination: Chlorine gas injection is utilized to disinfect the treated effluent and a similar system is used to inject sulfur dioxide to remove any residual chlorine.
      2. Post Aeration: Permit dissolved oxygen minimum requirements of 6 mg/l are accomplished by utilizing two submersible aerators in the post aeration basin.
      3. Sludge Handling: Digested sludge from the aerobic digesters is de- watered on belt filter presses and transported by a sludge contractor to its permitted facility for land applications.

Other Smaller Treatment Systems:

* + 1. Delisle Wastewater Treatment Plant

The Delisle WWTP is located at 7435 Labouy Road, Pass Christian and is rated at

0.8 MGD. Plant process includes, but not limited to, influent raw sewage pump station, primary screening and grit removal, standby generator power, orbal wastewater treatment plant process, secondary clarification, sludge digestion, and UV disinfection.

* + 1. East Harrison County Tradition Development

The East Harrison County Tradition Development is located at Hwy 67, Woolmarket and is rated at 2 MGD. Plant process includes, but not limited to, influent raw sewage pump station, primary screening and grit removal, standby generator power, orbal treatment process, secondary clarification, sludge digestion, sludge dewatering, and conventional chlorine disinfection and sulfur dioxide de-chlorination.

* + 1. North D’Iberville Wastewater Treatment Plant

The North D’Iberville WWTP is located at Old Hwy 57, D’Iberville and is rated at 2.0 MGD. Plant process includes, but not limited to, influent raw sewage pump station, primary screening and grit removal, standby generator power, orbal treatment process, secondary clarification, sludge digestion, sludge dewatering, and conventional chlorine disinfection and sulfur dioxide de-chlorination.

* + 1. River Hills Wastewater Treatment Plant

The River Hills WWTP is located at North Old Highway 49 and is rated at 0.5 MGD. Plant process includes, but not limited to, influent raw sewage pump station, primary screening and grit removal, standby generator power, orbal treatment process, secondary clarification, sludge digestion, and conventional chlorine disinfection and sulfur dioxide de-chlorination.

* + 1. South Woolmarket Wastewater Treatment Plant

The South Woolmarket WWTP is located at Shore Crest Rd, Woolmarket and is

rated at 2 MGD. Plant process includes, but not limited to, influent raw sewage pump station, primary screening and grit removal, standby generator power, orbal treatment process, secondary clarification, sludge digestion, and conventional chlorine disinfection and sulfur dioxide de-chlorination.

The Authority’s interceptor systems are as follows:

* D’Iberville Interceptor consisting of 3 pump stations and some 3,000 feet of sewer force mains;
* Biloxi Interceptor consisting of 17 pump stations and some 186,450 feet of sewer force mains and gravity lines;
* Gulfport Interceptor consisting of 1 pump station and some 180,560 feet of sewer force mains and gravity lines;
* Long Beach/Pass Christian and Henderson Point Interceptors consisting of 7

pump stations and some 85,431 feet of sewer force mains.

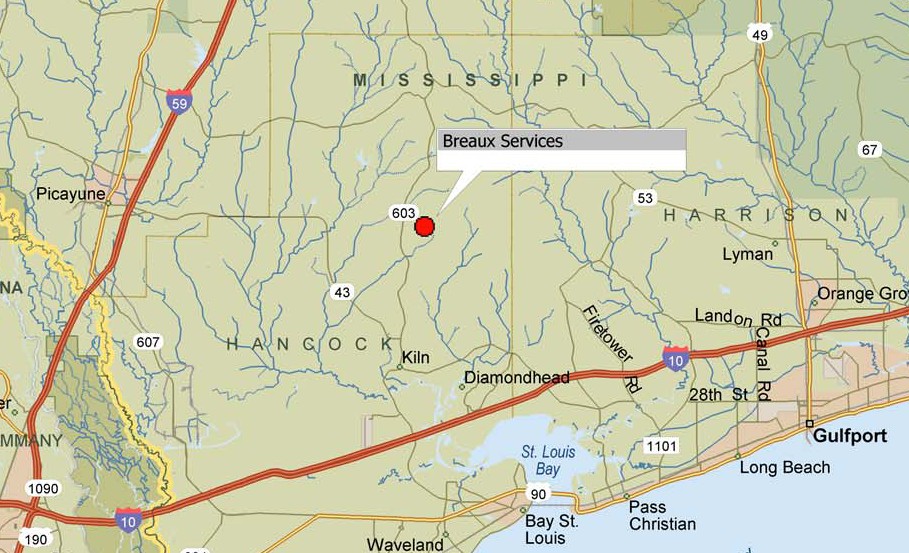
* 1. Biosolids Management

The Authority manages its biosolids or wastewater treatment sludges by utilizing the services of a private company. The Authority has a “Biosolids Management Service Agreement” with Breaux Services, Inc (“Breaux”) for the collection and disposal of biosolids from the Authority’s wastewater treatment plant operations. The term of the current agreement is for five (5) years and began on January 1, 2015 and ends on December 31, 2021. The agreement may be renewed for up to three (3) renewal terms of one (1) year each based on mutual consent of both parties. The agreement also defines biosolids as “semi-solid (12% – 18% solids) residue generated during the treatment of domestic sewage” by the Authority’s wastewater treatment plants. The agreement requires that all biosolids collected by Breaux must be beneficially reused. Breaux collects the biosolids from the Authority’s wastewater treatment facilities and hauls it to Breaux’s beneficial reuse facility.

Breaux’s facility is located in Hancock County at 6153 Road 305, Kiln, Mississippi 39556. The Breaux facility is permitted as a Solid Waste Land Application Facility for municipal wastewater (“MWW”) sludge by the MDEQ by Permit No. SW0230030364. The facility was first permitted in 1996. The current permit began on April 13, 2004 and expires on March 31, 2014. According to the facility’s annual report the total permitted area for land application is 1,106 acres. A Land Application facility operates by incorporating the biosolid waste into the soil as a soil amendment or conditioning for the biodegradation of the waste.

Map 5

Location Breaux Services



In 2009 the Breaux facility received a total of 4,885.86 dry tons of MWW sludge and in 2010 it received a total of 5,303.25 dry tons of MWW sludge (for more information, please refer to Appendix 16 Breaux Services). In 2010 the biosolids from the Authority’s wastewater plants accounted for 62% of the biosolids processed by the Breaux facility. Please refer to the Table below for a breakdown of the biosolids delivered from the Authority’s plants to the Breaux Land Farm.

Table 31 Biosolids Summary

|  |  |  |  |
| --- | --- | --- | --- |
| **Wastewater Treatment Facility** | **2010 Biosolid Tons Delivered to Breaux** | **Percent of Authority 2010**  **Total Biosolids** | **Percent of Breaux 2010**  **Total Biosolids** |
| Gulfport South | 696.20 | 21% | 13% |
| Gulfport North | 979.81 | 30% | 19% |
| Keegan Bayou | 427.28 | 23% | 8% |
| West Biloxi | 740.19 | 13% | 14% |
| Long Beach/Pass  Christian | 236.07 | 7% | 4% |
| D'Iberville | 185.21 | 6% | 3% |
| Eagle Point | - | - | - |
| Total | 3,264.76 | 100% | 62% |

* 1. Needs and Assessments

In assessing the current water and wastewater sludge/biosolids management programs, the current programs utilized by the Authority, municipalities and County outlined in this section are adequate to meet the needs of the planning area.

The Authority plans to continue its management of wastewater sludge/biosolids collection and disposal by contracting out the services to private company contractors. The Authority plans to conduct procurement processes at the appropriate time before the expiration of the current wastewater sludge/biosolids collection and disposal contracts in order to solicit new or renewed contracts for these services.

**SECTION D, CONTINUED**

# PRIMARY SOLID WASTE PROGRAM COMPONENTS

4. Special Waste Management Programs

Special waste is generally considered as any waste material, which, because of its physical or chemical characteristics, or biological nature requires either special handling procedures, or poses an unusual threat to human health, equipment, property, or the environment. Special waste may include non-­‐hazardous industrial waste, construction / demolition debris, bulk liquid waste, waste tires, household hazardous waste, white goods, agricultural chemical containers and other special wastes. Other special wastes generated in the planning area includes medical waste, electronic waste, universal waste and seafood waste.

4.1. Non-hazardous Industrial Wastes

The non-hazardous industrial solid waste stream in Harrison County includes both process and non-process wastes from several different sources. In addition to these wastes from the manufacturing companies in the county, there are a number of other commercial enterprises that contribute to the total number of tons generated in the county.

Large businesses, including the industries, are responsible for contracting for the removal and disposal of their waste. There are limited sources of information about the quantities and composition of these waste streams, and in most cases the available data can only be estimated.

The Harrison County Development Commission (HCDC) is the lead economic and industrial development agency for Harrison County, including the cities of Pass Christian, Long Beach, Gulfport, Biloxi, and D’Iberville.

HCDC also oversees The Innovation Center, Harrison County’s small business incubator. The Innovation Center offers an environment for new and growing businesses to operate under one roof with services and support being provided to help ensure their success. In addition to the attraction and retention of industry, the HCDC recruits retirees to live on the Gulf Coast through the Mississippi Gulf Coast Retiree Partnership. The Harrison County Economic Development Authority is partially funded by the Mississippi Development Authority. For more information about the HCDC, please refer to its website at [http://mscoast.org.](http://mscoast.org/)

There are five (5) industrial parks located in Harrison County with a total of 3,075 acres. A summary of the industrial parks is as follows:

Table 32 Industrial Parks

|  |  |  |  |
| --- | --- | --- | --- |
| **Industrial Park** | **Location** | **Acres** | **Zoning** |
| Bernard Bayou Industrial  District | Gulfport | 1,695 | Light/Heavy Industrial |
| Biloxi Commerce Park | Biloxi | 107 | Heavy Commercial |
| Long Beach Industrial Park | Long Beach | 405 | Light Industrial |
| Pass Christian Industrial Park | Pass Christian | 245 | Heavy Industrial |
| North Harrison County  Industrial Park | Saucier | 623 | General Industrial |
|  |  | 3,075 |  |

In addition to the industrial parks, another major industrial area in Harrison County is the Mississippi State Port at Gulfport. It is a deep water port and is operated by the State of Mississippi. It is a U.S. Port of Entry capable of handling barges and ocean vessels. It is located five miles south of Interstate Highway 10 and is a bulk and container seaport.

Intermodal connections in Harrison County focus on the transfers made between the Port of Gulfport, the Gulfport-Biloxi International Airport, and Interstate Highway 10. Intermodal connections at the port offer transport to and from container, barge, rail, and truck. Intermodal connections at the airport offer transport to and from air, rail, and truck. The port is 4 miles south of the airport and 5 miles south of Interstate 10.

The Port of Gulfport is the second largest importer of green fruit in the United States and the third busiest container port on the Gulf of Mexico. In 2008, the port handled over 2.3 million tons of cargo, 214,074 TEUs (twenty foot equivalents) and 267 ships. Cargo types supported at the port include containerized, bulk, break-bulk and project. The leading commodities exported include paper, clay, cellulose, fabrics, cloth, yarn, apparel and hardware. Leading commodities imported include bananas, ilmenite (titanium-iron oxide) ore and other container cargo.

Harrison County is host to four (4) areas that are located within Foreign Trade Zone No.

92. These areas are the Port of Gulfport, Gulfport-Biloxi International Airport, Bernard Bayou Industrial District and the Long Beach Industrial District. This zone offers tax advantages for imports and exports at these locations.

Harrison County has over 30 major employers. These major employers have an average total employment about 40,000 people. The major employers and manufacturers are listed in the table below:

Table 33 Major Employers

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Product or Service | Employees | SIC Code 1 | NCIAS Code 1 |
| Bay Motor Winding, Inc. | Armature  Rewinding Shop | 16 | 0 | 0 |
| Bay Technical  Associates Co. Ltd. | Computer  peripheral equipment | 140 | 3577 | 0 |
| Beau Rivage Resort & Casino | Gaming | 3,413 | 7999 | 71321 |
| Biloxi Regional Hospital | Health Care | 653 | 8062 | 622110 |
| Biloxi School System | Public Education | 850 | 8299 | 611710 |
| Boomtown Casino | Gaming | 561 | 7999 | 71321 |
| Chrisman Manufacturing,  Inc. | Industrial machinery | 75 | 0 | 333924 |
| E. I. DuPont de Nemours & Co.,  Inc. | Industrial inorganic chemicals,  pigments | 1,100 | 2816 | 325131 |
| Garden Park Hospital | Health Care | 478 | 8062 | 622110 |
| Grand Biloxi Casino Hotel  Spa | Gaming | 1,015 | 7999 | 713210 |
| Gulf Coast Pre- Stress, Inc. |  | 360 | 3272 | 327332 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Product or Service | Employees | SIC Code 1 | NCIAS Code 1 |
| Gulf Ship | Shipbuilding & Repairing | 450 | 3731 | 336611 |
| Gulfport School System | Public Education | 916 | 8299 | 611710 |
| Hancock Bank | Commercial Bank | 1,213 | 6029 | 52211 |
| Hard Rock Hotel & Casino | Gaming | 973 | 7999 | 713210 |
| Harrison County School District | Public Education | 1,716 | 8299 | 611710 |
| Huntington  Ingalls Industries, Inc. | Boat building and repair | 800 | 3732 | 0 |
| Imperial Palace Casino | Gaming | 2,446 | 7999 | 713210 |
| Island View Casino Resort | Gaming | 1,354 | 7999 | 713210 |
| Isle of Capri Casino | Gaming | 778 | 7999 | 713210 |
| Keesler Air Force Base | National Security | 11,200 | 9711 | 928110 |
| Lowe's | Lumber and  Other Building Materials | 159 | 5211 | 444110 |
| Memorial Hospital | Health Care | 2,661 | 8062 | 622110 |
| Mississippi Power Company | Electric Services | 1,299 | 4911 | 221110 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Product or Service | Employees | SIC Code 1 | NCIAS Code 1 |
| Naval CBC | National Security | 900 | 9711 | 0 |
| Prime Outlet | Retail Trade | 450 | 0 | 0 |
| Seemann Composites, Inc. |  | 80 | 0 | 326122 |
| Treasure Bay Casino & Hotel | Gaming | 604 | 7999 | 713210 |
| Trinity Yachts | Super Yachts | 500 | 3731 | 336611 |
| Triton Systems | Calculating and accounting equipment  (ATM) | 400 | 0 | 334199 |
| United States Marine Inc. |  | 225 | 3731 | 336611 |
| VA Gulf Coast Veterans HCS | General Medical & Surgical  Hospital | 1,050 | 8059 | 622110 |
| Wal Mart | Department Stores | 550 | 5311 | 452112 |
| Wal Mart | Superstore | 585 | 5311 | 452112 |
| Total |  | 39,970 |  |  |

1. The North American Industry Classification System or NAICS is used by business and government to classify business establishments according to type of economic activity in Canada, Mexico and the U.S. It has largely replaced the older SIC (Standard Industrial Classification) system; however, certain government departments and agencies still use the SIC codes.

* + 1. Industrial Waste

Much of the industrial waste generated in the County is waste generated by the companies in the aerospace, shipbuilding and power generation business. These non- hazardous industrial wastes include sludges, filter press solids, other process wastes and fly ash. In 2010 93% of the MSW generated in Harrison County was disposed of in the

Pecan Grove MSW Landfill (see Table 8). Based on this information, it is estimated that the majority of industrial waste generated in Harrison County is also disposed of in Harrison County at the Pecan Grove MSW Landfill.

The MDEQ defines "industrial process waste" as any solid waste generated as a result of the manufacture of a product, except uncontaminated packaging materials and containers, uncontaminated machinery components, tires, land clearing or landscaping wastes, office wastes, cafeteria wastes, and construction and demolition wastes. Based on MDEQ definitions industrial process waste would not necessarily include waste materials contaminated by a non-manufacturing process such as a spill. To estimate the amounts of industrial waste, this Plan surveyed the Industrial Process Waste Profiles on file at the MDEQ for the Pecan Grove Landfill located in Harrison County, the MacLand Landfill located in Jackson County, Mississippi and the Turkey Trot Landfill in Washington County, Alabama. Based on these reviews it is estimated that approximately 10,000 tons of industrial process waste from outside the planning area and 10,000 tons of industrial process waste from within the planning area was disposed of in the Pecan Grove Landfill in 2010.

* + 1. Non-­‐Hazardous Industrial Waste Disposal Facilities

Waste Management of Mississippi, Inc owns the Pecan Grove Landfill which includes a 176-acre permitted MSW Landfill in addition to other facilities located on a 1,243-acre facility property. The Pecan Grove Landfill is permitted by the MDEQ per Solid Waste Management Permit SW00101B0412 and is located at 9685 Firetower Road, Pass Christian, Mississippi 39571. According to the company’s website, [www.wmsolutions.com/facilities/,](http://www.wmsolutions.com/facilities/) the Pecan Grove Landfill accepts Asbestos (Friable and Non-Friable), Construction & Demolition Debris, Drums of Liquids or Solids, Industrial & Special Waste, Liquifix (Solidification Services) and Municipal Solid Waste. Please note that any liquids, drums or otherwise, received at the facility would be required to be solidified prior to being disposed of in the Landfill.

The Pecan Grove Landfill in 2015 reported receiving 376,996 tons for the year or an average of 1,216 tons per day based on 310 days per year. In 2015 the Pecan Grove Landfill reported having an estimated remaining life of 18 years. In accordance with the Host Agreement with the Authority, the facility has a service area of one-hundred (100) miles from Harrison County excluding the areas within the corporate boundaries of the City of New Orleans.

In addition to the Pecan Grove MSW Landfill, two (2) of the industries in the County have been approved by previous amendments to the solid waste management plan to have on-site non-commercial facilities to manage their own solid waste materials. These two

(2) industries are the Mississippi Power Company and the E. I. DuPont de Nemours and Company (“DuPont”).

In 2002 an amendment was approved for a modification of the Plan to allow Mississippi Power Company to expand their existing non-hazardous coal ash storage facility to an above ground facility at Plant Jack Watson, located on Lorraine Road in Gulfport, Mississippi. This facility serves Plant Jack Watson. According to 2010 Annual Reports, the Mississippi Power landfill is permitted for 84.4 acres and averaged 445 tons per day.

In 2010 an amendment to the Plan was approved to allow for development of a new solid waste disposal facility for the DuPont DeLisle Manufacturing Plant for the disposal of nonhazardous solid wastes (primarily fly ash and titanium dioxide wastes) generated in the manufacturing operations of the plant. The size of the new disposal facility will be up to 40 acres within a 443-acre tract of land. According to 2010 Annual Reports, the DuPont Plant currently has a 156-acre landfill that averaged 319 tons per day.

In 2014 an amendment to the Plan was approved to allow for the development of three new solid waste disposal units at the DuPont Delisle Manufacturing Plant for the disposal of nonhazardous solid wastes (primarily fly ash and titanium dioxide wastes) generated in the manufacturing operations of the plant. These additional facilities have a permitted acreage of 40 acres with approximately 20 years of capacity.

There are no other manufacturing or other business that manages any solid or liquid waste on-site for final disposal or beneficial reuse (other than normal source separation and processing for recycling).

Currently there are no specific industrial waste management programs administered by the County.

* + 1. Beneficial Fills and Uses

In Mississippi, the MDEQ has identified two categories in which solid wastes may be used for beneficial purposes. One category is “beneficial fill” and the other is “beneficial use.” MDEQ defines a “Beneficial Fill” as the use of uncontaminated, non-water soluble, non-decomposable class II rubbish wastes to level an area or bring the area to a grade for beneficial purposes, where an earthen cover is applied upon completion of the fill. Such beneficial purposes must not be conducted for monetary compensation and may include landscaping, erosion control or repair, land stabilization, construction base preparations or other land improvements. Beneficial fills are discussed in the *“Rubbish Management Systems”*section of this Plan.

MDEQ defines a “Beneficial Use” as the legitimate use of a solid waste in the manufacture of a product or as a product for construction, soil amendment, or other purposes, where the solid waste replaces a natural or other resource material by its utilization.

In Harrison County beneficial fill and beneficial use proposals must be reviewed and approved by the appropriate local government through the local planning and the local zoning processes as required, prior to MDEQ’s giving consideration to such projects subject to its regulation.

On June 30, 2005, the Mississippi Commission on Environmental Quality adopted the “Mississippi Regulations for the Beneficial Use of Nonhazardous Solid Waste” to provide a formal process for evaluating certain by-product materials for beneficial use as products. Prior to the adoption of these regulations, many by-product materials generated by industries were regarded as solid waste and were required to be managed as solid waste. This regulatory requirement sometimes resulted in potentially useful by-products being disposed of in a landfill. These Beneficial Use Regulations provide a mechanism where industries with eligible by-products and legitimate end uses may provide their by- products to end users after review and approval. This program helps to increase opportunities for recycling and re-using industrial by-products and helps to reduce the amount of solid wastes disposed in landfills.

Beneficial Use Regulations do not apply to:

* Solid wastes in beneficial fill activities
* Common residential or commercial recyclable materials such as steel, aluminum, plastic, glass, paper, cardboard, wood or other materials that are post-consumer materials or pre- consumer off-specification materials where such materials are processed and/or managed as recyclable commodities or compost materials.
* Hazardous wastes as defined by the Mississippi Hazardous Waste Management Regulations and Subtitle C of the Federal Resource Conservation and Recovery Act.
  + 1. Assessment of Needs and Alternatives

The existing industrial waste management facilities and programs in Harrison County are adequate and there are no additional or alternate programs or commercial facilities that are needed at this time. The County shall remain open to and consider requests for new and expanded non-commercial and other on-site disposal and/or processing approvals that are necessary for existing or new commercial businesses and industries.

There is one (1) MSW landfill (i.e. Pecan Grove MSW Landfill) located within the County with which the Authority entered into a 10 year Disposal Service agreement in August of 2015. This agreement can be extended in four, 5-year increments. This MSW landfill currently reports 18 years of remaining life. New or expanded MSW disposal facilities (i.e. new landfills, transfer stations and/or processing centers) do not happen quickly and can take 2 – 3 years to occur. The County will keep the option open to host a new MSW disposal facility in the future inside or outside of the County if the current MSW landfill cannot add additional future capacity. The County would consider a publicly and/or privately owned and/or operated MSW landfill, transfer station or processing center. The terms and conditions of a new MSW disposal facility and host agreement, if any, should, at a minimum, be consistent with the terms and conditions, including the service area, of the current host fee agreement.

SECTION D – SPECIAL WASTE MANAGEMENT PROGRAMS

Table 34

Landfills in Harrison County Accepting Non-Hazardous Industrial Wastes

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Landfill Name / Permit** | **Address** | **Location (Section/ Township/**  **Range)** | **Owner / Operator** | **Approved Disposal**  **Acreage** | **Service Area** | **Remaining Capacity 2015**  **(Years or Acres)** |
| DuPont Delisle Landfill/ SW0240040488 | 7685 Kiln DeLisle Road  Pass Christian, MS  39571 | S32 & 33/ T7S/R13W | E. I. DuPont de Nemours and  Company | 156 | On-site 1 | N/A 2 |
| DuPont Delisle Landfills WDU 21, 22, 23  SW0240040054 | 7685 Kiln Delisle Road  Pass Christian, MS  39571 | S32 & 33/ T7S/R13W | E. I. DuPont de Nemours and  Company | 40 | On-site 1 | N/A 2 |
| Plant Watson Landfill/ SW0240040507 | Interstate 10 and Lorraine Road  Gulfport, MS 39502 | S26/6S/11W | Mississippi Power Company | 84.4 | On-site 1 | 3 Years |
| Pecan Grove Landfill and Recycling Center and Rubbish Site/ SW00101B0412 | 9685 Firetower Road, Pass Christian, Mississippi 39571 | S22/T7S/R13W | Waste Management of Mississippi, Inc | 176 | 100 miles3 | 18 Years or  7,796,649  cubic yards |

* + - 1. Non-commercial disposal facility, only receives waste from on-site plant operations.
      2. Information not provided by company on annual reports.
      3. 100 miles from Harrison County excluding the City of New Orleans.

|  |  |  |
| --- | --- | --- |
| Environmental Business Services | D -­‐ 33 | Harrison County |
| March 2012 |  | Solid Waste Management Plan |
| Revision No.: 1, October 2017 |  |  |

* 1. Construction and Demolition Debris Management

Construction and demolition debris (C&D) is solid waste that is generated during the construction, renovation and demolition of structures. Construction and Demolition Debris includes materials such as concrete, asphalt, plaster board, lumber, piping, electrical components, site preparation debris and other waste materials generated in the process of construction or demolition of buildings and other structures. Structures include buildings of all types, both residential and non-residential, as well as roads and bridges. Construction and demolition debris is often generated in large quantities at individual locations, and is typically collected by private haulers, separate from the rest of the municipal waste stream. While some of the product is reused on-site or in limited quantities, the majority of the waste is disposed at MSW landfills or rubbish disposal facilities.

C&D can be broken down into two primary categories; one is solid waste acceptable as a Class I or Class II rubbish waste and the other is solid waste that requires special handling and disposal in a MSW landfill. C&D is often generated in large quantities at individual locations and it is typically collected by private haulers, separate from the rest of the municipal waste stream. Although some of the waste products are re-used or may be used as beneficial fill, much of the waste is disposed at MSW landfills and rubbish disposal facilities.

Other “construction and demolition debris” is generated from construction, renovation or demolition activities involving buildings, roads, bridges, and other structures requiring special handling. These waste materials include asbestos-containing materials, lead- based paint debris, engineered or treated wood products, polychlorinated biphenyl (PCB) containing light ballasts, and mercury containing switches and fixtures.

In 2003 EPA estimated that 170 million tons of building-related C&D materials were generated nationwide or an average of 3.2 pounds per capita per day. The EPA estimates that:

* + - The majority of C&D waste comes from building demolition and renovation and

the rest comes from new construction.

* + - Equal percentages of building-related waste are estimated to come from the residential and commercial building sectors.

The composition of C&D materials varies significantly, depending on the type of project from which it is being generated. For example, materials from older buildings are likely to contain plaster and lead piping, while new construction materials may contain significant amounts of drywall, laminates, and plastics. For building materials, EPA estimates the overall percentage of debris in C&D materials falls within the following ranges:

Composition of Class I Solid Waste

|  |  |  |
| --- | --- | --- |
| **Material** | **EPA Ranges** | **Estimated**  **Composition of C&D** |
| Concrete and mixed rubble | 40-50% | 45% |
| Wood | 20-30% | 25% |
| Drywall | 5-15% | 10% |
| Asphalt roofing | 1-10% | 5% |
| Metals | 1-5% | 5% |
| Bricks | 1-5% | 5% |
| Plastics | 1-5% | 5% |
| Total |  | 100% |

It is estimated that the total amount of C & D waste generated in Harrison County in 2010 was 142,296 tons; of that, 116,990 tons went to Class I Rubbish Sites and 25,306 tons went to Class II Rubbish Sites. See Tables 9, Table 18 and the corresponding subsection of the “*Solid Waste Characterization & Quantification*” section of this Plan for more information about C & D waste characterization and quantification.

The C&D waste requiring special handling or disposal is primarily collected by private companies like ADS, Waste Pro and Waste Management and taken to one of the two MSW landfills that service the area (i.e. Pecan Grove MSW Landfill in Harrison County and MacLand Landfill in Jackson County). C & D waste not requiring special handling is primarily disposed of at either one of these two MSW landfills that service the area or one of the rubbish sites in the area.

There are eleven (11) approved rubbish sites in Harrison County. Some of these facilities are currently inactive. Annual reports filed with MDEQ for each of the active rubbish sites managing Harrison County solid wastes were reviewed to complete this Plan. In 2010 there were seven (7) active rubbish sites in Harrison County that accepted solid waste. These seven (7) active sites include three (3) Class I Rubbish Sites (“Class I”) and four (4) Class II Rubbish Sites (“Class II”). The active Class I Rubbish Sites includes the Blackmer Disposal Facility, Coastal Recycling and Firetower Landfill. The inactive Class I sites includes Pecan Grove Rubbish Site and S & S Enterprises. The active Class II Rubbish Sites includes Blackmer, Canal Road, Ray and the D. W. Lamey Rubbish Sites while the East Harrison County and Brown’s Class II Rubbish Sites are inactive. For more information regarding these facilities, please refer to the Table at the end of this section or the section entitled “*Comprehensive Inventory of Local Solid Waste Management Facilities.*” For more information about rubbish waste please refer to the “*Rubbish Management Systems*” section of this Plan.

Local ordinances and building codes for Harrison County and the municipalities in the County do not specifically address the generation and management of C&D Special Wastes. Some ordinances do require contractors to place solid waste in containers and dispose of materials resulting from their activities.

