

COUNCIL ACTION FORM

**SUBJECT: CENTRAL IOWA WASTE MANAGEMENT ASSOCIATION 2014
COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN UPDATE**

BACKGROUND:

The Resource Recovery System is governed by the Ames City Council in accordance with an approved 28E Agreement with the unincorporated areas of Story County, Iowa State University, and all of the cities in Story County except Collins, Colo and Sheldahl. The agreement calls for the Resource Recovery System to provide for the disposal of the solid waste generated by the involved agencies. One element of that responsibility is to meet the State of Iowa's comprehensive planning regulations.

In the late 1980's, the City and the members of the Resource Recovery System joined with the Boone County Landfill and its members to form the Central Iowa Waste Management Association. The association is an informal planning area and is appropriate since the Resource Recovery System uses the Boone County Landfill for disposal of solid waste that cannot be processed into Refuse Derived Fuel (RDF). The association is **required to submit updates of the comprehensive plan every five years** to the Iowa Department of Natural Resources (IDNR).

The attached document is the seventh update to the original plan. Many elements of the planning process have changed over the years, although the general purpose of the process is to facilitate adjoining solid waste entities working together for mutual benefit. This plan update details the existing integrated solid waste management system, as well as any changes or additions that have occurred since the last plan update. The update evaluates the current system, as well as possible alternative management systems. **Based on this analysis, the existing system appears to be serving the planning area in a manner that best protects the environment, as well as minimizing the area's reliance on landfill disposal.**

Planning area agencies continue to examine options for handling waste generated through construction and demolition waste activities. Building demolition has become a more prevalent activity in our planning area, and it is important that the planning area analyze pro-active strategies to handle this waste stream.

In order to receive input on the plan, a draft version was sent out to each agency involved with the Resource Recovery System and the Boone County Landfill. Following that, three public meetings were held. Input at the meetings was supportive and did not result in any changes to the plan. The IDNR requires that the agencies involved with the Comprehensive Plan enact a Resolution of Support for the Plan. Since the City of Ames administers the 28E Agreement, that requirement can be met for all of the agencies by the Ames City Council's enactment of a supporting resolution.

ALTERNATIVES:

1. Approve the 2014 Comprehensive Plan Update for the Central Iowa Waste Management Association.
2. Reject the 2014 Comprehensive Plan Update and direct staff to modify the document.

MANAGER'S RECOMMENDED ACTION:

This approval is needed in order to comply with requirements of the State of Iowa.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1, thereby approving the proposed 2014 Comprehensive Plan Update for the Central Iowa Waste Management Association.

**CENTRAL IOWA WASTE MANAGEMENT ASSOCIATION
 COMPREHENSIVE PLAN UPDATE
 NOVEMBER 2014**

NARRATIVE COMPONENT

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CENTRAL IOWA WASTE MANAGEMENT ASSOCIATION

**A Partnership Between the
City of Ames Resource Recovery Plant and the Boone County Landfill**

INTRODUCTION

This document represents the seventh update to the comprehensive solid waste management plan prepared by the Central Iowa Waste Management Association (CIWMA). Plan updates are required by the Iowa Department of Natural Resources (IDNR) every three years.

The CIWMA planning area consists of the service areas of the City of Ames Resource Recovery Plant and the Boone County Landfill (owned and operated by Boone County). The planning area now serves a population of over 123,000. In 2000, 2002, and 2009 the planning area was recognized by the IDNR as exceeding the State goal of diverting 50% of waste from landfill disposal.

This plan update details the existing integrated solid waste management system, as well as any changes or additions that have occurred since the last plan update. The update examines the current system and alternative management systems. Based on this analysis, the existing system appears to be serving the planning area in a manner that best protects the environment, as well as minimizing the area's reliance on landfill disposal.

The planning area continues to examine options for handling waste generated through construction and demolition waste activities. Building demolition has become a more prevalent activity in our planning area and it is important that the planning area facilitate and/or provide pro-active strategies to handle this waste stream.

In addition to the public meetings held to gain input from the public regarding this plan update, the City of Ames and the Boone County Board of Supervisors welcome comments and suggestions concerning the management of solid waste on an ongoing basis. Please contact Mr. Gary Freel at 515.239.5137 regarding the service area of the Ames Resource Recovery Plant or Mr. Scott Smith at 515.433.0591 regarding the service area of the Boone County Landfill.

**1268 – 224th Lane, Boone, Iowa 50036
(515) 433-0591 Fax: (515) 433-0545 Email: info@boonelandfill.org**

NARRATIVE

I. PLANNING AREA DESCRIPTION: The Central Iowa Waste Management Association (CIWMA) planning area consists of the waste management planning jurisdictions of the City of Ames Resource Recovery System and the Boone County Landfill operated by Boone County. A contractual relationship between the City of Ames and Boone County forms the basis for the CIWMA planning area.

Responsible Agency:

City of Ames

Ames Resource Recovery Plant

Primary Service Area:

Boone County

Boone County Landfill

Primary Service Area:

Communities Involved:

Ames, Cambridge, Gilbert, Huxley, Kelley, Maxwell, McCallsburg, Nevada, Roland, Slater, Story City, Zearing and Unincorporated Story County.

All cities in Boone County (except Sheldahl) and unincorporated Boone County; all cities in Greene County (excluding Jefferson) and Unincorporated Greene County; Bouton Granger and Woodward in Dallas County; Farnhamville, Lohrville and Somers in Calhoun County; and the Woodward State Resource Center

Note: The Boone County Landfill serves as the secondary municipal solid waste disposal facility for Story County.

Permanent changes to the planning area: There is one permanent change to the planning area. As of July 1, 2014 the City of Colo joined the Marshall County Landfill Comprehensive solid waste planning area. All population data has been changed in this update to reflect this change.

II. EVIDENCE OF COOPERATION

Resolutions from participating municipal governments and 28E agencies:

Appendix "A" contains the resolutions from the participating governments in the Boone County Landfill's service area and the 28E agency .

The current contract between Boone County and City of Ames is attached.

The 28E agreement the City of Ames, Story County and Cities in Story County was updated during FY2014. A copy of the updated agreement is attached.

III. PUBLIC PARTICIPATION

Ongoing strategies to get public input: The CIWMA utilizes a wide range of strategies to gather public input. Some strategies are more formal than other others. Regardless of their level of formality, the goal is to keep in continuous contact with the public in order that programs best meet the needs of the various constituencies served by the CIWMA.

Public Outreach and Input Opportunities Include:

Meetings of Governmental Agencies:

Boone County Landfill Service Area: The Boone County Supervisors meet regularly each week on Wednesdays from 8:30 a.m. to 4:30 p.m. These meetings are open to the public and each agenda is publicized on the local radio station. The public can simply "drop-in" to speak with the Supervisors.

The landfill administrator/recycling coordinator provides the Supervisors with a weekly update during one of the Board's regularly scheduled meetings. These meetings are often attended and subsequently reported on by local print and radio media representatives. The landfill administrator/recycling coordinator is frequently interviewed by the press.

Public access to records and the future plans of the Boone County Landfill are available to the public during regular business hours. The Boone County Supervisor's planning sessions for future solid waste management development are also open to the public and public comment is added to the decision making process. An annual public budget meeting is held to provide the public an opportunity to address future solid waste management concerns. Public meetings with various local governments such as city councils, county boards of supervisors, and others provide further input to solid waste management planning in the service area. The Supervisors also hold "town meetings" on a periodic basis throughout the County.

Recycling activities in Greene County are coordinated by the Greene County Recycling Agency (GCRA). The GCRA is a 28E quasi-governmental agency formed in the early nineties by Greene County and its municipalities. Their meetings are open to the public.

Ames Resource Recovery Plant Service Area: The Ames Resource Recovery System is governed by the Ames City Council whose meetings are held the second and

fourth Tuesdays of each month. These meetings are open meetings and agendas are published in advance.

Budget hearings are held each February and public input is sought. Prior to the budget hearings, mailings are made to each of the 28E agencies explaining proposed programs for the year and requesting input. In addition, the Public Works Director meets each January with the County Mayors Association to go over the status of the Resource Recovery Plant and the proposed budget.

Resource Recovery System staff have implemented a program to regularly visit city council meetings of the 28E agencies to provide system updates and answer questions or concerns. Staff is available at other times as well. All City Council meetings and budget hearings are telecast; both live and replayed, on the local government cable channel (#12).

Meetings are held with area waste haulers to receive their input on system operations.

No other regular solid waste planning activities by other governmental groups within the service area is known.

Speakers Bureau: A speakers bureau has been developed by the City of Ames, Greene County Recycling Agency and the Boone County Landfill to present information to: Civic groups, community groups, municipalities, public agencies, etc. In addition, facility tours are offered to groups such as schools and community organizations. These presentations and tours always include a question and answer component which provides public input.

