

# ADA COUNTY Solid Waste Management Department



# Year End Report Fiscal Year 2007

December 2007

SOLID WASTE MANAGEMENT DEPARTMENT

# Year End Report – Fiscal Year 2007

Ada County Solid Waste Management Department 200 West Front Street – Boise, Idaho 83702 Phone 208-577-4725 • Fax 208-577-4729 www.adaweb.net

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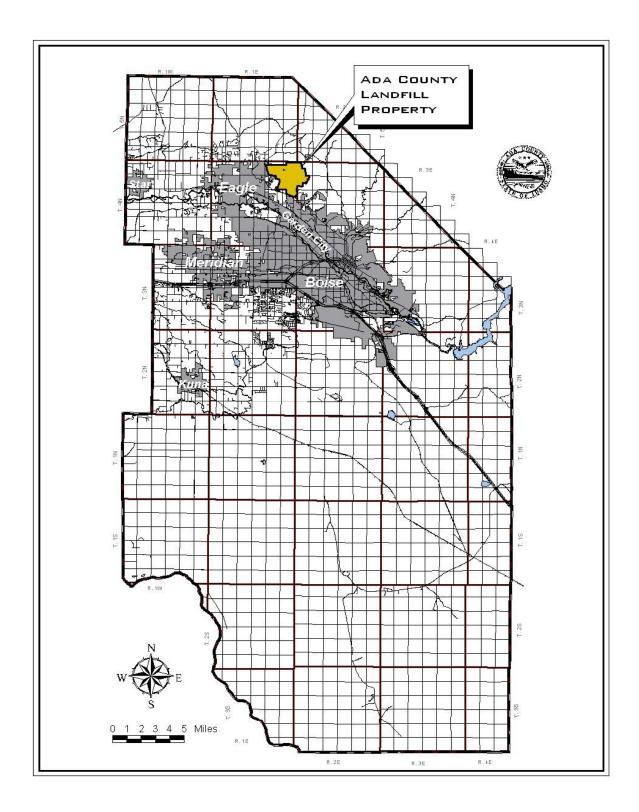
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#### HIDDEN HOLLOW COMPLEX



ADA COUNTY: The County's property (purchased for landfill needs) is highlighted..

# DEPARTMENT MISSION

The Solid Waste Management Department seeks to pro-actively manage County waste disposal facilities, enforce applicable codes, and provide reasonably priced and environmentally acceptable methods for solid and hazardous wastes reduction and disposal for County residents and businesses. Services provided by the department include:

- Maintenance of a sanitary landfill for acceptance of wastes generated by County residents,
- Operation of a permanent year-round facility for disposal of household and small business hazardous wastes,
- Contractual oversight of the franchised trash collection in unincorporated Ada County ensuring compliance with trash pick up, recycling and rates,
- On-site recycling programs for wood, tires, automotive batteries, refrigerators and air conditioners,
- Enforcement of health codes regarding accumulation of solid waste, and,
- Educational resource for local schools and service groups.

- -

# **Executive Summary**

Managing County Resources

O comply with its statutory obligations regarding municipal solid waste management and disposal, Ada County established an enterprise fund and the Ada County Solid Waste Management Department. The Solid Waste Management Department oversees operation and management of:

- Hidden Hollow and North Ravine Cell landfills;
- Household hazardous materials collection and disposal, including cathode ray tube recycling;
- Wood recycling program;
- Solid waste collection contract; and,
- 2,700-acre multi-use Hidden Hollow Complex.

Being an enterprise fund, no tax dollars support the activities of the Solid Waste Management Department. All financial activities and responsibilities are paid for with user fees collected at the gate of the Hidden Hollow Complex. User fees pay for all daily operations, long-term obligations (i.e., landfill closure and post-closure care), capital improvements and program subsidies. The user fees also pay the twelve (12) County employees who manage six (6) contracts valued in excess of \$6 million.

**More than \$1.65 million** is spent by Ada County subsidizing diversion and recycling programs at the landfill. Due to the popularity of the programs, the demand for these services is growing. Programs subsidized by landfill user fees include:

- Household Hazardous Materials Management (\$900,000+)
- Tire recycling (\$20,000+)
- Wood (organics) recycling (\$750,000+)

Besides the landfill operations and program subsidies noted above, the Solid Waste Management Department looks after more than 2,700 acres of land. Within this 2,700 acres, there lies two (2) public water storage facilities, a skateboard park with support facilities, over 3 miles of recreational trails, and, several hundred acres set aside for large mammal wildlife habitat, riparian, habitat and plant species protection sites.

Ada County, through cooperative efforts with interested private parties and government agencies, will see additional recreational trails developed on more than 250 acres. The recreational trails development will include a Velodrome bicycle park and connections to the Ridge-to-Rivers trail system. The County is also looking into the development of a multi-agency firearms training facility to be located within the Hidden Hollow Complex.

Also within the Hidden Hollow Complex:

- Two landfills Hidden Hollow that is nearing its capacity, and, the North Ravine Cell that opened its first phase in August 2007.
- A landfill-gas management system that includes a gas-to-energy facility that is supplied by several thousand feet of gas collection pipes and wells.

**The Hidden Hollow Complex** was purchased by Ada County to provide long-term solid waste disposal capacity for the residents, businesses, and institutions in Ada County. Through careful management of this valuable resource, Ada County is meeting its regulatory requirements for managing solid waste disposal and protecting wildlife habitat and plant habitat while providing recreational opportunities.

This report details the Solid Waste Management Department's efforts at meeting the objectives of its mission while caring for the valuable County resource that is the Hidden Hollow Complex.

# **Hidden Hollow Complex**

n the early 1970s, in response to heightened environmental consciousness and the creation of the United States Environmental Protection Agency (US EPA), Ada County found itself in need of providing a sanitary landfill site that met the requirements and rules now governing solid waste disposal. Ada County had to look at its new responsibilities with an eye to the future.

When the US EPA promulgated rules governing solid waste disposal, communities across the nation had to change their attitudes and methods for dealing with their garbage. It was no longer permissible to operate an old dump. In fact, all the old dumps had to be closed if they could not operate within the new standards for solid waste disposal. Ada County had dozens of dumps – some community sanctioned; some privately operated with no oversight. All of these had to be closed. However, before the old dumps could be closed, the County had to have an approved and acceptable site.

## A Sanitary Landfill

Not far from one of the old community dumps, the County found a property-owner willing to lease roughly 300 acres to the County for use as a landfill. Once the County received approval from the State of Idaho for the site, the County opened the Hidden Hollow Sanitary Landfill. With this opening, the County then closed all the dumps in the county with the exception of the Kuna landfill, which would be closed by 1990.

The Hidden Hollow Landfill began operation in the spring of 1972. It has continually operated as Ada County principal landfill site since that time. In the early 1980s, the property owner from whom the County leased the site desired to divest the property. However, the deal to be struck with the County was "all or nothing" which meant the County would have to purchase not only the 300 acres of leased property but also an additional 1,800 acres surrounding the landfill. After careful consideration of the County's responsibilities regarding solid waste management, and looking at long-term



requirements to meet the needs of a Hidder

Hidden Hollow Sanitary Landfill (2007: Photo from Google)

growing community, the County agreed to buy 2,100 acres in an isolated area of Ada County – at least it was isolated when the County purchased the property.

## **BUFFERING FOR PROTECTION** Avoiding incursions is one safety measure employed by landfills. Because the nature of garbage is dangerous, there is need to keep disposal sites at a distance from other activities. Landfills are construction sites where heavy

equipment is in constant motion; traffic volume is high; and, trash may contain hazards harmful to unwary visitors. To add a level of protection, the County, over time, purchased additional property to buffer the Hidden Hollow Landfill from non-compatible uses. By 2007, Ada County owned roughly 2,700 acres of land located in the foothills northwest of the City of Boise.