* + 1. Construction and Demolition Debris Recycling

Construction and demolition debris (C&D waste) consists of various materials which, if properly sorted and processed, can to a large extent be recycled. In the past C&D has been viewed as an innocuous waste, which does not require stringent regulation. It has been disposed at rubbish facilities or used as beneficial fill material. However, this view is changing since C&D waste from modern construction projects may pose health hazards, harbor rodents, or be considered an aesthetic nuisance.

C&D waste is often generated in large quantities at individual locations and it is typically collected by private haulers, separate from the municipal solid waste stream. Public works construction projects may occasionally generate significant quantities of C&D waste. One minor exception to this is the small amounts of C&D waste generated by homeowners through home improvement projects. C&D waste of this nature is usually collected and disposed of together with household garbage or delivered to a rubbish landfill by the homeowner.

The processing technology typically associated with C&D debris recycling is discussed below.

* + 1. Description

An important step in recycling C&D debris is the segregation of the materials into the various recycling components. C&D can typically be separated into four general categories for processing and marketing: wood, metals (which may be further sorted by type), rubble, and the remainder. The first three categories are generally recyclable at this time. The remainder category consists of materials for which feasible markets may not exist or of wastes which cannot be efficiently separated, such as old roofing or lath and plaster debris. Other materials, such as plastics and cardboard, may additionally exist in large quantities depending on the type of construction taking place. These materials may also be separated and recycled.

Generally, it is estimated that 30 to 70 percent of C&D waste can be recycled. However, it is important to note that the quantities recycled will largely depend upon the actual composition of the C&D debris waste stream being managed. C&D waste stream composition will also impact the associated processing method and equipment selected. The composition of a C&D waste stream can vary significantly both between regions and between individual generators within these regions. To date, little quantitative data exists regarding the composition of C&D debris.

C&D waste can be sorted at one of two points prior to processing. The C&D waste hauler can be required to separate materials prior to drop-off at a market or recycling center. Alternately, C&D waste can be delivered to a market or recycling center in a mixed state. Materials would then be separated, either by hand or mechanically, after delivery. The bulky, odd shapes of C&D waste make the conveyor picking systems used for commingled residential recyclables impractical for C&D waste sorting. Therefore, the sorting is usually

done in a flat open space. Front end loaders or refuse cranes can be used to handle bulky materials which are too large for hand sorting.

Several C&D recycling systems currently exist. Again, information regarding these systems is generally considered proprietary by vendors. As such, it is difficult to obtain equipment requirements and data. However, some of the segmented waste components and their potential end uses after processing include the following:

* + - * Old concrete, asphalt, stone, and glass can be separated for use as an aggregate. The aggregate mixture can be crushed and sized appropriately for reuse
      * Metals can be separated and marketed to scrap metal dealers
      * Materials (i.e. cardboard and old carpet) can be baled or shredded
      * Rubble can be segregated and screen and be reused
      * Gypsum wallboard can be ground and recycled or used as a soil amendment
      * Land clearing debris can be mulched and other wood can be chipped. Wood chips can be marketed to local commercial establishments (nurseries, landscapers, etc.) for use as mulch or used as fuel in industrial boilers.

Depending on how and to what degree materials will be processed, equipment utilized may include an aggregate crusher, a magnetic separator, and/or a wood chipper.

Processing needs are best determined by responding to market requirements both in general and on a day-to-day basis. The composition of the C&D debris waste stream may also have a significant impact on processing needs. As a general rule, the more highly processed the waste, the greater the likelihood of finding available markets and higher revenues. On the other hand, processing can be costly and may not be necessary. The operator of a C&D recycling facility should be sensitive to the changing recycling environment and should adapt facility operations to changing supplier and/or market needs. Currently, there are no C&D recycling facilities in the County.

* + 1. Assessment of Needs and Alternatives

C&D debris comprises a significant portion of the County's overall waste stream. Currently, most of the C&D waste generated within the County is disposed of at MSW landfills and rubbish sites. In the future, recycling systems for the C&D component of the County's waste stream could play an integral role in the County’s waste minimization planning efforts. The planning area could benefit from solid waste management facilities that provide composting, mulching and other waste processing and waste minimization programs for C&D materials/debris. The planning entities should encourage existing or new solid waste management facilities to include such services.

Such waste minimization programs for C&D debris could include an outreach program to promote the EPA’s Green Building Program and other initiatives aimed at reducing the environmental impact of buildings and the creation of more resource-efficient construction/demolition operations.

4.3. Residential and Commercial Bulk Liquid Wastes

The primary bulk liquid waste streams generated by residential or commercial sources in Harrison County are residential septic tank pumpings, sewage pumpings from on-site wastewater treatment systems and restaurant grease trap pumpings.

These bulk liquid waste are generally collected and treated in a similar manner as nonhazardous industrial wastes. The county does not assume a management role for these wastes. Private businesses manage these bulk liquid wastes from Harrison County generated by both the business sector and private individuals. There are no county or city ordinances that address the management of these wastes. Grease traps are not required of businesses.

Grease trap pumpings generally are generated by any facility that is a commercial, non- domestic source utilizing grease for commercial food preparation. Most generators have a separate grease disposal container and/or grease trap. A grease trap or interceptor is a device, fixture, mechanical aid or, other equipment designed to intercept, capture, separate, or collect grease from the discharge system before it enters the sewage collection lines.

Only haulers permitted by the Mississippi State Department of Health are to remove grease trap waste and sewage pumpings from on-site wastewater treatment systems. Mississippi Code § 41-67-39 requires a license required for person operating as a pumper removing and disposing of sludge from onsite wastewater disposal systems. A "certified pumper" is defined as any person registered with the Health Department who holds a written certification issued by the Health Department allowing the person to engage in the removal and disposal of sludge, grease and waste. An "individual on-site wastewater disposal system" is defined as a sewage treatment and effluent disposal system that does not discharge into waters of the state, that serves only one (1) legal tract, that accepts only residential waste and similar waste streams maintained on the property of the generator, and that is designed and installed in accordance with this law and regulations of the board.

The Authority permits both grease traps and waste haulers operating in Harrison County. Presented in Table 35 are the bulk waste haulers permitted by the HCUA.

Disposal of bulk liquid wastes for collectors is provided at the North Gulfport Wastewater Treatment facility, located at 10371 Larkin Smith Drive, Gulfport, MS 39503. This facility is operated by the Harrison County Utility Authority. These liquid wastes are discharged by the waste collector into a concrete basin, which gravity drains to a sludge collection area of the plant, and is pumped to the Headwork’s of the plant. Disposal times are between 7:00 AM and 4:30 PM, Monday through Friday. Liquid wastes are also accepted on weekends and holidays from 7:00 AM until 3:00 PM.

A monthly septage receiving report is sent to the HCUA by plant operations. The HCUA bills the Liquid Waste collector in the amount of $0.44/gallon received during the prior month.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Address** | **Phone Number** | **HCUA Permit Number(s)** |
| Vacuum Services | PO Box 2303 Gulfport MS 39505 | (228) 865-4747 | 187 |
| B&J Vacuum Services | 10550 Reichold Road Gulfport MS 39503 | (228) 896-6348 | 503 , 508 |
| Bob’s Septic | 16184 Lamey Bridge Road Biloxi MS 39532 | (228) 392-0469 | 524 |
| All-South | 50 Duff Street Columbia, MS 39429 | (601) 441-8955 | 530 |
| Coastal Waste | PO Box 6127 D’Iberville MS 39540 | (228) 284-4873 | 574 |
| Danny Miller Plumbing | PO Box 2026 Gulfport MS 39505 | (228) 832-5600 | 188, 212 |
| Delta Sanitation | PO Box 669 Ocean Springs MS 39566 | (228) 818-5393 | 510, 523, 543, 545, 552, 557, 559, 564 |
| Bond Septic Service | 929 22nd Street Gulfport, MS 39501 | (228) 863-0103 | 193 |
| Gulf Coast Septic | 9412 Martin Ave Ocean Springs MS 39565 | (228) 872-4449 | 572 |
| United Site Services, LLC | 2803 33rd Street Gulfport MS 39501 | 800-864-5387 | 575 |
| Anytime Portables | PO Box 6333 D’Iberville, MS 39540 | 228-218-7613 | 576 |

Table 35

Bulk Liquid Waste Collectors Permitted by HCUA

During calendar Year 2012, an average of 155,000 gallons/month of Septic waste was received at North Gulfport WWTP.

* + 1. Assessment of Needs and Alternatives

The services provided by the Authority at its wastewater treatment facilities are adequate to handle the needs for residential and small commercial liquids waste treatment and disposal. The larger commercial and industrial needs for bulk liquids treatment and disposal are primarily handled by the private sector. These services provided by the current service providers is adequate for the planning area and no additional needs for residential and commercial bulk liquid waste are required at this time.

4.4. Waste Tire Management

In 2003 the EPA estimated that there are at least 275 million scrap tires in stockpiles in the U.S. Additionally, it is estimated 290 million scrap tires were generated in 2003. Historically, these scrap tires took up space in landfills or provided breeding grounds for mosquitoes and rodents when stockpiled or illegally dumped. Recycling markets now exist for 80% of these scrap tires up from 17% in 1990. Recycling and beneficial use markets continue to grow and include:

* + - * 130 million (44.7%) used as fuel
      * 56 million (19.4%) recycled or used in civil engineering projects
      * 18 million (7.8%) ground rubber and recycled into products
      * 12 million (4.3%) ground rubber used in rubber-modified asphalt
      * 9 million (3.1%) are exported (e.g. Mexico and Japan)
      * 6.5 million (2.0 %) are recycled into cut/stamped/punched products
      * 3 million (1.7%) are used in agricultural and miscellaneous uses

In its Calendar Year 2010 “Status Report on Solid Waste Management Facilities and Activities” the MDEQ (Mississippi Department of Environmental Quality, Solid Waste Policy, Planning & Grants Branch) reported that a 2007 report by the Rubber Manufactures Association (Scrap Tire Markets in the United States, 9th Biennial Report) estimated that the U.S. generation rate for waste tires is one waste tire per person per year. Based on this generation rate U.S. Census Bureau 2010 population estimates for Harrison County (see Table 2 in the “Introduction to the Planning Jurisdiction” section of this Plan) this means that approximately 187,105 waste tires were generated in Harrison County during 2010. In the future, based on Harrison County population projections (see Table 3 in the “Introduction to the Planning Jurisdiction” section of this Plan) this amount could grow to over 200,000 waste tires in the next 20 years. In this Annual Report, the MDEQ estimates that of the tires collected statewide, approximately 94% are recycled.

In 1992, the State of Mississippi enacted the Waste Tire Transportation Regulations and the Waste Tire Grant Program. The Mississippi Waste Tire Management Program outlines state rules and regulations for the collection, transportation, storage, processing, recycling and disposal of waste tires. The Mississippi Legislature also recognized in the law that it would be in the best interest of the state to encourage the reuse and/or recycling of waste tires due to the unique handling and disposal problems and the potential resource that the components of the waste tire presented. The legislature created provisions for providing grants to persons or businesses that propose to process waste tires for recycling purposes. These grant fund are primarily generated by disposed fees placed on the sale of new tires. State law requires that any person in the business of selling new tires at wholesale in the State shall collect a fee at the rate of $1.00 for each new tire sold with a rim diameter of less than 24 inches and $2.00 for each new tire sold with a rim diameter of 24 inches or greater.

Other provisions of Mississippi’s waste tire regulations provide for the regulation of waste tire stockpiles, specifications for processing and disposal of waste tires, financial responsibility requirements, and provisions for alternative uses of waste tires.

The Mississippi Waste Tire Management Regulations and the Mississippi Waste Tire Transportation Regulations require persons and businesses to properly transport waste tires. Waste tire haulers involved in the transportation of waste tires from generators to end users are required to annually report the number of waste tires transported. Commercial waste tire collectors and processors are required to report information on the sources and quantity of waste tires managed each month. This Plan contains information on waste tire management activities in Harrison County conducted by the waste tire transporters, collectors and processors.

There is one (1) public waste tire collection site in Harrison County for private individuals and other small quantity waste tire generators. The County operates this site for residents of the County and small quantity generators. Small quantity generators are defined as:

* + - * + Private citizens/homeowners not engaged in the retail tire business and who generate less than 25 tires per year
        + Local governmental agencies such as the county, city, school district, sheriff’s office and other public organizations
        + Small businesses such as farms, mechanic shops, delivery services, recycling outlets and others who generate less than 10 waste tires per week
        + Clean-ups by landowners who have been illegally dumped upon, community beautification and not-for-profit group clean-ups, collection days in conjunction with household hazardous waste collection days, county or city clean-ups of roadside tire dumps, and other area clean-ups where the illegally dumped tires generally number 100 or fewer.

The Harrison County waste tire collection site and drop-off center is located at the Harrison County Work Center on 10076 Lorraine Road, Gulfport, Mississippi 39503 (phone number 228-896-0210). The drop off center is open Monday through Friday, 7:00 a.m. to 3:00 p.m. Waste tire storage at the County sites consist of a 53 foot long by 7.5 foot wide storage trailer with a capacity to store approximately 100 - 120 cubic yards of waste tires. The trailer is located outside at the collection center and is staffed during operating hours. The County Road Department is responsible for supervision of the waste tire collection site. The Authority advertises its waste tire collection areas in the newspaper and on its website ([www.hcua-ms.us/recycle.html#tire).](http://www.hcua-ms.us/recycle.html#tire))

In addition to the Harrison County drop-off center, the Road Department operates litter and rubbish collection crews that will collect small numbers of waste tires when collecting other household rubbish and litter. All waste tires are loaded into a trailer provided by Polyvulc Tire Recycling, LLC. When the trailer is full, Polyvulc (Waste Hauler ID # WTH – 546) transports the waste tires to its processing center in Vicksburg, Mississippi (Waste Tire Permit # 0020). From May 2010 through April 2011, Polyvulc hauled from the Harrison County drop-off site 18 tractor-trailer loads of waste tires containing approximately 15,600 waste tires for a total weight of 175.29 tons. This averages out to about 887 waste tires per load at an average weight of about 22.5 pounds per tire.

The Harrison County Waste Tire Collection and Disposal Program is funded in part through MDEQ Assistance Grants. From 1994 through 2011 the County has received at least 12 Grants totaling $441,000, which were used to help the County collect and dispose of over 300,000 waste tires. The County plans to continue to utilize this MDEQ Grant Program for the collection and disposal of waste tires.

In Mississippi commercial tire dealers, retailers and other waste tire generators may store up to 500 waste tires at one time or 100 waste tires for up to 90 days without obtaining authorization for a waste tire collection site from the MDEQ. Tires stored on site must be stored free of weeds and vegetation, free of standing water, away from potential combustion sources and in a manner otherwise protective of human health and the environment. Under no circumstances are waste tires allowed to be burned or placed for storage or disposal at any unauthorized location. A tire retailer or other waste tire generator cannot allow waste tires to be collected by any person who does not possess a valid and current waste tire hauler identification number from the MDEQ. Any person who hauls 50 or more whole or cut waste tires at a time or who hauls any amount of whole or cut waste tires for compensation is required to register for and receive a waste tire hauler identification number from the MDEQ.

Table 36

Waste Tire Haulers and Processing Facilities Located In Harrison County

|  |  |  |  |
| --- | --- | --- | --- |
| Waste Tire Hauler,  Collection Site or Processor | Permit No. | Permit Type | Address |
| Harrison County Waste Tire Collection Site | Authorized | Local Government  Waste Tire Collection Site | 10076 Lorraine Road, Gulfport |
| Harrison County Waste Tire Collection Site | Authorized | Local Government  Waste Tire Collection Site | 1656 Popps Ferry Road, Biloxi |
| Harrison County Waste Tire Collection Site | Authorized | Local Government  Waste Tire Collection Site | 4050 Hewes Avenue, Gulfport |
| Douglas K Lee Junior DBA Lees Environmental  Tire Hauling | WTH – 295 | Hauling | 19441 Doug Lee Road Saucier, MS 39574 |
| Douglas K Lee, Sr, Lee and Sons Mobile Waste Tire  Processing | WTH – 141 | Hauling/Mobile Processing | 19452 Doug Lee Road Saucier, MS 39574 |
| George Triplett, Triplett  Waste Tire Processing Facility | WTH – 191/ WTP - 0017 | Hauling/Processing | 20100 Doug Lee Road Saucier, MS 39574 |

In 2013, Harrison County collected 24 tractor trailer loads of tires equating to 206 tons recycled. During this same period, Triplett Waste Tire reported collecting 111,629 waste tires which equated to 1,256 tons recycled.

4.4.1. Assessment of Needs and Alternatives

The County’s Waste Tire Program is effective and adequate to provide the needed services for the County. Public outreach in the form of advertisements should be continued in order to inform residents about the waste tire drop-off location and hours of operation.

4.5. Household Hazardous Wastes

Household Hazardous Waste (“HHW”) includes many common household products considered to be hazardous substances by the EPA because they contain corrosive, toxic, ignitable, or reactive ingredients. HHW consists of items from the home that may contain ingredients such as residential pesticides and insecticides, paints and solvents, used oil and other automotive fluids, automotive batteries and other household batteries, or general cleaners and other household chemicals. Many of these products that contain potentially hazardous ingredients require special care for disposal.

The EPA warns that improper disposal methods of HHW include pouring them down the drain, on the ground, into storm sewers, into ditches and streams or in some cases putting them out with the trash. Certain types of HHW have the potential to cause physical injury to sanitation workers, contaminate septic tanks or wastewater treatment systems if poured down drains or toilets, and present hazards to children and pets if left around the house. Such improper disposal of HHW can pollute the environment and pose a threat to human health. The EPA estimates that Americans generate 1.6 million tons of HHW per year and that the average home can accumulate as much as 100 pounds of HHW in the basement, garage and in storage closets. The EPA reports that many communities in the

U.S. offer a variety of options for conveniently and safely managing HHW.

The options of reduce, reuse and recycle apply equally to HHW as they do to other components of the waste stream. Some of the options that are available to manage HHW include permanent collection or exchange sites, special collection days and local business collection sites. Permanent collection or exchange involves a facility that collects HHW year-round. Some of these facilities have exchange areas for unused or leftover paints, solvents, pesticides, cleaning and automotive products, and other materials. By taking advantage of these facilities, materials can be reused by someone else, rather than being thrown away. Sometimes grants from the MDEQ or other agencies are available to assist local governments with permanent or special collection programs. Also, many times local business collection sites are available for some HHW. Some businesses make their company’s HHW recycling available to customers and residents to drop off certain products at their business for recycling or proper disposal. For example, some local garages may accept used motor oil, lead acid batteries and antifreeze for recycling.

* + 1. Household Hazardous Waste Local Management Programs

New HHW programs are developing every day and current programs are changing and ending every day. One way to stay current on what options are available locally is to check with nationwide HHW coordination programs such as Earth911 (www.earth911.org), Electronic Industries Alliance’s Consumer Education Initiative (www.eiae.org) and Rechargeable Battery Recycling Corporation (RBRC) (www.rbrc.org) or the Household Hazardous Waste section of the EPA’s website [www.epa.gov/wastes/conserve/materials/hhw.htm.](http://www.epa.gov/wastes/conserve/materials/hhw.htm)

There are also many manufacturers and retailers that offer recycling/reuse programs of products such as Advanced Auto Parts, Autozone, Habitat for Humanity, Firestone, Wal- Mart, AT&T, Best Buy, Dell, eBay (Rethink Initiative), Hewlett-Packard, Intel, LG Electronics, Motorola, Nokia, Office Depot, Samsung, Sony, Sprint, Staples, T-Mobile and Toshiba. Other participating manufacturers and retailers can be found on the Earth911 website listed above.

Harrison County does have a permanent HHW collection center. The Rockco-McFarland Household Hazardous Waste Collection and Recycling Center is located at 10076 Lorraine Road at the Harrison County Work Center on Lorraine Road. The center is named for Harrison County Supervisor Connie Rockco, a former beautification director, and Sun Herald Multi-Media Marketing Services Director John McFarland, a long- serving beautification commissioner. The center provides residents a place to dispose of and recycle common HHW such as paint and oil, as well as tires, batteries, fluorescent light bulbs, electronic appliances and other hazardous items. Medical waste, furniture, asbestos, or items containing explosive or radioactive material are not accepted. The HHW recycling and disposal costs will be paid in part by a grant from the Mississippi Department of Environmental Quality. In 2010 the county took in 2,600 gallons of paint, 24 tons of electronics related waste and 1,500 gallons of oil, 100 gallons of antifreeze and 150 automobile batteries. The center is designed so residents can drive through and drop off their HHW items. The center is open on the second Saturday of every month from 8

a.m. until noon.

Prior to the center opening, since 1995 Harrison County offered household hazardous waste days once (1) per year. The annual event is usually in the Fall of the year and notification is published in the newspaper. The event is usually located at Mississippi Power's Plant Jack Watson on Lorraine Road in Gulfport. The event collects a wide range of waste products. These include chemicals, paints, oils, batteries, tires, and appliances such as refrigerators, washers, dryers and stoves. It also includes e-waste such as cell phones, computers, fax machines, television sets and VCRs. Expired prescription drugs are also accepted. Medical waste, furniture, asbestos, or items containing explosive or radioactive material is not accepted. Waste from businesses is not accepted as the event is provided as a service to local residents. The Authority advertises on its website, [www.hcua-ms.us/recycle.html#hazard](http://www.hcua-ms.us/recycle.html#hazard) information regarding the proper handling and disposal of HHW. For more information regarding the HHW center or HHW annual events, residents can contact Jenna Weatherford, Harrison County Beautification director, at 228-214-1405 or [beautification@co.harrison.ms.us.](mailto:beautification@co.harrison.ms.us)

The Harrison County HHW Program is funded in part through MDEQ Assistance Grants. From 1995 through 2011 the County has received at least 19 Grants totally $463,000, which were used to help the County collect and dispose of over 300 tons of HHW. The County plans to continue to utilize this MDEQ Grant Program for the collection and disposal of HHW.

An evaluation of the HHW collection center quantities indicates a steady increase of participants utilizing the facility. Calendar Year 2011, 780 participants utilized the HHW disposal site. Calendar Year 2013, 908 participants utilized the HHW disposal site. The quantities of paint, aerosols, oil, antifreeze, household batteries, flammables, and

electronic devices increased from 2011 to 2013. Most all quantities decreased from 2011 to 2012 calendar year.

* + 1. Assessment and Needs

With the availability of the permanent HHW collection center and the organized annual events, there is no apparent need to expand the programs currently offered in the County. The County should reevaluate the need for additional HHW services for the residents every two (2) years beginning in 2014. During this evaluation the County should consider grant opportunities that may be available from MDEQ or other agencies.

* 1. White Goods

White Goods include large, metal household appliances such as washers, dryers, stoves, refrigerators, freezers, dishwashers, air conditioners and other larger comparable appliances, which must be discarded when the useful life of the unit has ended. White goods account for about 2% of the municipal solid waste produced in the U.S. The collection, storage and disposal of these wastes is often difficult due to the bulky nature of the wastes and, in some white goods, the presence of potentially contaminating materials including refrigerants, and PCB’s other oils and chemicals. These items have traditionally been treated as many other solid wastes and processed for scrap or landfilled.

Many White Goods, particularly those that were manufactured prior to 1979, have electrical capacitors or lighting ballasts, which contain polychlorinated biphenyls (PCBs). This material is a carcinogen (causes cancer) and its disposal is regulated under the Federal Toxic Substance Control Act (TSCA) of 1976. When these materials are processed or crushed, the release of PCB contaminated oil may occur. In 1979, EPA regulations banned any further manufacture of PCB. However, an exemption was granted so that companies that had existing inventories of capacitors could use up their remaining stocks. As a result, capacitors containing PCBs may have been used as late as 1984. Current federal regulations exempt capacitors from TSCA regulations provided they remain intact and the PCBs are not released to the environment. PCB contaminated oils are found predominantly, but not exclusively in air conditioners, fluorescent light ballasts, dehumidifiers, microwave ovens, submersible pumps, mercury vapor lamps, furnace blower motors, and electrical control panels. These contaminated oils are not normally found in refrigerators, washing machines, dryers and fans. However, they can be found in most commercial appliances.

Another issue concerning White Goods processing is a fluid collection system for refrigerants. Many refrigerator, freezer and air conditioning systems use chlorofluorocarbons and hydrochlorofluorocarbons (CFCs) for their cooling capacities. When these items are disposed of or repaired, the piping system containing the liquid refrigerant is broken either accidentally or deliberately. Once the loss of pressure occurs, the liquid quickly reverts to a gas and dissipates into the atmosphere. CFCs are then released into the environment.

Many scientists associate the release of CFCs as being a significant factor in both the reduction of ozone in the upper atmosphere and in the development of the "Greenhouse Effect." The depletion of ozone results in an increased penetration of ultraviolet radiation to the earth's surface. An important feature of CFCs is their chemical stability. They are not readily degraded by other chemicals. Because of this stability, most CFCs are believed to survive in our atmosphere for 50 to 100 years or longer. These compounds continue to destroy ozone molecules throughout this period.

Before a white good containing CFCs (such as a refrigerator, freezer, air conditioner, or dehumidifier) can be recycled or disposed of, the CFCs must be removed by certified equipment.

In 2017, the Authority contracted with Pelican Waste to provide once weekly pickup of rubbish, yard waste and white goods from residences within the Authority’s service area with the exception of Gulfport. White goods that contain Freon must have the Freon removed by a qualified technician prior to disposal. All units with Freon removed must have a tag showing certification of removal. The landfills currently under contract with the Authority, WMMI Pecan Grove for residential solid waste and Team Waste Recycler’s Landfill and Firetower Landfill for Class I rubbish, all are required by their respective contracts to provide for white goods receiving and recycling.

Gulfport’s 2017 contract with Waste Pro provides for as needed collection of rubbish, yard wastes and white goods from residences within the city limits of Gulfport. This material is disposed of at either the WMMI Pecan Grove Facility, Coastal Recycler’s Landfill, or Firetower Landfill.

In addition to the collection of white goods by Pelican Waste, Harrison County does accept white goods at its permanent HHW collection center. The Rockco-McFarland Household Hazardous Waste Collection and Recycling Center is located at 10076 Lorraine Road at the Harrison County Work Center on Lorraine Road. The center provides residents a place to dispose of and recycle common HHW such as paint and oil, as well as tires, batteries, fluorescent light bulbs, electronic appliances and other hazardous items. Medical waste, furniture, asbestos, or items containing explosive or radioactive material are not accepted. The center is open on the second Saturday of every month from 8 a.m. until noon.

Since 1995 Harrison County has offered a household hazardous waste day once (1) per year. The annual event is usually in the Fall of the year and notification is published in the newspaper. The event is usually located at Mississippi Power's Plant Jack Watson on Lorraine Road in Gulfport. The event collects a wide range of waste products including appliances such as refrigerators, washers, dryers and stoves. Waste from businesses is not accepted as the event is provided as a service to local residents. The Authority advertises on its website, [www.hcua-ms.us/recycle.html#hazard](http://www.hcua-ms.us/recycle.html#hazard) information regarding the proper handling and disposal of HHW. For more information regarding the HHW center or HHW annual events, please refer to the “*Household Hazardous Waste*” section of this Plan or residents can contact Jenna Weatherford, Harrison County Beautification director, at 228-214-1405 or [beautification@co.harrison.ms.us.](mailto:beautification@co.harrison.ms.us)

* + 1. Assessment of Needs and Alternatives

The Authority’s and the City of Gulfport’s White Goods Program is effective and adequate to provide the needed services for the County. Public outreach in the form of advertisements should be continued in order to inform residents about the white goods collection locations and the hours of operation.

* 1. Agricultural Chemical Containers

According to data available from the U.S. Department of Agriculture, National Agricultural Statistics Service, Harrison County crop reports indicate that agricultural chemical containers are not generated in the county in a significant enough volume to require a container recycling program in the county. The MDEQ Preliminary Assessment Pesticide Management Worksheet for Harrison County is provided at the end of this section. This Worksheet estimates that Harrison County generates less than 20,000 pesticide containers per year.

If a county generates more than 20,000 pesticide containers per year then the county must develop a pesticide container management plan as a component of its local non- hazardous waste management plan. If a county generates less than 20,000 pesticide containers then the county may choose voluntarily to develop and implement a pesticide container management plan.

To be acceptable for recycling, plastic crop protection products containers must be empty, clean, uncapped, and dry. The collection company provides the following instruction checklist and photographs so that people can make sure their containers are acceptable:

* **EMPTY:** Plastic containers must be empty to be recycled.
* **CLEAN:** Pressure clean or triple-rinse the container as soon as it is emptied. Container must be cleaned or they will not be accepted into the recycling program.
* **INSPECT:** Immediately after rinsing the container, look inside and make sure that all the formulation has been rinsed out. Also inspect the outside of the container; particularly check that the pour spout, the spout threads, and the container wall surrounding the spout are free of formulation residues that flake, smear, or come off on a glove when touched. We cannot process containers that have dried formulation in or on them.
* **DISCARD CAP:** Caps are usually made of a different kind of plastic and cannot be recycled. Be sure to clean the cap at the time the container is rinsed. Never put a cap back on a cleaned container. Dispose of the cleaned caps as normal solid waste.
* **KEEP CONTAINERS DRY:** Cleaned containers must be kept out of the rain and away from the rainwater. Store cleaned containers in a roofed building, an enclosed trailer, or in plastic bags.
* **LABELS:** Please remove the instruction booklets.
* **STAINS:** Containers that originally held products known to stain plastic are acceptable for recycling if the plastic is stained but otherwise clean.