The Boone County Landfill also participates in events where it can set up a portable display and hand out information. Examples include: Boone County "Celebrate Families" event, Boone Area Home Show, Boone Area Senior Fair and area libraries.

The City of Ames Resource Recovery Plant participates in the: Eco Fair, Stash The Trash Day, Welcome Fest at Iowa State University, Ames Day at the State Capitol, Ames Electric Utility and Resource Recovery Annual Public Open House and the Annual Energy Fair.

Community Involvement: Staff of both the Boone County Landfill and the City of Ames are involved in organizations and projects in our respective service area. This involvement provides ongoing opportunities to solicit public input from a wide range of constituents. This involvement has led to the creation of Keep Boone County Beautiful as well as partnerships with organizations such as: The Boone Area Chamber of Commerce, Ames Chamber of Commerce, Boone and Story Master Gardeners, Civic Groups, Boone and Story County Conservation Boards, National Resource Conservation Service, Boone County Soil and Water Commission, Boone and Story County Extension Services, and the Skunk River Navy.

Media: The planning area is fortunate that it has a strong base of local newspapers and radio to draw upon to disseminate information. The local media is always receptive to writing articles or conducting radio interviews to promote programs or to assist the planning area in addressing waste management issues. Based on information gained

from past surveys, residents in our planning area prefer to obtain information from local newspapers and to a lesser degree, local radio.

During the past five years, although broadcast television has not been utilized by the planning area, cable television has been utilized. The Resource Recovery System has an on-going program on the local government public access channel (#12) that explains the system operation and it's environmental benefits. It is replayed approximately four times per week. In addition specific programs on propane tanks, Household Hazardous Waste, battery disposal, tire disposal and the new glass recycling program are run. The City of Ames runs several commercials on Mediacom channels.

Also the City's web site has many informative items and a virtual tour of the Resource Recovery Plant.

Surveys/Evaluations: Where appropriate, program surveys/evaluations are conducted to obtain public input. This information utilized to help maximize program awareness and operations. During the last four years, surveys or evaluations have been conducted in conjunction with the following programs:

HHW Clean-Up Crew Events and Satellite facilities - Customers complete participant surveys

School Programs - Program evaluations (Boone and Story Counties)

Resident satisfaction surveys - The City of Ames annually conducts a "Citizen Satisfaction Survey."

Other cities in the planning area conduct resident satisfaction surveys. However, due to the generic nature of the questions asked, surveys do not provide the detailed level of program specific information as the other surveys/evaluations instruments and public input strategies.

Green Pages - The Boone County Landfill's "Green Pages" include a coupon which residents can send in to request information and offer input.

Dragoon River Romp: Participants are requested to complete a survey at the end of each year's event. Information from the surveys are used to improve the program.

Greene County Recycling Agency: During 2013, the GCRA conducted surveys of its residential and workplace customers. Based on the information received, the GCRA implemented several changes including dual stream collection, drop-off bin improvements and a more effective public outreach campaign.

Web Pages - The Boone County and City of Ames web sites both offer opportunities for residents to provide input. Boone County developed a new website in 2009 that is very user friendly and easy to navigate. The Landfill is included in this system.

Copies of the above are available to the Department upon request.

Results of Public Outreach and Input: Based on these extensive public outreach efforts, over the past five years many changes have been implemented to improve the programs offered in the CIWMA planning area. Examples of programs responding to public input include:

Improvements at the Ames Resource Recovery Plant: 

- Material throughput improvements
- Improved signage
- Increased ferrous metals recovery separation
- Glass crushing/recycling program
- Implemented container glass drop-off recycling program
- Non-Ferrous Metals recovery program
- CESQG hazardous waste program at satellite program enhancements

Improvements at the Boone County Landfill

- New drop off area for small vehicles under construction
- Asphalt shingles recycling
- Garbage truck pull off lane along 224th Lane under construction
- Stop sign at Montana and 22th Lane
- Improved site signage
- Household Hazardous Waste satellite program enhancements
- CESQG hazardous waste program at satellite program enhancements

Improvements at Yard Waste Processing Facility at the Boone County Landfill:

- Revision of dates for Fall Yard Waste Days.
- Improved traffic flow
- Increased promotion of Free Yard Waste Days

Improvements at the Boone County Recycling Center:

- Switch to single-stream collection and processing
- Improved access road
- Improved material storage containers
- Improved recycling collection route process

Increased public awareness and program promotion:

- Boone County Landfill:
 - Monthly appearance on KWBG Radio's "Tuned In" program.
 - Boone Living Magazine
- City of Ames
 - Leadership Ames glass recycling awareness projects
 - Household Hazardous Waste Video
 - Tire Recycling Video
 - Battery Recycling Video
 - Glass Recycling Video
 - New and Revised Resource Recovery System Video
 - ARRP newsletter
 - Increased program promotion
 - Propane tank disposal video
 - Curbside Recycling in Ames video
 - Several "This Week in Ames" promotions
 - Furniture Disposal in Ames video

Greene County Recycling Agency:
Recycling Handbook
Magnets with Recycling collection schedule
Greene County Living Magazine

List of public meetings held for plan development and publicity documentation:

Plan Update Development Committee: A plan update committee was established to prepare the plan update. Members of the committee include:

- Mr. Scott Smith**, Boone County Landfill
- Mr. John Joiner**, City of Ames Public Works
- Mr. Gary Freel**, City of Ames Resource Recovery Plant
- Ms. Lois Powers**, Boone County Landfill
- Mr. Bill Schmitt**, City of Ames Resource Recovery Plant
- Ms. Lorrie Hanson**, City of Ames Resource Recovery Plant
- Ms. Kathy Pittman**, Genesis Development (representing Greene County Recycling Agency)
- Ms. Ashley Coil**, Genesis Development (representing Greene County Recycling Agency)
- Mr. Todd Whipple**, HLW Engineering Group

Given that the participating agencies deal with each other on an ongoing basis, the plan update committee was able to communicate via email and telephone from January through June to gather, prepare and review information to be incorporated into the plan update.

Public Meetings: A series of three Public Meetings were held to obtain public input on the proposed plan update. Meetings were held on:

- August 17, 2009: Ames City Hall, 515 Clark Avenue, 7:00 p.m.
- August 17, 2009, Boone County Courthouse - 4th Floor, 201 State Street, Boone, 10:00 a.m.
- August 18, 2009: Jefferson City Hall, 220 N. Chestnut, Jefferson, 7:00 p.m.

Public Hearing meeting notices were publicized twice in the Ames Tribune, Boone News Republican, Madrid Register, Ogden Reporter, Jefferson Bee & Herald, North Dallas Record, Iowa State Daily, Story City Herald, Tri-County Times, and the Nevada Journal. In addition, each city and county was notified of the meetings and encouraged to publicize the meetings. Each city and county also received a draft plan update for their respective review and comment.

Affidavits of publication and Public Meeting minutes are included in Appendix "B".

IV. EXISTING ISWMS DESCRIPTION

General Description:

Disposal and Processing Facilities:

Sanitary Landfills

The Boone County Landfill, located ¼ mile south of Highway 30, and 1/4 mile west of Montana Road in central Boone County, is the only Iowa Department of Natural Resources (IDNR) permitted municipal solid waste landfill in Boone, Greene, and Story Counties.

The above table represents the current fee structure for the Boone County Landfill. As with any disposal facility, the tipping fee schedule is regularly evaluated to determine if it is

**Boone County Landfill
Schedule of Fees
(Effective July 1, 2012)**

User Type:	Uncovered Load Fee:	MSW (Garbage)	Construction/ Demolition	Asbestos (Note 1)	Yard Waste*	Appliances*	Tires*
Per Capita	\$10.00	\$30.00 per ton	\$30.00 per ton	\$90.00 per ton	\$30.00 per ton	\$10.00 each	See below schedule
Minimum Charge	N/A	\$7.50 (500 pounds or less)	\$7.50 (500 pounds or less)	\$22.50 (500 pounds or less)	\$7.50 (500 pounds or less)	Not Applicable	Not Applicable
Non Per Capita	\$10.00 (Residential Use Cars & Pickups) - OR - \$100.00 (Applies only to all other vehicles with C&D)	\$44.50 per ton (Requires voucher from Ames)	\$60.00 per ton	\$90.00 per ton	Not Accepted*	Not Accepted*	Not Accepted*
Minimum Charge	N/A	\$22.25 (1,000 pounds or less)	\$30.00 (1,000 pounds or less)	\$22.50 (500 pounds or less)	Not Applicable	Not Applicable	Not Applicable

* These items must originate from within the Landfill's Per Capita service area.