Rules regulating landfill operation require security at landfill sites. Typically, fences are installed to keep out unauthorized persons. If operated appropriately, the dangers associated with the disposal of trash can be reduced and limited.

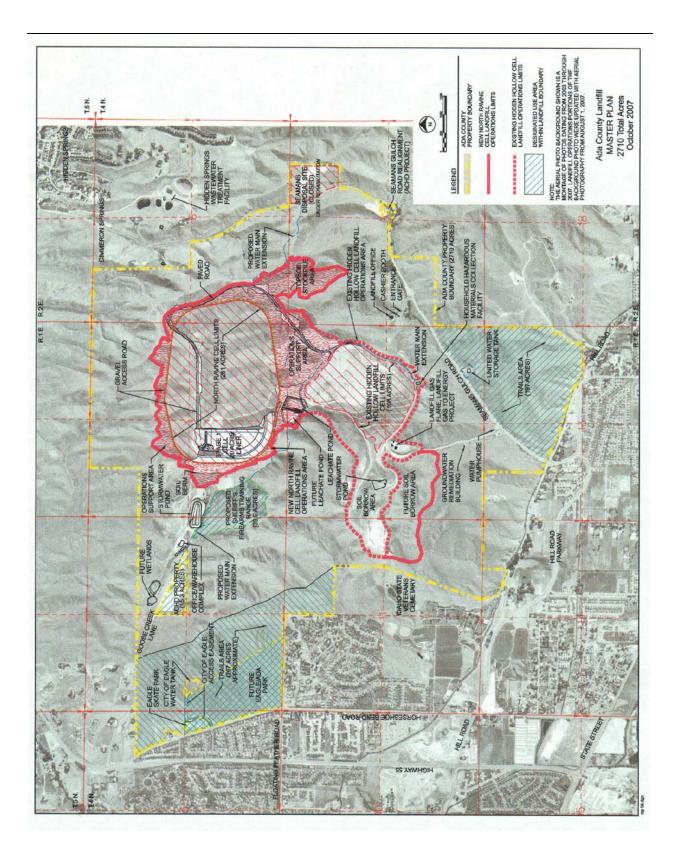
or 35 years, Hidden Hollow Landfill has served the solid waste disposal needs of the residents, businesses and institutions of Ada County. However, Hidden Hollow Landfill has a finite capacity. Recognizing that a replacement site must be available before Hidden Hollow reaches its capacity, the Board of Ada County Commissioners chose to expand landfill capacity within the Hidden Hollow Complex. The replacement facility, the North Ravine Cell landfill, had its first phase constructed in Fiscal Year 2007 within the Hidden Hollow Complex.

Within the 2,700-acre Resource are several other parts of the County's waste management system. Included in the system are a household hazardous materials collection facility and an organics (wood) recycling program. These programs are discussed in detail later in this report. Within the Hidden Hollow Complex are the following:

- Eleven (11) buildings ranging in size from 12,800 square feet to 25 square feet;
- Skateboard Park with support facilities;
- Ada County Highway District facility;
- Wetlands development sites;
- Recreational trails;
- Water storage facilities United Water, Idaho and Eagle Water;
- Protection areas for plant species of concern (Aase's Onion).

Recognizing that a growing population requires recreational opportunities, the Board of Ada County Commissioners approved development of walking/hiking/bicycling trails on a portion of the Hidden Hollow Complex sufficiently distant from the Hidden Hollow landfill. Located on roughly 200 acres, the trails system has paved parking and restroom facilities. On the opposite end of the property, Ada County, in a cooperative agreement with the City of Eagle, aided the City of Eagle in establishing a skate park with support facilities. Future Eagle park improvements include a Velodrome bicycle facility with additional recreational trails that will connect with the Ridge-to-Rivers trails system.

If the safety areas around the landfills and the landfill support facilities can be maintained, the County will look at ways to best utilize this valuable community resource, including maintenance of large areas suitable for large mammal habitat, riparian habitat, and protection of plant special plant species.



# SOLID WASTE MANAGEMENT

Ada County's Solid Waste Management Department is responsible for proper disposal of the over 850 million pounds of trash generated in Ada County annually. The department's primary duties include operational oversight of:

- The Hidden Hollow Landfill;
- The County's Household Hazardous Materials Management Program;
- The landfill's environmental controls systems; and,
- The on-site recycling and diversion programs.

#### Additional Responsibilities

Included among these responsibilities are:

- Enforcement of County codes relating to human health, waste accumulation, unlawful disposal, uncovered and unsecured loads, and littering;
- Collection of landfill disposal fees;
- ➢ Issuance of burn permits for locations outside fire districts;
- Accounting for all department receipts and expenditures;
- Provision of public education and information about solid and hazardous waste, recycling, and waste reduction methods; and,
- Overseeing contracts with privately owned companies performing a variety of services and projects for the County.

To accomplish its responsibilities and duties, the department relies heavily on well-developed partnerships between Ada County and privately owned companies with which the County contracts for services. These contracts range from engineering services to landfill operations and waste screening, to recycling projects, to hazardous material management. In all, more than \$5.49 million dollars was paid for contract services rendered to Ada County in Fiscal Year 2007.

In addition to the regular, day-to-day operations contracts, the Department has been overseeing the construction of the first phase of the North Ravine Cell landfill. In FY 07, more than \$390,000 was spent on the North Ravine Cell landfill.

# The Department

Although the department has the large responsibility of ensuring proper disposal of Ada County's municipal solid waste, it does so with a staff of 12, five who work part-time.

The Solid Waste Management Department is part of Ada County government. As such, the department Director answers directly to the Board of Ada County Commissioners. All daily operational decisions are under the discretion of the Director with long-term plans and needs discussed with the Commissioners. Besides daily operation and oversight of the previously mentioned contracts, the Director meets with the Ada County Treasurer to recommend

contractual adjustments to the waste collection contract to the Commissioners.

#### **Staffing and Divisions**

To accomplish its responsibilities, goals and mission, the department consists of three divisions identified by their primary objectives. The three divisions are: Solid Waste Division, Hazardous Waste Division, and Environmental Division. Although the department divisions define the division of labor, the three divisions are closely allied and coordinated to achieve the common objectives of environmentally and fiscally sound management of Ada County's municipal solid waste management system.

#### **Solid Waste Division**

**The Solid Waste Division** is the largest division in the department. Under the direction of the Director are a Deputy Director, a Health Protection Officer, two Account Clerks, one Environmental Systems Coordinator and five part-time Cashiers. These employees:

- Oversee contracts for waste collection, landfill operation, wood waste recycling, and solid waste screening;
- Account for department receipts and expenditures;
- Collect landfill disposal fees;
- Provide public education and outreach programs about solid and hazardous waste disposal, recycling, and waste reduction;
- Enforce Ada County codes relating to human health, waste accumulation, unlawful waste disposal, uncovered or unsecured loads, and littering;
- Issues burn permits for locales outside fire districts.

## The Staff

**The Deputy Director** provides short and long range analysis and plan development for various solid and hazardous waste functions and activities, conducts analysis of annual waste streams, recommends the development of new programs that result in diversion and/or reduction of the waste stream, and conducts studies of special areas of emphasis.