### WORKSHEET PRELIMINARY ASSESMENT OF

**PESTICIDE CONTAINER MANAGEMENT**

HARRISON COUNTY

(A) (B) (C) (D) Crop No. of Acres Planted Multiplier

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Cotton | 0.00 | X | 1.00 | = | 0.00 |
| Rice | 0.00 \_ | X | 1.00 | = | 0.00 |
| Soybeans | 0.00 \_ | X | 0.25 | = | 0.00 |
| Corn | \_ \_0.00 \_ | X | 0.25 | = | 0.00 |

Sum of Column (D) = 0.00

Directions for completion of the worksheet:

If the sum of Column (D) is equal to or greater than 20,000, the county must develop a pesticide container management plan as a component of its local non-hazardous waste management plan.

If the sum of Column (D) is less than 20,000, the county may choose voluntarily to develop and implement a pesticide container management plan.

According to the USDA National Agricultural Statistics Service and the Mississippi Department of Agriculture and Commerce’s “*Census of Agriculture for Mississippi”* there were no acres of cotton, rice, soybeans or corn harvested in Harrison County. These reports estimated that there are 367 farms located in Harrison County. These farms are primarily involved in the production of beef and other animals (69% of the total farms) with the rest of the farms involved in the production of vegetables, melons, fruits, green houses and hay.

* + 1. Assessment of Needs and Alternatives

Due to the absence of significant acreage of cotton, rice, soybean and corn farming in Harrison County, there is no need for agricultural chemical or pesticide container handling, recycling or disposal programs.

### 4.8 Other Special Waste Management

Special waste is generally considered as any waste material, which, because of its physical or chemical characteristics, or biological nature requires either special handling procedures, or poses an unusual threat to human health, equipment, property, or the environment. Special waste may include non-hazardous industrial waste, construction / demolition debris, bulk liquid waste, waste tires, household hazardous waste, white goods, agricultural chemical containers and other special wastes.

Other special wastes generated in the planning area includes medical waste, electronic waste, universal waste and seafood waste.

### Medical Waste: There are several medical centers located in Harrison County that generate medical waste. The major facilities are Biloxi Regional, Garden Park, Gulfport Memorial, Gulf Coast, Keesler and VA Medical Centers. These facilities, when combined, have at least 750 acute care beds and employ at least 4,000 people. The majority of the medical waste generated at these medical centers is collected by a private company and taken out of state for treatment and disposal.

### The Mississippi Department of Environmental Quality has established a network of household sharps drop-off collection stations in Harrison County. Most of these collections stations are located in local pharmacies and fire stations. There is no cost to the medical sharp consumer for this disposal service. Pharmacies, fire stations, and other businesses or local government offices are encouraged to register their location with the Mississippi Department of Environmental Quality. A registration form can be found on MDEQ website.

### In Harrison County, Earthcare, Inc. is responsible for biomedical waste collection and disposal, and supports the implementation of the Mississippi Household Medical Sharps Disposal Program. Earthcare is located at 1406 31st Ave, Gulfport MS. 1-888-454-5144

### Table 37 lists the household medical sharps drop-off points registered with Mississippi Department of Environmental Quality in Harrison County. Arrangements are made periodically for a solid waste collection company to retrieve the sharps and transport them to an approved disposal facility.

### Electronic Waste: Electronic waste or e-waste includes many different types of electronic devices such as cellular phones, television sets, computers, computer monitors, printers, copiers, personal stereos, personal digital assistants (PDAs) and other hand-held electronic devices. These materials are accepted for disposal at Harrison County’s Rocko-McFarland facility. Electronic devices were at one time built to be repairable, but because of the continuous improvements in the microchips powering such devices, consumer electronics are now designed to be replaced on a routine basis. The amount of e-waste is expected to grow significantly in the coming years and current rates of recycling e-waste (eCycling) are very low.

### Table 37

### MDEQ Registered Household Medical Sharps Drop-Off Locations in Harrison County

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Address** | **City** | **Phone** |
| Burnham Drugs | 608 Howard Avenue | Biloxi | 228-432-1126 |
| Grace Healthcare | 1765 Popps Ferry | Biloxi | 228-863-3331 |
| Gulf Shores Adult Day Care | 2301 Atkinson Road | Biloxi | 228-388-1723 |
| Woolmarket Pharmacy | 13066 Highway 67, Ste. F | Biloxi | 228-392-5355 |
| Backbay Drugs | 10437 Lamey Bridge Road | D’Iberville | 228-396-2228 |
| Turner Discount Drugs | 10595 Auto Mall Pk | D’Iberville | 228-392-0219 |
| Beach Pharmacy | 1110 Cowan Road | Gulfport | 228-896-7070 |
| French Drug Company | 400 East Pass Road | Gulfport | 228-896-5656 |
| Grace Healthcare | 1120 Broad Avenue | Gulfport | 228-863-3331 |
| Jacksons Discount Pharm | 11340-A Three Rivers Rd | Gulfport | 228-832-8000 |
| Sartins Vital Care & Pharm | 4300 15th Street | Gulfport | 228-864-7056 |
| T-D Pharmacy | 12372 Hwy 49 | Gulfport | 228-832-1414 |
| Winn Dixie Pharmacy | 11321 Hwy 49 | Gulfport | 228-832-0051 |
| Long Beach Pharmacy | 5107 Beatline Rd, ste.100 | Long Beach | 228-822-9868 |
| Loves Pharmacy | 12345 Vidalia Road | Pass Christian | 228-255-7800 |
| Pass Christian Fire Station | 808 East Second Street | Pass Christian | 228-452-3323 |
| Pass Christian Fire Station | 707 West North Street | Pass Christian | 228-452-3323 |

E-waste is a growing part of the waste stream. The National Safety Council estimates that by 2005, more than 250 million personal computers will become obsolete and that the average lifespan of PCs is falling from 4.5 years in 1992 to an estimated 2 years in 20051. Additionally, new FCC regulations will require that all TV receivers with screen sizes greater than 13 inches and all TV receiving equipment, such as video cassette recorders (VCRs) and digital versatile disk (DVD) players and recorders, include digital reception capability after July 1, 2007. There is a concern that as older analogue TVs and receiving equipment become obsolete and digital equipment takes their place that thousands of tons of analogue TV related equipment will be disposed of in the U.S every day beginning in 2006.

Computer monitors and television sets (CRTs – cathode ray tubes) contain an average of 4 to 8 pounds of lead each. Monitor glass contains about 20% lead by weight. When these components are illegally disposed of and crushed the lead is released into the environment.

Other hazardous materials used in computers, tvs and other electronic devices include cadmium, mercury, hexavalent chromium, PVC plastic and brominated flame retardant. Some of these hazardous materials leach out when certain electronic components such as circuit breakers are crushed. The presence of halogenated hydrocarbons in computer plastics may result in the formation of dioxin if the plastic is burned. The presence of these chemicals also makes computer recycling particularly hazardous to workers and the environment.

The National Safety Council estimates that more than 9.7 million units (275 million pounds) of electronic equipment were recycled in 1998 alone 1. Computer peripherals, desktop PCs, and CRT computer monitors are the most common equipment recycled; however, the actual percentage of electronics recycled is low. Six (6) percent of PC CPUs were recycled in 1998, with TVs and mainframes experiencing even lower rates of recycling 1.

The National Safety Council also estimate that 75 percent of the electronic waste being recycled is completed by electronics manufacturers and large organizations. This equipment is being recycled by a small group of companies due to the large capital investment and significant infrastructure. Only a small amount of electronics is being recovered from households2.

A number of computer manufacturers offer leasing and take back services. While environmental considerations are a factor, demand from large corporate customers are driving the development of these services. The EPA has a site at epa.gov called “Plug-In To eCycling” to see who is partnering with EPA to bring more recycling opportunities to the public.

1. The National Safety Council published, "Electronic Product Recovery and Recycling Baseline Report: Recycling of Selected Electronic Products in the United States."
2. Matthew, H.Scott. Disposition and End-of-Life Options for Personal Computers 1997, Carnegie Mellon University.

### Universal Waste: The EPA passed the Universal Waste Rule (UWR) in Title 40 Code of Federal Regulations (CFR) Part 273, “Standards for Universal Waste Management,” on May 11, 1995. The rule was developed to improve waste management practices of widely generated, low risk Resource Conservation and Recovery Act (RCRA) hazardous wastes.

The EPA chose “universal” to describe the nature of certain commonly generated hazardous wastes. Specifically, a hazardous waste exhibiting any of the following characteristics can be classified as a universal waste:

* + The waste is frequently generated by a wide variety of settings other than industrial settings usually associated with hazardous wastes;
  + The waste is generated in a vast community and in sufficient quantities to cause difficulties in managing the waste properly for both the regulated community and the regulators; and
  + The waste is present in significant volumes in the municipal solid waste stream (non-hazardous waste management systems).

The EPA has designated four types of hazardous wastes as universal: batteries, pesticides, lamps and thermostats. These four hazardous wastes, discussed in detail below, are characterized by the EPA as universal and may be managed under universal waste regulations.

1. Batteries: A battery is defined as a device designed to receive, store, and deliver electric energy, and consists of one or more electrically connected electro-chemical cells. The term also includes an intact, unbroken battery from which the electrolyte has been removed. Batteries such as nickel-cadmium (Ni-Cd) and small sealed lead-acid batteries, which are found in many common items in the business and home setting, including electronic equipment, mobile telephones, portable computers, and emergency backup lighting.

2. Lamps**:**  A lamp is defined as the bulb or tube portion of an electric lighting device that has a hazardous component. Examples of common universal waste electric lamps includes fluorescent lights, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps. Many used lamps are considered hazardous wastes under RCRA because of the presence of mercury or occasionally lead.

3. Pesticides**:** A pesticide means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, other than animal drugs and feeds. Pesticides may be unused and unwanted for a number of reasons, such as being banned, obsolete, damaged or no longer needed. Any unused pesticide products are subject to management under universal waste regulations.

4. Thermostats**:** A thermostat means a temperature control device containing metallic mercury in an ampule attached to a bimetal sensing element, and mercury-containing ampules having been removed from these temperature control devices. Thermostats can contain as much as 3 grams of liquid mercury and are located in almost any building, including commercial, industrial, agricultural, community, and household buildings. If thermostats are not discarded (i.e. not waste), or are determined not to be a hazardous waste, they are not subject to universal waste regulations.

Seafood Waste: The seafood industry developed along the Mississippi Gulf Coast in the 1800s, and the harvesting and processing of seafood have been a critical part of the economy and identity of the region since the early 1900s. According to the Mississippi Department of Marine Resources (DMR) about 85 percent of Mississippi’s harvest is brown shrimp, which are most abundant from June to October. They congregate in water between 15- 120 feet deep and are caught mostly at night. Found in shallow water, usually no deeper than 90 feet, white shrimp are caught mostly during daylight hours. October to January are the best months to harvest white shrimp. Pink shrimp are usually found in waters 36- 108 feet deep and generally are caught at night. They are most abundant between October and April.

The seafood industry generates about 3,000 tons/year of seafood waste, which is primarily shrimp hulls and heads. Currently, this seafood waste is collected in sealed self- contained compactors and hauled to the MacLand Landfill in Jackson County.

In the near future it is expected that the seafood waste will be recycled. Omega Protein Corp., which operates a menhaden processing plant in Moss Point will begin processing shrimp hulls at its facility. Omega’s current facility makes fish oils containing omega-3 fatty acids and fish meal from menhaden. The new venture will involve putting about $2 million worth of equipment that will process the hulls into shrimp meal. The fish meal is used for human consumption and in aquaculture, agriculture and industrial applications.

Additional information regarding special waste can be found in the *Special Waste Guidance* section of the MDEQ website, [www.deq.state.ms.us.](http://www.deq.state.ms.us/)

4.8.1. Assessment of Needs and Alternatives

Some local private companies and retailers provide recycling, collection and disposal services for certain special wastes. A list of these private companies and retailers is located at the end of the *“Recycling and Waste Reduction Programs”* section of this Plan. At this time there is no need for additional Special Waste Programs to be provided by the County or Authority.

**SECTION D, CONTINUED**

# PRIMARY SOLID

**WASTE PROGRAM COMPONENTS**

5. Disaster Debris Planning

There are three (3) basic types of disasters that can cause disaster debris in Harrison County. These types are natural hazards, manmade hazards and technological hazards. A breakdown of these types of hazards is as follows:

Natural Hazards: Natural incidents related to environmental conditions including Dam and Levee Failure, Drought and Extreme Heat, Earthquake, Flooding, Major Fires (including Grass, Timber, and Urban), Hurricanes, Tornadoes, and Winter/lce Storms.

Hurricanes are one of the most prevalent debris causing disasters that regularly impact Harrison County. Over the last 140 years, Harrison County has been impacted by storms (within 60 miles of a hurricane) 51 times. Named hurricanes impacting the County have included Baker, Brenda, Flossy, Hilda, Ethel, Betsy, Camille, Frederic, Juan, Elena, Opal, Georges, Allison, Hanna, Isidore, Bill, Ivan, Cindy, Katrina and Ida.

Harrison County is affected by a hurricane about every 3 years and impacted by a direct hit about every 10 years. The official Hurricane Season lasts 6 months starting June 1st and ending November 30th. These major storms pose a continuing threat to Harrison County in the form of high winds, tornadoes, tidal surge and major flooding during landfall. Damaging Earthquakes and Tsunamis are rare. The earliest record earthquake was felt in the City of Biloxi, Harrison County in 1853. Earthquakes can produce damaging tsunamis that could cause damage to coastal, low-lying areas and inland waterways.

In August 2005 Hurricane Katrina struck the Mississippi Gulf Coast. It was the costliest natural disaster, as well as one of the five deadliest hurricanes in U.S. history.1 Katrina was the sixth strongest overall Atlantic hurricane ever recorded. At least 1,836 people died in the actual hurricane and in the subsequent floods and total property damage was estimated at $81 billion (2005 USD).1

Katrina made its final landfall near the Mississippi-Louisiana state line, and the eye passed over the cities of Bay St. Louis and Waveland as a Category 3 hurricane with sustained winds of 120 mph (195 km/h).1 Katrina passed over the west and central Mississippi Gulf coast, causing a 27-foot storm surge, which penetrated up to 6 miles inland in many areas and up to 12 miles inland along bays and rivers; in some areas, the surge crossed Interstate 10 for several miles.1 Katrina also brought heavy rains and caused eleven tornadoes in south Mississippi.1

The Gulf Coast of Mississippi suffered massive damage from the impact of Hurricane Katrina which left 238 people dead, 67 missing, and billions of dollars in damage: bridges, barges, boats, piers, houses and cars were washed inland.2 In Harrison County, HUD estimated that as a result of Hurricane Katrina, 24,187 houses sustained minor damage and 24,430 house sustained major damage or were totally destroyed. When compared to the 2000 U.S. Census, which estimated that Harrison County had 79,636 housing units, this equates to approximately 30% of the houses sustained minor damage and 30% sustained major damage or were totally destroyed. 2

1. Richard D; Rhome, Jamie R.; Brown, Daniel P (December 20, 2005; updated August 10, 2006). “Tropical Cyclone Report: Hurricane Katrina: 23-30 August 2005” (PDF). National Hurricane Center. Retrieved 2006-05-30.
2. Haley Barbour (January 6, 2006). “Information Relating to the Federal Appropriations for Katrina Recovery”. Office of the Governor, Mississippi. Retrieved 2006-09-27; and (August 29, 2010) “Katrina Progress Report on Recovery, Rebuilding and Renewal” Office of the Governor, Mississippi.

Manmade Hazards: Intentional acts include Civil Disorder, Enemy Attack, Sabotage, Terrorism, or other incidents involving the use of Weapons of Mass

Destruction. Harrison County has not yet been a target of terrorist activities, but the threat exists for both domestic and international incidents. Harrison County's infrastructure includes many critical and key assets such as: International airport, several military installations, multiple tourist attractions, major transportation thoroughfares (bridges, railroads, port and Interstate), chemical manufacturing plants, power generation, many government buildings (both federal and state), and major corporate headquarters.

Technological Hazards: Technological failures or accidents include Fires and Explosions; Energy Emergencies; Nuclear, Chemical and Hazardous Material, Hazardous Waste, and Transportation accidents; and Water Supply Failure. Hazardous materials are commonly used, transported and produced in Harrison County; facilities located within the Harrison County Emergency Planning District that are producing, using or storing extremely hazardous substances in excess of threshold quantities are identified in local fire service site-specific pre-fire plans.

Harrison County is required/responsible to prepare for in the event of a natural, technological or man-made emergency or disaster that threatens life, property or the environment of the citizens of this county. The Mississippi Emergency Management Law of 1995 as codified at Title 33, Chapter 15 of the Mississippi Code of 1972, Annotated, places emergency powers on the Governor, the Mississippi Emergency Management Agency, and the executive heads of governing bodies of municipalities and counties of this state to meet that responsibility. The Harrison County Board of Supervisors established a Harrison County Office of Emergency Management and appointed a County Emergency Manager to carry out these responsibilities in conjunction with local agencies and municipalities within the Harrison County.

Harrison County Office of Emergency Management and Emergency Manager contact information:

Physical Address: 1801 23rd Avenue, Gulfport, Ms. 39501 Administration Rupert Lacy – Director

Phone: 228-865-4002 Fax: 228-865-4087

Email: [rupertlacy@co.harrison.ms.us](mailto:rupertlacy@co.harrison.ms.us)

Operations

Public Information – PIO

Phone: 228-865-4002 Fax: 228-865-4087

Email: [cdpio@co.harrison.ms.us](mailto:cdpio@co.harrison.ms.us)

Bruce Wilkerson - Operations Officer II Phone: 228-865-4002 Fax: 228-865-4087

Email: [bawilkerson@co.harrison.ms.us](mailto:bawilkerson@co.harrison.ms.us)

The County Emergency Management office is responsible for emergency prevention, preparedness, response and recovery. Under its response and recovery duties, the office is responsible for coordinating debris clearing and removal. Under its Public Assistance Program, FEMA (Federal Emergency Management Agency: [www.fema.gov](http://www.fema.gov/) ) provides supplemental Federal disaster grant assistance for debris removal and disposal, emergency protective measures, and the repair, replacement, or restoration of disaster- damaged, publicly owned facilities and the facilities of certain private nonprofit organizations. Other organizations that may provide assistance during a disaster include:

American Red Cross: [www.redcross.org](http://www.redcross.org/)

Mississippi Emergency Management Agency: [www.msema.org](http://www.msema.org/) Mississippi Department of Health: [www.msdh.state.ms.us](http://www.msdh.state.ms.us/) Mississippi Homeland Security: [www.homelandsecurity.ms.gov](http://www.homelandsecurity.ms.gov/) National Coastal Data Development Center: [www.ncddc.noaa.gov](http://www.ncddc.noaa.gov/) National Homeland Security: [www.whitehouse.gov/homeland](http://www.whitehouse.gov/homeland)

In Harrison County, most expected disasters are projected to generate a mix of debris, but are likely to be primarily vegetative debris and rubbish. Burning or chipping operations (for mulching, boiler fuel or volume reduction) will be utilized to reduce vegetative debris where practical. If possible, the County or the public will reuse chipped debris. If reuse is not practical, based on the chip quality or demand, the chipped debris will be disposed at a rubbish site within the County along with disaster-generated rubbish. When the disaster debris contains materials not eligible for rubbish site disposal, the County will dispose of this debris at an appropriate facility, generally a "Subtitle D" landfill. Some debris will require special handling, including asbestos, hazardous waste, and special waste.

Types of disaster debris may include:

* + C & D Debris from damaged buildings including
    - Lumber
    - Shingles
    - Fiberglass Insulation
    - Brick and masonry products
    - Asphalt and other pavement materials
    - Asbestos containing materials (“ACM”)
  + Putresicible Waste
    - Spoiled or contaminated food (residential and commercial)
    - Dead livestock
    - Dead wildlife (e.g. fish as a result of pollution or oxygen depletion)
  + Contaminated materials by
    - UST (i.e. underground storage tanks)
    - Commercial/industrial operations that use chemicals, hazardous materials and generate hazardous waste (i.e. pest control companies, dry cleaners and manufacturers)
    - brownfields
  + Vegetative
    - Trees, Limbs
    - Leaves, Brush
  + Sediment, soil, mud and sand
  + Personal Property and Household
    - Electronics
    - White Goods
    - Tires
    - Damaged furniture and clothing
  + Vehicles and Vessels

According to data available from the U.S. Department of Agriculture, National Agricultural Statistics Service, there are no large concentrations of animals in any one area such as large feedlot operations. The largest reported category of livestock in Harrison County was “All Cattle and Calves” where, in 2011, there were 3,900 cattle reported in Harrison County as compared to 900,000 cattle statewide or 4.3% of the statewide total. Although any disaster could produce some livestock losses it is not expected that Harrison County should require a contingency plan for large-scale animal losses. In situations involving animal losses due to a disaster the County would consider rendering of the animals, on-site burial and disposal at an approved MSW landfill.

Following any disaster, Harrison County will conduct emergency operations including emergency debris removal along with other emergency services such as first response, security, and search/rescue operations. Emergency debris removal is critical to provide access for emergency vehicles and search/rescue teams, as well as restoration of utilities including power, water, sewer, telephone, and natural gas. Human health and safety are at

risk until emergency debris removal is completed. Harrison County will remove hazardous debris from public road right-of-way (ROW) maintained by the County. It will be at the discretion of Harrison County to determine when debris on public ROW is deemed to represent a hazard to public heath and safety. Harrison County may elect to utilize County personnel and equipment to remove small quantities of debris but will likely contract for removal of larger quantities. Harrison County will conduct damage assessments following a disaster to determine the extent of damage within the County, such as infrastructure damage and ROW debris; and in some cases, damage to private property. When significant debris is generated, the County will estimate debris quantities to determine whether a special ROW debris removal effort is needed and will consider the need to request federal and state assistance.

In the event of a declared major disaster, Harrison County will work closely with the Federal Emergency Management Agency (FEMA) and the Mississippi Emergency Management Agency (MEMA) to maximize reimbursements to the County. The Federal Emergency Management Agency (FEMA) publication “Public Assistance Debris Management Guide” (FEMA 325 – July 2007, see Appendix 17 FEMA 325) will be utilized as a guide when such a major disaster is declared. During such an occurrence, Harrison County may, at its discretion, participate in a reimbursable Right of Entry process. In the case of a disaster the Emergency Manager will coordinate a team of city and county personnel and executives including the County Supervisors, County Administrator, HCUA Executives, County Road Manager and affected City Mayors and public works directors. In cases of large amounts of disaster debris or special situations (e.g. on site burial of animals) the Emergency Manager would coordinate with the MDEQ the approval of emergency disposal sites.

If a disaster should occur that would generate large amounts of disaster debris Harrison County should find itself at an advantage due to the relatively large number of landfills in the County. These landfills include the MSW Landfill currently permitted with 176 acres and 21 remaining years of life (i.e Pecan Grove Landfill, please see the “*Residential Garbage Management Programs”* section of this Plan for more information regarding this MSW Landfill) and the eleven (11) approved (i.e. approved as a solid waste management plan amendment but not necessarily permitted) rubbish sites in the County. Six (6) of these rubbish sites are approved as Class I Rubbish Sites and five (5) are approved as Class II Rubbish Sites. Four (4) of these rubbish facilities are currently inactive. The eleven (11) approved sites have combined approved disposal acreage of over 350 acres (i.e. 251 acres of Class I and 104 acres of Class II). The seven (7) active sites include three (3) Class I Rubbish Sites (“Class I”) and four (4) Class II Rubbish Sites (“Class II”). Please refer to the “*Rubbish Management Systems & Programs”* section of this Plan for more information regarding these rubbish sites.

Depending on the scope of the specific disaster and the impact to needed transportation routes, it may be necessary to establish temporary storage and staging areas disaster debris management sites. A debris management site (“DMS”) is a location for applicants to temporarily store, reduce, segregate, and/or process debris before it is hauled to its final disposition. At a minimum, these sites must have adequate drainage and can be

secured. Such storage areas will not be located in any floodways, wetlands, surface waters or drainage pathways. The storage areas will maintain a minimum 100’ setback from property lines, on-site buildings, potable water supplies and surface waters. The storage areas would be designed and managed in such a way as to eliminate health and pollution hazards posed from the run-off or ponding of rainwater. FEMA 325 Public Assistance Debris Management Guidelines should be followed when identifying a DMS. The guidelines are as follows:

Identifying potential debris management sites (“DMS”) before a major natural disaster expedites debris removal and subsequent volume reduction and disposal actions. The County Emergency Manager should work closely with other local and State officials to develop and maintain current listings of potential debris storage and reduction sites in areas prone to natural disasters. Site selection should be based on the following criteria:

* Ownership
* Size
* Location
* Environmental and historic concerns

Site selection should consider public lands first in order to avoid costly land leases. Existing disposal or recycling facilities that are in close proximity to the disaster area are ideal locations for DMS. In county landfill, closed landfills and recycling centers should be evaluated for site feasibility. County and City-owned sites that will not require extensive repair costs, such as parks, vacant lots, or sports fields, should also be considered.

The size of the site is dependant on the quantity of debris that is stored and processed. The site should be large enough to safely accommodate processing of various debris materials, storing heavy equipment, and maneuvering trucks and large processing equipment. Historic disasters have shown that it takes 100 acres of land to process one million cubic yards of debris.

The DMS should be established in an area that does not impede the flow of traffic along major transportation corridors, disrupt local business operations, or cause dangerous conditions in residential neighborhoods or schools. Whenever possible, avoid locating a DMS near residential areas, schools, churches, hospitals, and other such sensitive areas. The DMS requires good ingress/egress to accommodate heavy truck traffic.

A DMS should not be established in an environmentally or historically sensitive area such as wetlands, critical animal and plant habitats, sole source aquifers, freshwater well fields, historic districts, or archeological sites. This applies specifically to any Superfund site or area within a 100-year floodplain. DMS selection criteria should also take into consideration any disproportionately high or adverse impacts on minority or low-income populations.

The staging or storage of any yard waste would be windrowed in such a manner to avoid possible spontaneous combustion. Typical yard waste windrows should be no larger than 5 to 6 feet high and 8 to 10 feet wide.

The County will use its best efforts to organize the disaster cleanup to recycle and minimize solid waste disposed. These efforts could include segregation of materials in the collection of the materials. This could include separate collection routes for:

* + Food waste and other garbage
  + Yard waste
  + Construction and demolition debris
  + Metal
  + Soil, asphalt, concrete and brick

In addition to recycling of the disaster debris, on a case-by-case basis the County will determine the economic feasibility and practicality of beneficial uses of disaster debris. Some uses could include use of soil as landfill cover or the chipping of yard waste for mulch or boiler fuel.

In order to respond quickly in future events and to ensure possible qualification for FEMA funds, more detailed plans for collection and public information strategies in possible future events are necessary. Specifically, there should be close coordination among the County and the cities in order to most efficiently use available resources.

According to the FEMA guide to debris management, these key elements are critical in managing disaster debris:

* + Public information and a hotline system
  + Coordination with FEMA to meet strict guidelines for cost reimbursement
  + Close coordination among the entities involved, including a daily conference call among officials during the clean-up

Although it is difficult to imagine a disaster event of such magnitude, it is critical to plan for the worst. Specifically, it is important to plan a system to document all the details in case FEMA funds are requested.

* 1. Assessment of Needs

The planning area could benefit from solid waste management facilities that provide:

* + 1. C & D or yard waste composting, mulching and other waste processing and waste minimization programs and other rubbish
    2. Large open areas that would meet approval as debris management sites.

The planning entities should encourage existing or new solid waste management facilities to include such services.

**SECTION D, CONTINUED**

# PRIMARY SOLID

**WASTE PROGRAM COMPONENTS**

6. Recycling and Waste Reduction Programs

A primary goal in developing a comprehensive solid waste management plan is minimization of waste requiring disposal. The solid waste management alternatives recommended in this chapter are intended to reduce landfill disposal and help achieve the goal of 25% waste reduction.