Per Capita Users Tire Recycling Fee Schedule:

Tire Size:	Off-Rim:	On-Rim:
Car & Light Truck:	\$ 2.00 Each	\$ 3.00 each
Large Truck/Semi:	\$ 5.75 Each	\$ 6.75 each

Tractor Tires: \$130.00 per ton (a \$15.00 minimum charge applies – 230 pounds or less)

Note 1: Asbestos disposal requires an appointment.

Destroyed buildings containing asbestos: For residential and commercial structures that have been destroyed by either fire or natural disaster and which must be disposed of as ACM waste in their entirety, the loads must be delivered in bulk and properly packaged. This type of ACM waste shall be charged a per ton fee of \$60.00 if a prior written request is submitted to, and approved by, the Landfill Administrator. A minimum fee of \$15.00 will apply to each load of this type of ACM waste.

Per Capita Users include residents and businesses located in: Boone County (except Sheldahl); Greene County (except the City of Jefferson); the Cities of Bouton, Granger and Woodward in Dallas County; and the Cities of Farnhamville, Lohrville and Somers in Calhoun County.

Non-Per Capita Users include residents and businesses located in Story County (except Collins and Sheldahl). Non-Per Capita Users must first call the Landfill at (515) 433-0591 to receive authorization prior to delivering a load. Authorization will only be given if the load is rejected by the waste facilities in Story County. Prior authorization does not apply to Construction and Demolition Waste.

appropriate and meets both the needs of the customers and operational requirements.

The facility also handles asbestos, appliances, scrap metal, waste oil, tires, household hazardous waste, asphalt shingles, lead-acid batteries and yard waste.

Special Waste: The Boone County Landfill has continued to enhance its disposal authorization program for waste designated as “special waste” by either the IDNR or the Landfill. This program provides a clear and consistent protocol for the evaluation and acceptance of special waste. The landfill has presented information on its SWA program at both SWANA WasteCon and at the Great Plains Solid Waste Management Conference.

GIS: The Boone County Landfill, beginning in 2001, implemented development of a Geographical Information System (GIS) specific to the landfill. This system provides a visually-based data management system that aids data retention and operations.

Erosion Control Program: The Boone County Landfill established a comprehensive storm water management and erosion control system commencing in 1999 which has now matured. The program has significantly reduced the amount of sediment generated on site. Sediment is captured in one or more sedimentation basins located in various areas of the site.

This program was the subject of an article published in the July/August 2004 edition of Land and Water magazine.

Large Scale Demolition/Site Remediation Waste Acceptance Policy: The Boone County Landfill has worked successfully with two large-scale demolition projects to minimize their impact on landfill disposal. The waste management practices of these projects were influenced by the Landfill’s “Large Scale Demolition/Site Remediation Waste Acceptance Policy.”

With the closure of the Ames/Story C&D Landfill, this policy now applies to demolition projects in the Story County portion of the planning area. Several projects in Ames have taken place that followed the policy. This has diverted a significant amount of waste from the landfill.

Construction & Demolition Waste Landfills:

The Ames/Story Environmental Landfill, located at 2101 Watt Street in Ames, closed during the last planning cycle and has been formally capped. Construction & demolition waste from Story County participating communities, if landfilled, now goes to the Boone County Landfill.

Recycling and Processing Facilities:

City of Ames Resource Recovery Plant, located at 110 Center Avenue in Ames, processes municipal solid waste into refuse-derived fuel (RDF). The City of Ames Resource Recovery Plant is the only municipally owned solid waste processing facility in the state.

The Plant receives approximately 54,000 tons of waste annually. This waste is then converted to refuse derived fuel (35,000 tons) that is used to generate electricity and rejected waste (15,000 tons) that is landfilled at the Boone County Landfill. The facility also handles

appliances, scrap metal, waste oil, tires, household hazardous waste, lead-acid batteries and glass.

Through this extensive material recovery program, the City is able to divert 70% of the waste it receives into either energy or some other type of recycling program. Thus, only 30% requires landfill disposal. The RDF is mixed with coal in a ratio of 10% RDF to 90% coal at the adjacent City of Ames electricity generating facility.

The 2014/2015 tipping fee is \$52.75 per ton and the per capita assessment is \$9.10. The non per-capita fee is \$63.06.

Boone County Recycling Center, located at 1109 Division Street in Boone, Iowa, processes and markets aluminum cans, tin cans, glass, office paper, mixed paper, magazines, corrugated cardboard, chipboard, newspaper, and plastic.

The recycling center's operations were assumed by the Boone County Landfill when Good Connections ceased all operations on December 31, 2007. The landfill provides the facility and equipment and contracts with Genesis Development to operate the facility and collection system for workplace recyclables.

Boone County has purchased land in northwest Boone on which a new recycling center will be constructed starting in FY2015.

Genesis Development, located at 411 W. McKinley in Jefferson, Iowa, processes and markets tin cans, glass, office paper, mixed paper, magazines, boxboard, corrugated cardboard, newspaper, magazines, and plastic. Starting in January 2014, the center switched from source separated to a dual-stream system.

Fareway Grocery Stores (headquartered in Boone) operates a joint collection program for commercial/industrial generators of corrugated cardboard in the Boone Industrial Park. They in turn deliver this material in truck load quantities to a materials processor in Des Moines for further processing and marketing. Fareway also recycles plastic film generated from their operations.

Regional Collection Center: The City of Ames and the Boone County Landfill both partner with Metro Waste Authority in the operation of the Metro Regional Collection Center for the handling of hazardous waste originating from households and conditionally exempt small quantity generators. This partnership also includes mobile collection events and satellite collection buildings located at the Boone County Landfill and the Resource Recovery Plant.

Composting: Yard waste composting facilities are provided by both the City of Ames and the Boone County Landfill. Both facilities accept: leaves, grass clippings, branches, and garden waste. Neither facility accepts land-clearing waste.

The City of Ames currently contracts with Chamness Technologies for yard waste composting. The facility is located at 26107 530th Avenue in Ames. The Boone County Landfill operates a Yard Waste Processing Facility co-located at the Landfill. It is open to per-capita residents of the Landfill's primary service area. The normal tipping fee is based on \$30.00 per ton. During six weeks in the fall and six weeks in the spring, the Landfill waives the tipping fee for yard waste to encourage use of the facility and to provide residents with an environmentally friendly alternative to open burning.

Other Permitted/Licensed Facilities:

Appendix “C” provides a listing of licensed salvage/junkyards located in the Planning area that accept scrap metal for recycling.

Waste Diversion Programs:

Source Reduction:

Local residents are encouraged to compost home yard and garden wastes through the Boone and Story County extension offices, the Boone County Home Owners Maintenance Education program and the Master Gardener program. Backyard composting is promoted as part of the Landfill’s comprehensive public education program. A publication entitled, “Tips for Successful Backyard Composting” is published and provided by the Landfill to area residents. On-site organic waste management workshops are held periodically held in Boone County.

Another component of this program involves educating the public on the benefits of incorporating recycling into their purchasing practices. A publication entitled “LIFEstyle” (Living In a Friendly Environmental manner) is published and provided by the Landfill to area residents. Another publication is available to help people reduce the amount of junk mail they receive.

The planning area works with representatives from the Iowa Waste Exchange on a regular basis to assist identified businesses in reducing the waste that they generate and/or to find alternatives to landfill disposal.

The Ames Resource Recovery Plant has installed a new primary shredder, enabling them to process materials previously landfilled, and thus reducing material sent to the landfill.

The Ames Resource Recovery Plant and Boone County landfill have worked cooperatively with the Iowa Waste Exchange to find alternatives to landfill disposal for a variety of different waste materials. This partnership has been very effective.

Landfill and Resource Recovery Plant staff are also available to provide business and industry with technical assistance on a local level for source reduction and recycling activities. Program offerings include: conducting waste stream reviews; source reduction and recycling program development; employee/customer education; and program monitoring and evaluation.

Recycling/Recovery Programs: Recycling and recovery programs continue to be the most popular strategy for reducing the amount of waste sent to the landfill.

Boone County: (also includes the three Dallas County and three Calhoun County communities served by the Landfill)

The solid waste haulers continue to offer curbside collection to the residential customers they each serve in most communities. Materials collected are office paper, plastic, glass, metal cans, magazines, corrugated cardboard, chipboard, newspaper and yard waste. Collected materials are delivered to the Boone County Recycling Center for processing.

A few years back, the recycling center was reconfigured to accept single-stream recyclables. This has increased collection efficiencies.