**The Health Protection Officer** (HPO) is a sworn deputy for the Ada County Sheriff who works for the Solid Waste Management Department. The HPO enforces, by vehicular patrol and visual inspection, County ordinances and federal laws relating to solid waste, hazardous waste, and air pollution. With jurisdiction in the unincorporated areas of Ada County, the HPO patrols over 900 square miles. The HPO also serves as the first-line supervisor for the department. He ensures proper

#### HIDDEN HOLLOW COMPLEX

landfill operation, oversees maintenance projects, and acts under the department's Director's authority in resolution of questions and disagreements.

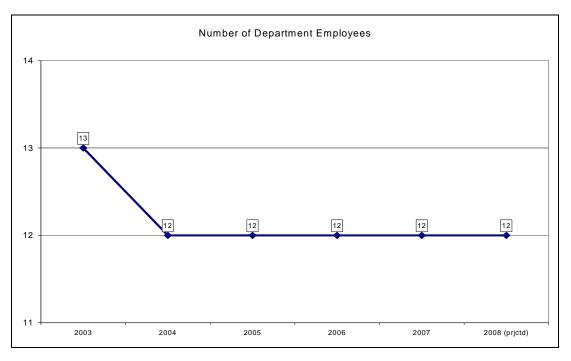
**Account Clerks** perform the full range of record keeping work in the detailed maintenance of the financial status of the Solid Waste Management Department, maintain accurate details of daily receipts and transactions, and monitor charge account activities of approved customers, and accomplish secretarial duties for the department.

**The Environmental Systems Coordinator** oversees operation and maintenance of the landfill gas extraction system, irrigation system, and other facilities located at the Hidden Hollow Sanitary Landfill. This position is also responsible for creating reports regarding systems function and operation.

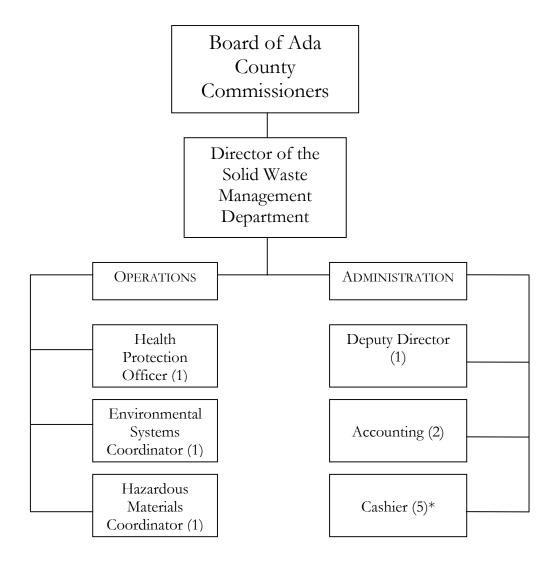
**The Hazardous Materials Coordinator** oversees operation and maintenance of the County's hazardous materials collection program. This position works with the municipalities in the County to provide a seamless program for proper disposal of household hazardous wastes.

**Cashiers** greet customers, charge and collect fees from landfill customers, maintain custody and account for money received.

Following is a graph depicting the staffing level for the Solid Waste Management Department for the past 10 years.



FISCAL YEAR 2007



\* 5 part-time cashiers

BOARD OF ADA COUNTY COMMISSIONERS		
<u>First District</u>	<u>Second District</u>	<u>Third District</u>
Paul R. Woods	Rick Yzaquirre	Fred Tilman

# DIRECTOR OF THE SOLID WASTE MANAGEMENT DEPARTMENT Dave Neal

#### Hazardous Waste Division

Recognizing a threat to the environment and to human health, Ada County established the Hazardous Waste Division to manage potentially hazardous material brought to the Landfill. The division is a direct descendant of annual household hazardous waste collection events held between 1989 and 1996. These highly successful and popular events were the result of cooperative efforts among Ada County, Boise City, the Central District Health Department, and the Ada County Highway District.



Because of the popularity and the increasing costs of the events, Ada County made the commitment to construct a permanent household hazardous material collection facility at the Landfill. In 1998, the County's Household Hazardous Material Collection Facility (Facility) opened. One County employee, a Hazardous Material Coordinator, oversees the operation of the Facility.

The Board of County Commissioners directed that any household hazardous material collected by local jurisdictions in Ada County could be brought to the facility and Ada County would pay the disposal costs. As part of its continuing support of the hazardous material collection program, the City of Boise purchased a van for use as a mobile collection site. Boise's very successful program has been copied, to a lesser extent, by the City of Meridian, the City of Eagle and the City of Kuna.



Ada County's Household Hazardous Materials Collection Facility

#### HAZARDOUS MATERIAL MANAGEMENT

Located at the Landfill, Ada County's Household Hazardous Material Collection Facility accepts hazardous, potentially hazardous, or dangerous material from households in Ada County. Through a contract with a private firm specializing in hazardous material management (Clean Harbors, Inc.), County residents may bring their household hazardous materials, such as, paints, pesticides, fertilizers, cleansers, solvents and automotive products (oils, anti-freeze, batteries, etc.) to the Facility at no charge. Conditionally exempt small quantity generators (commercial enterprises that generate less than 220 pounds of hazardous wastes per month) may qualify to use the Facility services at a nominal cost.

During Fiscal Year 2007, more than 20,300 households participated in the collection program – an increase of 15%. The Facility at the Landfill is open to Ada County residents each Friday and Saturday. The Facility accepts conditionally exempt small quantity generator waste by appointment only. Supplementing Landfill collection activities are collection activities in the cities of Boise, Meridian, and Kuna.

#### **Mobile Collection**

#### **CITY OF BOISE**

The City of Boise has been a long-time partner and supporter of the hazardous material collection program in Ada County. With the opening of Ada County's permanent facility, Boise



City recognized an opportunity to provide a convenient service to its residents. Boise City purchased a van and equipped it for use as a mobile collection vehicle. Each week, the City visits one of eight (8) sites around the City. More than 7,600 city households took advantage of the collection sites in this last fiscal year.

#### CITY OF MERIDIAN

Each Monday, residents in the Meridian area can take their household hazardous materials to the Meridian collection site. Through a cooperative agreement with the City of Boise, the City of Meridian is able to use the Boise's collection van for the monthly event. Over 2,300 households took advantage of the Meridian collection site during Fiscal Year 2007.

The Meridian event is rather unique in its design. Meridian's trash collection company, Sanitary Services Company (SSC) collects recyclable commodities at curbside. Revenue from the sales of the commodities pays for the collection event with any money left over going to the City. The City has paid for playground equipment with the extra funds.

#### CITY OF KUNA

Another unique program happens within the City of Kuna. Each Spring, the City of Kuna promotes a weeklong community clean up. J&M Sanitation, the City's trash collection contractor, is a major contributor to the event by paying the hazardous waste firm to manage the household hazardous material collected during the last day of the event. Each Spring and each Fall, the City of Kuna and J&M Sanitation sponsor a one-day household hazardous material collection. This fiscal year, 198 households participated in the household hazardous material collection events.

#### CITY OF EAGLE

Quarterly, the City of Eagle sponsors collection locations for household hazardous waste. Over 290 residents in the Eagle area dropped off over 12,000 pounds of material.

#### **COLLECTED MATERIALS**

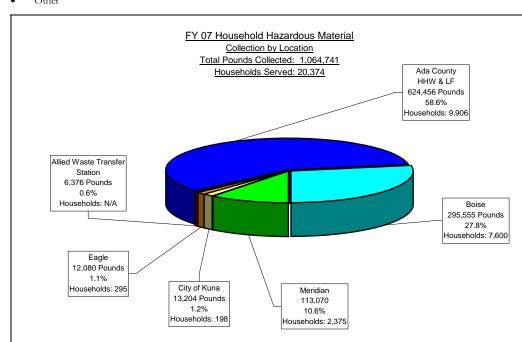
Hazardous material collected in the countywide program is taken to the County's Facility for processing and shipment to disposal facilities. Ada County's hazardous material contractor, Clean Harbors, Inc., categorized and processed 1,064,741 pounds of material.