According to the State definition waste minimization is "the reduction, to the extent feasible, of waste that is generated or subsequently treated, stored or disposed of. It includes any source reduction or recycling activity undertaken by a generator or facility operator that results in either (i) the reduction of total volume or quantity of waste, or (ii) the reduction of toxicity or other characteristics of hazardous waste, or both, so long as the reduction is consistent with the goal of minimizing present and future threats to human health and the environment." Waste minimization may be applied to any component of the waste stream before that component is disposed of as a waste. Waste minimization efforts will result in a decrease in the rate of growth of the waste stream and in the overall quantity of waste requiring disposal, as well as processing.

There are three (3) major methods of waste minimization:

1. Reduction
2. Reuse
3. Recycling

Source reduction includes activities that reduce the toxicity or quantity of discarded products before products are purchased, used and discarded. Recycling, on the other hand, is a form of waste management that occurs after the waste has been generated.

**Reduction:** Source reduction is the practice of designing, manufacturing, purchasing, or using materials (such as products and packaging) in ways that reduce the amount or toxicity of solid waste created. Reusing items is another way to stop waste at the source because it delays or avoids that item's entry into the waste collection and disposal system. Source reduction, including reuse, can help reduce waste disposal and handling costs, because it avoids the costs of recycling, municipal composting, landfilling, and combustion. Source reduction also conserves resources and reduces pollution. Source reduction methods include educating consumers regarding purchases (precycling) and reuse of products including donations.

Precycling is preventing waste before it happens. Precycling involves avoiding over- packaged products, buying products in bulk to reduce packaging, buying products that are packaged in recyclable packing over non-recyclable packaging, buying quality items that

will last and can be reused, shopping for products produced from recycled materials, utilizing businesses and services actively engaged in a recycling program, reducing junk mail by notification to the postal service, and reuse and donation in lieu of disposal.

**Reuse:** Product reuse is also very beneficial. Many items around the house and office can be utilized for other purposes in lieu of disposal. Many plastic containers can be used for short-term storage of perishable goods or for long-term storage in freezers. Boxes can be used for shipping or to box supplies or gifts, and scrap paper can be used for packaging material. Similarly with education, the only disadvantage is associated with prediction of the participation and effect on the waste stream. One of the easiest reuse methods is encouraging consumers to donate unwanted items. Clothes, old furniture and appliances should be donated to charity, and magazines and books can be donated to libraries, hospitals, doctors’ offices, or nursing homes.

**Recycling:** The term recycling is sometimes misused. Items removed from the waste stream are not truly “recycled” until they are processed and turned into useable products for resale.

Recycling includes collecting recyclable materials from the waste stream, sorting and processing recyclables into raw materials for new products that are economically viable and marketable.

The collection and processing of recyclable materials and subsequent manufacturing of products made with recycled content creates a circle or loop that ensures the overall success and value of recycling. Merely collecting and processing waste materials that cannot be returned to commerce or use is not recycling.

There are four primary types of recyclable collection: curbside, drop-off centers, buy- back centers, and deposit/refund programs. Recyclables are either separated at the collection point or sent to materials recovery facility to be sorted. Once sorted, the recyclables are processed (e.g. cleaned, shredded and/or baled) and prepared into marketable commodities for re-manufacturing.

Many products used today are manufactured with total or partial recycled content. Common items that contain recycled materials include newspapers, cardboard and paper towels; aluminum, plastic, and glass beverage containers; steel cans; and plastic containers, carpet fiber and fiber for clothing. Purchasing products made from or using recycled products completes the recycling loop.

**Composting:** Composting is the biological treatment of the waste through decomposition by microorganisms of the biodegradable segment of the waste stream. The rate and success of the process depends heavily on the type of material which is to be composted. Yard waste and municipal solid waste can be composted either alone or

together. The process is hampered due to relatively low nitrogen to oxygen ratio of the material. This can be corrected by utilizing accelerators in the material. One natural accelerator is wastewater sludge. This sludge will adjust the composition of the material to allow the waste to degrade at a faster rate, but would need to be monitored as far as use/effects of the material on land.

Yard waste is one area where source reduction can have a big impact on waste minimization goals. Yard waste can be separated relatively easily from the waste stream, composted or mulched and used as mulch or mixed with soil as a conditioner. The yard waste generated in the county is a relatively large percentage of the waste stream (i.e. about 14%, refer to “*Solid Waste Characterization and Quantification”* section for more information on composition of the waste stream), but it does not need to be deposited in a sanitary landfill facility. Separation of the yard waste can be accomplished on either a voluntary basis, removed from the waste stream by ordinance, be collected separately for disposal in a rubbish site, or processed for additional use. Although yard waste can be separated relatively easily from the waste stream, if yard waste components (i.e. leaves, grass, small limbs and large limbs) are collected in a comingled manner then it can be difficult to separate the yard waste into its different components. The mulching of a comingled product has very limited reuse or commercial applications. If the material is processed for reuse, a market should be located for the material prior to making capital and operational commitments. Revenue from sale of the processed material should factor into the effectiveness of the program along with the cost savings in reducing MSW landfill disposal costs.

### Advantages of yard waste separation include:

* 1. Large waste volume reduction due to the percentage in the waste.
  2. Relatively easy to remove from the waste stream.
  3. Relatively easily monitored by the waste collection vehicles.
  4. Savings for disposal at landfill facility.

### Disadvantages of yard waste separation include:

1. Cost due to separate collection and/or processing
2. Processed material (especially mixed) may be difficult to sell.
3. Odors or fires may occur during biodegradation at storage site.
4. Sizing facility will be difficult due to uncertain volumes.

**Waste-to-energy:** According to the EPA, MSW can be directly combusted in waste- to-energy facilities to generate electricity. Because no new fuel sources are used other than the waste that would otherwise be sent to landfills, MSW is often considered a renewable power source. Although MSW consists mainly of renewable resources such as food, paper, and wood products, it also includes nonrenewable materials derived from fossil fuels, such as tires and plastics. Waste-to-energy facilities produce energy through the combustion of municipal solid waste in specially designed power plants equipped with modern pollution control equipment to clean emissions. Typically, the MSW is combusted and the heat released from burning the MSW is used to produce steam, which turns a steam turbine to generate electricity.

The volume of solid waste to be disposed of in a landfill is reduced by up to 90%. There are approximately 87 waste-to-energy plants operating in 25 states managing about 12 percent of America’s trash, or about 92,000 tons each day. Electric generating capacity of these plants is 2,720 megawatts. Waste-to-energy annually removes for recycling more than 700,000 tons of ferrous metals and more than 3 million tons of glass, metal, plastics, batteries, ash and yard waste at recycling centers located on site.

### Advantages of incineration include:

1. Up to 90 percent volume reduction
2. Lower maintenance on solid waste collection vehicles
3. Extends landfill life
4. Saves fossil fuels for future generations

### Disadvantages include:

1. Extensive Permitting required
2. Higher capital and O & M cost than landfill disposal
3. High environmental impact
4. Ash requires special handling in disposal facilities
5. Market for energy is required

6.1. Outreach

In order to become fully involved and play an effective role in waste minimization programs, the public should be informed and educated (i.e. public outreach) as to what opportunities are available to them. Outreach can fall into one of three (3) main areas: Public Education, Promotion, and Technical Assistance Program. Education provides factual information to the public to assist them in making responsible choices. Promotion is designed to inform residents of an event, program, or project in which they may choose to participate. Technical assistance provides direct aid to residents/businesses in implementing their choices.

The Mississippi Department of Environmental Quality also provides information to assist in waste reduction and recycling. The following is a list of some of the available free brochures and information:

*Proper Disposal of Motor Oil Proper Disposal of Paint & Thinner How to Reduce Junk Mail Mississippi Recycling Directory*

*Enviroshopping: Shop Smart to Reduce Waste & Increase Recycling Precycling and Recycling Information*

*Alternatives to Household Hazardous Waste Products Setting Up an Office Recycling Program*

*Setting Up a College Recycling Program*

*Setting Up an Apartment Complex Recycling Program*

*Video List of Recycling and Solid Waste Reduction Topics Breaking the Waste Habit – A Guide to Waste Reduction What You Should Know About Recycling*

*How Recycling Programs Work*

*Consumer Guide to Household Hazardous Waste Recycling and Solid Waste Questions and Answers A Small Town Guide to Recycling*

*Facts About Recycling*

*Helpful Hints for Curbside Recycling Programs Helpful Hints for Drop-off Recycling Programs*

*Sample Recycling Education Brochures for Curbside or Drop-off Programs Home Composting for Yard and Food Waste*

*Landscaping for Energy Savings*

*Curriculum for Solid Waste Awareness: K-6, 7-12*

*Brochure for Papermaking – 12 Simple Steps to Making Paper from Paper Waste Reduction & Recycling Ideas for Conferences and Seminars*

*Baler Guidance Information Baler Manufacturers List Brokers and End-users Directory Paper/Corrugated Market Plastic Market*

*Electronics Market*

*Processing Recyclables for Markets: A One Stop Commodity Guidebook for Government and Private Sector*

*Containers and Trailers for Collecting Recyclables – Directory with photos of manufactured products for collecting recyclables – For checkout and return only Teacher Education Packet for Recycling and Solid Waste Reduction*

*Hands-on Recycling Activities for Environmental Educators*

*Recycling and Solid Waste Assistance Grant Information for Counties and Municipalities*

To receive any of the above publications, contact the Mississippi Department of Environmental Quality’s Pollution Prevention Program at 601-961-5171, P. O. Box 10385, Jackson, MS 39289-0385 or online at the following link: [http://www.deq.state.ms.us/MDEQ.nsf/$$SearchTemplateDefault?OpenForm&QueryStr](http://www.deq.state.ms.us/MDEQ.nsf/%24%24SearchTemplateDefault?OpenForm&amp;QueryStr)

=brochures

In addition to brochures, other community outreach tools should include newsletters, website(s), television and radio PSA’s, promotional items, representation in community events and other promotional events (i.e. public meetings, educational programs at schools, media coverage, information at special events, and speakers at civic, government and special interest group meetings).

6.2 Programs in Harrison County

The primary recycling and waste reduction programs sponsored by the planning area entities are residential curbside recycling, and programs for the recycling of white goods, waste tire and some household hazardous waste/electronics.

All of the planning area entities, Cities and County, provide a curbside recycling program for their residents. Harrison County is one of a select few or may be the only county in Mississippi that provides curbside recycling for all city and county residents.

The Authority contracts with Team Waste to provide the residential recycling services for all residences of the planning area, with the exception of Gulfport. The current contract with Team Waste began on October 1, 2017 and has a six-year term.

Each residence of the planning area, including all cities except Gulfport and unincorporated areas of the County, and all commercial units covered by the Authority’s waste collection service are also included in a curbside recycling program. This program provides each collection unit with a 35-gallon, wheeled container from which recycling materials are collected at the curb one (1) day per week. Materials included in the curbside recycling program include newspapers, cardboard, magazines, glass bottles and jars, metal (steel and aluminum) cans, and plastic containers with a recycle number on them.

The current Team Waste price as of June 2017 for solid waste collection (i.e. recycling, garbage and trash) services excluding disposal is $9.75 per residence per month. The total initial number of contracted units is 43,454. Team Waste is not responsible for billing and collecting the fees for service from the residents.

Gulfport’s contract with Waste Pro provides for bi-weekly pickup and processing of single stream recyclables placed curbside by residents in 18 gallon bins. This contract began on October 1, 2017 and has a six year term. The fee for this service is included in the $14.36 per residence per month fee paid by Gulfport to Waste Pro.

In 2014, Waste Pro established a mixed stream recycling processing center in Harrison County which processes all of the recyclables collected in the HCUA service area as well as the City of Gulfport.

In 2010, more than 2,000 tons of recyclable materials were collected from Harrison County residents. A breakdown of the commodities collected is outlined in Table 38.

Table 38

Residential Curbside Recyclables Collected

|  |  |  |
| --- | --- | --- |
| **Commodity** | **Percentage** | **Weight tons** |
| Newspaper | 58.3% | 1,416.82 |
| Cardboard | 10.9% | 264.90 |
| PET Plastic | 9.6% | 233.30 |
| HDPE Plastic | 7.5% | 182.27 |
| Aluminum | 1.8% | 43.74 |
| Steel | 6.2% | 150.67 |
| Polyethylene Film | 2.1% | 51.04 |
| Other | 3.6% | 87.49 |
| Total | 100.0% | 2,430.23 |

The Harrison County waste tire collection site and drop-off center is located at the Rockco-McFarland Household Hazardous Waste Collection and Recycling Center which is located at 10076 Lorraine Road at the Harrison County Work Center on Lorraine Road (phone number 228-896-0210). The drop off center is open Monday through Friday, 7:00

a.m. to 3:00 p.m. The Authority advertises its waste tire collection areas in the newspaper and on its website ([www.hcua-ms.us/recycle.html#tire).](http://www.hcua-ms.us/recycle.html#tire))

All waste tires are loaded into a trailer provided by Polyvulc Tire Recycling, LLC. When the trailer is full, Polyvulc (Waste Hauler ID # WTH – 546) transports the waste tires to its processing center in Vicksburg, Mississippi (Waste Tire Permit # 0020). From May 2010 through April 2011, Polyvulc hauled from the Harrison County drop-off site 18 tractor-trailer loads of waste tires containing approximately 15,600 waste tires for a total weight of 175.29 tons. This averages out to about 887 waste tires per load at an average weight of about 22.5 pounds per tire.

In addition to the collection of waste tires, Harrison County also accepts white goods at its collection center on Lorraine Road. The center provides residents a place to dispose of and recycle common HHW such as paint and oil, as well as tires, batteries, fluorescent light bulbs, electronic appliances and other hazardous items. Medical waste, furniture, asbestos, or items containing explosive or radioactive material are not accepted. The center is open on the second Saturday of every month from 8 a.m. until noon.

In 2010 the county took in 2,600 gallons of paint, 24 tons of electronics related waste and 1,500 gallons of oil, 100 gallons of antifreeze and 150 automobile batteries. The center is designed so residents can drive through and drop off their HHW items. The center is open on the second Saturday of every month from 8 a.m. until noon.

Since 1995 Harrison County offered household hazardous waste days once (1) per year. The annual event is usually in the Fall of the year and notification is published in the newspaper. The event is usually located at Mississippi Power's Plant Jack Watson on Lorraine Road in Gulfport. The event collects a wide range of waste products. These include chemicals, paints, oils, batteries, tires, and appliances such as refrigerators, washers, dryers and stoves. It also includes e-waste such as cell phones, computers, fax machines, television sets and VCRs. Expired prescription drugs are also accepted. Medical waste, furniture, asbestos, or items containing explosive or radioactive material are not accepted. Waste from businesses is not accepted as the event is provided as a service to local residents. The Authority advertises on its website, www.hcua- ms.us/recycle.html#hazard information regarding the proper handling and disposal of HHW. For more information regarding the HHW center or HHW annual events, residents can contact Jenna Weatherford, Harrison County Beautification director, at 228-214-1405 or [beautification@co.harrison.ms.us.](mailto:beautification@co.harrison.ms.us)

In addition to household recycling, there are other recycling programs in Harrison County. These are programs are described elsewhere in the Plan sections *Nonhazadous Industrial Wastes, Waste Tires, Household Hazardous Wastes* and *White Goods*.

Some industries and commercial businesses in the planning area actively recycle portions of their waste streams. Much of the solid waste recycled by industry and commercial businesses is cardboard or other fiber. Manufacturers and distribution centers collect and bail cardboard for recycling. A summary of waste reduction efforts and estimates for all recycling efforts sponsored by the planning entities are outlined in table below.

Table 39

Waste Reduction Totals

|  |  |
| --- | --- |
| **Commodity** | **2010 Estimated Tons / Year** |
| White Goods | N/A |
| Waste Tires | 175.3 |
| Newspaper | 1,416.8 |
| Cardboard | 264.9 |
| PET & HDPE Plastic | 415.6 |
| Aluminum/Steel | 194.4 |
| Polyethylene Film | 51.0 |
| Paint | 10.4 |
| Oil | 6.0 |
| Antifreeze | 0.4 |
| Electronics | 24.0 |
| Auto Batteries | 3.1 |
| Total | 2,561.9 |

The total tons recycled by solid waste reduction programs in the County per year are estimated at 2,561.9 tons as compared to 318,796 tons of municipal solid waste generated by the same or 0.8 %. Please refer to “*Solid Waste Characterization and Quantification”* section for more information on composition of the waste stream.

Waste Minimization Goal: 25.0% Waste Minimization Actual: 0.8 % Difference 24.2%

An inventory of all recycling facilities and services for Harrison County is provided in Table at the end of this section.

* 1. Assessment of Needs

Even though Harrison County provides curbside recycling for all city and county residents and comprehensive programs for the recycling of waste tires and white goods, its overall Waste Minimization Rate is low at 0.8% (i.e. 8 tenths of 1%). Because the overall waste minimization rate in the County is low, the County may want to consider and evaluate other waste reduction strategies. Waste reduction strategies to evaluate should include:

* + 1. Develop a Recycling and Waste Reduction Policy advocating waste minimization and recycling initiatives (such as preferences for buying recycled products, source reduction efforts, formal recycling audits and programs established for all county departments, etc.).
    2. Establish a County Recycling and Waste Reduction Coordinator to promote public outreach programs and waste reduction efforts in the County. Primary responsibility would be to develop and execute an organized and concerted recycling and waste reduction effort with documented goals and objectives.
    3. Develop a Recycling Program for commercial businesses and industries. The commonly recycled categories of paper, glass, plastic, aluminum, and steel are estimated to make up over 50% of the residential waste stream.
    4. Develop or encourage existing Rubbish Sites to develop Yard Waste composting or mulching sites (yard waste accounts for approximately 14% of the residential waste stream).
    5. Develop or encourage existing Rubbish Sites to develop C&D debris composting and processing sites (C&D debris disposed of at Rubbish Sites accounts for about 44% of the waste stream generated in the County).
    6. Establish an HCUA Facebook page to communicate waste minimization/recycling programs and information. This tool can also be used to communicate progress and performance.
    7. Establish a media strategy/program to promote recycling, waste reduction, and litter prevention through the use of billboards, press releases, interviews, and TV/radio commercials.

Table 40

Inventory of Recycling Services

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Address | Phone | Commodity | Details |
| Advance Auto Parts | 1991 Pass Rd., | 228-385-1885 | Car Batteries | This location accepts car batteries for |
|  | Biloxi, MS 39531 |  | Car Fluids | residential drop-off. Advance Auto Parts |
|  |  |  | Transmission Fluid | encourages consumers to protect natural |
|  |  |  | Used Motor Oil | resources and underground drinking water |
|  |  |  | Lead-Acid Batteries | supplies by properly disposing of used motor |
|  |  |  | (Non-Automotive) | oil, transmission fluid, hydraulic oil, gear oil |
|  |  |  |  | and power steering fluid at any Advance Auto |
|  |  |  |  | Parts store. Advance Auto Parts will accept, |
|  |  |  |  | free of charge, any lead-acid battery for |
|  |  |  |  | recycling. |
| Advance Auto Parts | 10301 D’Iberville | 228-392-7478 | Car Batteries | This location accepts car batteries for |
|  | Blvd., D’Iberville, |  | Car Fluids | residential drop-off. |
|  | MS 39540 |  | Transmission Fluid | Advance Auto Parts encourages consumers to |
|  |  |  | Used Motor Oil | protect natural resources and underground |
|  |  |  | Lead-Acid Batteries | drinking water supplies by properly disposing |
|  |  |  | (Non-Automotive) | of used motor oil, transmission fluid, |
|  |  |  |  | hydraulic oil, gear oil and power steering fluid |
|  |  |  |  | at any Advance Auto Parts store. |
|  |  |  |  | Advance Auto Parts will accept, free of |
|  |  |  |  | charge, any lead-acid battery for recycling. |
| Advance Auto Parts | 902 Pass Rd | (228) 214-4141 | Car Batteries Car | Advance Auto Parts will accept, free of |
|  | Gulfport, MS |  | Fluids | charge, any lead-acid battery for recycling. |
|  | 39501 |  | Transmission Fluid | Advance Auto Parts encourages consumers to |
|  |  |  | Used Motor Oil | protect natural resources and underground |
|  |  |  | Lead-Acid Batteries | drinking water supplies by properly disposing |
|  |  |  | (Non-Automotive) | of used motor oil, transmission fluid, |
|  |  |  |  | hydraulic oil and power steering fluid. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Advance Auto Parts | 298 E Railroad St. Long Beach, MS 39560 | (228) 575-5125 | Car Batteries Car Fluids  Transmission Fluid Used Motor Oil Lead-Acid Batteries (Non-Automotive) | This location accepts car batteries for residential drop-off. Advance Auto Parts will accept, free of charge, any lead-acid battery for recycling.  Advance Auto Parts encourages consumers to protect natural resources and underground drinking water supplies by properly disposing of used motor oil, transmission fluid, hydraulic oil, gear oil and power steering fluid  at any Advance Auto Parts store. |
| Advance Auto Parts | 11220 Hwy 49  Gulfport, MS 39503 | (228) 539-2706 | Car Batteries Car Fluids  Transmission Fluid Used Motor Oil Lead-Acid Batteries (Non-Automotive) | This location accepts car batteries for residential drop-off.  Advance Auto Parts encourages consumers to protect natural resources and underground drinking water supplies by properly disposing of used motor oil, transmission fluid, hydraulic oil, gear oil and power steering fluid at any Advance Auto Parts store.  Advance Auto Parts will accept, free of charge, any lead-acid battery for recycling. |
| AutoZone | 291 Beauvoir Rd.,  Biloxi, MS 39531 | 228-388-6105 | Car Batteries Used Motor Oil | This location accepts car batteries for  residential drop-off. This site will accept up to 5 gallons of used motor oil per customer. |
| AutoZone | 10229 Central Ave., D’Iberville, MS 39540 | 228-354-9100 | Car Batteries Used Motor Oil | This location accepts car batteries for residential drop-off.  This site will accept up to 5 gallons of used motor oil per customer. |
| AutoZone | 2223 25th Ave Gulfport, MS  39501 | (228) 863-0029 | Car Batteries Used Motor Oil | This location accepts car batteries for residential drop-off. This site will accept up to  5 gallons of used motor oil per customer. |
| AutoZone | 15248 Dedeaux Rd., Gulfport, MS | 228-832-3135 | Car Batteries Used Motor Oil | This location accepts car batteries for residential drop-off. |

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| --- | --- | --- | --- | --- |
|  | 39503 |  |  | This site will accept up to 5 gallons of used  motor oil per customer. |
| AutoZone | 19097 Pineville Rd  Long Beach, MS  39560 | (228) 575-4275 | Car Batteries Used Motor Oil | This location accepts car batteries for residential drop-off.  This site will accept up to 5 gallons of used  motor oil per customer. |
| Best Buy | 3889 Promenade | 228-539-6463 | All residential drop- | All residential drop-off |
|  | Pkwy, | or 228-354- | off | Audio Equipment |
|  | D’Iberville, MS | 9799 | Audio Equipment | Cables |
|  | 39540 |  | Cables | Cell Phone Accessories |
|  |  |  | Cell Phone | Cell Phones |
|  |  |  | Accessories | Compact Discs |
|  |  |  | Cell Phones | Computer Peripherals |
|  |  |  | Compact Discs | CRT Computer Monitors |
|  |  |  | Computer | CRT Televisions |
|  |  |  | Peripherals | Desktop Computers |
|  |  |  | CRT Computer | Digital Cameras |
|  |  |  | Monitors | Game Console |
|  |  |  | CRT Televisions | GPS Systems |
|  |  |  | Desktop Computers | Inkjet Cartridges |
|  |  |  | Digital Cameras | Laptop Computers |
|  |  |  | Game Console | LCD Computer Monitors |
|  |  |  | GPS Systems | LCD Televisions |
|  |  |  | Inkjet Cartridges | Media Players |
|  |  |  | Laptop Computers | Medical Equipment |
|  |  |  | LCD Computer | MP3 Players |
|  |  |  | Monitors | NiCad Batteries |
|  |  |  | LCD Televisions | Office Electronics |
|  |  |  | Media Players | Office Machines |
|  |  |  | Medical Equipment | Printers |
|  |  |  | MP3 Players | Receivers |
|  |  |  | NiCad Batteries | Rechargeable Batteries |

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| --- | --- | --- | --- | --- |
|  |  |  | Office Electronics | Tablets |
| Office Machines | Telephones |
| Printers | Television Accessories |
| Receivers | Toner Cartridges |
| Rechargeable | Two-Way Radios |
| Batteries | Vacuum Cleaners |
| Tablets |  |
| Telephones |  |
| Television |  |
| Accessories |  |
| Toner Cartridges |  |
| Two-Way Radios |  |
| Vacuum Cleaners |  |
| Best Buy | 10545 Old | 228-539-6463 | All residential drop- | All residential drop-off |
|  | Highway 49, |  | off | Audio Equipment |
|  | Gulfport, MS |  | Audio Equipment | Cables |
|  | 39503 |  | Cables | Cell Phone Accessories |
|  |  |  | Cell Phone | Cell Phones |
|  |  |  | Accessories | Compact Discs |
|  |  |  | Cell Phones | Computer Peripherals |
|  |  |  | Compact Discs | CRT Computer Monitors |
|  |  |  | Computer | CRT Televisions |
|  |  |  | Peripherals | Desktop Computers |
|  |  |  | CRT Computer | Digital Cameras |
|  |  |  | Monitors | Game Console |
|  |  |  | CRT Televisions | GPS Systems |
|  |  |  | Desktop Computers | Inkjet Cartridges |
|  |  |  | Digital Cameras | Laptop Computers |
|  |  |  | Game Console | LCD Computer Monitors |
|  |  |  | GPS Systems | LCD Televisions |
|  |  |  | Inkjet Cartridges | Media Players |
|  |  |  | Laptop Computers | Medical Equipment |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | LCD Computer Monitors  LCD Televisions Media Players Medical Equipment MP3 Players NiCad Batteries Office Electronics Office Machines Printers  Receivers Rechargeable Batteries Tablets Telephones Television Accessories  Toner Cartridges  Two-Way Radios Vacuum Cleaners | MP3 Players NiCad Batteries Office Electronics Office Machines Printers Receivers  Rechargeable Batteries Tablets  Telephones  Television Accessories Toner Cartridges  Two-Way Radios Vacuum Cleaners |
| Bill’s Quick Lube | 2625 Pass Road,  Gulfport, MS 39531 | 228-388-4653 | Used Motor Oil Used Oil Filters | This site will accept up to five gallons of used  motor oil per customer. This site will accept up to two used oil filters per customer. |
| Bill’s Quick Lube | 9342 Highway 49 Gulfport, MS  39503 | (228) 867-6177 | Used Motor Oil Used Oil Filters | This site will accept up to five gallons of used motor oil per customer. This site will accept  up to ten used oil filters per customer. |
| Bill’s Quick Lube | 2721 25th Avenue, Gulfport, MS 39501 | 228-864-5264 | Used Motor Oil Used Oil Filters | This site will accept up to five gallons of used motor oil per customer.  This site will accept up to two used oil filters  per customer. |
| Biloxi High School | 1845 Richard  Drive, Biloxi, MS | 228-435-6105 | Cell Phones | This location accepts cell phones for business  drop-off and residential drop-off. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 39532 |  |  |  |
| Car Care Company | 2423 Pass Road, Gulfport, MS  39531 | 228-388-6344 | Used Motor Oil | This site will accept up to five gallons of used motor oil per customer. |
| Cingular Wireless | 15243 Crossroads Parkway, Gulfport, MS  39503 | 228-831-1162 | Other Batteries Cell Phones | This location accepts cell phones for business drop-off and residential drop-off. |
| David Scrap Company | 12360 Hickman  Road, Biloxi, MS 39532 | 228-392-6070 | Ferrous Metals Large Applicances | This location accepts ferrous metals for business drop-off and residential drop-off. |
| Discount Auto Parts | 2629 25th Avenue, Gulfport, MS 39501 | 228-575-8586 | Car Batteries Used Motor Oil | This location accepts car batteries for residential drop-off. An automotive battery purchase is not required when dropping off a battery for recycling. This site will accept two or three gallons of used motor oil per customer. |
| Discount Auto Parts | 1512 East Pass Road, Gulfport, MS 39501 | (228) 897-1306 | Car Batteries Used Motor Oil | This location accepts car batteries for residential drop-off. An automotive battery purchase is not required when dropping off a battery for recycling. This site will accept two or three gallons of used motor oil per customer. |
| D’Iberville | 10111 Gorenflo Rd., Biloxi, MS  39532 | 228-396-2777 | Used Motor Oil | This site accepts up to 5 gallons of used motor oil per customer. |
| Firestone Complete Auto Care Store | 2707 Pass Road,  Biloxi, MS 39531 | 228-388-8800 | Car Batteries Used Motor Oil | This location accepts car batteries for  residential drop-off. This site accepts up to 5 gallons of used motor oil per visit. |
| Firestone Complete  Auto Care Store | 887 Howard,  Ave., Biloxi, MS | 228-374-6732 | Car Batteries  Used Motor Oil | This location accepts car batteries for  residential drop-off. |