The Boone County Recycling Center also provides recycling services to area businesses either through the workplace recyclables collection route, the drop-off location or through accepting material delivered by area haulers and from local businesses. Fareway Grocery Stores offer a joint corrugated cardboard recycling program to companies located in the Boone Industrial Park. Fareway also recycles plastic film generated from their operations.

A centralized drop-off collection facility is located at the Boone County Recycling Center that accepts all the materials listed above. A drop-off bin for newspaper is located adjacent to the Ogden City Hall. These drop-off locations provide a recycling outlet for businesses, multi-family residences and single-family residences that either do not have access to curbside recycling or have excess material.

Boone County has purchased land in northwest Boone on which a new recycling center will be constructed starting in FY2015.

The Boone County Landfill accepts tires, lead-acid batteries, yard waste, appliances, plastic pesticide containers and scrap metal and serves rural residents as well as small businesses with this drop-off location.

Greene County: All incorporated cities in Greene County (except the City of Scranton) offer both drop-off and bi-weekly curbside collection of recyclables through intergovernmental agreements coordinated by the Greene County Recycling Agency which conducts the collections. Materials collected are office paper, mixed paper, magazines, box board, plastic, clear glass, metal cans, corrugated cardboard, newspaper, and magazines. The drop-off locations provide a recycling outlet for businesses, multi-family residences and single-family residences that either do not have access to curbside recycling or have excess material.

In addition, businesses located in incorporated cities in Greene County are offered weekly "curbside" recycling collection for both white office paper and corrugated cardboard. This collection program is operated by Genesis Development under contract to Greene County.

Starting in January 2014, the center switched from source separated to a dual-stream system.

The landfill continues to provide Genesis Development with a \$10 per ton marketing incentive fee for every ton marketed to an acceptable end-use market. In addition the Landfill provides Genesis with an annual base services payment of \$1.00 per capita.

The City of Scranton provides weekly curbside collection of newspaper (with inserts), cardboard, boxboard, metal cans and plastic containers. It provides a drop-off location at City Hall for the collection of glass containers. The City's contracted waste and recyclables hauler transports its recyclables to an out of planning area recycling facility.

The City of Scranton provides a handbook to residents that among other things includes information about the City's garbage and recycling program. As needed the City also sends out postcards to its residents with information about their recycling program.

Story County:

The City of Ames Resource Recovery Plant, located at 110 Center Avenue in Ames, processes municipal solid waste refuse-derived fuel (RDF). The facility also handles appliances, scrap metal, tires, household hazardous waste, lead-acid batteries and glass.

Through this material recovery program, the City is able to divert 70% of the waste it receives into either energy or some other type of recycling program. Thus, only 30% requires landfill disposal. The RDF is mixed with coal in a ratio of 10% RDF to 90% coal at the adjacent City of Ames electricity generating facility.

The Resource Recovery Plant accepts tires, lead-acid batteries, appliances, motor oil, scrap metal, and glass for recycling or reprocessing. Second Generation Recycling collects glass, plastics, and paper from residential customers.

Iowa State University provides drop-off collection of paper and phone books and beverage containers and glass for University students and staff.

Waste Management of Ames and Chitty Garbage Service provide residential recycling collection for paper, glass, and plastics. Most haulers provide curbside collection of yard waste. Area haulers and Des Moines-based recyclers also collect cardboard from area businesses for recycling.


Ames Area Redemption also accepts glass, steel, plastic, paper, aluminum and cardboard for recycling.

Story County FreeCycle and Story County Reuse It: These two Yahoo.com groups provide an opportunity for participants to "swap" what they no longer with those that want the material. There are also Facebook local trade sites and sale sites.

Retailer Based Recycling: The grocery retailers throughout the planning area collect plastic grocery bags for recycling. A number of retailers, including several auto industry retailers, also accept rechargeable batteries through the Rechargeable Battery Recycling Alliance program.

Best Buy in Ames offers recycling for several items in their lobby such as cell phones, tablets, chargers, and various other electronics. Interstate Battery in Ames also accepts used rechargeable batteries of all types for recycling purposes.

Household Hazardous Waste: Both the City of Ames and the Boone County Landfill participate in the Clean Up Crew household hazardous waste program operated by Metro Waste Authority. A number of mobile collection events are held in the planning area each year. In addition, satellite collection facilities have been established at both the Ames Resource Recovery Plant and the Boone County Landfill.

CESQG Hazardous Waste: Both the  of Ames and the Boone County Landfill participate in Metro Waste Authority's Conditionally Exempt Small Quantity Generator Hazardous Waste Program.

Sharps Collection: Both the ARRP and the Boone County Landfill accept used needles and other sharps from residential customers. Sharps are handled by the Regional Collection center program in Bondurant.

Keep Boone County Beautiful (KBCB): Keep Boone County Beautiful, created in 2001 and an affiliate of Keep Iowa Beautiful, is a volunteer-based program that strives to raise public awareness about litter, beautification and waste management issues. It serves as a "conduit for action" to assist and recognize volunteers and community groups that undertake efforts to maintain and improve the environment of Boone County. The Boone County Landfill serves as the governmental sponsor of Keep Boone County Beautiful. The Landfill's administrative assistant serves as the program's coordinator.


KBCB has undertaken several community clean-up projects as well as assisted with several "litter free" community events. KBCB coordinated recycling and waste collection during the grand opening of the High Trestle Trail Bridge grand opening in 2011.


KBCB has been instrumental in establishing and coordinating the following ongoing programs:; Adopt-A-County Road; Adopt-A-City Street (Boone); Adopt-Your-Favorite Place (County and Madrid); and, the Dragoon River Cleanup.

Bikes for Kids and Tykes: This is program, coordinated by the Boone County Landfill, recovers road worthy bicycles that would otherwise be recycled as scrap metal. Children of families meeting certain income levels are eligible to receive a bike free-of-charge. Eligible adults can also receive bikes through this program. The program is administered by the Boone/Greene County RSVP program, Red Rock Community Action and the Boone County Landfill.

Flag Disposal: Flag Disposal: The ARRP partners with the American Legion Post #37 in Ames and provides a Flag Disposal bin so that flags may be disposed of properly at various times throughout the year by the Legion's veterans.

Scrap Metal: In addition to the salvage yards listed in Appendix "C", the Boone County Landfill accepts scrap metal by its scale house and reclaims it through its waste grinding system. The scrap metal is transported to Pickett's Salvage, LLC.

With the Resource Recovery System, in addition to the 35,000 tons of refuse derived fuel that is processed, an average of over 2,000 tons of ferrous metals are extracted from the waste stream. This total is estimated to be approximately 97% of the ferrous metals in the waste stream, which is much more efficient than the traditional recycling methods. Scrap metal is delivered to AMG Resource Corp of St. Paul, MN. for processing and production of steel. The new non-ferrous system is expected to produce 219 tons annually for recycling 


Used Oil/Anti-freeze/Fluorescent Bulbs: Waste oil is accepted for recycling at various locations in Ames, Boone and Jefferson that also offer oil change services. The Boone County Landfill accepts used antifreeze and fluorescent tubes and bulbs. The ARRP also accepts fluorescent bulb 

Rechargeable Batteries: Rechargeable batteries are collected through the National Rechargeable Battery Association’s “Charge Up to Recycle” program and participating retailers. A toll-free number directs residents to the nearest participating retailer is located based on their home zip code. For example, in Boone this program is sponsored by the Boone Wal-Mart. Rechargeable batteries are also collected through HHW mobile collection events and at the satellite facilities.

Tires: The Boone County Landfill accepts used tires of all sizes and stores them in an enclosed semi-trailer. Boone County Secondary Roads Department utilizes this trailer for the storage of the abandoned tires they collect from throughout the County. Liberty Tire in Des Moines removes the tires on a periodic basis and process the tires into useable material.

The City of Ames Resource Recovery Plant also accepts tires and utilizes Liberty Tire in Des Moines to process the tires.

Appliances: The Boone County Landfill accepts appliances. The appliances are processed off-site by Pickett’s Salvage, LLC at their IDNR permitted demanufacturing facility in Boone County.

The City of Ames Resource Recovery Plant accepts appliances. The appliances are processed off-site by  **Midwest Recovery at their IDNR permitted demanufacturing facility in Bondurant, Iowa.**


Bell Salvage and Mike Louis Auto Body in Ames both accept appliances. The appliances are demanufactured on-site by a registered demanufacturer.

AB Salvage in Boone accepts appliances for off-site demanufacturing.

Rose Construction offers a pick-up service for appliances. They store the collected appliances in a warehouse until a permitted demanufacturer picks them up for demanufacturing off-site.

Lead-Acid Batteries: The Boone County Landfill and Ames Resource Recovery Plant accept lead-acid batteries. The batteries are picked up and recycled by Pickett’s Salvage (Boone batteries) and Bell Salvage (Ames batteries.)