Clean Harbors, Inc. segregates the material into following categories:

- ReUse Program
- Automotive Batteries
- Oil-based Paint
- Flammable Liquids
- Latex Paint
- Motor Oil
- Antifreeze
- Antifféeze
  Pesticides
- Pesuch
  Other

Due in large part to Ada County's priority for waste management, Clean Harbors, Inc. strives to recycle/reuse as much of the collected material as possible. This past fiscal year saw 892,896 pounds (84%) recycled/reused, with 171,845 pounds (16%) destroyed at an off-site incinerator.



While this program is free of charge to participating residents, Ada County pays the cost of disposal of the household hazardous materials collected in the countywide program. Ada County wishes to express its appreciation to the participating municipalities that help make the program such a success.

#### COMPUTER MONITORS AND TELEVISIONS

A real problem in the waste stream is electronics disposal. Modern electronics contain various hazardous or potential hazardous components, such as heavy metals. Because technology changes so rapidly, computer equipment quickly becomes obsolete. Of particular concern to Ada County are computer monitors and television sets.

Monitors and television sets, and other electronic devices containing a cathode ray tube (CRT), contain up to eight pounds of lead. If the glass of the CRT is broken, the lead becomes leachable and can be a hazard to human health and the environment.



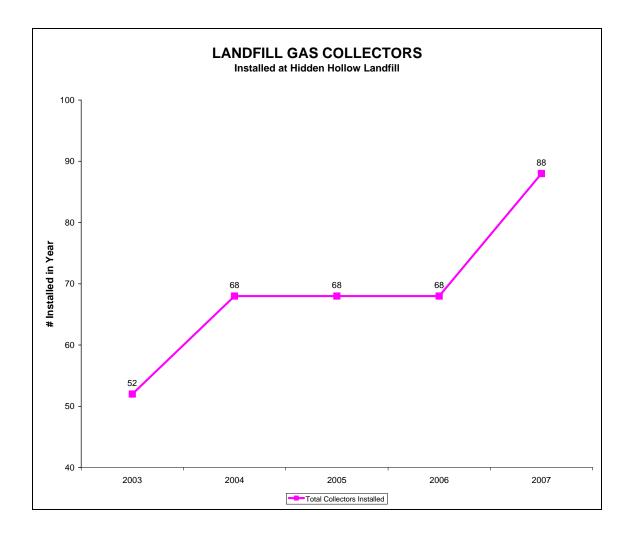
CRTs prepared for shipment to recycle center.

### **Environmental Division**

In Fiscal Year 2007, Ada County shipped more than 18,600 units (CRTs) to a recycling facility. Since the program began, Ada County has shipped over 76,500 units.

The Environmental Division oversees the specialized systems for landfill gas, groundwater contamination remediation, leachate management, and other mechanic/electrical systems around the landfill. One full time employee is responsible for these various systems to ensure compliance with regulations and operating requirements.

Landfill gas management continues to be a high priority for the department. Balancing the gas extraction system to optimize gas control for regulatory compliance is nearly a full-time job in itself. There is also a desire by the County to provide as much landfill gas as possible to a landfill-gas-to-energy project located at the landfill. The gas-to-energy project is discussed in the "Public-Private Partnership" section.



Landfill gas collectors consist of both vertical collectors and horizontal collectors. Collectors are perforated HDPE pipe connected to a blower system. The blower system creates negative pressure in the landfill drawing the gas to a desired location. For Ada County, the desired location is to an electricity cogeneration facility or utility flare located at the Hidden Hollow Complex. The landfill gas system is discussed later in this report.

## **Public - Private Partnership**

From the landfill's opening in the spring of 1972, Ada County has contracted with privately owned companies for daily landfill operations. Over the years, the County has increased the number of private contractors performing work for the Solid Waste Management Department.

By contracting for services with privately owned companies, Ada County is able to ensure the most cost-effective service delivery for the County through competitive bids. This method has enabled Ada County to provide its residents a solid waste management system with some of the lowest disposal fees in the State.

For more than thirty years, Ada County has proven that a public-private partnership works and works well. Ada County's Solid Waste Management Department provides the systemcore management while the private sector provides the equipment and manpower to accomplish the tasks associated with safely managing more than 850 million pounds of trash annually.

Before issuing any contract for services, Ada County issues a Request for Qualifications or a Request for Proposal. The request specifies the criteria for qualification and the specifics for the work to be done under the terms of a contract. Each contractor listed below competed with other firms for their contracts affording Ada County the opportunity to obtain the highest quality for the best price. This practice allows the department to control expenses for payroll and benefits. Besides providing job opportunities within the community and support to the local economy, using private contractors selected through competitive bidding, Ada County controls its overall disposal costs.

#### THE CONTRACTORS

Through carefully written contracts, Ada County provides an effective, low-cost solid waste

Contractors at the landfill employ 25 – 35 staff depending on the season.

disposal system to its residents. In a typical year, the Solid Waste Management Department oversees six (6) contracts for services ranging from engineering services to waste screening services. Following is a description of the contracts and the contractors.

#### LANDFILL OPERATIONS

Typically, the Solid Waste Management Department's largest contract is for daily operations at the landfill. This includes waste compaction, daily waste cover, intermediate cover, road construction and maintenance, as well as other incidental work keeping the landfill open and operating.



**Environmental Earthworks, Inc.** provides all of the daily operations at the landfill. As required by the contract between Ada County and Environmental Earthworks, this contractor supplies all the equipment and personnel necessary to complete the work specified in the contract.

In late 2007, the County began operation of two (2) landfills in the Hidden Hollow Complex:

- Hidden Hollow Landfill
- North Ravine Cell Landfill

Running the two landfills increased the daily operating expenses. During the last fiscal year, Ada County paid Environmental Earthworks \$2,512,722.

#### WASTE SCREENING

To ensure that hazardous or dangerous wastes are not disposed in the landfill, Ada County contracts for waste screening services. Employees of Environmental Earthworks, Inc. interview landfill users and examine loads to intercept inappropriate material. Environmental Earthworks takes the hazardous material collected at the landfill disposal area to the household hazardous material facility for proper management and disposal. For services during Fiscal Year 2007, Ada County paid Environmental Earthworks \$209,843.

#### ORGANICS RECYCLING

Ada County has operated a highly successful recycling program at the landfill since 1994. Customers are encouraged to separate their wood waste from their other waste for recycling. Originally, a 2-year pilot project, the wood recycling program proved popular and successful. From its modest beginnings with 10,000 cubic yards recycled the first year, Ada County's current contractor recycled more than 161,900 cubic yards in Fiscal Year 2007.

#### Ada County contracts with Enviro-Progress, Inc.

for wood and organics recycling. The County pays this firm for material that is chipped and hauled away from the landfill. Ada County pays Enviro-Progress \$4.57 per cubic yard. In Fiscal Year 2007, Ada County paid \$784,693 for wood waste and organics recycling.



Along with the wood and organics recycling, Ada County offers programs each year to encourage recycling leaves in the fall and Christmas trees at the end of the season. For several weeks during late autumn, residents can bring in their leaves at no charge. The leaves are run through the wood chipper and composted for a couple of years. The compost is then used for revegetation projects at the landfill.