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| --- | --- | --- | --- | --- |
|  | 39530 |  |  | This site accepts up to 5 gallons of used motor  oil per visit. |
| Firestone Complete Auto Care Store | 1420 25th  Avenue, Gulfport, MS  39501 | (228) 863-1091 | Car Batteries Used Motor Oil | This location accepts car batteries for residential drop-off. This site accepts up to 5 gallons of used motor oil per visit. |
| Firestone Complete Auto Care Store | 655 Courthouse Road  Gulfport, MS  39507 | (228) 897-1423 | Car Batteries Used Motor Oil | This location accepts car batteries for residential drop-off.  This site accepts up to 5 gallons of used motor  oil per visit. |
| 5-Minute Oil Change | 11310 Highway  49, Gulfport, MS  39503 | 228-832-2090 | Used Motor Oil Used Oil Filters | This site will accept up to three gallons of used motor oil per customer visit.  This site will accept two used oil filters per  customer visit. |
| Habitat for Humanity | 1400 Leggett Drive, Biloxi, MS 39530 | 228-374-4946 | Ceramic Tile Linoleum Porcelain Products Shingles  Wood | This location accepts linoleum for business drop-off and residential drop-off.  This site only accepts new linoleum.  This location accepts wood for business drop- off and residential drop-off.  This site only accepts new lumber. |
| Harrison County Waste Tire Drop- off | Lorraine Road, Gulfport, MS 39503 | 228-868-8752 | Used Tires | This location accepts used tires for business drop-off and residential drop-off.  Residents and non-tire related businesses can drop off up to 10 tires per visit at no charge. This service is available Monday to Friday 7am to 3pm without an appointment.  This service is for residents of Harrison County only. |

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| --- | --- | --- | --- | --- |
| Harrison County | Plant Watson | 228-868-8752 | Adhesives | Adhesives |
| Utility Authority | Lorraine Rd. |  | Aerosol Cans | Aerosol Cans |
| HHW Collection | Gulfport, MS |  | Antifreeze | Antifreeze |
| Program | 39503 |  | Brake Fluid | Brake Fluid |
|  |  |  | Car Batteries | Car Batteries |
|  |  |  | Car Fluids | Car Fluids |
|  |  |  | Chemistry Sets | Chemistry Sets |
|  |  |  | Compact | Compact Fluorescent Lightbults |
|  |  |  | Fluorescent | Degreasers |
|  |  |  | Lightbults | Fertilizers |
|  |  |  | Degreasers | Fluorescent Tubes |
|  |  |  | Fertilizers | Fungicides |
|  |  |  | Fluorescent Tubes | Gasoline and Unwanted Fuels |
|  |  |  | Fungicides | Herbicides |
|  |  |  | Gasoline and | HHW |
|  |  |  | Unwanted Fuels | Household Cleaners |
|  |  |  | Herbicides | Insecticides |
|  |  |  | HHW | Items Containing Mercury |
|  |  |  | Household Cleaners | Lacquer |
|  |  |  | Insecticides | Latex Paint |
|  |  |  | Items Containing | Mercury Thermostats |
|  |  |  | Mercury | Nail Polish |
|  |  |  | Lacquer | NiCad Batteries |
|  |  |  | Latex Paint | Oil-Based Paint |
|  |  |  | Mercury | Other Batteries |
|  |  |  | Thermostats | Paint |
|  |  |  | Nail Polish | Paint Strippers |
|  |  |  | NiCad Batteries | Paint Thinners |
|  |  |  | Oil-Based Paint | Pesticides |
|  |  |  | Other Batteries | Photographic Chemicals |
|  |  |  | Paint | Pool Chemicals |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | Paint Strippers | Rechargeable Batteries |
| Paint Thinners | Solvents |
| Pesticides | Stains |
| Photographic | Transmission Fluid |
| Chemicals | Used Motor Oil |
| Pool Chemicals | Used Tires |
| Rechargeable | Varnish |
| Batteries |  |
| Solvents |  |
| Stains |  |
| Transmission Fluid |  |
| Used Motor Oil |  |
| Used Tires |  |
| Varnish |  |
| Harrison County | U.S. 90 & | 228-865-4116 | Christmas Trees | For residents of Harrison County only. |
| Christmas Tree | Courthouse Rd., |  |  |  |
| Drop-off Site - Ken | Gulfport, MS |  |  |  |
| Combs Pier | 39507 |  |  |  |
| Harrison County | U. S. 90 & Jeff | 228-865-4116 | Christmas Trees | For residents of Harrison County only. |
| Christmas Tree | Davis Ave., Long |  |  |  |
| Drop-off Site – | Beach, MS 39560 |  |  |  |
| Parking Bay |  |  |  |  |
| Harrison County | Hwy 67, Biloxi, | 228-865-4116 | Christmas Trees | For residents of Harrison County only. |
| Christmas Tree | MS 39532 |  |  |  |
| Drop-off Site – |  |  |  |  |
| County Work |  |  |  |  |
| Center |  |  |  |  |
| Harrison County | Lorraine Rd., | 228-865-4116 | Christmas Trees | For residents of Harrison County only. |
| Christmas Tree | Gulfport, MS |  |  |  |
| Drop-off Site – | 39503 |  |  |  |
| Mississippi Power |  |  |  |  |
| Plant Watson |  |  |  |  |

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| Harrison County Christmas Tree Drop-off Site –  West Harbor Parking Area | U. S. 90 & White Harbor Rd., Long Beach, MS 39560 | 228-865-4116 | Christmas Trees | For residents of Harrison County only. |
| Harrison County Christmas Tree  Drop-off Site – Parking Bay | U. S. 90 &  Rodenberg Ave., Biloxi, MS 39531 | 228-865-4116 | Christmas Trees | For residents of Harrison County only. |
| Home Depot | Elizabeth Blvd., | 228-354-8872 | Car Batteries | This site accepts non-leaking car and tractor |
|  | Biloxi, MS 39532 |  | Cell Phones | batteries. |
|  |  |  | Compact | Cell phones are accepted in the rechargeable |
|  |  |  | Flourescent | battery drop-off bin. |
|  |  |  | Lightbulbs | This site accepts unbroken CFL bulbs only, no |
|  |  |  | Lead-Acid Batteries | fluorescent tubes. |
|  |  |  | (Non-Automotive) | This site accepts non-leaking small sealed |
|  |  |  | NiCad Batteries | lead-acid batteries. |
|  |  |  | Rechargeable | This site accepts non-leaking NiCad batteries. |
|  |  |  | Batteries | This site accepts Nickel Metal Hydride (Ni- |
|  |  |  |  | MH), Lithium Ion (Li-Ion) and Nickel Zinc |
|  |  |  |  | (Ni-Zn) batteries. |
| Home Depot | 15220 Creosote | (228) 867-9925 | Car Batteries | This site accepts non-leaking car and tractor |
|  | Rd |  | Cell Phones | batteries. Cell phones are accepted in the |
|  | Gulfport, MS |  | Compact | rechargeable battery drop-off bin. |
|  | 39503 |  | Flourescent | This site accepts unbroken CFL bulbs only, no |
|  |  |  | Lightbulbs | fluorescent tubes. |
|  |  |  | Lead-Acid Batteries | This site accepts non-leaking small sealed |
|  |  |  | (Non-Automotive) | lead-acid batteries. |
|  |  |  | NiCad Batteries | This site accepts non-leaking NiCad batteries. |
|  |  |  | Rechargeable | This site accepts Nickel Metal Hydride (Ni- |
|  |  |  | Batteries | MH), Lithium Ion (Li-Ion) and Nickel Zinc |
|  |  |  |  | (Ni-Zn) batteries. |

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| JC Penney | 2600 Beach Blvd.,  Biloxi, MS 39531 | 228-388-8550 | #2 Plastic Bags  #4 Plastic Bags | This location accepts #2 plastic bags for  residential drop-off. This location accepts #4 plastic bags for residential drop-off. |
| Lowe’s | 3700 Sangani Blvd., D’Iberville, MS 39540 | 228-392-7103 | NiCad Batteries Rechargeable Batteries  #2 Plastic Bags  #4 Plastic Bags Cell Phones Company Fluorescent Lightbults Plastic Plant Materials | This location accepts nicad batteries for residential drop-off.  This location accepts rechargeable batteries for residential drop-off.  This location accepts #2 plastic bags for residential drop-off.  This location accepts #4 plastic bags for residential drop-off.  This location accepts cell phones for residential drop-off. |
|  |  |  |  | This location accepts compact fluorescent lightbulbs for residential drop-off. |
|  |  |  |  | This site does not accept broken bulbs. |
|  |  |  |  | This site does not accept single-use batteries. |
| Lowe’s | 2151 John Hill | 228-867-9000 | NiCad Batteries | This location accepts nicad batteries for |
|  | Blvd., Gulfport, |  | Rechargeable | residential drop-off. |
|  | MS 39501 |  | Batteries | This location accepts rechargeable batteries |
|  |  |  | #2 Plastic Bags | for residential drop-off. |
|  |  |  | #4 Plastic Bags | This location accepts #2 and #4 plastic bags |
|  |  |  | Cell Phones | for residential drop-off. |
|  |  |  | Company | This location accepts cell phones for |
|  |  |  | Fluorescent | residential drop-off. |
|  |  |  | Lightbults | This location accepts compact fluorescent |
|  |  |  | Plastic Plant | lightbulbs for residential drop-off. |
|  |  |  | Materials | This site does not accept broken bulbs. |
|  |  |  |  | This site does not accept single-use batteries. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Mathers Express Lube | 1628 East Pass  Road, Gulfport, MS 39507 | 228-896-6877 | Used Motor Oil Used Oil Filters | This site will accept all quantities of used  motor oil. This site will accept all quantities of used oil filters. |
| Office Max | 9444 Highway 49, Gulfport, MS 39503 | 228-865-4393 | Inkjet Cartridges Toner Cartridges Inkjet Cartridge Refilling | This location accepts inkjet cartridges for business drop-off and residential drop-off. This location accepts toner cartridges for business drop-off and residential drop-off. This location accepts inkjet cartridge refilling for business drop-off and residential drop-off.  This site features a Phoenix Ink refill station. |
| O’Reilly Auto Parts | 956 Cedar Lake Rd., Biloxi, MS  39532 | 228-392-1705 | Used Motor Oil | This site will accept 5-gallons of used motor oil per person per day. |
| O’Reilly Auto Parts | 2154 Pass Rd.,  Biloxi, MS 39531 | 228-385-9783 | Used Motor Oil | This site will accept 5-gallons of used motor oil per person per day. |
| O’Reilly Auto Parts | 2800 25th Avenue, Gulfport, MS  39501 | 228-864-6493 | Used Motor Oil | This site will accept 5-gallons of used motor oil per person per day. |
| O'Reilly Auto Parts | 611 Courthouse Rd  Gulfport, MS  39507 | (228) 896-4333 | Used Motor Oil | This site will accept 5-gallons of used motor oil per person per day. |
| O’Reilly Auto Parts | 15155 Dedeaux  Rd., Gulfport, MS 39503 | 228-832-5419 | Used Motor Oil | This site will accept 5-gallons of used motor oil per person per day. |
| O'Reilly Auto Parts | 198 W Railroad St Long Beach, MS 39560 | (228) 822-0198 | Used Motor Oil | This site will accept 5-gallons of used motor oil per person per day. |

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| --- | --- | --- | --- | --- |
| RadioShack | 181 Hardy Court Shop Ctr., Gulfport, MS 39507 | 228-864-9788 | NiCad Batteries Rechargeable Batteries  Cell Phones | This location accepts nicad batteries for residential drop-off.  This location accepts rechargeable batteries for residential drop-off.  This location accepts cell phones for residential drop-off.  For every cellphone collected at a RadioShack store location that is subsequently refurbished  and resold, RadioShack will donate $1 to LIVESTRONG. |
| Radio Shack | 11312 Hwy 49,  Suite D, Gulfport, MS 39503 | 228-832-2428 | NiCad Batteries Rechargeable Batteries  Cell Phones | This location accepts nicad batteries for residential drop-off.  This location accepts rechargeable batteries for residential drop-off.  This location accepts cell phones for residential drop-off.  For every cellphone collected at a RadioShack store location that is subsequently refurbished and resold, RadioShack will donate $1 to  LIVESTRONG. |
| Radio Shack | 2600 Beach Blvd.,  Biloxi, MS 39531 | 228-388-4536 | NiCad Batteries Rechargeable Batteries  Cell Phones | This location accepts nicad batteries for residential drop-off.  This location accepts rechargeable batteries for residential drop-off.  This location accepts cell phones for residential drop-off.  For every cellphone collected at a RadioShack store location that is subsequently refurbished  and resold, RadioShack will donate $1 to LIVESTRONG. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Radio Shack | 3661A Sangani Blvd., D’Iberville, MS 39540 | 228-396-3926 | NiCad Batteries Rechargeable Batteries  Cell Phones | This location accepts nicad batteries for residential drop-off.  This location accepts rechargeable batteries for residential drop-off.  This location accepts cell phones for residential drop-off. |
| Salvation Army | 2111 24th Avenue, | 228-863-3213 | Both Residential and | Both Residential and Business Drop-off – |
|  | Gulfport, MS |  | Business Drop-off – | Clean Items in good condition and no broken |
|  | 39501 |  | Clean Items in good | items. |
|  |  |  | condition and no | Bicycles |
|  |  |  | broken items. | Book Donation |
|  |  |  | Bicycles | Clothing |
|  |  |  | Book Donation | Computer Donation |
|  |  |  | Clothing | Floppy Disks |
|  |  |  | Computer Donation | Gift Bags |
|  |  |  | Floppy Disks | Household Item Donation/Reuse |
|  |  |  | Gift Bags | Lawn and Garden Equipment |
|  |  |  | Household Item | Musical Instruments |
|  |  |  | Donation/Reuse | Ornaments |
|  |  |  | Lawn and Garden | Reusable Appliance Donation |
|  |  |  | Equipment | Sporting Goods Donation/Reuse |
|  |  |  | Musical Instruments | Telephones |
|  |  |  | Ornaments | Tools |
|  |  |  | Reusable Appliance | Toys |
|  |  |  | Donation |  |
|  |  |  | Sporting Goods |  |
|  |  |  | Donation/Reuse |  |
|  |  |  | Telephones |  |
|  |  |  | Tools |  |
|  |  |  | Toys |  |

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| --- | --- | --- | --- | --- |
| Salvation Army | 2009 24th Avenue, Gulfport, MS 39501 | 228-863-2429 | Both Residential and Business Drop-off – Clean Items in good condition and no broken items.  Bicycles  Book Donation Clothing  Computer Donation Floppy Disks  Gift Bags Household Item Donation/Reuse Lawn and Garden Equipment  Musical Instruments Ornaments Reusable Appliance Donation  Sporting Goods Donation/Reuse Telephones Tools  Toys | Both Residential and Business Drop-off – Clean Items in good condition and no broken items.  Bicycles  Book Donation Clothing  Computer Donation Floppy Disks  Gift Bags  Household Item Donation/Reuse Lawn and Garden Equipment Musical Instruments  Ornaments  Reusable Appliance Donation Sporting Goods Donation/Reuse Telephones  Tools Toys |
| Salvation Army | 379 Howard Ave.,  Biloxi, MS 39530 | 228-374-8301 | Both Residential and Business Drop-off – Clean Items in good condition and no broken items.  Bicycles  Book Donation Clothing | Both Residential and Business Drop-off – Clean Items in good condition and no broken items.  Bicycles  Book Donation Clothing  Computer Donation |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | Computer Donation Floppy Disks  Gift Bags Household Item Donation/Reuse Lawn and Garden Equipment  Musical Instruments Ornaments Reusable Appliance Donation  Sporting Goods Donation/Reuse Telephones Tools  Toys | Floppy Disks Gift Bags  Household Item Donation/Reuse Lawn and Garden Equipment Musical Instruments  Ornaments  Reusable Appliance Donation Sporting Goods Donation/Reuse Telephones  Tools Toys |
| Sam’s Club | 10431 Old  Highway 49, Gulfport, MS  39503 | 228-832-4441 | Car Batteries #2 Plastic Bags  #4 Plastic Bags | This location accepts car batteries for residential drop-off. This location accepts #2 and #4 plastic bags for residential drop-off. |
| Southern Scrap Recycling | 10032 South Park Drive, Gulfport, MS 39503 | 228-896-9094 | Aluminum Beverage Cans  Ferrous Metals Nonferrous Metals Tin or Steel Cans | This location accepts aluminum beverage cans for business drop-off and residential drop-off. This location accepts ferrous metals for business drop-off and residential drop-off.  This location accepts tin or steel cans for business drop-off and residential drop-off. |
| SpeeDee Oil Change & Tune-up | 301 Pass Road  Gulfport, MS 39507 | (228) 864-8880 | Used Motor Oil | This site accepts up to five gallons of used motor oil per customer. |
| Sprint Store | 2650 Beach Blvd.,  Biloxi, MS 39531 | 228-388-2256 | Cell Phone Accessories Cell Phones | This location accepts cell phones for residential drop-off. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sprint Store | 9454 3 Rivers  Rd., Gulfport, MS 39503 | 228-563-1000 | Cell Phone  Accessories Cell Phones | This location accepts cell phones for residential drop-off. |
| Talk Source Inc. | 11010 Highway  49, Gulfport, MS  39503 | 228-539-0005 | Cell Phone Accessories  Cell Phones | This location accepts cell phones for residential drop-off. |
| Target | 3867 Promenade Pkwy., D’Iberville, MS 39540 | 228-233-3301 | Cell Phones Inkjet Cartridges MP3 Players  #2 Plastic Bags  #4 Plastic Bags | This location accepts cell phones for residential drop-off. This location accepts inkjet cartridges for residential drop-off.  This location accepts #2 and #4 plastic bags for residential drop-off. |
| United Cellular, Inc. | 3680 Sangani  Blvd., D’Iberville, MS 39540 | 228-354-8751 | Cell Phone  Accessories Cell phones | This location accepts cell phones for residential drop-off. |
| UPS Store | 2650 Beach Blvd.,  Biloxi, MS 39531 | 228-594-6501 | #6 Plastic Peanuts Other Packing  Materials | This location accepts #6 plastic peanuts for business drop-off and residential drop-off. |
| UPS Store | 45 Hardy Court Shopping Center, Gulfport, MS  39507 | 228-867-7070 | #6 Plastic Peanuts Other Packing Materials | This location accepts #6 plastic peanuts for business drop-off and residential drop-off. |
| Walmart | 2681 CT Switzer Sr. Drive,  Biloxi, MS 39531 | 228-385-1046 | #2 Plastic Bags  #4 Plastic Bags | This location accepts #2 plastic bags for  residential drop-off. This location accepts #4 plastic bags for residential drop-off. |
| Walmart Tire and Lube Express | 2681 CT Switzer Sr. Drive,  Biloxi, MS 39531 | 228-385-1046 | Car Batteries Used Motor Oil Used Oil Filters Used Tires | This location accepts car batteries for residential drop-off.  This site accepts up to five gallons of motor oil.  This site will accept up to 5 filters per visit. This location accepts used tires for residential drop-off. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Walmart Tire and Lube Express | 3615 Sangani Blvd., D’Iberville, MS 39540 | 228-396-4740 | Car Batteries Used Motor Oil Used Oil Filters Used Tires | This location accepts car batteries for residential drop-off. This site accepts up to five gallons of motor oil. This site will accept  up to 5 filters per visit. This location accepts used tires for residential drop-off. |
| Walmart Supercenter | 3615 Sangani  Blvd., D’Iberville, MS 39540 | 228-396-4740 | #2 Plastic Bags  #4 Plastic Bags | This location accepts #2 plastic bags for  residential drop-off. This location accepts #4 plastic bags for residential drop-off. |
| Walmart Supercenter | 9350 Hwy 49,  Gulfport, MS 39503 | 228-864-5197 | #2 Plastic Bags  #4 Plastic Bags | This location accepts #2 plastic bags for residential drop-off. This location accepts #4  plastic bags for residential drop-off. |
| Walmart Tire and Lube Express | 9350 Hwy 49  Gulfport, MS 39503 | (228) 864-5197 | Car Batteries Used Motor Oil Used Oil Filters Used Tires | This location accepts car batteries for residential drop-off. This site accepts up to five gallons of motor oil.  This site will accept up to 5 filters per visit. This location accepts used tires for residential  drop-off. |
| Walmart Supercenter | 1617 E. Beach Blvd., Pass Christian, MS  39571 | 228-452-4948 | #2 Plastic Bags  #4 Plastic Bags | This location accepts #2 plastic bags for residential drop-off. This location accepts #4 plastic bags for residential drop-off. |
| Wise Recycling Company | 3731 25th Avenue, Gulfport, MS 39501 | 228-863-7413 | Aluminum Beverage Cans  Ferrous Metals Nonferrous Metals | This location accepts aluminum beverage cans for business drop-off and residential drop-off. This location accepts ferrous metals for  business drop-off and residential drop-off. |

SECTION D, CONTINUED

PRIMARY SOLID

WASTE PROGRAM COMPONENTS

Comprehensive Inventory and Summary Information of Local Solid Waste Management Facilities (LSWMF)

7.

* 1. Comprehensive Development Plans

Harrison County and all cities in the County have comprehensive development plans. These comprehensive land use plans address land use and transportation; natural, cultural, and historic resources; community facilities and services; and housing and economic development. The legal authority for the comprehensive plans is found under Section 17-1-1 through 17-1-21 of the Mississippi Code of 1972, as amended.

This Mississippi Law requires that a comprehensive plan, at a minimum, include:

* + - Goals and objectives for the long-range (20–25 years) that address, at a minimum, residential, commercial and industrial development; parks, open space and recreation; street or road improvements; and public schools and community facilities
    - A land use plan with projections of population and economic growth for the planning area
    - A transportation plan, depicting all existing and proposed improvements, which

shall be a basis for a capital improvements program; and

* + - A community facilities plan, depicting housing, schools, parks and recreation, public buildings and facilities, and utilities and drainage, which shall be a basis for a capital improvements program.

A number of the cities have utilized the SmartCode planning process to complete their comprehensive development plans.

The comprehensive development plans for the Harrison County area are:

*2030 Harrison County Comprehensive Plan* co.harrison.ms.us/departments/zoning/ *Biloxi Comprehensive Plan (2009)* [www.biloxi.ms.us/CompPlanDraft.htm](http://www.biloxi.ms.us/CompPlanDraft.htm) *D’Iberville, Citizens Master Plan* (2011) <http://diberville.ms.us/smartcode/> *Comprehensive Plan for Gulfport* (2007) [www.gulfport-ms.gov/planning.shtml](http://www.gulfport-ms.gov/planning.shtml) *Long Beach, Comprehensive Plan* (2009) [www.cityoflongbeachms.com/](http://www.cityoflongbeachms.com/)

*The City of Pass Christian Comprehensive Plan* (2008) [www.planthepass.org/](http://www.planthepass.org/)

Harrison County’s *2030 Harrison County Comprehensive Plan* was prepared by group of firms including:

The Ohio State University, Knowlton School of Architecture, Project Manager Ellen Cowell

Gulf Regional Planning Commission

Neel-Schaffer

Southern Mississippi Planning and Development District

Even though it is primarily a development plan, the *2030 Harrison County Comprehensive Plan* does include a goal to promote the reduction of solid waste. It lists several strategies to achieve this goal including:

1. Encourage appropriate disposal and recycling of solid waste.
2. Collaborate with waste disposal providers to develop an education campaign to reduce waste and increase recycling.
3. Coordinate with local grocery stores and Advanced Disposal to offer plastic bag recycling.
4. Work with local food banks to coordinate donations of perishable produce from wholesale and retail sources and prepared foods from the food service industry.
5. Increase efforts to prevent illegal dumping.
   1. Zoning Ordinances
      1. Harrison County

Harrison County has a zoning ordinance for the unincorporated area of the county (see Appendix 10 – Ordinances or [*http://co.harrison.ms.us/departments/zoning/*](http://co.harrison.ms.us/departments/zoning/)for more information.)

Harrison County defines landfills and solid waste management facilities as Public/Quasi- Public Facilities and Utilities in section 500.02.03 Public/Quasi-Public Facilities and Utilities, which states, in part:

Any building, structure, system, use or combination of uses, which is customarily and ordinarily provided by either public or private agencies, groups, societies, corporations, or organizations, whose purpose is the provision of necessary and desirable services for the general public health, safety, and welfare. Such uses shall include, but are not limited to: Major governmental or private facilities, such as water pumping stations, sewage treatment plants, sanitary landfills and the like.

Landfills are considered a special use in I – 1 (Light Industrial) and I – 2 (Heavy Industrial) Districts. Also, waste collection or recycling companies are considered as an approved use in I – 2. Solid waste or recycling transfer stations are considered conditional use in I – 1 and an approved use in I – 2. Maximum structure height is 35’ in I – 1 Light Industrial and 50’ in I – 2 Heavy Industrial.

* + 1. Biloxi

The Industrial (I) District is established and intended to accommodate light and moderate manufacturing, assembly, fabrication, processing, distribution, warehousing, outdoor storage, research and development, and other industrial uses, with heavy industrial uses permitted after special review. The district may also accommodate limited commercial uses incidental to the district's predominantly industrial nature. Residential uses, other than caretaker dwellings as an accessory use, are not permitted. Industrial zoning is appropriate in and adjacent to regional activity centers or other areas with good interstate access, as designated on the comprehensive plan's future land use map. Industrial zoning and uses other than that directly related to the commercial seafood industry are limited on the peninsula. District standards are intended to minimize potential nuisances or damage to the environment and adverse impacts on surrounding uses. The maximum building height in the Industrial District is 75’.

* + 1. D’Iberville

In D’Iberville, landfills are allowed as a Conditional Use by Public Hearing in the Industrial District.

* + 1. Gulfport

In Gulfport, landfills are permitted as a special use in I – 2 Heavy Industrial District. Recycling and other solid waste management facilities are not specifically identified in the Gulfport ordinance but “Garbage Dumping” is permitted as a special use in I – 2. Also, junkyards are permitted as an approved use in the I – 2 District. Generally the I – 2 District is described as follows:

*I-2 districts: Heavy industry districts.* These districts are composed of land and structures occupied by or suitable for heavy manufacturing and related activities. Located for convenient access from existing and future arterial thoroughfares, highways, railway lines or waterways, these districts are usually separated from residential areas by business or light industry areas or by natural barriers; where they are adjacent to residential areas some type of artificial separation may be required. The district regulations are designed to permit the development of the districts for their purpose, including almost any industrial uses but subject to conditions necessary for the mutual protection of the uses and the city generally.

*Building height limit.* Except as provided in section IV, no structure shall exceed one hundred (100) feet in height.

* + 1. Long Beach

In Long Beach, Section 612.1.2 of its ordinance identifies uses requiring Planning Commission Approval. The uses listed in subsection 611.12 are permitted upon approval of location and the site plan thereof by the Planning Commission as being appropriate

with regard to transportation and access, water supply, waste disposal, fire and police protection, and other public facilities, as not causing undue traffic congestion or creating a traffic hazard, and as being in harmony with the orderly and appropriate development of the district in which the use is located. “Garbage Dumping” is a use which requires Planning Commission Approval in the Industrial District.

* 1. Assessment of Needs and Alternatives

The local land use ordinances, comprehensive land use plans and planning tools utilized by the municipalities and the county in the planning area are adequate to plan for and regulate the land use for the development of new and expanded solid waste management facilities.

* 1. Comprehensive Inventory

The solid waste management facilities serving the County approved or permitted for solid waste management are outlined in the table that follows and the locations of facilities in the County are identified on Map that follows.