Composting: Both the City of Ames and the Boone County Landfill operate or contract for yard waste compost facilities for yard waste generated through routine yard maintenance. Both facilities normally charge for yard waste.

The Boone County Landfill offers “free yard waste days” during six weeks in the spring and six weeks in the fall to provide residents with an alternative to open burning and to obtain more compostable material. During this program, which is funded by per-capita fees, normal tipping fees are waived. 

Waste to Energy: The City of Ames operates a Refuse-Derived Fuel processing plant. This facility processes an average of 70% of the incoming waste into a fuel product that is mixed with coal at the City of Ames electric generating facility. The plant sends the remaining 30% (processed reject material) from the plant to the Boone County Landfill.

To date, examinations of the feasibility of sending burnable material from the Boone County Landfill's service area to Ames on a regular basis has demonstrated significant logistical and economic obstacles. However, this alternative will continue to be explored periodically, especially as new technologies are developed or changes in economic assumptions occur.

Take A Stand For Your Land: Boone County continues to combat illegal dumping. The theme of the program, "Take A Stand For Your Land" was developed through a pilot project with the Iowa Department of Natural Resources and Keep Iowa Beautiful. Boone County maintains a toll-free call in number and the Landfill financially supports a code enforcement position in the Health & Sanitation Department.

NEW Programs Since Last Plan Update:

A number of new programs have been developed and implemented in the planning area over the past three years. These new programs include:

Disposal & Reclamation:

Landfill Waste Grinding & Metal Reclamation System: In April of 2012 the Landfill implemented a new system utilizing a horizontal grinder to densify the various wastes delivered to the Landfill. This system is a significant departure from the traditional landfilling system. Rather than using a multi-purpose piece of heavy equipment in the form of a landfill compactor, the new system moves more towards the model of using dedicated heavy equipment for specific tasks.

In many cases, the multi-use focus of the current system means that the same machine has to be able to perform somewhat contradictory tasks. This means that the designers of the equipment are often making compromises that negatively impact performance and efficiency.

The new grinding system, while incurring a significant up front cost, provides significant cost savings in regards to overall fleet costs, airspace capacity, and facility safety. The system also opens up new revenue streams such as metals recycling and land clearing waste processing that are not currently available under the existing system.

Watershed Protection:

Don Williams Lake Watershed Improvement Plan: Boone County Conservation and Boone County Soil & Water Conservation District received a grant from the IDNR to conduct and assessment and prepare a watershed improvement plan for Don Williams Lake. The Boone County Landfill was very involved in the project. Landfill staff prepared the grant request, served as the project's recording secretary, and coordinated public education activities associated with the project. The final plan received overwhelming support from land owners and lake users. The USEPA approved the plan in January of 2012.

City of Ames Smart Watershed Program: 

Recycling and Composting:

Boone County Recycling Center: Although operating in the same location as the former Good Connections recycling center, the BCRC is really a "new" facility. The Boone County Landfill took over the facility as on January 1, 2008. The landfill hired Genesis Development

to operate the facility and workplace recyclables collection program under the direction of the landfill administrator/recycling coordinator.

Greene County Recycling Agency (GCRA): The GCRA is the only 28E intergovernmental agency formed just for the purposes of recycling in rural Iowa. During 2013, the GCRA undertook an extensive review of its collection, processing system, and public outreach. This involved surveys, customer feedback and discussions with collection and processing personnel.

Out of this review came several changes. The collection system (drop-off and curbside) transitioned to a dual stream format with associated changes to the processing system. The GCRA also contracted with Big Green Umbrella Publishing to run a monthly article and ad in Greene County Living Magazine. This magazine is mailed to every postal address in Greene County.

City of Ames Grinding System:

Asphalt Shingles Recycling: The Boone County Landfill has partnered with Metro Waste Authority to offer asphalt shingles recycling. The Landfill received a SWAP forgivable loan to help defray costs associated with constructing a concrete acceptance and storage pad. When a semi load of asphalt shingles are accumulated, the load will be transported to the Metro Park East Landfill for processing.

Banned materials: The following identifies banned materials by facility:


Boone County Landfill: The following items are banned from landfill disposal at the facility but on-site collection points are provided and the materials are either recycled or properly disposed: Appliances, Tires, Lead-Acid Batteries, Yard Waste.

In addition, the Landfill does not accept: Hazardous Waste, Infectious Waste, Radioactive Waste, Dead Animals, Liquids of any type, Asphalt from Paving, Used Needles, manure from livestock. Petroleum contaminated soil that can be remediated is typically referred to Metro Waste Authority.

The landfill provides assistance to customers that have these wastes by helping them find other disposal facilities that do accept these wastes.

Ames Resource Recovery Plant: The following materials are not accepted at the Plant: Liquids, Construction & Demolition Material, Dead Animals, Hazardous Waste, Yard Waste.

The Plant provides assistance to customers that have these wastes by helping them find other disposal facilities that do accept these wastes.

 **Ames/Story Environmental (C&D) Landfill:** The following materials are banned from landfill disposal at the facility: Liquids, Municipal Solid Waste, Tires, Appliances, Hot Water Heaters, Lead-Acid Batteries, Paint, Sludge, Special Waste, non-diseased trees and yard waste.

Summary of Public Education Opportunities:

The planning area realizes the importance of educating the public on an ongoing basis. Both the Boone County Landfill and the City of Ames strive to keep the public informed and educated

about the planning area's solid waste management system. Public education opportunities include both publications and direct contact with staff.

Boone County Landfill Service Area: The Boone County landfill provides the following public education opportunities throughout its service area:

Environmental Education Specialist: The Boone County Landfill employs a person dedicated to environmental education. The EES focuses much of his attention on environmental education oriented school programs which are holistic in nature rather than just targeting waste management issues.

Publications: Great strides have been made in the planning in terms of providing the public with written information about how to manage their solid waste. A broad range of both general and issue specific publications are available. These publications are distributed either via area newspapers, public gatherings, haulers, city halls or through direct requests. Publications that have been developed or updated during the past four years include (see Appendix "D" for copies of each publication.):

- The Green Pages reuse, recycling and disposal directory
- Greene County Recycling Handbook
- Ames/Story County Recycling Directory
- Boone County Landfill Recycling and Disposal Guide
- L.I.F.E.Style (Living In a Friendly Environmental manner)
- Environmental Agencies, Legislation and Information Resources
Fact Sheet
- Tips for Successful Backyard Composting
- On-Site Organic Waste Management
- What to Do With Latex Paint
- Household Hazardous Waste Guide
(published by Metro Waste Authority)
- Business Guide for Conditionally Exempt Small Quantity Generators of
Hazardous waste (published by Metro Waste Authority)
- Tire Management Guides
(Iowa Tire Initiative and Boone County Landfill)
- How to Reduce Junk Mail
- Closing the Recycling Loop: A Buying Recycled Handbook
- Boone County Landfill/Health & Sanitation Bookmarks
- Boone County Landfill/Boone County Conservation Bookmarks
- Sharps Disposal Guide
- Tips for Filling Your Dumpster
- Good Connections Drop-Off Recycling Center Bookmarks
- River Writings Newsletter - Environmental Education Coordinator

Paid Advertisements: The Boone County Landfill also places paid advertisements in local publications to provide residents and businesses with information on how to contact staff for answers or to request information. Advertisements such as, "Do you have a question about garbage, recycling, etc." are placed in publications such as the Boone Resident guide and the Boone Area Map published by the Boone Area Chamber of Commerce.

The Landfill also pays for listings in area Yellow Pages under several different headings so that residents and businesses can find the Landfill's telephone number with little difficulty.

The Landfill has promoted proper tire management, household hazardous waste collections, yard waste facility programs and its covered load policy through advertisements in local newspapers and on the local AM radio station.

Public Service Announcements/Press Releases: The Landfill has a very positive relationship with local media. This is demonstrated by timely printing or airing of public service announcements (i.e., schedule of events, etc.) and press releases (i.e., program announcements, volunteer recognition, etc.)

Backyard Conservation: The Boone County Landfill EES has promoted the “Backyard Conservation” program sponsored by the NRCS at various events using the Landfill’s portable display. This program is targeted at residents and encourages them to adopt yard and landscaping strategies that lessen the impact of human development on the environment. Two key components of the Backyard Conservation program are on-site mulching and composting.

Dragoon River Romp: The Dragoon River Romp, a Keep Boone County Beautiful program, was implemented nine years ago. It is a watershed awareness raising event modeled somewhat on Project AWARE. 150+ volunteers band together on a Saturday each September to clean up a stretch of the Des Moines River that runs through Boone County. The event includes both river-based and land-based components. Environmental, cultural and historical education are included in the day’s activities. This program was recognized with an award from ISOSWO in 2007.