Christmas trees are accepted at no charge for 3 weeks following the Christmas holiday. These trees are chipped and mixed with the other wood for use as fuel in electricity cogeneration facilities.

#### HAZARDOUS WASTE MANAGEMENT

Since 1988, Ada County has proactively worked to keep household hazardous materials from entering the landfill. Starting with a one-day annual collection event, the popularity of the program grew to the point where Ada County saw the need for a permanent collection facility that was open year-round. In 1998, Ada County opened its Household Hazardous Material Collection Facility operated by a privately owned firm experienced in hazardous waste management.

Ada County presently contracts with Clean Harbors, Inc. for hazardous material management and disposal. Clean Harbors, Inc. operates the facility according to an operations plan and contract documents. For Fiscal Year 2007, Ada County paid Clean Harbors, Inc. \$887,182.

#### ENGINEERING

CH2MHill, Inc. is the department's engineering consultant. They provide a variety of engineering services that includes annual operations, surveying, and rate of fill calculations, and groundwater monitoring and reporting. During Fiscal Year 2007, Ada County paid CH2MHill \$1,097,786 for engineering services and operational consultations.

#### LANDFILL-GAS TO ENERGY

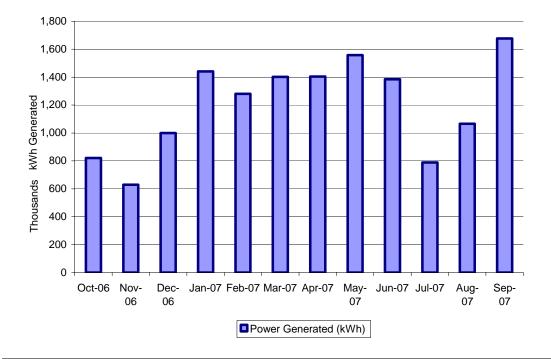
**In late September 2005,** the Board of Ada County Commissioners entered into an agreement for the utilization of landfill gas generated by Ada County's landfill. The gas is to be used as fuel in an electricity co-generation facility. After reviewing requests for proposals for the project, the Board entered into an agreement with G2 Energy from Atlanta, Georgia.

The landfill gas system collects roughly 1,600 standard cubic feet of gas per minute. Since 2003, the County has been disposing of the gas by burning it in an enclosed utility flare. The County installed the gas extraction system and flare to control odors. By entering into the agreement with G2 Energy, the County is turning a nuisance gas into a renewable resource capable of providing enough electricity to power over 1,000 homes.



Generator sets (white containers on right).

The agreement between Ada County and G2 Energy calls for G2 Energy to pay Ada County for the Btu value of the gas used to power the generators. In FY 07, G2 Energy paid Ada County \$126,000. This chart shows the amount of energy generated by the G2 Energy project during Fiscal Year 2007.



#### G2 Landfill Gas to Energy

Information published in Idaho Power reports state that the average residence uses approximately 1,200 kW per month or 14,400 kW annually. In FY 07, G2 Energy sold enough electricity to Idaho Power to meet the demands of approximately 1,000 homes.

## **MORE POWER**

**Short Science Lesson.** Landfill gas is a nuisance. It smells; and, it is explosive in certain conditions. It is created as a natural by-product of the decomposition of organic material in an anaerobic state (a condition where no oxygen is present). This occurs within a landfill through the on-going biological processes where microorganisms decompose organic matter present in the waste.

Typically, landfill gas is comprised of two gases in nearly equal proportions. These gases are both odorless and colorless. Individually, these gases are highly useful. The gases are:

- Methane (CH4): this is natural gas
  Used for heating, industrial processes, equipment fuel.
- Carbon Dioxide (CO2)
  - Used as a fire extinguisher, puts the bubbles in soda pop.

Landfill gas is nearly 50% methane and 50% carbon dioxide. Not a very high efficiency fuel, it has a Btu value about one-half that of natural gas. Moreover, it contains some pretty smelly trace-gases, such as sulfides. Because of the trace-gases, landfill gas is a nuisance to landfill neighbors; that, and the fact that in certain conditions landfill gas is explosive and highly flammable. So being able to use landfill gas for a productive, useful purpose is a real benefit to a landfill.



Landfill gas is a potent greenhouse gas. It is approximately 13 times more potent than the combustion products from its destruction.

Before Ada County entered into its agreement with G2 Energy,

the County simply destroyed the gas by burning it in an enclosed utility flare. Combining the total amount of gas destroyed in the utility flare with the amount used as fuel in the generation of electricity, Ada County has collected and destroyed more than **735,840,000** cubic feet of landfill gas during Fiscal Year 2007.

Ada County, through its landfill gas management aids the environment, rids the area of a nuisance odor, provides electricity, and revenue to support landfill operations.

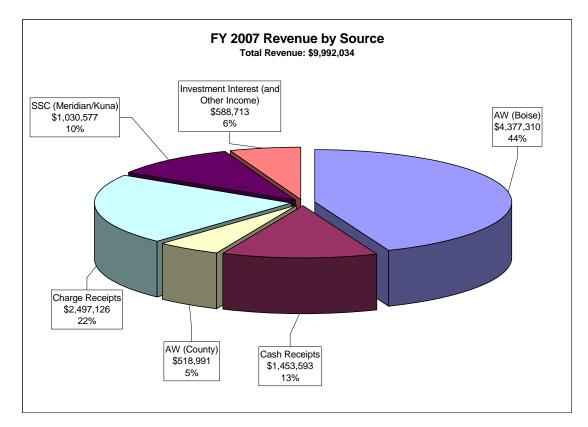
# FINANCIAL HEALTH

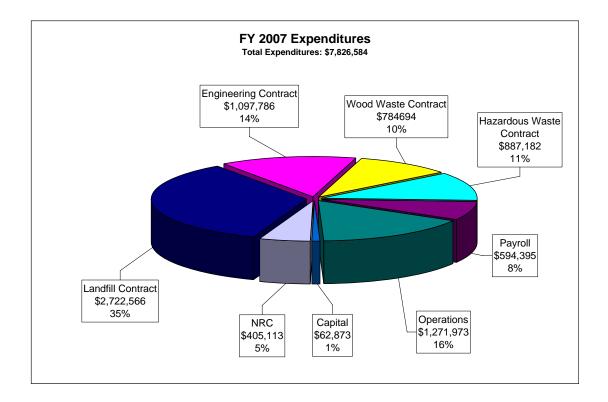
#### Revenue and Expenditures

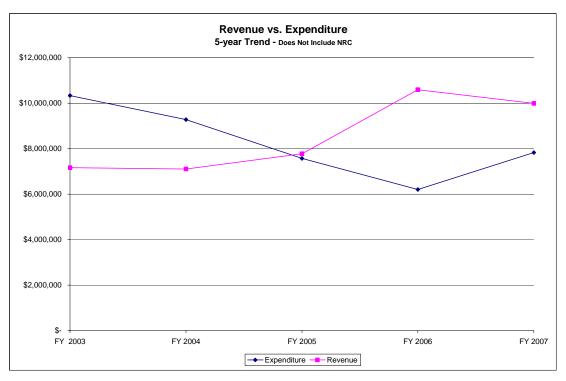
Ada County's Solid Waste Management Department operates as an Enterprise Fund. As such, the department receives no tax dollars for support or operation. The department must pay for all expenses from disposal fees collected at the gate.

In Fiscal Year 2007, the department's regular budget (daily operating expenses, gate revenue) ended with revenue exceeding expenditures. When revenue exceeds expenditures, the funds are deposited in a reserve account for future needs.

Following are charts detailing the department's revenues (by source) and expenditures.