TABLE 41

Comprehensive Inventory of Solid Waste Management Facilities

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Landfill Name / Permit No.** | **Type/ Status** | **Address/ Location (Section, Township & Range)** | **Map No.** | **Service Area** | **Approved Disposal Acreage** | **Remaining Capacity 2010 (Years**  **or Acres)** | **Method of Financing** | **Reference Section of the Plan** |
| Biloxi Transfer  Station/ SW0240060455 | MSW  Transfer/ Active | 14543 Hudson Krohn Rd Biloxi/  Section 25/6S/10W | 1 | N/A | 30 | N/A | Private  Sector - User Fees | Residential  Garbage Management |
| Blackmer I Disposal/ R1-071 | Class I/ Active | 24306 East Dubuisson Rd, Pass Christian/  Section 13/7S/13W | 2 | N/A**1** | 15 | 5 Years | Private Sector - User Fees | Rubbish Mgmt. Systems |
| Blackmer II Disposal/ R2-056 | Class II/ Active | 24306 East Dubuisson Road, Pass Christian/  Section 13/7S/13W | 2 | N/A**1** | 23.5 | 20 Years | Private Sector - User Fees | Rubbish Mgmt. Systems |
| Brown’s Class II/ R2-049 | Class II/ Inactive | 22509 County Road  331, Pass Christian/ Section 29/7S/12W | 3 | N/A**1** | 6.7 | 7 Years | Private Sector -  User Fees | Rubbish Mgmt.  Systems |
| Canal Road Rubbish/ SW0240020341 | Class II/ Active | Canal Road at 28th Street, Gulfport/ Section 31/7S/11W | 4 | Harrison County | 5.7 | 46 Years | Public Sector General  Fund | Rubbish Mgmt. Systems |
| Coastal Recyclers/ R1-052 | Class I/ Active | 14339 Hudson Krohn Road,  Biloxi/  Section 25/6S/10W | 5 | N/A**1** | 60 | 19 Acres | Private Sector - User Fees | Rubbish Mgmt. Systems |
| D. W. Lamey/ R2-105 | Class II/ Active | 17346 Road 510  Biloxi/ Section 9/6S/10W | 6 | Harrison, Hancock, Jackson &  Pearl River | 40 | 20 Years/  30 Acres | Private Sector - User Fees | Rubbish Mgmt. Systems |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Landfill Name / Permit No.** | **Type/ Status** | **Address/ Location (Section,**  **Township & Range)** | **Map No.** | **Service Area** | **Approved Disposal**  **Acreage** | **Remaining Capacity 2010**  **(Years or**  **Acres)** | **Method of Financing** | **Reference Section of**  **the Plan** |
| DuPont Delisle Landfill/ SW0240040488 | Industrial – Non Commercial/  Active | 7685 Kiln DeLisle Rd  Pass Christian/ Section 32 & 33/  T7S/R13W | 7 | On-site 4 | 156 | N/A 2 | Private Sector | Non- hazardous Industrial  Waste |
| East Harrison County Class I Rubbish Landfill/  Not Permitted | Class I/ Inactive | 17278 Highway 15 North, Saucier/ Section 7/6S/9W | 8 | Harrison County | 27 **3** | 20 Years/  27 Acres | Private Sector | Rubbish Mgmt. Systems |
| East Harrison County Class II Rubbish Landfill/  R2-110 | Class II/ Inactive | 17278 Highway 15  North, Saucier/ Section 7/6S/9W | 8 | Harrison &  Jackson Counties | 20 | 20 Years/  20 Acres | Private Sector | Rubbish  Mgmt. Systems |
| Firetower Landfill/ R1-097 | Class I/ Active | 8280 Firetower  Road, Pass Christian/ Section 25/7S/13W | 9 | Harrison County | 37 | 14 Years | Private  Sector - User Fees | Rubbish  Mgmt. Systems |
| Harrison County Waste Tire Collection Site/  Authorized | Local Govt. Waste Tire Collection  Site | Harrison Co. Work Ctr.  10076 Lorraine Road, Gulfport/  Section 18/7S/10W/ | 10 | Harrison County | N/A | N/A | Public Sector General Fund and  Grants | Primary Solid Waste Components |
| Lee and Sons Mobile Waste Tire Processing/ Authorized & WTH –  141 | Mobile Waste Tire Processing/  Active | 19452 Doug Lee Rd Saucier/  Section 32/5S/12W | 11 | N/A | N/A | N/A | Private Sector -  User Fees | Primary Solid Waste  Components |
| Lees Environmental Tire Hauling/  WTH – 295 | Waste Tire Hauling/  Active | 19441 Doug Lee Rd Saucier/  Section 32/5S/12W | 12 | N/A | N/A | N/A | Private Sector -  User Fees | Primary Solid Waste  Components |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Landfill Name / Permit No.** | **Type/ Status** | **Address/**  **Location (Section, Township & Range)** | **Map No.** | **Service Area** | **Approved**  **Disposal Acreage** | **Remaining Capacity 2010**  **(Years or**  **Acres)** | **Method of Financing** | **Reference**  **Section of the Plan** |
| MS Power Plant Watson Landfill/  SW0240040507 | Industrial – Non Commercial/  Active | Interstate 10 and Lorraine Road Gulfport/  Section 7,18/7S/10W | 13 | On-site4 | 84.4 | 4 Years | Private Sector | Non- hazardous Industrial  Waste |
| Pecan Grove Landfill and Recycling Center and Rubbish Site/  SW00101B0412 | Class I/ Inactive | 9685 Firetower Road, Pass Christian/  Section 22/7S/13W | 14 | 100 miles5 | 176 | 21 Years or  8,991,518  cubic yards | Private Sector -  User Fees | Residential and Non- hazardous Industrial  Waste |
| Pecan Grove Landfill  & Recycling Ctr. and Rubbish Site/R1-098 | Class I/ Inactive | 9685 Firetower Road, Pass Christian/ Section 22/7S/13W | 15 | Harrison County | 100 | 100 Acres | Inactive | Rubbish Mgmt. Systems |
| Ray/ R2-088 | Class II/ Active | 9149 Road 328, Pass Christian/  Section 19/7S12W | 16 | N/A**2** | 8 | 1. Years/ 2. Acres | Private Sector -  User Fees | Rubbish Mgmt.  Systems |
| S & S Enterprises/ SW0240020451 | Class I/ Inactive | 14160 Crown Road, Gulfport/  Section 26/6S/11W | 17 | 100-mile radius from  site | 12 | 12 Acres | Inactive | Rubbish Mgmt.  Systems |
| Triplett Waste Tire Processing Facility/  WTP 0017 | Waste Tire Processing Facility/  Active | 20100 Doug Lee Road  Saucier/  Section 29/5S/12W | 18 | N/A | N/A | N/A | Private Sector -  User Fees | Primary Solid Waste  Components |
| Waste Pro Recycling Center | Multi-Stream Recycling Processing Center | 12440 Seaway Road  Gulfport, MS | N/A | N/A | N/A | N/A | Private Sector – User Fees | Recycling and Waste Reduction |

* + 1. Service Area not specified in original 1993 Solid Waste Plan or in MDEQ authorization.
    2. Approved in 4/10/1990, which was prior to service areas being defined or required.
    3. The 27 acres of the East Harrison County Class I Rubbish Landfill includes and upgrades the 20 acres of the Class II site.
    4. Non-commercial disposal facility, only receives waste from on-site plant operations.
    5. 100 miles from Harrison County excluding the City of New Orleans.

**SECTION D, CONTINUED**

# PRIMARY SOLID

**WASTE PROGRAM COMPONENTS**

8. Illegal Dumping Prevention and Cleanup Programs

As disposal regulations have become more stringent, disposal options in some areas have become less convenient and more expensive. Because of these factors some local governments have been challenged with increased illegal dumping, especially for hard to dispose of items such as waste tires and electronics. According to the United States Environmental Protection Agency (EPA), illegal dumping is “disposal of waste in an unpermitted area.” EPA has determined that people illegally dump waste in order to avoid the expense and/or the time and effort to dispose of their garbage at a proper disposal site.

Illegal dumping is a concern not only because it is unsightly and aesthetically unpleasing, but because of the potential harm to public safety and health. The public safety and health issues associated with illegal dumping are numerous. Illegal dumps include hazard due to injury especially to children by sharp or hazardous objects or entrapment in old refrigerators/freezers. Illegal dumps and specifically those containing waste tires are breeding ground for mosquitoes and other vectors (rodents and insects carrying diseases). In Mississippi mosquito-borne illnesses include West Nile virus, St. Louis encephalitis, LaCrosse encephalitis and Eastern Equine encephalitis. These diseases can affect humans, horses and birds. For more information regarding mosquito-borne illnesses please check with the Mississippi State Department of Health at [www.msdh.state.ms.us/.](http://www.msdh.state.ms.us/) Additionally, illegal dumps are fire hazards and can contribute to flooding when they block drainage channels. Runoff from illegal dumps can also contaminate ground water and storm water.

Typically, an illegal dump attracts more waste as people tend to dump debris in places where dumping has already occurred. An accumulation of debris can attract more debris of all types, including potentially dangerous materials such as asbestos, household chemicals and paints, automotive fluids, and commercial and industrial wastes.

The County follows certain procedures when finding an illegal dumpsite. The property owner is contacted to see if he has any knowledge or involvement in the illegal dump. The waste material is investigated for information as to its source or who might have left it at the site. It is also evaluated to determine how the waste material should be properly disposed. If the waste material is suspected or known to include hazardous materials then MDEQ is also contacted.

Harrison County’s first solid waste plan, *Solid Waste Management Plan for Harrison County Wastewater and Solid Waste Management District June 1993*, (the “1993 Plan”) evaluated illegal dumps in the County. The 1993 Plan identified eight illegal dumpsites, most of which were defined as being comprised of stockpiled waste tires. Direct inspection of these sites revealed that one site on Hudson-Krohn Road had been used for dumping for many years. The other seven sites were scattered areas of litter and determined to be isolated cases of accumulated "road-side" litter. The worst of these had less than twenty tires, a couple of old sofas, etc.

The sites in the 1993 Plan have been discontinued and cleaned up. Currently there are no recurring illegal dumps in the County; however, there continues to be ongoing complaints of illegal dump activity in the County. During the last three (3) years (i.e. calendar years 2009, 2010 and 2011), the MDEQ received at least 58 complaints of illegally dumping activity. MDEQ has resolved between 13 and 25 illegal dumping complaints per year in Harrison County since 2009.These complaints included such things as illegally dumped waste tires, appliances and automotive oils/fluids. The most frequent complaint concerns or includes waste tires (21 complaints out of 58). Please refer to Tables 40 and 41 at the end of this section for details on the MDEQ complaints.

The planning area programs for illegal dumping prevention and clean up has many components:

* + - 1. Local ordinances prohibiting littering and illegal dumping
      2. Regular countywide collection of household garbage and rubbish including waste tires
      3. Permanent collection center and amnesty days for white goods, waste tires and household hazardous waste items that are commonly illegally dumped in other areas
      4. City or county clean up of illegal dumps when needed
      5. County Beautification Commission and Director
      6. Public Education through Beautification Commission and newspaper advertising.
      7. Participation in the MDEQ’s Waste Tire Grant Program and the Local Government Solid Waste Assistance Grant Program for Household Hazardous Waste Collection.
  1. Ordinances

Harrison County has an ordinance that prohibits littering and illegal dumping. The ordinance places the responsibility for littering and illegal dumping on the landowner. The ordinance is fairly comprehensive and addresses other litter related issues such as securing/covering loads on trucks to prevent litter and the proper containerization of solid waste to prevent littering. The penalty for violating the ordinance is a fine of not less than

$25.00 nor more than $1,000.00 or a sentence up to 60 days in the County Jail. A conviction is defined as a misdemeanor. In addition to the fines, a court could also impose community service such as picking up litter.

Biloxi, in section 9-1-18 of its ordinance, has an ordinance that prohibits littering and illegal dumping. The Biloxi ordinance makes it unlawful for any person to throw, discard, place or deposit any garbage or litter in any manner or amount on any public or private property within the corporate limits of the city, except in containers or areas lawfully provided for such purpose. In Biloxi the ordinance states “any person who shall fail to comply with or shall violate or attempt to violate any of the provisions of this chapter shall be guilty of a misdemeanor, and subject to the penalties 1-1-8 shall be punished by a fine not exceeding $1,000.00 or imprisonment for a term not exceeding 90 days, or by both such fine and imprisonment, or by any other appropriate sentence in the discretion of the municipal judge.”

The City of D’Iberville has a very specific and detailed Anti-Littering ordinance (i.e. Section 22-1). Generally, it requires that “no person shall deposit any litter within the city except in public receptacles, in authorized private receptacles for collection or in any duly licensed disposal facility.” The ordinance also places littering restrictions on several specific areas including private property, public places, vehicles and loading/unloading areas. It also requires the owner of private property to remove any litter from the property. The penalty for violating the ordinance is a fine of not less than $50.00 nor more than $500.00 for each offense, and a requirement to perform not less than ten (10) hours of community service consisting of litter pickup throughout the city. A separate offense shall be deemed committed on each day during or on which a violation occurs or continues. There are also separate litter ordinance sections in the “Garbage, Trash and Weeds” Chapter 14 sections 14-34 and 14-36. These separate sections reflect requirements outlined in Anti-Littering ordinance.

The City of Gulfport, in sections 4-170 and 4-173 of its code of ordinances, has an ordinance that prohibits littering and illegal dumping. Section 4-143 and 4-170 states “It shall be unlawful for any owner, occupant or lessee of any building, yard, or lot of ground within the city to allow garbage, refuse or rubbish of any kind to accumulate or remain in such building or upon such yard or lot, except where garbage, trash, or refuse is placed in a corrugated metal or plastic container.” Section 4-173 states “It shall be unlawful for any person to dump or place or cause to be dumped or placed any garbage, refuse or trash of any kind whatsoever upon any public or private property of another located within the city.” Violation of any ordinance provisions against littering or unauthorized dumping as specified in sections 4-141 through 4-145, inclusive, shall be a separate misdemeanor for each violation thereof, and each and every offender shall be punished for each violation by a fine of one thousand dollars ($1,000.00) (the court, in its discretion, may suspend a portion of the fine) or by imprisonment not exceeding ninety (90) days, or by both fine and imprisonment. Any such violation punished and not cured within thirty (30) days after being found or pled guilty of the offense or after final adjudication of the offense by a court of competent jurisdiction, whichever shall be later, shall constitute a separate and repeat offense in which the fine provided for herein shall be imposed (no portion may be suspended) and imprisonment not to exceed ninety (90) days shall be imposed.

The City of Long Beach, in its code of ordinances, has an ordinance that prohibits littering and illegal dumping. Section 12-15 makes it unlawful for any person to place or deposit any refuse in any manner or amount on any public or private property within the corporate limits of the city, except in containers or areas lawfully provided for such purpose. Any littering or illegal dumping act that is declared to be unlawful is considered a misdemeanor. In Long Beach such a violation of the Code or ordinance may be punished by a fine not exceeding three hundred dollars ($300.00) or by imprisonment not exceeding ninety- (90) days, or both. Every day any violation of the Code or any ordinance shall continue shall constitute a separate offense.

The City of Pass Christian has a “Litter Control” ordinance (i.e. Article II of Chapter 66) that prohibits littering and illegal dumping. Section 66-42 of the ordinance makes littering unlawful. Section 66-44 makes it unlawful for “any owner, occupant or lessee of any building, yard or lot of ground within the city limits to allow garbage, refuse or rubbish of any kind to accumulate or remain outside such buildings or upon such yards or lots, except as may be provided otherwise by statute or contracts.”

Please refer to Appendix 10 to review these and other ordinances.

* 1. Regular Countywide Household Solid Waste Collection

The Authority contracted with Team Waste to provide residential solid waste collection services to all city and county residences in Harrison County, with the exception of Gulfport, in June 2017. Under this contract, each residence is provided once per week collection using 95-gallon carts supplied by Team Waste. The resident or business owner is responsible for containerizing the waste and ensuring that the containers are placed at curbside on the appropriate collection day. All solid waste collected by Team Waste is taken to the Waste Management of Mississippi Inc, Pecan Grove Landfill and Recycling Center and Rubbish Site (the “Pecan Grove Landfill”). Waste Management of Mississippi, Inc owns this site. Pecan Grove includes a 176-acre permitted MSW Landfill in addition to other facilities located on the 1,243-acre facility property. The Pecan Grove Landfill is permitted per MDEQ Solid Waste Management Permit SW00101B0412 and is located at 9685 Firetower Road, Pass Christian, Mississippi 39571. The Authority pays for the disposal of all solid waste collected under a separate contract with Waste Management.

The Authority contracted with Pelican Waste in July 2017 to provide once weekly collection of all rubbish, yard waste and white goods placed curbside by all residences within the Authority’s service area, excluding Gulfport. The resident or business owner is responsible for placing the material curbside. Any appliances that contained CFC’s must have the CFC’s removed by someone certified to do so and must be labeled with a tag from the certified person indicating that the CFC’s have been removed. All material collected by Pelican Waste is disposed of at either one of Team Waste’s Class I Rubbish Landfills, Coastal Recycle Landfill, 14339 Hudson Krohn Road, Biloxi, MS 39532 or Firetower Landfill, 8280 Firetower Road, Pass Christian, MS 39571. The Authority pays for the disposal of all materials collected by Pelican Waste and disposed of at Team Waste’s facilities under separate contract with Team Waste.

Gulfport contracted with Waste Pro in July 2017 to provide twice weekly collection of residential solid waste placed curb side in 96 gallon containers by each residence. Waste Pro disposes of this waste at the WMMI Pecan Grove facility. Gulfport’s contract with Waste Pro also provides for trash and rubbish collection and disposal on an as needed basis when placed curbside by residents. Trash and rubbish collected by Waste Pro in the City of Gulfport is disposed of at the Coastal Recycler’s Landfill or the Firetower Landfill at the discretion of Waste Pro. The cost of all of these services, collection and disposal, is included in Waste Pro’s fee of $14.36 per residence per month charged to the City of Gulfport.

8.3 Collection Center and Amnesty Day

Harrison County does have a permanent collection center for certain household items and household hazardous waste (HHW). The Rockco-McFarland Household Hazardous Waste Collection and Recycling Center is located at 10076 Lorraine Road at the Harrison County Work Center on Lorraine Road. The center provides residents a place to dispose of and recycle common HHW such as paint and oil, as well as tires, batteries, fluorescent light bulbs, electronic appliances and other hazardous items. Medical waste, furniture, asbestos, or items containing explosive or radioactive material are not accepted. The HHW recycling and disposal costs will be paid in part by a grant from the Mississippi Department of Environmental Quality. In 2010 the county took in 2,600 gallons of paint, 24 tons of electronics related waste, 1,500 gallons of oil, 100 gallons of antifreeze and 150 automobile batteries. The center is designed so residents can drive through and drop off their HHW items. The center is open on the second Saturday of every month from 8 a.m. until noon.

Prior to the center opening, since 1995 Harrison County offered household hazardous waste days once (1) per year. The annual event is usually in the Fall of the year and notification is published in the newspaper. The event is usually located at Mississippi Power’s Plant Jack Watson on Lorraine Road in Gulfport. The event collects a wide range of waste products. These include chemicals, paints, oils, batteries, tires, and appliances such as refrigerators, washers, dryers and stoves. It also includes e-waste such as cell phones, computers, fax machines, television sets and VCRs. Expired prescription drugs are also accepted. Medical waste, furniture, asbestos, or items containing explosive or radioactive material will not be accepted. Waste from businesses is not accepted as the event is provided as a service to local residents. The Authority advertises on its website, [www.hcua-ms.us/recycle.html#hazard](http://www.hcua-ms.us/recycle.html#hazard) information regarding the proper handling and disposal of HHW. For more information regarding the HHW center or HHW annual events, residents can contact Jenna Weatherford, Harrison County Beautification director, at 228-214-1405 or [beautification@co.harrison.ms.us.](mailto:beautification@co.harrison.ms.us)

* 1. Clean-Up

The County uses county employees and equipment to remove debris from rights-of-way, public property and county residences in the unincorporated area. Most of the debris found at illegal dumps in the county appears to have been left by residents or building contractors. The composition of the illegal dumps is mainly construction and demolition debris, waste tires, appliances or “white goods”, furniture, yard waste, and household garbage. The County has utilized grants from the MDEQ to assist in the efforts to clean up illegal dumps, which include waste tires (i.e. Grant # WT407 in August 2011 in the amount of $30,000.00).

* 1. Beautification Commission

Harrison County has a Beautification Commission. The Commission is a public/private partnership consisting of 7 volunteers appointed by the Harrison County Board of Supervisors. The mission of the Commission is to implement Keep America Beautiful (and similar) programs, which combine education with hands-on stewardship to make Harrison County's communities cleaner, greener, safer and more livable. Some of the programs sponsored by the Commission include:

* + - The Rockco-McFarland Household Hazardous Waste Collection and Recycling Center is located at 10076 Lorraine Road at the Harrison County Work Center on Lorraine Road. Open the second Saturday of every month from 8 a.m. until noon at 10076 Lorraine Road next to the Sheriff Department. This collection site is free to the public and accepts the following:
      * Latex or oil based paint
      * Used cooking or automobile oil
      * Antifreeze
      * Household, marine and car batteries
      * White goods such as freezers and refrigerators
      * Fluorescent light bulbs
      * Tires
      * E-waste (electronics) such as computers, cell phones, telephones, televisions
      * Items are only accepted during the hours of operation or by special appointment.
    - **Christmas Tree Recycling Program.** Christmas trees are recycled into mulch. Drop-off locations are usually posted after Thanksgiving.
    - **Great American Cleanup.** Each year the Harrison County Beautification Commission works with Keep America Beautiful to sponsor the Great American Cleanup! Past projects have included beach cleanups, tree and flower planting and litter reduction.
    - **Annual Household Waste "Big Day" or “Bring It” Collection.** The Beautification Commission annually partners with Mississippi Power Company to sponsor a household hazardous waste collection. Collected items include aerosol cans, fertilizer, household chemicals and cleaners as well as old electronics, paint, and oil. The events are held at Mississippi Power’s Plant Watson.
    - **Telephone Directory Recycling Program.** For the past sixteen years the Harrison County Beautification Commission has partnered with schools across the Coast to "throw the book" at landfill waste. Schools collect phone books from the public during a designated week each year. Partners for this program includes Harrison County Beautification Commission, Harrison County Utility Authority, City of Biloxi, City of Gulfport, AT&T, and Advanced Disposal.

For more information regarding the Beautification Commission or its events, residents can contact Jenna Weatherford, Harrison County Beautification director, at 228-214-1405 or [beautification@co.harrison.ms.us](mailto:beautification@co.harrison.ms.us) or visit the website at [www.mscoastbeautiful.org/programs.asp.](http://www.mscoastbeautiful.org/programs.asp)

* 1. Grants

Harrison County and the HCUA have been consistent participants in MDEQ’s Waste Tire Grant Program and the Local Government Solid Waste Assistance Grant Program for Household Hazardous Waste (HHW) Collection. From 1995 through 2011 the County has received at least 19 Grants totally $463,000, which were used to help the County collect and dispose of over 300 tons of HHW. The County plans to continue to utilize this MDEQ Grant Program for the collection and disposal of HHW.

The Harrison County Waste Tire Collection and Disposal Program is funded in part through MDEQ Assistance Grants. From 1994 through 2011 the County has received at least 12 Grants totaling $441,000, which were used to help the County collect and dispose of over 300,000 waste tires. The County plans to continue to utilize this MDEQ Grant Program for the collection and disposal of waste tires.

For more information regarding residential waste collection, please refer to the “*Special Waste Management Programs”* section of this Plan.

* 1. Solid Waste Enforcement Officer

The MDEQ has a Solid Waste Enforcement Officer program. The MDEQ currently assists many cities and counties with their respective illegal dumping prevention and cleanup programs by providing funding for local solid waste enforcement officers through its solid waste assistance grants program. Typically, the MDEQ grants cover the payment of up to 50% of the cost of employing a local solid waste enforcement officer. Over 50 cities and counties in Mississippi have received grants from MDEQ to provide for partial funding for these local solid waste enforcement officers. The MDEQ believes that efforts by local solid waste enforcement officers to investigate and resolve solid waste complaints are likely to be the most successful manner in which to address many local solid waste management and disposal issues.

In communities where they are employed, the local solid waste enforcement officer is responsible for efforts to eliminate illegal solid waste dumping in the community. The duties of the officer could include:

* + - Developing a local public education and outreach program that contains features about the local solid waste management and recycling programs available in the area, the penalties for illegal dumping or other violations of state law and other related environmental issues regarding solid waste management and disposal.
    - Developing a working relationship with other local departments or agencies of government or the community such as the Sheriff’s office, the Municipal Police Department(s), the Zoning or Code Enforcement Department, the Building Permits Division, the local Health Department, civic organizations and local environmental groups and with the appropriate MDEQ Regional offices in Biloxi. The enforcement officer should coordinate program and enforcement efforts with the other departments and organizations as appropriate.
    - Participating in the development and implementation of special events or programs to manage solid wastes where such programs are designed to prevent the unauthorized dumping of solid wastes and are not considered part of the normal garbage collection services for the local jurisdiction. Such special events or programs may include community clean-up events, special waste collection events (such as household hazardous wastes, electronic wastes and others), recycling promotion events, and other activities.

The position of a local solid waste enforcement officer may vary from community to community. Across Mississippi, Solid Waste Enforcement Officers are currently employed by local sheriff’s departments, police departments, zoning or code enforcement departments, solid waste management and public works departments, and various other local agencies.

Currently, Harrison County has five (5) community Safety Officers (one for each county district) that serve as part time solid waste enforcement officers. The Safety officers also serve as community outreach for solid waste management programs in Harrison County, such as household hazardous waste disposal, waste tire program, recycling programs, solid waste special events, and will issue notices for illegal dumping activity.

The Harrison County Utility Authority, through contract administration with the residential solid waste collection contractor, conducts field investigations of solid waste complaints, to determine if conditions are beyond the scope of the contract and should be rectified by the representative community.

Harrison County receives approximately twelve (12) illegal solid waste dumping complaints per year, in the unincorporated areas (not including waste tire complaints) both on public and private property. The community safety officers act as code enforcement for private property and evaluate public property related activities. Harrison County road crews assist with cleaning up any illegal public property dumping activities.

The City of Gulfport receives approximately ten (10) illegal solid waste dumping complaints per year, the City of Biloxi receives approximately six (6), the city of Long Beach receives approximately six (6), the city of Pass Christian receives approximately six (6), and the City of D’Iberville receives approximately four (4) illegal dumping complaints per year. The representative community rectifies any illegal dumping site, found to be on public property, and issues notices for corrective actions on private property.

Each Municipality within Harrison County has code enforcement personnel to actively pursue illegal dump sites; investigate the nature of illegal dumping activity, and issue notices for corrective action. Both the code enforcement personnel within each municipality and the county safety officers work closely with The Harrison County Utility Authority to prevent and resolve illegal dumping activities.

* 1. Needs and Assessments

The current approach of the planning area in regard to illegal dumping prevention and clean-up is working as evidenced by the fact that there are no recurring illegal dumps in the County and there is a small number of annual complaints.

The County should also consider the employment of a solid waste enforcement officer. The MDEQ currently has grant programs that can be accessed to offset the expense of (up to fifty percent (50%) the cost of employing a local solid waste enforcement officer, subject to limitations/restrictions of the funding programs. The County should reevaluate the need for additional illegal dumping prevention and clean-up programs every two (2) years beginning in 2013.