Mobile Watershed Education Center: This project utilizes a mobile classroom to educate citizens of all ages about the importance of watershed protection and water quality. An old command center bus has been modified to carry supplies and interactive activities.

Speakers Bureau: Since 1998, the Boone County Landfill has expanded the number of public speaking engagements as well as the number of topics offered for presentation. Speaking engagements discussing the variety of programs offered by the Landfill and solid waste management issues have been provided to civic and community groups throughout the service area. This provides an excellent opportunity to share timely information as well as answer questions from local residents and businesses.

In addition, the number of facility tours conducted by landfill staff has increased dramatically. Historically, facility tours had been offered to just area schools. The school facility tours have been enhanced as well as offering tours to various community and civic groups. In addition to schools, facility tours have been provided to groups such as: Boone County Soil and Water Conservation Commissioners; Boone Garden Club, Master Gardeners, Greene County Recycling Agency and others.

The local AM radio station, KWBG hosts a call-in public information radio show called, “Tuned-In.” Landfill staff and the EES are routinely asked to be a guest on the program. This provides an excellent opportunity to share timely information as well as answer questions from local residents and businesses.

The landfill also hosts an “Ask The Expert” show once a month on KWBG. As with the Tuned In program, this provides a timely opportunity to share information about waste management and the environment.

Business/Workplace Outreach: The Boone County Landfill recognizes that commercial waste is a large percentage of the waste stream it handles. The Landfill utilizes several strategies to encourage businesses and workplaces to pro-actively manage the wastes they generate.

Iowa Waste Exchange: The Boone County Landfill maintains a close working relationship with Shelene Codner, the representative of the Iowa Waste Exchange that handles the CIWMA planning area. Through this relationship, businesses are identified that might benefit from the services that are offered by the Iowa Waste Exchange. Ms. Codner routinely visits businesses in the Landfill's service area.

Chamber of Commerce: The Landfill works closely with the Boone Area Chamber of Commerce on a number of projects and programs. The Chamber makes referrals to the Landfill when they have customers or members needing information on solid waste management issues. They also provide landfill publications to residents and businesses moving into the Boone County area.

Outstanding Business/Workplace Waste Reduction and Recycling Awards: The Boone County Landfill, in conjunction with Boone County Conservation and the Boone Area Chamber of Commerce, began a recognition program in 1999 for businesses and workplaces (including schools) that pro-actively manage their waste. This award program has been very successful and has become increasingly popular.

In Boone County the awards are presented on America Recycles Day, November 15th. In 1999 a total of 16 awards were handed out in Boone County. In 2013 a total of 220 awards were presented. Businesses receiving the award also receive recognition in local papers and on the local AM radio station.

Portable Displays: The Boone County Landfill has developed two portable displays that are utilized at events such as the Senior Fair, Celebrate Families Event, Boone Area Home Show, Career Fair, Courthouse and libraries.

Web Site: The use of the internet for dissemination of information has become an established strategy in much of the planning area. In coordination with Boone County, the Boone County Landfill has established a web page that addresses the management of solid waste. The Boone County Landfill web address is: www.boonecounty.iowa.gov or www.boonelandfill.org. The Landfill's web page can also be accessed through the City of Boone/Boone Area Chamber of Commerce web site, www.booneiowa.us.

Greene County Recycling Agency: The GCRA handles recyclables collection and processing for all of Greene County (except the City of Scranton.) Over the past several years the GCRA has developed and distributed the Greene County Recycling Handbook to all residents in Greene County. Through their contracted recyclables processor, Genesis Development, they offer presentations to schools, speakers at civic groups and tours of the Genesis recyclables processing plant.

In 2013 the GCRA conducted an extensive review of their collection, processing and education programs. This led to several changes including a new direction for education. A monthly article with recycling information appears in the Greene Living Magazine that is mailed to every postal address in Greene County.

City of Scranton: The City of Scranton provides a handbook to residents that among other things includes information about the City's garbage and recycling program. As needed the City also sends out postcards to its residents with information about their recycling program.

Ames Resource Recovery Plant Service Area: The Ames Resource Recovery Plant provides the following public education opportunities:

Media and Website: The Resource Recovery System has an on-going program on the local government channel (#12) that explains the system operation and its environmental benefits. It is replayed approximately four times per week. In addition specific programs on propane tanks, Household Hazardous Waste, and battery disposal are run.

The use of the internet for dissemination of information has become an established strategy in much of the planning area. The City of Ames has established a web page that addresses the management of solid waste. The City of Ames web address is: cityofames.org/smarttrash. Also the City's web site has many informative items and a virtual tour of the Resource Recovery Plant.

Publications: The City of Ames publishes and distributes a number of educational materials including:

Ames Area Recycling Guide	Propane Tank Disposal
HHW Satellite Site/Hazardous Chemicals in Our Home	RRP Newsletter
Clean Sweep Coloring Book (KAB)	Bookmarks
ARRP Plant Brochures	Glass Recycling brochure
Recovery System Schematics	Tire Recycling Jar Opener
	Where Does Your Garbage Go? Poster

Videos: The ARRP is developing new videos on propane tank disposal, curbside recycling in Ames, furniture disposal in Ames, household hazardous materials, tires, waste oil, glass recycling, battery recycling, as well as how to use the Resource Recovery Plant, for both citizens and commercial. These programs play frequently on Ames' cable television channel.

Virtual Tour: The City of Ames' web site offers a virtual tour of the Resource Recovery Plant.

The ARRP has a portable display that has been utilized in Hy-Vee's recycling/go green campaign, City of Ames Energy Fair, the Eco Fair, ISU's Sustainapalooza, and Wheatsfield grocery presentations, and the Ames Electric Utility/RRP Annual Public Open House.

The City of Ames Resource Recovery Plant participates in the: Ames Energy Fair, and the Ames Electric Utility and Resource Recovery Annual Public Open House,

Web sites/Cable Television: The use of the internet for dissemination of information has become an established strategy in much of the planning area. Both the City of Ames and the Boone County Landfill have established web pages that address the management of solid waste.

The Resource Recovery System has an on-going program on the local government channel (#12) that explains the system operation and its environmental benefits. It is replayed approximately four times per week. In addition specific programs on propane tank disposal, curbside recycling in Ames, furniture disposal in Ames, household hazardous materials, tires,

waste oil, glass recycling, battery recycling, as well as how to use the Resource Recovery Plant, for both citizens and commercial haulers.

The City of Ames web address is: cityofames.org/smarttrash.

Facility Tours and Special Events: The Ames Resource Recovery Plant conducts facility tours throughout the year. In addition, plant staff are available to speak to groups upon request. Resource Recovery Plant staff also participate in the following: Eco Fair, Customer Appreciation Day, Sustainapalooza, and Welcome Fest for ISU students, as well as local elementary school "Science Nights."

Out of Planning Area Waste: Both Boone County Landfill and City of Ames staff educate people who attempt to deliver loads generated from outside of the planning area as to the proper disposal facility for their waste. The Boone County Landfill keeps a log of rejected loads. In addition to information posted at the Landfill's scale house, the Green Pages include a description of the planning area.

Copies of publications are available through the City of Ames website or the Boone County website or upon request.

V. BASELINE WASTE STREAM REPORT

Landfilled Tonnage: The CIWMA planning area generated the following wastes during FY2014 which required landfill disposal:

Facility:	Tons:
Boone County Landfill (before approved exemptions)	66,840.01

Exceptional Events: Of the above tonnage, some was landfilled during FY2014 due to exceptional events. **These events included flood damage, storm damage and Ames power plant shutdowns. The IDNR has the approved exceptional events on file.**

Ames Resource Recovery System: In addition, the Ames Resource Recovery Plant handled **50,057** tons during FY2014. Of this total, **2,020.00** tons was metal that was recovered for recycling and **33,847.00** tons were processed into refuse-derived fuel. Thus, **35,867.00** tons were processed and diverted from landfill disposal. This represents a facility diversion of **71.65** for FY2014.



VI. CURRENT AND PROJECTED SIX-YEAR WASTE COMPOSITION AND WASTE GENERATION RATES

Population Growth: As predicted in the CIWMA's original comprehensive plan, the area is experiencing continued growth in population. The growth rate is highest in Story County. The western portion of the planning area is seeing minimal growth.

It is anticipated that the population growth will continue during the next three to six years, especially in Boone and Story Counties. In 2008, Story County was listed as one of the fastest growing counties in Iowa.