#### FEES: DISCOUNTS, WAIVERS AND DONATIONS

Because the Solid Waste Management Department operates as an enterprise fund, the fees collected at the gate pay for all department activities. The rates charged at the gate are established by the Board of Ada County Commissioners and are applied equally to every customer.

CHARITABLE ORGANIZATIONS. Unfortunately, many charitable organizations become a dumping ground for many unusable items. These organizations are often inundated with items impossible for them to sell or to use. Because of the services they provide to the community, the Board of Ada County Commissioners has authorized a discounted rate for the waste they bring to the landfill. Without this discount, many of the organizations would be unable to continue many of their important services.

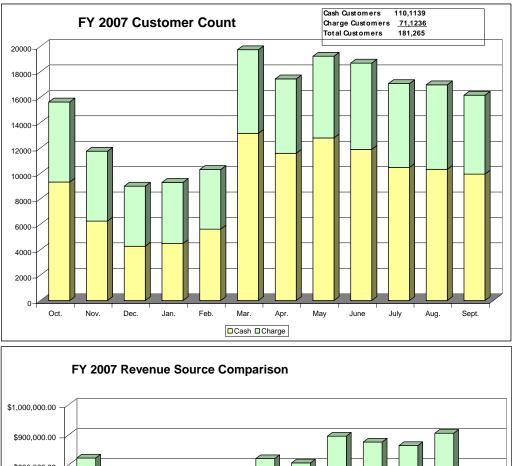
**Community service groups** often undertake projects to assist elderly or less fortunate individuals in maintenance of their homes and property. Typically a one-time project, there is often a considerable amount of trash collected by the groups. The landfill will waive fees for disposal of this waste. An example of this fee waiver is the Paint the Town organization's annual program.

Clean up projects performed by other community groups or scouts benefit the community by gathering litter and illegally discarded items in public areas. Oftentimes, the waste hauling companies in the community donate their services to haul the collected trash. When these projects are undertaken, the County typically donates the disposal fees as authorized by the Commissioners.

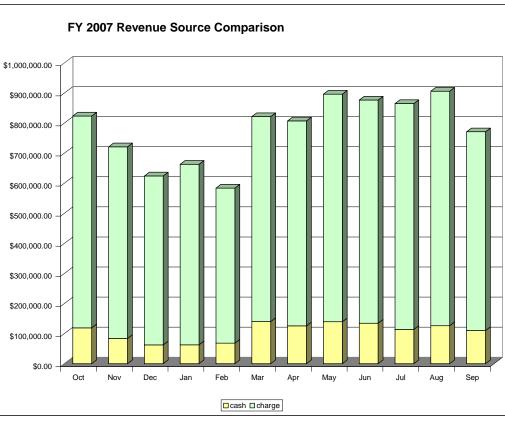
For specified periods each year, the landfill accepts at no charge, leaves and Christmas trees. The items are processed separately at the landfill for re-vegetation projects and erosion control projects at the landfill.

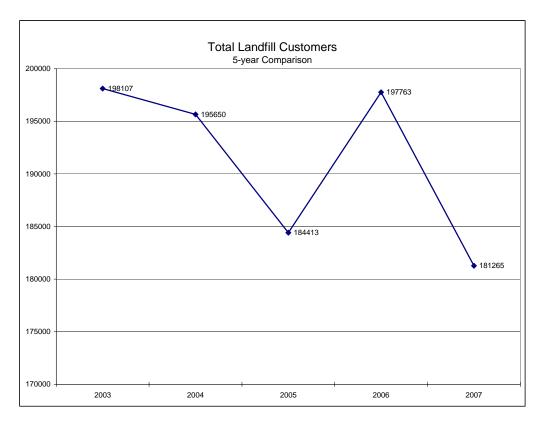
By far, the largest discount (in a dollar amount) is the discount offered for recyclable wood. Customers who separate their recyclable wood from their other trash receive a sizable discount for their wood placed in the wood recycling area. As noted in this report, over 161,900 cubic yards of wood was shipped away from the landfill for other uses.

All of these programs cost. In Fiscal Year 2007, the Solid Waste Management Department, through discounts, waivers and donations did not collect over \$501,000 in landfill fees.



#### ODDS AND ENDS (CUSTOMER COUNTS AND MATERIALS)





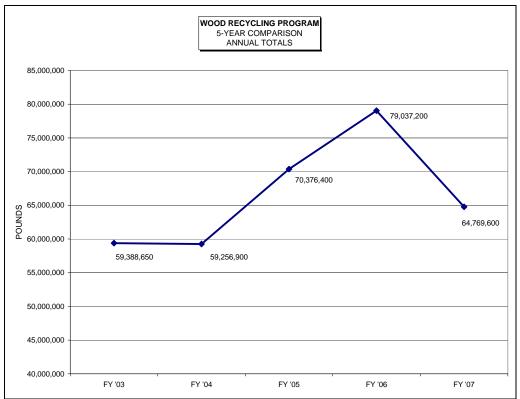
The above chart is a 5-year comparison of customers through the gates at the landfill. Typically, the more affluent a society, the more growth experienced in an area, the more trash is disposed. Ada County is no exception to this behavior. Reasons for decreases in customer count include declines in construction activities and, equally important and more long-term in effect, the opening of transfer stations in the valley.

Allied Waste and Sanitary Services opened transfer stations in Ada County. Allied Waste operates a transfer station near the west end of the Boise airport. Sanitary Services operates their transfer station at their Meridian facility. Both transfer stations offer the waste haulers the opportunity to consolidate loads. Rather than having many route-trucks traveling to and from the landfill, the route-trucks travel to a consolidation point – the transfer station – where their loads are combined into a single load destined for the landfill. Operation of these transfer stations (both open to the general public) has reduced the amount of traffic entering the landfill.

## **RECYCLING DETAILS**

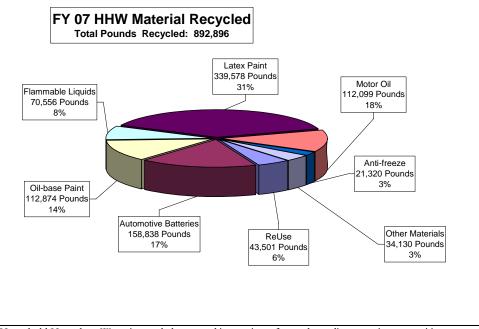
**The following pages** are the graphic details of the Diversion Programs in Ada County. These graphs compare 5 years of data to serve as a guide and a reminder that sometimes more effort is due. These also serve as indicators of how well the programs are working.

## Wood Waste Recycling



The Wood Recycling Program is the most successful recycling program at the landfill. During Fiscal Year 2007, more than 64 million pounds (over 32,000 tons) of wood was hauled (diverted) from the landfill in 1,244 tractor-trailer loads.

## Household Hazardous Waste ReUse/Recycle



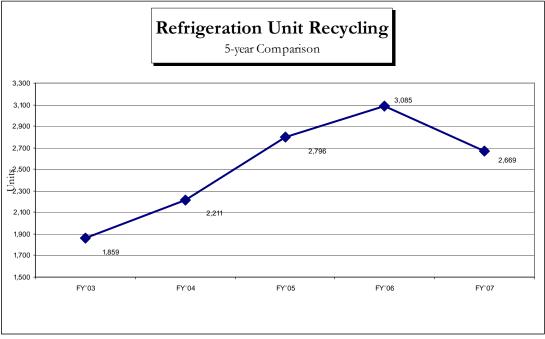
Household Hazardous Waste is recycled or reused in a variety of ways depending upon its composition.