Table 42

Open Complaints (as of December 31, 2011) of Illegal Dumps and Other MDEQ Complaints

|  |  |  |  |
| --- | --- | --- | --- |
| **Yearly No.** | **MDEQ**  **Complaint ID (CTS#)** | **Date** | **Site Name/Description** |
| 1 | 33984 | 12/6/11 | Waste Hauler came to service the dumpsters at location and discovered hazardous materials in the bottom of the  dumpster and refused to service the dumpster. Dumpster was emptied and contents removed to alternate location. |
| 2 | 33764 | 9/28/11 | Waste Tire Complaint: Anonymous complainant stated individual is burying tires in the ground on county road. Anonymous complainant stated still occurring and within County Limits. Anonymous complainant stated due to confidentiality the anonymous complainant want MDEQ to call SWEO. Anonymous complainant there is a creek  in the area. |
| 3 | 33338 | 6/29/11 | See CTS#33325 - Caller states that resident is dumping raw sewage into the Biloxi River. Caller has investigated site and claims that they almost fell into a large area filled with this raw sewage. They are concerned as the Biloxi  River is used for boating and recreational use. |
| 4 | 31881 | 7/23/10 | Person is illegally dumping tires on personal property. Person advised that there is over 100 plus tires illegally  stacked in his yard. |
| 5 | 31157 | 2/16/10 | Property owner is constructing a dam, operating a small unauthorized mine without storm water controls, filling  wetlands, and dumping possible hazardous materials. |
| 6 | 30862 | 11/19/09 | Person stated that his neighbor's property is being used as a tire dumpsite. The neighbor has purchased the land  with tires on the lot. Now it has grown over the years. |

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Table 43

Closed Complaints (as of December 31, 2011) of Illegal Dumps and Other MDEQ Complaints

|  |  |  |  |
| --- | --- | --- | --- |
| **Yearly No.** | **MDEQ**  **Complaint ID (CTS#)** | **Date** | **Site Name/Description** |
| 1 | 33812 | 10/7/11 | Burying debris from rental trailers on site at trailer park. This includes garbage bags, refrigerators, sheetrock -  basically anything left behind by previous tenants. This is the second time in past year he has done this. Hole is about 10 ft square and located about 250 feet from water well. |
| 2 | 33799 | 10/6/11 | An open pit filled with rubbish was noticed on the property. |
| 3 | 33775 | 9/30/11 | Illegal Dumping: Complainant stated that there are multiple people that may be involved in this illegal dumpsite  on private property in Biloxi, MS. Complainant stated he believed that person is responsible for a once inhabited trailer home with household items which were15 foot high 80 foot long, which was demolished. |
| 4 | 33757 | 9/27/11 | Illegal Dumping Complaint: Anonymous complainant stated that persons are responsible for dumping Hazardous Waste and illegally dumping on the ground such as motor oil, anti- freeze, batteries with acid leaking, tires,  batteries, dilapidated cars etc. at site in Long Beach, MS. |
| 5 | 33308 | 6/24/11 | Neighborhood is being used as a dump by this man working on vehicles without proper disposal of batteries,  radiator fluid, transmission fluid, etc. [This complaint was received through EPA Region 4. |
| 6 | 33155 | 5/18/11 | Illegal Dumping: Contractor removing temporary striping from the local bridge is using a jet/vac truck to remove  stripes and dumping the waste into the storm drainage system next to D'Iberville off ramp. |
| 7 | 33085 | 5/9/11 | Dumping of household garbage. The area is about 50 to 60 feet long and 4 foot high. This has created a rat  problem. |
| 8 | 33080 | 5/6/11 | Illegal Dumping. Complainant reports that individual is hauling construction debris from work sites to his property and dumping the material in what he believes to be wetlands. He reports that individual is burying the  material as he goes and covering with limestone. A search of enSearch found no rubbish permit for this site. |
| 9 | 33007 | 4/14/11 | Open Dump: Fire Dept responded to burning at the site and found individual has created a scrap yard/open dumpsite. Fluids were observed on the ground. Request that DEQ check the site for environmental violations.  Previous investigations by DEQ at this site and another location owned by the individual. |
| 10 | 32964 | 4/14/11 | Caller claims that he has seen individual allowing dump trucks onto his property filled with cut tires and burying them with a track hoe in trenches. Caller says he lives out there and that you can see this from the road. Caller  does not believe that individual has any permits to allow for the disposal of these tires on his property. |
| 11 | 32684 | 2/28/11 | Waste Tires/Illegal Dumping: Anonymous complainant stated individual is burning a pile of tires in the yard. Anonymous complainant stated there is black smoke in from the tires making hard for neighbors to breathe. Anonymous complainant stated it's unknown how many tires are there, but believe they are making a junkyard  there. Anonymous complainant stated the tires are accumulated. |

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| --- | --- | --- | --- |
| 12 | 32572 | 2/3/11 | Company is dumping pallets and trash on back part of property. It is not a legal dumpsite and would like for  someone to investigate this issue. |
| 13 | 32563 | 2/2/11 | A residential structure at this site was renovated after Hurricane Katrina. A pile of debris which is approximately  40' x 40' has been left on the side yard of the residence for nearly 5 years. The debris pile contains asbestos siding and other construction debris. Complainant would like to see this debris pile removed. |
| 1 | 32264 | 10/27/10 | Illegal Dumping & Opening Burning Complaint: Individual stated that an UNKNOWN person is illegally dumping and burning tires & copper. Individual stated the UNKNOWN person is burning tires and dumping tires into a pond near the cemetery. Individual stated that he called the sheriff’s department to report the illegal  dumping and fire burning. |
| 2 | 32263 | 10/26/10 | Forestry Commission called Emergency Response at 11pm on 10/26 to report a tire fire in Saucier. Individual was burning approximately 30 tires at the time, but there were many tire rims in the same area, which suggests that he  has been doing it on a regular basis. |
| 3 | 32194 | 10/12/10 | An illegal dump is being operated on a local road. (Appears to be the property owned by individual - once  operated as the emergency burn site during Hurricane Katrina). |
| 4 | 32060 | 9/10/10 | Individual stated that the owner of local home is bringing demolition material from a site out of county, and  dumping it in front of his house. He has heard that the material contains asbestos, so the city refuses to pick it up. |
| 5 | 31935 | 8/5/10 | Complainant indicates that it appears company is hauling debris of some type back into the mining site on local road that he used for disposal of Hurricane Katrina debris. Complainant believes that all dumping should have stopped by now and that the site should no longer be used to dispose of debris. Complainant wants someone from  MDEQ to visit the site. |
| 6 | 31862 | 7/19/10 | White, enclosed truck is allegedly transporting waste from the local rubbish site to another non-rubbish disposal site for disposal. This takes place approximately once per day. |
| 7 | 31694 | 6/7/10 | Complainant stated there are 200 plus tires are illegally dumped on local property. Complainant stated that she  does not know what company is dumping the tires on the property. Complainant stated that she has called the police and reported the tires illegal tires dumped on her property. |
| 8 | 31596 | 5/13/10 | Trash and Debris complaint. |
| 9 | 31594 | 5/13/10 | From EPA: "...I have attached the Powerpoint file of maps showing the location of the property in (Gulfport, MS), where the tires have been dumped. The Land Trust for the Mississippi Coastal Plain (LTMCP) is interested in purchasing the property for the completion of a greenway proposed in the Turkey Creek Watershed Plan.  However, funding support would be needed to clean up the site.” |
| 10 | 31488 | 4/21/10 | Person stated that his next-door neighbor has more than 20 18-wheelers trucks tires, abandon tractors with fuel tanks, approximately 800-gallon hi-tech tanks in the yard. Person believes they may have come from a port where  the individual works, Scrap Metal, 55-gallon drums and more. |

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| --- | --- | --- | --- |
| 11 | 31439 | 4/13/10 | Person stated that there is a pile of about 100 tires on a local street in a now defunct area. He said there are some  sporadic tires throughout the area, but the biggest pile is on the local street. |
| 12 | 31390 | 4/2/10 | As provided by EPA: Tip or Complaint: Resident is stock piling old rubber tires, junk trucks and automobiles; piles of old lumber, and the area is not only a health hazard to the young children who live there, it is also creating a problem to the local water supply by junk cars dropping oil on the ground. This individual owns his own private  company, and he continues to dump trash on his property. |
| 13 | 31326 | 3/22/10 | As provided by EPA: Tip or Complaint: The residence on local road has at least a dozen or more junk cars, and tractors from 18-wheelers that are leaking oil on the ground. The person has now hauled in hundreds of old rubber tires that he has stacked along side the road; trash piles are everywhere that are leaking old oil, paint and who  know what else into the water system. |
| 14 | 31254 | 3/8/10 | Complaint from person who rents an RV space at an RV park in Biloxi, MS. After a power surge, about 2 weeks ago, he observed RV park employees disposing of electrical components (melted fuses, outlets) directly into the  river located next to the RV park. This is Parker River, which is a tributary of a local river. |
| 15 | 31233 | 3/4/10 | Employees of the park were observed throwing debris into the river at the park boundary. A power panel had been damaged and when making repairs the damaged parts were thrown in the river rather than placed in the trash.  Complainant has also "heard" that not all sites in the park are tied to the sewer system and may be discharging to  the river. |
| 1 | 30703 | 10/13/09 | Local VFD responded to a complaint of subject burning between 50 and 100 tires. They would like MDEQ to follow up on this. |
| 2 | 30673 | 10/6/09 | Complainant states that Individual has collected several hundred waste tires and also condemned mobile homes from Hurricane Katrina and buried them on his property. Complainant requested to be contacted prior to site  inspection as he may have additional information for the inspector. |
| 3 | 30625 | 9/25/09 | Per the anonymous complainant there are cans of oil, paint and various other chemical being busted open and  poured out then the containers are buried instead of disposed of. |
| 4 | 30624 | 9/24/09 | Resident has brought hundreds of waste tires to his property and complainant does not want a tire dump in the  neighborhood. |
| 5 | 30522 | 8/28/09 | Numerous large tires piled on the property right next to fence. May be more scattered on the property. Complainant is particularly concerned with the mosquito breeding issue. This is near the area with the reported  West Nile Virus cases. |
| 6 | 30494 | 8/21/09 | Forwarded by EPA, Gulf of Mexico Office: Their claim is that multiple people are dumping appliances at a place  known locally and are being compensated to do so. |
| 7 | 30428 | 8/6/09 | Caller stated that property has lots of rubbish including cars, trailers, tires, plastics, appliances, etc. Lately  someone has been digging pits on the property and burying some of the rubbish. Caller and other neighbors are very concerned about groundwater contamination. |

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| --- | --- | --- | --- |
| 8 | 30402 | 7/30/09 | Within the past three months, individual has hauled in approx. 25 old school buses, a rusted coal rail car, an 18  wheeler, and lots of boats. He also continues to add more debris on the rubbish piles already there. |
| 9 | 30292 | 7/2/09 | C&F Construction out of Meridian is contracting to Burns Oil Co. to clear land behind the Chevron Station at I-10 exit 24 N. Persons burned the property which has on it approximately 50 tires - black smoke being produced.  Photos are available and SRO follow up is requested. |
| 10 | 30254 | 6/25/09 | Person stated that a local property owner has collected car batteries, 4 vehicles, house insulation, shingles, toilets,  etc. on his property. |
| 11 | 30245 | 6/23/09 | Individual rebuilds vehicles and He and his helpers are washing car parts in the ditch. Complainant stated that  there is oil/grease in the ditches. |
| 12 | 30225 | 6/19/09 | Per the Anonymous Complainant, this is a flood zone for Tux River and junk vehicles are located on a two-acre lot. The individuals have been told to clean it up. Per the Anonymous Complainant, it looks as if they are not just  cleaning up but moving out and hauling the junk vehicles from the location on local road to another. |
| 13 | 30209 | 6/16/09 | Individual is operating a solid waste dump at the mine located off a county road. At times as many as 20 trucks a  day are entering the facility to dispose of material. |
| 14 | 30175 | 6/11/09 | Individual is allegedly demolishing older houses (possibly containing asbestos) and brining the debris to family  property on local road where it is being dumped, burned, and buried with compensation involved. |
| 15 | 30132 | 6/3/09 | While fighting a woods fire, the Forestry commission found an unauthorized dumpsite. The site is about an acre in  size, and contains appliances, tires, PVC pipe, etc. |
| 16 | 30044 | 5/18/09 | From fax: "It has come to my attention that tires are being disposed illegally in or near a local river.” |
| 17 | 30026 | 5/13/09 | Individual purchased a lot in a residential area and is dumping off site rubbish from his business on this lot with the intention of burning the material. Would like MDEQ to prevent the burning and require that the rubbish be  properly disposed. |
| 18 | 29855 | 4/14/09 | Open burning hauled-in waste. He is bringing in trash and wood from a dump. The dump is under a power line and he can't burn there so he picks it out and hauls it to this place and burns it. |
| 19 | 29748 | 3/23/09 | Individual says residents have built a junkyard with old cars, tires, junk that is spilling OIL and GAS on the  ground. Rodent problem. Concerned that well water is contaminated with oil. |
| 20 | 29648 | 3/2/09 | Individual has approximately forty junk cars on his property. Antifreeze, oil, and gasoline are being leaked on the ground. He has a car crusher, which he is using on the property. There used to be a natural spring on the property, but it is now polluted and filled with dirt. Complainant's yard is now flooded from the water from the natural  spring. |
| 21 | 29590 | 2/18/09 | Empty Lot for sale has about 100 tires on property in a pile. Complainant has asked realtor to take care of the  tires. |
| 22 | 29549 | 2/9/09 | Individual burned household garbage and accidentally caught around 100 tires that he has stockpiled on fire. |
| 23 | 29515 | 1/29/09 | About 50 tires and a 50-gallon drum with a toxic smell have been dumped on the side of a local road. |
| 24 | 29456 | 1/12/09 | Owner of adjacent property has trailer loads of waste tires and may dispose of them in the nearby disposal pit.  Some of the tires are already on the ground near the truck trailers. |

**SECTION D, CONTINUED**

# PRIMARY SOLID

**WASTE PROGRAM COMPONENTS**

9. Closed Solid Waste Management Facilities

As state and federal solid waste regulations have become more stringent and siting criteria more specific, there have been many closures of solid waste facilities in Harrison County. In Harrison County there are records of twenty-two (22) closed solid waste management facilities. Seven (7) of these facilities accepted municipal solid waste (MSW).

Most of the closed municipal solid waste facilities located within Harrison County, except for the Gulf Pines Landfill, were closed before the implementation of the Subtitle D regulations and the development of new statewide solid waste regulations in 1993. These facilities are permanently closed and there are no future plans to use the sites for any other purposes. Except for the Gulf Pines Landfill, which closed in 1997 and is under a minimum 30-year post closure time period, there are no other known post closure maintenance or perpetual care efforts at any of the sites. Federal (i.e. Subtitle D) and more stringent state closure and post closure requirements were not required for the MSW Landfills that closed prior to October 9, 1993. There are no indications of any additional corrective or post closure actions at any of the sites.

The closed solid waste facilities in Harrison County are listed in the Table 42. A Map of the Closed MSW Landfills can be found in Appendix 18.

|  |  |  |
| --- | --- | --- |
| Environmental Business Services | D - 109 | Harrison County |
| March 2012 |  | Solid Waste Management Plan |
| Revision No.: 1, October 2017 |  |  |

TABLE 44

Closed Solid Waste Management Facilities

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Facility** | **Location (Section/ Township/Range)** | **Owner/Operator** | **Permit Type** | **Permit No.** | **Waste Types** | **Acres** | **Est. Closure Year** |
| Collins Construction Site | Section 6/7S/9W | J. O. Collins | Rubbish Site | N/A**3** | Rubbish | N/A**3** | N/A**3** |
| D & W Disposal | N/A**3** | Webster Lee | Rubbish Site | N/A**3** | Rubbish | N/A**3** | ~ 1994 |
| Disposal Systems Landfill | Section 35/6S/10W | Disposal Systems | Industrial | SW0240020285 | Oil Drilling Muds | N/A**3** | 1987 |
| Gulf Pines Landfill | Section 24/6S/10W | BFI Waste Systems | Landfill | SW02401B0340 | MSW**2** | 80 | 1997 |
| Gulfport Tire Recycling Facility | Section 33/7S/11W | Gulfport Tire Recycling, Inc. | Waste Tire | Authorized | Waste Tire | N/A**3** | 2006 |
| Harrison Co. Beat 2 Landfill | Section 28/6S/11W | HCBOS**1** | Landfill | SW02401B0095 | MSW**2** | 5 | ~ 1993 |
| Harrison Co. Beat 3 Landfill | Section 16/7S/13/W | HCBOS**1** | Landfill | SW02401A0235 | MSW**2** | 10 | ~ 1993 |
| Harrison Co.  Beat 4 Landfill | Section 22/6S/12W | HCBOS**1** | Landfill | SW02401A0236 | MSW**2** | 5 | ~ 1993 |
| Harrison Co. Beat 5 Landfill | Section 16/5S/11W | HCBOS**1** | Landfill | SW02401B0218 | MSW**2** | 30 | ~ 1993 |
| Harrison Co.  Beat 5 Landfill, Woolmarket | Section 16/6S/10W | HCBOS**1** | Landfill | NO PERMIT | MSW**2** | N/A**3** | ~ 1993 |
| Harrison Co. Beat 2 Trashfill | N/A**3** | HCBOS**1** | Rubbish Site | N/A**3** | Rubbish | N/A**3** | N/A**3** |
| Herrington Rubbish Site | Section 1/7S/11W | Steve Herrington | Rubbish Site | N/A**3** | Rubbish | N/A**3** | N/A**3** |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Facility** | **Location (Section/ Township/Range)** | **Owner/Operator** | **Permit Type** | **Permit No.** | **Waste Types** | **Acres** | **Est.**  **Closure Year** |
| Holden Construction Rubbish Site | Section 34/6S/10W | Holden Construction Company | Rubbish Industrial | NO PERMIT | Rubbish | N/A**3** | N/A**3** |
| Intercoastal – Backbay Landfill | Section 20/7S/10W | Hardy McKenzie/ J Schavers | Landfill | NO PERMIT | MSW**2** | 30 | ~ 1993 |
| Meadows Rubbish Site | N/A**3** | Jerry Meadow | Rubbish Site | N/A**3** | Rubbish | N/A**3** | ~ 1994 |
| Mississippi  Power Company | Section 7,  18/7S/10W | Mississippi Power  Company | Industrial | N/A**3** | Coal Ash | N/A**3** | ~ 2003 |
| NCBC Gulfport Composting | Section 6/8S/11W | Naval Construction Battalion Center | Composting | C1-002 | Yard Waste Rubbish | 2.80 | 2005 |
| Ollie Lamey Sanitary Landfill | Section 19/6S/9W | Ollie Lamey | Landfill | SW02401B0214 | MSW**2** | 26 | ~ 1993 |
| Pass Christian  Trashfill | N/A**3** | City of Pass  Christian | Rubbish Site | N/A**3** | Rubbish | N/A**3** | N/A**3** |
| Saucier Tire Disposal Industries | Section 34/5S/12W | Clifford Wallace | Waste Tire | Authorized | Waste Tire | N/A**3** | 2004 |
| Sludge Processing Facility Gulfport WWTP | Section 14/7S/11W | Harrison Co.  WW& SW District | Processing | SW0240050477 | WWTP  Sludge | 0.20 | 2005 |
| Three Rivers  Road Landfill | N/A**3** | Dale Robinson | Rubbish Site | N/A**3** | Rubbish | N/A**3** | N/A**3** |

1. Harrison County Board of Supervisors.
2. Municipal solid waste.
3. N/A – information not available.

# SECTION E

**SOLID WASTE NEEDS**

**ASSESSMENT SUMMARY**

The Summary of the Solid Waste Needs Assessment for Harrison County is as follows:

1. Projection of the overall quantities of municipal solid waste generated annually within the planning area over the next 20 years as identified in the *“Solid Waste Characterization and Quantification”* Section or other applicable needs assessments of the Plan:

Future solid waste quantities of the County were determined based upon population projections. The assumption is that the municipal waste generation in pounds per person per day will be held constant and commercial and industrial waste will vary but not change significantly through the addition of new industry. As a conservative approach, the impact of increased waste reduction through recycling and other methods was not factored into these resulting quantities. The waste reduction efforts can be quantified in the future by using these raw waste generation rates as a benchmark. The projection of the overall quantities of municipal solid waste generated annually within the planning area over the next 20 years is listed in Table 43 as follows:

Table 45

Projections for Solid Waste Generated In Harrison County

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **Population (Est.)** | **Per Capita (Pounds/Person/Day)** | **Total Tons/Year** |
| 2010 | 187,105 | 9.336 | 318,796 |
| 2015 | 188,335 | 9.336 | 320,892 |
| 2020 | 194,060 | 9.336 | 330,646 |
| 2025 | 198,716 | 9.336 | 338,579 |
| 2030 | 203,684 | 9.336 | 347,044 |
| 2035 | 208,776 | 9.336 | 355,720 |

For more information on the determination and compilation of the above projections, please refer to the “*Solid Waste Characterization and Quantification*” section of this Plan.

1. Estimated composition of the municipal solid wastes to be generated and managed over the next 20 years as identified in the *“Solid Waste Characterization*

*and Quantification”* Section or other applicable needs assessments of the Plan:

At this time, in Harrison County there are no new waste minimization plans or other changes proposed that would significantly alter the characterization of the waste generated so the impact of increased waste reduction through recycling and other methods was not factored into the resulting characterization. Additionally, the expected composition of the municipal solid wastes being generated and subsequently managed over the next 20 years in the County is not expected to significantly change. The expected composition of the municipal solid wastes to be generated and managed over the next 20 years is identified in the following Table 44. For more information on these projections, please refer to the “*Solid Waste Characterization and Quantification*” section of this Plan.

Table 46

Waste Characterization of Projections for Total Solid Waste Generated In Harrison County

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Material** | **Waste Charc.** | **Tons Per Year** | | | | |
| **2015** | **2020** | **2025** | **2030** | **2035** |
| Paper | 14.7% | 47,262 | 48,698 | 49,867 | 51,113 | 52,391 |
| Glass | 2.5% | 8,045 | 8,289 | 8,488 | 8,700 | 8,918 |
| Metals | 6.7% | 21,575 | 22,231 | 22,764 | 23,333 | 23,916 |
| Plastics | 8.7% | 27,776 | 28,620 | 29,307 | 30,039 | 30,790 |
| Rubber/Leather | 1.6% | 5,195 | 5,353 | 5,482 | 5,619 | 5,759 |
| Wood | 14.6% | 46,702 | 48,121 | 49,276 | 50,508 | 51,770 |
| Textiles | 2.7% | 8,715 | 8,980 | 9,195 | 9,425 | 9,661 |
| Yard Waste | 7.2% | 22,960 | 23,658 | 24,226 | 24,832 | 25,452 |
| Food Scraps | 7.4% | 23,631 | 24,349 | 24,933 | 25,557 | 26,196 |
| Concrete/Rubble | 20.1% | 64,454 | 66,413 | 68,007 | 69,707 | 71,450 |
| Drywall | 4.5% | 14,323 | 14,759 | 15,113 | 15,490 | 15,878 |
| Asphalt Roofing | 2.2% | 7,162 | 7,379 | 7,556 | 7,745 | 7,939 |
| Bricks | 2.2% | 7,162 | 7,379 | 7,556 | 7,745 | 7,939 |
| Industrial | 3.1% | 10,066 | 10,372 | 10,621 | 10,886 | 11,158 |
| Other | 1.8% | 5,866 | 6,044 | 6,189 | 6,344 | 6,502 |
| Total | 100.0% | 320,892 | 330,646 | 338,579 | 347,044 | 355,720 |

1. Summary of the adequacy of existing disposal capacity to manage the anticipated/projected waste volume for the next 20 years as identified in the *“Primary Solid Waste Program Components - Residential Garbage Management*

*Programs”* and *“Rubbish Management Systems and Programs”* Sections or other applicable needs assessments of the Plan:

Of the MSW generated in Harrison County, 93% of it was disposed of in the MSW Landfill located in the County (i.e. Pecan Grove Landfill) with the remaining 7% being disposed of in MSW Landfills outside of Harrison County. The Pecan Grove Landfill in 2015 reported receiving 376,996 tons for the year or an average of 1,216 tons per day based on 310 days per year. In 2015 the Pecan Grove Landfill reported having an estimated remaining life of 18 years.

The current residential garbage management programs utilized by the municipalities and the County are, based on a continuation of the current solid waste collection levels of service and landfill disposal host agreement benefits, adequate to meet the needs of the planning area. The current level of services and rates to customers for solid waste collection services are very reasonable and the landfill disposal rates are very competitive.

There are eleven (11) approved rubbish sites in Harrison County. Some of these facilities are currently inactive. Annual reports filed with MDEQ for each of the active rubbish sites managing Harrison County solid wastes were reviewed to complete this Plan. In 2015 there were seven (7) active rubbish sites in Harrison County that accepted solid waste.

Additionally, the number of active rubbish sites (i.e. 7) is adequate to meet the needs of the planning area. For more information on the MSW landfills and rubbish sites in the planning area, please refer to the “*Residential Garbage Management Programs”* and “*Rubbish Management System and Programs”* sections of this Plan.

1. Summary of the needs assessment and an evaluation of additional solid waste management services and disposal capacity needed for the next 20 years as identified in the *“Primary Solid Waste Program Components - Residential Garbage Management Programs”* and “*Rubbish Management Systems and Programs”* Sections or other applicable needs assessments of the Plan:
   1. The planning area could benefit by solid waste management facilities that provide composting, mulching and other waste processing and waste minimization programs for yard waste and other rubbish. The planning entities should encourage existing or new solid waste management facilities to include such services.
2. A summary of additional wastewater sludge/bio-solids management needs as identified in applicable needs assessment of “*Municipal Wastewater Sludge/Biosolids and Other Municipal Sludges”* Section of the Plan:
   1. the current water and wastewater sludge/biosolids management programs utilized by the Authority, municipalities and County outlined in this section are adequate to meet the needs of the planning area.
   2. The Authority plans to continue its management of wastewater sludge/biosolids collection and disposal by contracting out the services to private company contractors. The Authority plans to conduct procurement processes at the appropriate time before the expiration of the current wastewater sludge/biosolids collection and disposal contracts in order to solicit new or renewed contracts for these services.
3. A summary of additional special waste management needs as identified in applicable needs assessments of *“Special Waste Management Programs”* Section of the Plan:
   1. C&D debris comprises a significant portion of the County's overall waste stream. Currently, most of the C&D waste generated within the County is disposed of at MSW landfills and rubbish sites. In the future, recycling systems for the C&D component of the County's waste stream could play an integral role in the County’s waste minimization planning efforts. The planning area could benefit from solid waste management facilities that provide composting, mulching and other waste processing and waste minimization programs for C&D materials/debris. The planning entities should encourage existing or new solid waste management facilities to include such services.
   2. Such waste minimization programs for C&D debris could include an outreach program to promote the EPA’s Green Building program and other initiatives aimed at reducing the environmental impact of buildings and the creation of more resource-efficient construction/demolition operations.
   3. The services provided by the Authority at its wastewater treatment facilities are adequate to handle the needs for residential and small commercial liquids waste treatment and disposal. The larger commercial and industrial needs for bulk liquids treatment and disposal are primarily handled by the private sector. These services provided by the current service providers is adequate for the planning area and no additional needs for residential and commercial bulk liquid waste are required at this time.
   4. The County’s Waste Tire Program is effective and adequate to provide the needed services for the County. Public outreach in the form of advertisements should be continued in order to inform residents about the waste tire drop-off location and hours of operation.
   5. With the availability of the permanent HHW collection center and the organized annual events, there is no apparent need to expand the programs currently offered in the County; however, household hazardous waste and e-waste collection and recycling programs are rapidly evolving issues due, in part, to the development of new programs by manufacturers and retailers to address the specific needs of their customers.
   6. The County’s White Goods Program is effective and adequate to provide the needed services for the County. Public outreach in the form of advertisements should be continued in order to inform residents about the white goods collection locations and the hours of operation.
   7. Due to the absence of significant acreage of cotton, rice, soybean and corn farming in Harrison County, there is no need for agricultural chemical or pesticide container handling, recycling or disposal programs.
4. A summary of additional disaster debris management needs as identified in applicable needs assessment of *“Disaster Debris Planning”* Section of the Plan.
   1. The planning area could benefit from solid waste management facilities that provide:
      1. C & D or yard waste composting, mulching and other waste processing and waste minimization programs and other rubbish
      2. Large open areas that would meet approval as debris management sites.

The planning entities should encourage existing or new solid waste management facilities to include such services.

1. A summary of additional recycling or waste reduction needs as identified in needs assessment of *“Recycling and Waste Reduction Programs”* Section of the Plan:
   1. The primary recycling and waste reduction programs sponsored by the planning area entities are residential curbside recycling, and programs for the recycling of white goods, waste tire and some household hazardous waste/electronics. Harrison County is one of a select few or may be the only county in Mississippi that provides curbside recycling for all city and county residents. Even with these successful programs, the overall waste minimization rate in the County is low (i.e. 0.8% or 8 tenths of 1%). Because the overall waste minimization rate in the County is low, the County may want to consider and evaluate other waste reduction strategies. Waste reduction strategies to evaluate should include:
      1. Develop a Recycling and Waste Reduction Policy advocating waste minimization and recycling initiatives (such as preferences for buying recycled products, source reduction efforts, formal

recycling audits and programs established for all county departments, etc.).

* + 1. Establish a County Recycling and Waste Reduction Coordinator to promote public outreach programs and waste reduction efforts in the County. Primary responsibility would be to develop and execute an organized and concerted recycling and waste reduction effort with documented goals and objectives.
    2. Develop a Recycling Program for commercial businesses and industries. The commonly recycled categories of paper, glass, plastic, aluminum, and steel are estimated to make up over 50% of the residential waste stream.
    3. Develop or encourage existing Rubbish Sites to develop Yard Waste composting or mulching sites (yard waste accounts for approximately 14% of the residential waste stream).
    4. Develop or encourage existing Rubbish Sites to develop C&D debris composting and processing sites (C&D debris disposed of at Rubbish Sites accounts for about 44% of the waste stream generated in the County).
    5. Establish an HCUA Facebook page to communicate waste minimization/recycling programs and information. This tool can also be used to communicate progress and performance.

vii. Establish a media strategy/program to promote recycling, waste reduction, and litter prevention through the use of billboards, press releases, interviews, and TV/radio commercials

1. A summary of additional illegal dumping prevention and abatement program needs as identified in applicable needs assessment of *“Illegal Dumping Prevention and Clean-Up Programs”* Section of the Plan:
   1. The current approach of the planning area in regard to illegal dumping prevention and clean up is working as evidenced by the fact that there are no recurring illegal dumps in the County and there is a small number of annual complaints.
   2. The County should also consider the employment of a solid waste enforcement officer. The MDEQ currently has grant programs that can be accessed to offset the expense of (up to fifty percent (50%)) the cost of employing a local solid waste enforcement officer. The County should reevaluate the need for additional illegal dumping prevention and clean-up programs every two (2) years.
2. An inventory of the currently planned new SWM facilities, facility expansions, recycling programs, household hazardous waste collection programs, etc., to meet the future needs. This inventory should include facilities, which are proposed and recognized in the plan as well as facilities that are only conceptual in nature:
   1. Certain solid waste management facilities that were approved by the 1993 Plan, or as amendments to 1993 Plan and subsequently approved by the Mississippi Commission on Environmental Quality, are currently inactive and no longer provide a meaningful contribution to the current or future needs of the planning area. After proper public notification and notification to the facility owners and operators, these facilities should be removed from the Plan unless the current owners/operators of these facilities can demonstrate to the County that such facilities are needed. These facilities are:
      1. Dora Parker/Brown’s Class II Rubbish Site at 22509 County Road 331 in Pass Christian (Commission Order Approval 3205-96).
      2. Kirk Ladner/Petro Services Class I Rubbish Site on Hwy 53 (Commission Order Approval 3205-96).
      3. Harrison County Road Department Class II Rubbish Site on Dubuisson Road (Commission Order Approval 3205-96).
      4. Naval Construction Battalion yard waste composting site in Gulfport (Commission Order Approval 3205-96).