TABLE ONE:
Central Iowa Waste Management Association Planning Area Population Statistics:

Boone County Landfill Primary Service Area:

Boone County:

Unincorporated	8,269
Boone	12,661
Beaver	48
Berkeley	32
Boxholm	195
Fraser	102
Luther	122
Madrid	2,543
Ogden	2,044
Pilot Mound	173
Total Boone County:	26,189

Dallas County:

Bouton	129
Granger	1,244
Woodward	1,024
Total Dallas County:	2,397

Calhoun County:

Farnhamville	371
Lohrville	368
Somers	113
Total Calhoun County:	852

Greene County:

Unincorporated	2,625
Churdan	386
Dana	71
Grand Junction	824
Paton	236
Rippey	292
Scranton	557
Total Greene County:	4,991

Total Landfill Primary Service Area Population: 34,429.00

Ames Resource Recovery Service Area:



- Ames
- Cambridge
- Gilbert
- Huxley
- Kelley
- Maxwell
- McCallsburg
- Nevada
- Roland
- Slater
- Story City
- Unincorporated Story County
- Zearing

Total Ames Resource Recovery Service Area Population:

Changes in composition in generation since previous update:

Waste Composition Breakdown: The following Table details the breakdown of waste processed and disposed in the CIWMA planning area during FY2014.

The only change in the planning area's waste stream is that of agricultural processing and research. This activity has expanded in Boone and Story Counties since the last plan update. This type of research generates seed and other products that must be landfilled due to its experimental nature.

Agricultural seed processing has expanded in Boone County. Monsanto has made another addition to its Boone facility. AgReliant has constructed a large processing facility near Ogden.

Waste composition by sector is still estimated to be 50% residential and 50% commercial/ industrial/Institutional as stated in past plans.

**TABLE TWO:
FY2014 TONNAGE DETAIL
(July 1, 2013 - June 30, 2014)**

<u>Facility:</u>	<u>Waste Category:</u>	<u>Tonnage:</u>
Boone County Landfill:		
	MSW - Primary Service Area	21,237.06
	MSW - Ames/Story County	28,081.13
	C&D - Primary Service Area	7,724.83
	C&D - Ames/Story County	8,561.27
	SWA - Primary Service Area	89.10
	SWA - Ames/Story County	465.66
	Asbestos - Primary Service Area	139.66
	Asbestos - Ames/Story County	541.30
Total Tonnage Landfilled (before approved exemptions)		66,840.01
Approved IDNR Exemptions:		
Adjusted Tonnage Landfilled for Goal Progress Calculations:		

Ames Resource Recovery System:



Waste Processed into Refuse Derived Fuel:

Reclaimed Metals:

Reclaimed Glass:

Amount Landfilled:

VII. ALTERNATIVES ANALYSIS

ANALYSIS OF EXISTING ISWMS:

The existing integrated solid waste management system (ISWMS) employed by the CIWMA continues to be one of the most extensive and proactive systems in Iowa. The CIWMA planning area utilizes public education, source reduction, recycling, composting, material recovery for energy generation and landfilling.

The existing ISWMS diverts a very sizable portion of waste from landfill disposal. In fact the CIWMA was one of just a few planning areas in 2000 and 2002 to meet or exceed the State of Iowa's 50% waste diversion goal. In October of 2002, ISOSWO presented both the Boone County Landfill and the City of Ames with awards recognizing the proactive operations of these facilities. In past years the planning area has diverted almost 55% of its waste from landfills.

Key improvements and enhancements have been made to many of the components of the CIWMA ISWMS over the past five years to ensure that the system continues to pro-actively meet the needs of its jurisdiction. These include:

- Continued upgrades to the Ames Resource Recovery Plant to reduce the amount of residue generated by the processing system which requires landfill disposal.
- Continued extensive development of a comprehensive public education and awareness program.
- Continued facility improvements at the Boone County Recycling Center in Boone which have increased material processing efficiencies and made the drop-off recycling areas more user friendly. The facility now accepts single-stream recyclables from collection routes.
- Continued improvements at the landfill and yard waste processing facility at the Boone County Landfill. These facilities are more accessible and user friendly. Customer use of these facilities continue to grow.
- Continued emphasis on, and enhancement of, the Landfill's storm water and erosion control system. This was undertaken in conjunction with an extensive erosion control program that has been very successful.
- Continued enhancement of appliance acceptance programs operated by the City of Ames and the Boone County Landfill to address appliance disposal needs.
- Continued enhancement of the Keep Boone County Beautiful program.
- Continued development of a watershed protection program.

The current system costs associated with the area's ISWMS are quite reasonable given the significant amount of landfill diversion achieved. Tipping fees at area waste management and recycling facilities in FY2009 ranged from \$0.00 per ton (Boone County Recycling Center) to \$30.00 per ton (Boone County Landfill) to \$52.75 per ton (Ames Resource Recovery Plant.) Per-capita assessments ranged from \$5.00 (Boone County Landfill) to \$9.10 (Ames Resource Recovery Plant). Rates have been relatively static the past several years.

MSW Composting: The issue of MSW composting is one that receives ongoing attention throughout the United States. The CIWMA undertook a preliminary assessment of the technical and cost feasibility of this technology in conjunction with the 2002 Plan Update. That study indicated that the feasibility of MSW composting was hampered due to poor and/or non-existent markets for MSW compost. Staff have continued to monitor this subject and have found nothing to indicate any progress in developing markets.

Food Waste Composting: This type of processing is much more feasible and is gaining traction in the State of Iowa. Chamness Technologies is operating a food waste collection route that serves grocery store, food distributors and restaurants, including clients in the CIWMA Planning Area. CIWMA has been supportive of these efforts and is optimistic about its future.

Expanding ARR Service Area: As in past CIWMA plan updates, an examination of the feasibility of increasing the service area of the current Resource Recovery System is detailed in **Alternative One.**

Construction & Demolition Waste: Given that the CIWMA region continues to experience both residential and commercial growth, proactive management of construction & demolition waste has become critical. Building demolition and the tear down of derelict housing is also becoming more prevalent as area local governments have begun tackling these issues in a concerted and more diligent manner.

The Boone County Landfill adopted its Large Scale Demolition/Site Remediation Waste Acceptance Policy in 2004. This operating policy pertains to large-scale demolition and site remediation projects. This policy set waste diversion requirements for projects that will generate more than 300 tons of waste material. In cases subject to this policy, the landfill will not accept stone, brick, concrete, or metals for landfill disposal. This policy has successfully diverted waste from the landfill from several projects in the CIWMA Planning Area.

Overall, the current system continues to handle the area's waste processing and disposal needs in an environmentally sound and pro-active manner. The system enjoys strong public and municipal support.

ALTERNATIVE ONE: INCREASE SERVICE AREA OF RESOURCE RECOVERY SYSTEM

The Resource Recovery System is made up of two main components. The first is the Resource Recovery Plant where the solid waste is processed into Refuse Derived Fuel (RDF) and the second is the City of Ames Electric Utility where the RDF is mixed with coal and burned to generate electricity. When expansion of the system is analyzed, both components must be considered.

The Resource Recovery Plant receives very nearly 54,000 tons of solid waste each year for processing. That tonnage converts to approximately 1000 tons per week when maintenance downtimes are considered. Approximately 70%, or about 35,000 tons, is converted to RDF and transported to the Electric Utility storage bin for use as fuel. The ARR is available to process an average of 70 hours per week. Actual processing time averages 36 hours per week at 25 tons per hour throughput due to the power plant's capacity to handle RDF.

The Electric Utility draws the RDF from the storage bin over a 24-hour period to mix with coal and inject into the boilers. The storage bin can store up to 500 tons of RDF and feed approximately 12.5 tons per hour (an increase over past years). Use of the RDF depends on the boiler that is being used, maintenance problems, and the demand for electricity.

The average amount of solid waste that is received each day is 200 tons. Wednesday is the day that collections are made in the rural areas of the service territory and thus the quantity is low. The other four days of the work week are heavier such that the total could exceed 250 tons in a day.

Based on the above, currently there is very little room for expansion of the service area within the existing Plant and Electric Utility capacity. Improvements could be made to the Resource Recovery Plant to improve throughput or the existing equipment could be operated at higher rates. The increasing of the operating rates was tried after the Plant renovation in 1996. The throughput increased, but the diversion rate decreased by almost 10% from 35% to 25%. This increase in the percent of the solid waste landfilled is against the philosophy of the System, as well as being expensive since the material had to be transported to the Boone County Landfill and the tipping fee paid there as well. Since 2006 the percentage landfilled has been reduced to 30%.

Plant improvements have been implemented. The cyclone technology was replaced with an air knife in 2007, resulting in less rejects requiring landfill disposal. An eddy current system and induction sorting system, as well as a new drum magnet for ferrous metals, were installed in 2009. These new machines are also expected to reduce rejects.