## **Tire Recycling**



The tire-recycling program shipped 10,345 tires away from the landfill. The tires are recycled for various projects; such are athletic tracks, road base, and fuel in the process of making cement.





Refrigeration units (refrigerators, freezers and air conditioners) contain Freon. Freon is a greenhouse gas that causes damage to the ozone layer of the atmosphere. At the landfill, qualified technicians remove the Freon. The Freon and the refrigeration unit are then recycled. The landfill processed 2,669 units in FY '07.

## **Curbside Recycling**

In all, more than 11,800 tons of recyclable commodities were reported collected by the waste collection firms in Ada County. Because of its population concentration and size, the residents of the City of Boise set out the most at 8,199 tons. The residents of the City of Meridian did their part by setting out 1,687 tons. County residents (those living outside the cities' limits) set out 966 tons. Residents of the City of Eagle set out 443 tons; residents of the City of Garden City set out 354 tons; residents of the

COMMODITIES COLLECTED CURBSIDE INCLUDE:

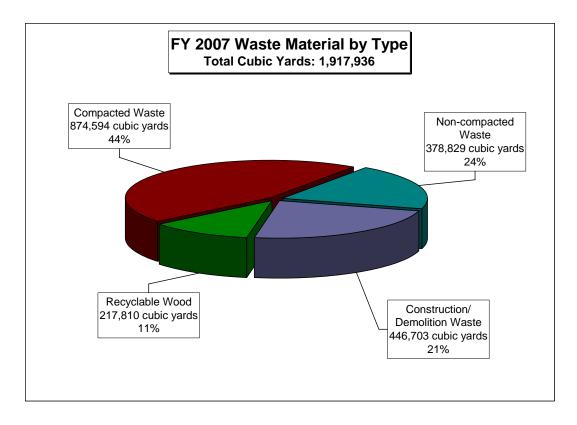
Newspaper Recovered paper/Cardboard boxes Plastic Metal cans Magazines and Catalogs City of Kuna set out 180 tons and, residents of the City of Star set out 67 tons.

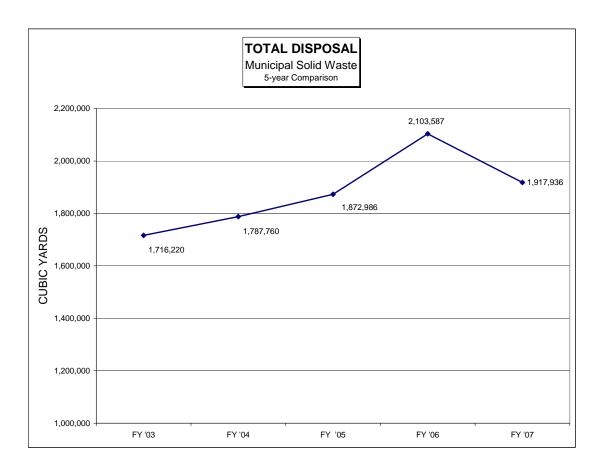
### WASTE MATERIAL

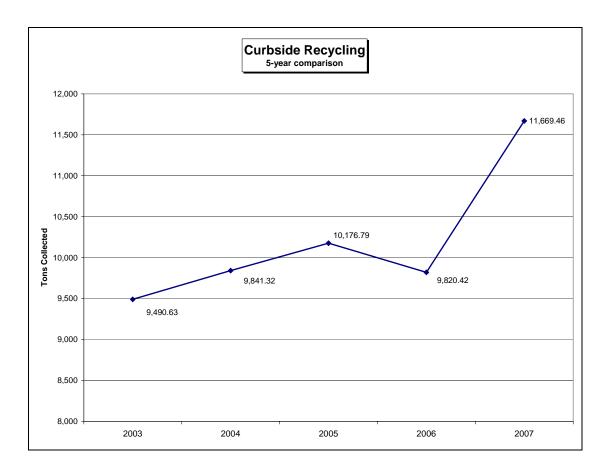
Waste entering the Hidden Hollow Sanitary Landfill arrives in all forms. However, for convenience and simplicity, this report classifies waste into four (4) basic categories:

- Compacted Waste waste that arrives in a "packer" truck or commercial compactor.
- Non-compacted Waste typically regular household trash; may be delivered by persons hauling their own waste.
- Construction/Demolition Waste waste from any construction or demolition project. This waste type includes wood, metal, wallboard, rocks, concrete, dirt, appliances, or any other material that does not compact well in the landfill. For the purposes of this report, asbestos-containing material is being included in this waste category although it has its own set of regulations and disposal standards.
- Recyclable Wood wood waste placed in the wood recycling area. This material is recycled and not buried in the landfill.

The following chart shows the breakdown of materials received at the landfill in cubic yards.







# **Synopsis**

The theme of this year's report has been management and care of the County's valuable resource -- the Hidden Hollow Complex. Not just a site for disposing the municipal solid waste generated by the residents, businesses, and institutions in Ada County, but a site for recreation, for wildlife habitat, and for preservation of plant species.

Although the property was originally acquired as the County's resource for solid waste disposal, growth has placed additional emphases on use and management of landfill property. These additional emphases further the need for the community and users of the County's solid waste system to find alternatives to throwing away. We must all follow the creed to



The Ada County Solid Waste Management Department continually strives to ensure the residents, businesses, and institutions in Ada County continue receiving the highest quality service at reasonable rates by staying abreast of technological changes in solid waste disposal. Where cost effective, the new technologies will be introduced to the County's solid waste system.

The Solid Waste Management Department thanks you for your interest in the progress of the department.

# Appendices

#### HIDDEN HOLLOW COMPLEX

### Appendix - A

#### Ada County Curbside Recycling Program Commodities Collected by Allied Waste (Measured in Tons)

Commodity	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
ONP	44.55	50.22	45.67	46.80	38.59	43.87	44.40	45.98	39.31	35.78	40.74	37.04	512.95
MWP/OCC	23.76	26.84	24.41	25.01	20.63	23.40	28.94	29.97	25.62	23.32	26.56	24.15	302.61
Plastic	5.12	5.71	5.19	5.32	4.38	4.97	5.24	5.43	4.64	4.22	4.81	4.37	59.40
Tin	2.39	2.62	2.38	2.44	2.01	2.28	2.40	2.49	2.31	2.18	2.49	2.18	28.17
Aluminum	1.24	1.31	1.19	1.22	1.01	1.14	1.20	1.25	1.16	1.09	1.24	1.09	14.14
OMG	5.45	6.08	5.53	5.66	4.67	5.30	3.01	3.11	2.66	2.42	2.76	2.51	49.16
Totals	82.51	92.78	84.37	86.45	71.29	80.87	85.19	88.23	75.70	69.01	78.60	71.34	966.43

#### HIDDEN HOLLOW COMPLEX

### Appendix -B

### City of Boise Curbside Recycling Program Commodities Collected by Allied Waste (Measured in Tons)

Commodity	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
ONP	370.50	417.68	379.84	389.20	320.95	364.12	369.27	382.42	326.90	297.55	338.82	308.06	4365.31
MWP/OCC	197.60	223.23	203.01	208.01	171.53	194.60	240.71	249.28	213.08	262.75	266.60	248.88	2679.28
Plastic	42.54	47.45	43.15	44.21	36.46	41.36	43.57	45.12	38.57	35.11	39.98	36.35	493.87
Tin	19.90	21.78	19.81	20.29	16.73	18.99	20.00	20.71	19.24	18.14	20.67	18.10	234.36
Aluminum	10.29	10.89	9.90	10.15	8.37	9.49	10.00	10.36	9.62	9.07	10.34	9.05	117.53
OMG	45.28	50.56	45.98	47.11	38.85	44.07	25.00	25.89	22.13	20.14	22.94	20.86	408.81
Totals	686.11	771.59	701.69	718.97	592.89	672.63	708.55	733.78	629.54	642.76	699.35	641.30	8199.16