Please refer to Appendix 1 for a list of amendments to the 1993 Plan and refer to the *“Comprehensive Inventory of Local Solid Waste Management Facilities”* Section of this Plan for a complete list of currently approved facilities.

* 1. Other than the programs and plans listed above in this section there are no other solid waste management facilities, facility expansions, recycling programs, public education and information programs, household hazardous waste collection programs, etc. planned or required for Harrison County.

# SECTION F

**FINANCING OF PRIMARY SOLID WASTE SYSTEM COMPONENTS**

## Financing of Primary Solid Waste System Components

1. System Costs

The Harrison County Utility Authority has the primary responsibility for residential garbage management programs in Harrison County including the unincorporated areas of the county and all five municipalities located within the county. These five municipalities are the Cities of Biloxi, D’Iberville, Gulfport, Long Beach and Pass Christian. For more information concerning the background and formation of the Authority, please refer to the *“Introduction to the Planning Jurisdiction”* section of this Plan.

* 1. Collection System Costs

Collection system costs may include such items as personnel, building and grounds, equipment, utilities, vehicles, maintenance, and administrative costs. Where the local government is providing any of these services through contractual arrangements with private companies, the costs are estimated as operational to the governmental entity and it shall not be necessary to show any proprietary information of the waste service company concerning a further breakdown of such costs. Where the private sector is providing a service without a contractual relationship to a governmental entity (e.g. as in the collection of solid waste from commercial and industrial establishments) and therefore does not require an expenditure of public funds, no breakdown of costs shall be necessary.

In Harrison County, the solid waste collection services are provided by the HCUA to the County and cities, with the exception of Gulfport, under a contractual relationship. The Authority provides the residential waste collection and disposal services for all residences within the County’s incorporated and unincorporated areas by utilizing the services of four (4) separate contractors. The Authority contracts with one private company contractor to provide the residential waste collection, one to provide rubbish collection, one to provide residential waste disposal, and finally, one to provide rubbish disposal.

The solid waste collection contract with Team Waste includes garbage collection from single-family dwellings and multi-family dwellings (including duplexes, triplexes and apartments having four (4) or less units). Small commercial businesses that generate less than 1-1/2 cubic yards of solid waste per week are also included in Team Waste services.

Commercial businesses, industries, institutions (i.e. schools, colleges, hospitals etc.) and other establishments generating more than 1-1/2 cubic yards of solid waste per week are not included in this contract and are required to have their own contracts for solid waste collection and disposal. In Harrison County there is no governmental franchise, ordinance or other regulation that requires these establishments to use a particular commercial solid waste collection company or system. Generally, these other establishments contract individually with a commercial solid waste collection company (i.e. Waste Management, Advanced Disposal, Delta or Waste Pro).

Pelican Waste provides trash waste collection services to the Harrison County Utility Authority, serving the same customers as previously described for Team Waste.

The current fees to the Authority as of October 2017 for solid waste collection services excluding disposal is $9.75 per residence per month for Team Waste (garbage and recycling collection) and $2.89 per residence per month for Pelican Waste (trash collection). The total initial number of contracted units is 43,454. Neither Team Waste nor Pelican Waste is not responsible for billing and collecting the fees for service from the residents.

The City of Gulfport contracted with Waste Pro in July 2017 for the collection and disposal of all residential solid waste, single stream recyclables, trash, rubbish and white goods for a fee of $14.36 per residence per month. The initial number of residences covered by this contract was 24,533.

* 1. Disposal System Costs

In general, treatment, storage and disposal and/or processing system costs can be divided into the following five cost centers: development costs, construction costs, annual operating costs, closure costs, and post-closure costs. These cost centers may include the following costs:

*Development costs* may include such items as land acquisition, site mapping, facility design, geotechnical investigations, development of permit applications, and administrative costs.

*Construction costs* may include such items as land clearing, roadway construction, drainage and sediment control, buildings, utilities, air pollution control equipment, land excavation, liner systems, leachate/storm water collection systems, ground water monitoring wells/leak detection systems, gas venting/recovery systems, landscaping, scales, construction support, and administrative costs.

*Annual operating costs* may include such items as personnel, building and grounds, equipment, road maintenance, monitoring system maintenance, facility operating costs, ash/residuals/waste/recyclables management, balers, grinders, environmental monitoring, contractual costs, engineering services and administrative costs.

*Closure costs* may include such items as decommissioning, design and installation of the final cover system, landscaping, final leachate collection system, gas venting system, removal of operational facilities, and development and submittal of documentation.

*Post-closure costs* may include such items as site inspection and maintenance, groundwater and surface water monitoring systems, gas monitoring systems, leachate collection system maintenance, leachate treatment and submittal of documentation.

In Harrison County, the solid waste disposal services are provided to the County and cities under a contractual relationship. Because the five cost centers listed above are only a part of the contractor’s proprietary cost basis and not the County’s or Authority’s cost basis, these cost centers cannot be broken down.

Team Waste, by contract with the Authority, is required to dispose of all collected residential waste at the only MSW Landfill located in the County (i.e. Pecan Grove Landfill). Pursuant to the Authority’s “Disposal Service Agreement” with Waste Management of Mississippi, Inc. (“WMMI”), residential waste from all of the unincorporated and incorporated areas is directed only to the Pecan Grove Landfill and to no other solid waste transfer station or landfill.

The Authority entered into the Disposal Service Agreement with WMMI on August 25, 2015. The term of the Agreement is ten (10) years with the option for four, 5-year extensions. The Disposal Agreement requires WMMI to maintain disposal capacity for the Authority throughout the term of the agreement. WMMI remits a management fee of $1 per year for every residence served in the Authority’s service area. In 2017, there were 43,454 residences in the Authority’s service area. Additionally, under the agreement, WMMI must pay the Authority $1 per ton for every ton disposed of greater than 33,333 tons per month.

Under Gulfport’s contract with Waste Pro, which began in July 2017, Waste Pro is responsible for the disposal all residential solid waste, trash, rubbish and white goods. The contract dictated that all residential solid waste be disposed of at the WMMI Pecan Grove Facility and that all trash and rubbish be disposed of at either the Coastal Recycler’s Landfill or the Firetower Landfill. The disposal fee is included in the overall fee of $14.36 per residence per month charged by Waste Pro to Gulfport. Additionally, under the MOU executed between Gulfport and the HCUA, the City of Gulfport remits a management fee of $1 per year for every residence in the City’s service area. The initial number of residences included in this contract was 24,533.

The Authority entered into the Disposal Service Agreement with Team Waste on August 25, 2015. The term of the Agreement is ten (10) years with the option for four, 5-year extensions. The Disposal Agreement requires Team Waste to maintain disposal capacity for the Authority throughout the term of the agreement. Team Waste remits a management fee of $1 per year for every residence served in the Authority’s and Gulfport’s service areas. In 2017, there were 67,987 residences in the Authority’s service area.

* 1. Collection and Disposal Systems Total Cost

The collection and disposal contractors bill the Authority for the services provided through the Authority to the County and Cities, with the exception of Gulfport. The County and Cities, excluding Gulfport, in turn pay the Authority their *pro rata* share (based on the house count) for the regular solid waste collection and disposal services along with the administrative costs. Cost for dumpsters and additional collection and disposal services outside the scope of the regular service are billed directly to each member according to its usage. The County and Cities are billed monthly by the Authority for the actual cost of these services.

The City of Gulfport is billed directly by Waste Pro for all residential solid waste, trash, rubbish, white goods and recyclables collection within the city limits of Gulfport. This contract also includes disposal costs.

Detailed information regarding the collection and disposal of municipal solid waste can be found in the *“Residential Garbage Management”* section of this Plan.

The total collection system costs, along with other solid waste costs, for the County and each City are outlined in Table 45.

TABLE 47

Solid Waste Collection and Disposal Costs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **2018 Annual Solid Waste System Budgeted Costs By City and County Unincorporated Area** | | | | | | |
| **Description** | **Biloxi** | **D'Iberville** | **Gulfport** | **Harrison**  **County 1** | **Long Beach** | **Pass Christian** |
| Collection Cost | $2,087,269 | $518,290 | $3,729,997 | $2,735,700 | $869,885 | $379,958 |
| Disposal Cost | 279,074 | 69,297 | 497,529 | 399,910 | 116,655 | 51,051 |
| Dumpster Cost | 94,946 | 8,170 | 0 | 72,010 | 2,354 | 33,592 |
| Total Cost | $2,461,289 | $595,757 | $4,227,527 | $3,207,620 | $988,894 | $466,851 |
| No. of Houses | 13,361 | 3,417 | 24,533 | 18,036 | 5,735 | 2,505 |
| Percent of  Houses | 31.7% | 7.8% | 37.0% | 41.5% | 13.2% | 5.8% |
| Cost Per House  Per Month | $14.90 | $14.53 | $14.36 | $14.82 | $14.37 | $15.53 |

1. Harrison County unincorporated area.

The total costs for solid waste collection and disposal are summarized in Table 46 below.

TABLE 48

Planning Area Total Solid Waste Collection and Disposal Costs

|  |  |  |
| --- | --- | --- |
| **2018 Annual Solid Waste System Costs**  **Total All Areas** | | |
| **Description** | **Totals** | **Percent** |
| Collection Cost | $10,321,099 | 86.4% |
| Disposal Cost | $1,413,516 | 11.8% |
| Dumpster Cost | $211,072 | 1.8% |
| Total Cost | $11,945,687 | 100.0% |
| No. of Houses | 67,587 |  |
| Average Cost Per House Per Month | $14.72 |  |

* 1. Other System Costs

The Authority and County presently operate and incur other costs for other solid waste programs such as waste tires, household hazardous waste, illegal dump clean-ups, white goods collection centers, solid waste management planning and public education efforts. Under the new contracts negotiated by the Authority in 2017, the funds for these programs are derived from fees paid by the various waste contractors based on the number of houses served. Under these new contracts, Team Waste pays annual fees of $0.25 per house per year for all 67,987 houses in Harrison County for rubbish disposal and $1.00 per house per year for 43,454 houses in the Authority’s solid waste service area, excluding Gulfport, for residential solid waste collection for a total annual fee paid to the Authority by Team Waste of $60,450. Pelican Waste pays $0.50 per house per year for the 43,454 houses in the Authority’s solid waste service area for residential rubbish pick-up for a total annual fee paid to the Authority of $21,727. Waste Management pays $1.00 per house per year for the 43,454 houses in the Authority’s solid waste service area for residential solid waste disposal for a total annual fee paid to the Authority of $43,454. Finally, as part of its Memorandum of Understanding with the Authority, Gulfport pays the Authority $1.00 per house per year for the 24,533 houses within its solid waste service area for a total annual fee paid to the Authority of $24,533. Therefore, the total annual fees paid back to the Authority are $150,164.

The Harrison County Waste Tire Collection and Disposal Program from 1994 through 2011 collected and disposed of an estimated 300,000 waste tires at a cost of $441,000.

The Harrison County HHW Program from 1995 through 2011 collected and disposed of over 300 tons of HHW at a cost of $463,000.

1. Financing Options

In general, financing options may be divided into two categories, capital financing and operating financing:

Capital financing may generally be derived from four primary sources: borrowed funds, grants, current revenues, and private financing. Borrowed funds include general obligation and revenue bonds, bank loans, leasing and other government debt instruments. Grant funds may be obtained from governmental sources to fund a portion of the capital expenditures. MDEQ has several grants programs that may be available to local governments for certain components of the local solid waste system. Current revenues are commonly used to finance smaller capital costs from sources such as reserve funds. Private funding allows governments to shift the financing of capital expenditures to a private firm.

Operating revenue may generally be obtained from three sources: tax financing, user fees, and selected grants. Tax financing is the option most used to finance nonhazardous solid waste management systems from property taxes, sales tax, utility taxes, and/or special tax levies. User fees provide funds through three methods: uniform rate user fees, variable rate user fees, and disposal fees. Uniform rate user fees allocate costs equally to all users in the area served. Variable rate user fees allocate the costs based on the amount of nonhazardous solid waste generated. Mississippi law allows counties the option of assessing taxes, establishing fees or a combination of the two. Disposal fees, sometimes referred to as “tipping fees”, are charges levied at a management facility (i.e. Pecan Grove Landfill) and are based on the amount of waste accepted for disposal.

Another type of fee that may be available to provide solid waste management services would be a host fee. Host fees are fees that are paid to a local government that “hosts” a privately-owned disposal or other waste management facility which generally services areas outside of the local government’s jurisdiction. Such fees are generally the result of an agreement between the private landfill company and the local government and vary from situation to situation and are not available in all circumstances. Harrison County receives host benefits from its disposal contractor. The primary host benefit is reduction in the Authority member cost per ton based on the volume received at the contractor’s landfill. Please refer to subsection 1.2 of this section for more information on the host benefits received by the Authority. In addition, selected grants may provide for operational expenditures. Examples of grants programs that may provide funding for such activities include the MDEQ Local Government Waste Tire Collection and Clean Up Grants and the MDEQ Local Government’s Solid Waste Assistance Grants.

The Authority, County and the Cities have no capital financing associated with solid waste collection or disposal. The three primary methods utilized by the planning area entities to finance solid waste management services are tax financing (i.e. millage rate), user fees and grant funding.

* 1. Primary Financing

County residents living in the unincorporated areas of the County pay Harrison County for their solid waste collection and disposal services through millage assessed in their property taxes although there is not a separate solid waste or garbage millage for these services. County residents are not allowed to opt out of the solid waste collection services as may be allowed by Mississippi Code Annotated Section 19-5-21 (5)a. Harrison County is divided into over 30 separate taxing districts. Some districts (i.e. “Z” districts) have special industry exceptions. Revenues from all taxing districts provide the majority of funds for the operation of municipalities, schools, and county government. An outline of some of the larger taxing districts is listed in Table 47 below.

Table 49

Property Millage Rates for the Fiscal Year 2015

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Tax District | Description | Millage Rates | | | |
| County | City | School | Total |
| A, E, K,  KWG, M, MW, O | County School District | 44.12 | 0.00 | 58.01 | 102.13 |
| B, BA, BB, BO | Biloxi | 36.42 | 30.10 | 43.37 | 109.89 |
| DW, DWW | D’Iberville | 36.42 | 28.63 | 58.01 | 123.06 |
| G | Gulfport | 36.42 | 34.00 | 64.85 | 135.27 |
| L, J | Long Beach | 36.42 | 48.98 | 58.67 | 144.07 |
| P | Pass Christian | 36.42 | 48.46 | 61.54 | 146.42 |
| Z (13 districts) | Industrial  Special Exception | 5.85 | 0.00 | 43.37 – 64.85 | 49.22 – 70.70 |

City residents (i.e. Biloxi, D’Iberville, Gulfport, Long Beach and Pass Christian) pay a user fee for solid waste collection and disposal services on their water/sewer utility bill from their respective city. For some cities (i.e. Biloxi and Long Beach) the user fee is not sufficient to cover the costs of solid waste collection and disposal. In these cities, the balance of the program costs is paid through the general fund. None of the cities have a solid waste enterprise fund or tax millage that is earmarked for solid waste collection and disposal programs.

* 1. Other Financing

Other solid waste collection and disposal system costs includes costs for program administration, illegal dump clean-ups, public education and outreach, household hazardous waste programs and other related solid waste management services. Under the new contracts negotiated by the Authority in 2017, the funds for these programs are derived from fees paid by the various waste contractors based on the number of houses served. Under these new contracts, Team Waste pays annual fees of $0.25 per house per year for all 67,987 houses in Harrison County for rubbish disposal and $1.00 per house per year for 43,454 houses in the Authority’s solid waste service area, excluding Gulfport, for residential solid waste collection for a total annual fee paid to the Authority by Team Waste of $60,450. Pelican Waste pays $0.50 per house per year for the 43,454 houses in the Authority’s solid waste service area for residential rubbish pick-up for a total annual fee paid to the Authority of $21,727. Waste Management pays $1.00 per house per year for the 43,454 houses in the Authority’s solid waste service area for residential solid waste disposal for a total annual fee paid to the Authority of $43,454. Finally, as part of its severance agreement with the Authority, Gulfport pays the Authority $1.00 per house per year for the 24,533 houses within its solid waste service area for a total annual fee paid to the Authority of $24,533. Therefore, the total annual fees paid back to the Authority are $150,164.

The Authority and County presently operate and subsidize some of their solid waste management program costs for the planning area (i.e. waste tires, white goods collection centers, household hazardous waste programs) with the aid of MDEQ Solid Waste Assistance Grants.

The Harrison County Waste Tire Collection and Disposal Program is funded through MDEQ Assistance Grants. From 1994 through 2011 the County has received at least 12 Grants totaling $441,000, which were used to help the County collect and dispose of over 300,000 waste tires. The County plans to continue to utilize this MDEQ Grant Program for the collection and disposal of waste tires.

The Harrison County HHW Program is funded in part through MDEQ Assistance Grants. From 1995 through 2011 the County has received at least 19 Grants totally $463,000, which were used to help the County collect and dispose of over 300 tons of HHW. The County plans to continue to utilize this MDEQ Grant Program for the collection and disposal of HHW.

Detailed information regarding the collection and disposal of municipal solid waste can be found in the *“Residential Garbage Management”* section of this Plan.

Harrison County’s current financing strategy is sufficient given the current inventory of disposal facilities and programs. In the future when considering the need for development of additional solid waste management facilities or new and expanded solid waste programs, the need for additional funding methods will be evaluated at that time. The County should continue to avail itself of both federal and state grant programs that have the potential to assist with financing of solid waste management programs and facilities.

# SECTION G

**PROPOSED**

**IMPLEMENTATION SCHEDULE**

Harrison County has implemented many of the initial management planning items associated with the original Solid Waste Management Plan of Harrison County. A summary of the proposed implementation schedule is listed in Table 48 below.

Table 50 – Implementation Schedule

|  |  |  |  |
| --- | --- | --- | --- |
| **Implementation Schedule** | | | |
| **Task** | **Plan Section** | **Begin** | **Completion** |
| Submit Draft Amended Solid Waste Plan for Concurrent Review During Public Notice Period | *Procedural Information* | November 17, 2017 | November 17, 2017 |
| Conduct a Public Notice Period, Consider Comments and Adopt Amended Solid Waste  Management Plan | *Procedural Information* | November 2017 | December 2017 |
| Submit Updated and  Amended Solid Waste Management Plan to DEQ | *Procedural Information* | December 2017 | March 2018 |
| Authority conduct procurement process for solid waste collection  services. | *Residential Garbage Management*  *Programs* | February 2023 | June 2023 |
| Authority conduct procurement process for long-term solid waste disposal. | *Special Waste Management Programs - Non hazardous Waste* and  *Residential Garbage*  *Management Programs* | March 2025 | August 2015 |
| Gulfport conduct procurement process for solid waste collection and disposal services | *Residential Garbage Management Programs*  *Special Waste Management Programs* | February 2023 | June 2023 |
| Annual Review/Report on Solid Waste Recycling Program Performance | *Recycling and Waste Reduction Programs* | October 2018 | Annually |
|  |  |  |  |
|  |  |  |  |
| Encourage existing or new solid waste management facilities to include services for composting, mulching and other waste processing and waste minimization programs for yard waste and  other rubbish. | *Rubbish Management Systems and Programs* and *Special Waste Management Programs* | June 2013 | Annually |

|  |  |  |  |
| --- | --- | --- | --- |
| Conduct procurement process for disposal of biosolids for municipal wastewater. | *Municipal Wastewater and Water Treatment*  *Sludges and Biosolids* | June 2020 | July 2020 |
| Continue public outreach in the form of advertisements to inform residents about the waste tire, white goods and HHW (household hazardous  waste) programs. | *Special Waste Management Programs* | June 2013 | Annually |
| Evaluate the need for additional HHW and other special waste management programs for County  residents. | *Special Waste Management Programs* | June 2014 | Biannually |
| Evaluate additional waste reduction strategies in order to increase Waste  Minimization Rate. | *Recycling and Waste Reduction Programs* | June 2013 | Annually |
| Evaluate the need for a solid waste enforcement officer and additional illegal dumping prevention and  clean-up programs. | *Illegal Dumping Prevention and Cleanup Programs* | June 2013 | Biannually |
| Annual Review of Solid  Waste Management Plan | *Procedural*  *Information* | June 2013 | Annually |

Identification of Specific Barriers

All “Tasks” listed above with the exception of the Solid Waste Management Plan Update approval process and the Annual Review, are variable parts of the Solid Waste Management Plan and subject to ongoing review by the current Board of Supervisors. Due to political and economic vulnerability the proposed implementation dates are only estimated and are subject to change.

Schedule for Annual Review

The Harrison County Utility Authority is involved in activities of the County’s Solid Waste Management Plan. This office will oversee monitoring and plan implementation. Part of that monitoring will be to conduct an annual review of activities and progress towards effective solid waste management. The Authority will conduct an annual review of the Plan each year beginning in 2013.

# SECTION H

**ADMINISTRATIVE**

**PROCEDURAL INFORMATION**

### ADMINISTRATIVE PROCEDURAL INFORMATION

This portion of the Solid Waste Management Plan includes a description of the process utilized in developing and finalizing the Plan and documentation necessary to demonstrate that the statutory and regulatory procedures for adopting the local plan were followed by the planning entities. This documentation includes copies of resolutions, public notices and letters notifying adjacent counties of the proposed comprehensive plan. This section also includes an outline of the procedures for maintaining and amending the Solid Waste Management Plan.

1. Coordination with Regulatory Agencies and Adjacent Counties

Efforts were made throughout the planning process to coordinate with the MDEQ, local entities including the Cities of Biloxi, Gulfport, Long Beach, Pass Christian and D’Iberville, and adjacent jurisdictions (i.e. counties of Hancock, Jackson, Pearl River, George and Stone) of the proposed solid waste plan. On **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**, the Harrison County Utility Authority distributed letters via certified mail and copies of the published public notice to each adjacent county for the purpose of notifying them of the Board’s intentions to adopt a new solid waste plan (see Appendix 19 Public Notice). The Authority did not receive any responses or comments from the adjacent counties based on the notification that was provided. Copies of the letters notifying the adjacent counties of the proposed comprehensive plan may be found in Appendix 20.

1. Public Participation

The Harrison County Utility Authority established a public comment period from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, through the end of the public hearing on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (see Appendix 19 Public Notice), for the purpose of soliciting public comments and input into the draft solid waste management plan. A public hearing was held on \_\_\_\_\_\_\_\_\_\_\_\_\_\_ at 9:00 A.M., also for the purpose of obtaining public input into the plan. The Authority did not receive any public comments or input through either of the mechanisms used to solicit public input.

The background information gathering and research was conducted during 2011 using reports from 2010 to develop statistics used for the completion of this plan. Information was obtained from a wide variety of sources, including the cities and towns within the County, the permit files of the Mississippi Department of Environmental Quality, Office of Pollution Control, the Mississippi State Tax Commission, United States Environmental Protection Agency, U.S. Census Bureau and from various published reference texts.

Input was directly sought from the municipalities in the County and the Harrison County Board of Supervisors before and after the development of a preliminary draft Solid Waste Management Plan. At the conclusion of the development of a final draft of this Solid Waste Management Plan, a notice was published on two occasions to notify the public that the Plan was available at the offices of the Harrison County Utility Authority Executive Director’s Office for public review and comment over a thirty (30) day period ending on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The notices also stated that a public hearing would be held by the Authority to review the Plan, and to receive public comments pertaining to the Plan. This notice was published in The Sun Herald on \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

A public hearing was held by the Harrison County Utility Authority at the Harrison County Utility Authority Office at 9:00 A.M. on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. At that time, the Board heard all interested parties who wished to comment on the Plan.

The planning process included all necessary public participation efforts. Public notices were issued for a comment period. A public hearing was conducted during the comment period with the minutes of the hearing.

1. There are no new or expanded facilities proposed in the plan rewrite.
2. Issues Discussed During Public Hearing
   1. Original Plan was completed in June 1993 and approved by the Commission on Environmental Quality in November 1993. Plan was updated in 2012.
   2. Description of the Planning Area
   3. Evaluation of Current Solid Waste Systems
   4. Strategy for Achieving Waste Minimization Goals
   5. Evaluation of future Solid Waste System Requirements
   6. Special Waste Management Systems (waste tires, e- waste and household hazardous waste)
   7. Proposed Solid Waste Management System
   8. Comprehensive Inventory of Solid Waste Management Facilities
3. Modification Post Public Hearing

There were minor editorial corrections and clarifications made after the public hearing but there were no substantive changes made to the SWMP.

1. Solid Waste Management Plan Adoption

The plan was formally adopted by resolution of the Harrison County Utility Authority on **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**. A copy of the resolution is included in Appendix

21. The plan was adopted by supporting resolutions from the other planning entities, i.e. the cities of Biloxi, Gulfport, D’Iberville, Long Beach and Pass Christian. Copies of these supporting resolutions can be found in Appendix 22.

1. Submission of Plan to MDEQ

The plan, as formally adopted in its final form, was submitted to MDEQ via priority package service on **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** and was accompanied by a transmittal letter from the Executive Director of the Harrison County Utility Authority.

1. Monitoring and Implementation of the Plan

The plan will continue to be monitored by the Executive Director of the Harrison County Utility Authority. There are some continuing, ongoing items that will need to be implemented by the planning entities. Some of the events of implementation will be dictated by administrative decision and financial capabilities. A complete list of the *“Proposed Implementation Plan”* can be found in Section G of this Plan.

1. Schedule for Annual Review and Plan Amendments Annual Reviews

Harrison County Utility Authority and the planning entities will conduct annual reviews and assessments relative to the effectiveness of the plan. Review and assessment of the plan will be the responsibility of the Harrison County Utility Authority Executive Director, who will report the findings and recommendations directly to the Board of Supervisors. In addition, as requests are made to the board concerning modifications or amendments to the plan by entities engaged in solid waste collection, disposal or processing activities, the Board will review and modify the plan in accordance with MDEQ recommended or required processes.

Part of that monitoring will be to conduct an annual review of activities and progress towards effective solid waste management. The annual review is schedule to be completed in June of each year beginning in 2013.

Plan Amendments

The plan will comply with the regulations as outlined in Mississippi Code section 17-17-201 seq. (supp 1991) and the MDEQ’s *“Guidance for Modifying a Local Solid Waste Management Plan”* dated September 2006 (copy attached as Appendix 24). The Authority will continue to monitor the progress of the plan and will make modifications as required. Procedures for preparing amendments are summarized below.

Plan Amendment Procedures for Applicants:

* 1. The applicant shall complete MDEQ’s “Applicant Request Form for Amendment to the Local Solid Waste Management Plan” copy attached as pages 13 and 14 of Appendix 23.
  2. The request shall include information confirming that the site meets municipal and/or county zoning requirements.
  3. The request shall also include a demonstration and determination of need and other information that may be reasonably requested by the Executive Director of the Harrison County Utility Authority.
  4. Once the above items are completed, the Harrison County Utility Authority Executive Director shall review the request and refer it for further action by the Authority’s Board of Directors.
  5. If the Authority Board of Directors finds merit with the applicant’s request, the Board may move forward with the request. If the Board moves forward with the request, it shall follow the public participation and notification process outlined in the MDEQ’s *“Guidance for Modifying a Local Solid Waste Management Plan”* dated September 2006 (copy attached as Appendix 24).
  6. If the Authority Board approves the request to amend the Plan, the Board shall forward the request to the Mississippi Commission on Environmental Quality (the “Commission”) for its review and consideration.
  7. If the Commission approves a request to amend the Plan for a new facility and the Commission approval becomes final and non- appealable, the applicant shall have three (3) years from the time of such final non-appealable approval to begin construction on a new facility. If the applicant does not begin construction of a new facility within three (3) years from the time of such final non-appealable approval, the Authority Board may remove such new facility from the Plan upon majority vote of said Board.