#### HIDDEN HOLLOW COMPLEX

### Appendix -C

### City of Eagle Curbside Recycling Program Commodities Collected by BFI/Allied Waste (Measured in Tons)

Commodity	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
ONP	20.46	23.06	20.97	21.49	17.72	20.10	20.39	21.12	18.05	16.43	18371	17.01	235.51
MWP/OCC	10.91	12.33	11.21	11.49	9.47	10.74	13.29	13.76	11.77	10.71	12.19	11.09	138.96
Plastic	2.35	2.62	2.38	2.44	2.01	2.28	2.41	2.49	2.13	1.94	2.21	2.01	27.27
Tin	1.10	1.20	1.09	1.12	0.92	1.05	1.10	1.14	1.06	1.00	1.14	1.00	12.92
Aluminum	0.57	0.60	0.55	0.56	0.46	0.52	0.55	0.57	0.53	0.50	0.57	0.50	6.48
OMG	2.50	2.79	2.54	2.60	2.15	2.43	1.38	1.43	1.22	1.11	1.27	1.15	22.57
Totals	37.89	42.60	38.74	39.70	32.73	37.12	39.12	40.51	34.76	31.69	36.09	32.76	433.71

### Appendix - D

### City of Garden City Curbside Recycling Program Commodities Collected by BFI/Allied Waste (Measured in Tons)

Commodity	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
ONP	14.09	15.89	14.45	14.80	12.21	13.85	14.80	14.55	12.43	11.32	12.89	11.72	163.00
MWP/OCC	7.52	8.49	7.72	7.91	6.52	7.40	9.16	9.48	10.09	10.00	11.39	9.47	105.15
Plastic	1.62	1.80	1.64	1.68	1.39	1.57	1.66	1.72	1.47	1.34	1.52	1.38	18.79
Tin	0.76	0.83	0.75	0.77	0.64	0.72	0.76	0.79	0.73	0.69	0.79	0.69	8.92
Aluminum	0.39	0.41	0.38	0.39	0.32	0.36	0.38	0.39	0.37	0.35	0.39	0.34	4.47
OMG	1.72	1.92	1.75	1.79	1.48	1.68	0.95	0.98	0.84	0.77	0.87	0.79	15.54
Totals	26.10	29.34	26.69	27.34	22.56	25.58	27.71	27.91	25.93	24.47	27.85	24.39	315.87

### Appendix - E

### City of Meridian Curbside Recycling Program Commodities Collected by SSC (Measured in Tons)

Commodity	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
ONP/OMG	80.85	89.07	88.50	80.79	72.46	82.65	83.72	91.74	82.45	77.89	88.95	85.01	1004.08
MWP/OCC	40.56	44.68	44.40	40.54	36.36	41.46	42.00	46.03	41.36	39.08	44.62	42.65	503.74
Plastic	8.33	9.18	8.86	8.32	7.47	8.52	8.63	9.45	8.50	8.03	9.17	8.76	103.22
Tin	3.96	4.36	4.34	3.96	3.55	4.05	4.10	4.49	4.04	3.82	4.36	4.16	49.19
Aluminum	2.19	2.41	2.39	2.18	1.96	2.23	2.26	2.48	2.23	2.11	2.40	2.30	27.14
Totals	135.89	149.70	148.49	135.79	121.80	138.91	140.71	154.19	138.58	130.93	149.50	142.88	1687.37

ONP/OMG = Newspaper/Magazines/Catalogs MWP/OCC = Recovered Paper/Cardboard Boxes Plastic = #1, #2, #3 Oct thru Jun, #1 – #7 July thru Sep Tin = Steel "Tin" Cans

Residential Recycling Stops in Meridian

	rtesidentiai rtecyching otops in meridian												
Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total	
23,428	22,826	23,257	20,910	20,755	24,135	23,865	28,312	26,782	26,308	29,515	26,707	296,800	

## Appendix -F

### City of Kuna Curbside Recycling Program Commodities Collected by J&M (Measured in Tons)

Commodity	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
ONP	8.73	9.57	8.49	8.58	8.34	8.09	9.18	9.61	9.77	9.17	8.86	8.98	107.37
MWP/OCC	0.97	1.07	0.95	0.96	0.93	0.90	1.02	1.07	1.09	1.02	0.99	1.00	11.97
Plastic	0.90	0.99	0.87	0.88	0.86	0.83	0.95	0.99	1.01	0.94	0.91	0.93	11.06
Tin	0.43	0.47	0.42	0.42	0.41	0.40	0.45	0.47	0.48	0.45	0.43	0.44	5.27
Aluminum	0.24	0.26	0.23	0.23	0.23	0.22	0.25	0.26	0.26	0.25	0.24	0.24	2.91
OMG	3.41	3.73	3.31	3.35	3.25	3.16	3.58	3.75	3.81	3.58	3.46	3.50	41.89
Totals	14.68	16.09	14.27	14.42	14.02	13.6	15.43	16.15	16.42	15.41	14.89	15.09	180.47

## Appendix -G

### City of Star Curbside Recycling Program Commodities Collected by Allied Waste (Measured in Tons)

Commodity	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
ONP	3.16	3.05	2.77	3.49	2.73	3.10	3.15	3.26	2.79	2.54	2.89	2.62	35.55
MWP/OCC	1.69	1.63	1.48	1.87	1.46	1.66	2.05	2.12	1.82	1.65	1.88	1.71	21.02
Plastic	0.36	0.35	0.32	0.40	0.31	0.35	0.37	0.38	0.33	0.30	.034	0.31	4.12
Tin	0.17	0.16	0.14	0.18	0.14	0.16	0.17	0.18	0.15	0.14	0.16	0.14	1.89
Aluminum	0.08	0.08	0.07	0.09	0.07	0.08	0.09	0.09	0.08	0.07	0.08	0.07	0.95
OMG	0.38	0.37	0.34	0.42	0.33	0.38	0.21	0.22	0.19	0.17	0.20	0.18	3.39
Totals	5.59	5.68	5.17	6.51	5.09	5.78	6.09	6.30	5.39	4.90	5.58	5.08	66.92

# **Special Thanks**

The Solid Waste Management Department wishes to acknowledge and to extend a special "Thank You" to the following people and companies who helped in the preparation of this report.

### <u>The Board of Ada County</u> <u>Commissioners</u>

Fred Tilman, Chairman Paul R. Woods, Commissioner Rick Yzaguirre, Commissioner

### THE SOLID WASTE MANAGEMENT DEPARTMENT STAFF

Dave Neal, Director Ted Hutchinson, Deputy Director Rene Phillips, Health Protection Officer Ken Wall, Hazardous Material Coordinator Rick Schreiber, Environmental Systems Coordinator Jim Krosschell, Account Clerk Kathie Herman, Account Clerk Kathy Nelson, Cashier Barbara Burkhardt, Cashier Carol Hyde, Cashier Kathy Foster, Cashier

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#### ALLIED WASTE SYSTEMS

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#### SANITARY SERVICES COMPANY

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#### J&M SANITATION

Tim Gordon Todd Gordon Chad Gordon

#### ENVIRO-PROGRESS, INC.

Devon Downs

<u>CLEAN HARBORS ENVIRONMENTAL,</u> <u>INC.</u>

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ENVIRONMENTAL EARTHWORKS, INC.

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