The City of Ames has made the decision to switch its electrical generating units from coal fired boilers to a system that utilizes natural gas. This change will require significant changes taking place over the next few years.

With the above change in mind, the Resource Recovery Plant can also change its end product from a solid based refuse derived fuel to a gas based synthetic fuel. This will create the opportunity to process more municipal solid waste through the system.

Discussion have been taking place between the staff of the Boone County Landfill and staff of the Resource Recovery System as to how Boone County waste can be incorporated into the recovery system. With the landfill's waste grinding system, it has been determined that waste that has been pre-inspected and processed through the grinding system can be loaded onto walking floor semi trucks and delivered to the resource recovery plant. These trucks already bring grinding waste from the plant to the landfill, but currently return empty. Staff have high hopes for this opportunity.

ALTERNATIVE TWO: SUPPLEMENT EXISTING SYSTEM WITH C&D OR WOOD PROCESSING

Over the past five years, many changes have taken place that have affected how C&D and wood waste are managed in the CIWMA Planning Area. The major change was the closing of the Ames/Story Environmental C&D Landfill. In conjunction with that facility's closure, Boone County adopted a system of economic flow control to encourage these types of waste to be reused or recycled and thus diverted from the Boone County Landfill. The strategy utilizes a higher tip fee at the Landfill that results in reuse and recycling options becoming cost-effective alternatives.

Phoenix Recycling in Des Moines has been a primary alternative. Large demolition sites have employed on-site rock/concrete crushing to recover material to be used as clean fill, raw materials or marketable materials.

VIII. TIMELINE

Central Iowa Waste Management Association Project Implementation Plan (by fiscal year: July 1 through June 30)


<u>Fiscal Year:</u>	<u>Project:</u>
2014-2015	<ul style="list-style-type: none">- Update and submit Comprehensive Solid Waste Management Plan.- Continue to conduct household hazardous waste mobile collections. Evaluate effectiveness of program and determine level of continued involvement.- Continue used tire public awareness program. Evaluate effectiveness (Boone County Landfill.)- Continue financial support of recyclables processing facilities (Boone County Landfill)- Initiate construction of Community Recycling Center of Boone County (Boone County Landfill.)- Construct landfill cell 7-R (Boone County Landfill.)- Complete new small vehicle unloading area (Boone County Landfill.)- Begin asphalt shingles recycling (Boone County Landfill.)- Revise and update comprehensive public education awareness program.- Promote programs and services to residents and businesses in service area.- Continue glass crushing program (ARRP.)- Plan for enhanced material separation capability (ARRP.)- Continue to provide assistance to Greene County Recycling Agency with their public education efforts Boone County Landfill.)- Continue Sharps disposal program (ARRP and BCL.)- Continue CESQG hazardous waste program (ARRP and BCL.)- Update and continue implementation of Keep Boone County Beautiful Action Plan.- Continue Dragoon River Romp (Boone County Landfill.)- Conduct business awards program (Boone County Landfill.)- Update and continue implementation of Keep Boone County Beautiful Action Plan.- Continue implementation of watershed protection program (Boone County Landfill.)- Explore transferring pre-ground/pre-inspected waste from Landfill to ARRP for RDF processing (Boone County Landfill and ARRP.)

The above programs and activities are designed to maintain planning area waste management and waste diversion efforts.

2015-2016	<ul style="list-style-type: none">- Continue to conduct household hazardous waste mobile collections on an as needed basis. Evaluate effectiveness of program and determine level of continued involvement.- Continue used tire public awareness program. Evaluate effectiveness (Boone County Landfill.)- Continue financial support of recyclables processing facilities (Boone County Landfill.)- Complete construction and open Community Recycling Center of Boone County (Boone County Landfill.)
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- Revise and update comprehensive public education awareness program.
- Promote programs and services to residents and businesses in service area.
- Continue glass crushing program (ARRP.)
- Continue to provide assistance to Greene County Recycling Agency with their public education efforts (Boone County Landfill.).
- Continue Sharps disposal program (ARRP and BCL.)
- Continue CESQG hazardous waste program (BARRP and BCL.)
- Update and continue implementation of Keep Boone County Beautiful Action Plan.
- Conduct business awards program (Boone County Landfill.)
- Update and continue implementation of Keep Boone County Beautiful Action Plan.
- Continue Dragoon River Romp (Boone County Landfill.)
- Continue asphalt shingles recycling program.
- Continue implementation of watershed protection program (Boone County Landfill.)
- Continue non-ferrous metal reclamation program (ARRP).
- Monitor status of transferring pre-ground/pre-inspected waste from Landfill to ARRP for RDF processing (Boone County Landfill and ARRP.)

The above programs and activities are designed to maintain planning area waste management and waste diversion efforts.

- 2016-2017** - Continue to conduct household hazardous waste mobile collections on an as needed basis. Evaluate effectiveness of program and determine level of continued involvement.
- Continue used tire public awareness program. Evaluate effectiveness (Boone County Landfill.)
 - Continue financial support of recyclables processing facilities (Boone County Landfill)
 - Construct landfill cell 8-R (Boone County Landfill.)
 - Revise and update comprehensive public education awareness program.
 - Promote programs and services to residents and businesses in service area.
 - Continue glass crushing program (ARRP.)
 - Continue to provide assistance to Greene County Recycling Agency with their public education efforts (Boone County Landfill.).
 - Continue Sharps disposal program (ARRP and BCL.)
 - Continue CESQG hazardous waste program (BARRP and BCL.)
 - Update and continue implementation of Keep Boone County Beautiful Action Plan.
 - Conduct business awards program (Boone County Landfill.)
 - Update and continue implementation of Keep Boone County Beautiful Action Plan.
 - Continue Dragoon River Romp (Boone County Landfill.) 
 - Continue asphalt shingles recycling program.
 - Continue implementation of watershed protection program (Boone County Landfill.)
 - Continue non-ferrous metal reclamation program (ARRP).
 - Monitor status of transferring pre-ground/pre-inspected waste from Landfill to ARRP for RDF processing (Boone County Landfill and ARRP.)
 - Examine the feasibility and need for an Electronics Recycling Program.

The above programs and activities are designed to maintain planning area waste management and waste diversion efforts.

- 2017-2018** - Continue to conduct household hazardous waste mobile collections on an as needed basis. Evaluate effectiveness of program and determine level of continued involvement.
- Continue used tire public awareness program. Evaluate effectiveness (Boone County Landfill.)
- Continue financial support of recyclables processing facilities (Boone County Landfill)
- Revise and update comprehensive public education awareness program.
- Promote programs and services to residents and businesses in service area.
- Continue glass crushing program (ARRP.)
- Continue to provide assistance to Greene County Recycling Agency with their public education efforts (Boone County Landfill.).
- Continue Sharps disposal program (ARRP and BCL.)
- Continue CESQG hazardous waste program (BARRP and BCL.)
- Update and continue implementation of Keep Boone County Beautiful Action Plan.
- Conduct business awards program (Boone County Landfill.)
- Update and continue implementation of Keep Boone County Beautiful Action Plan.
- Continue Dragoon River Romp (Boone County Landfill.)
- Continue asphalt shingles recycling program.
- Continue implementation of watershed protection program (Boone County Landfill.)
- Continue non-ferrous metal reclamation program (ARRP).
- Monitor status of transferring pre-ground/pre-inspected waste from Landfill to ARRP for RDF processing (Boone County Landfill and ARRP.)
- Examine the feasibility and need for an Electronics Recycling Program.

The above programs and activities are designed to maintain planning area waste management and waste diversion efforts.

- 2018-2019** - Continue to conduct household hazardous waste mobile collections on an as needed basis. Evaluate effectiveness of program and determine level of continued involvement.
- Continue used tire public awareness program. Evaluate effectiveness (Boone County Landfill.)
- Explore construction of landfill cell 9-R (Boone County Landfill.)
- Continue financial support of recyclables processing facilities (Boone County Landfill)
- Construct outdoor environmental learning center at Community Recycling Center of Boone County (Boone County Landfill.)
- Revise and update comprehensive public education awareness program.
- Promote programs and services to residents and businesses in service area.
- Continue glass crushing program (ARRP.)
- Continue to provide assistance to Greene County Recycling Agency with their public education efforts (Boone County Landfill.).
- Continue Sharps disposal program (ARRP and BCL.)

- Continue CESQG hazardous waste program (BARRP and BCL.)
- Update and continue implementation of Keep Boone County Beautiful Action Plan.
- Conduct business awards program (Boone County Landfill.)
- Update and continue implementation of Keep Boone County Beautiful Action Plan.
- Continue Dragoon River Romp (Boone County Landfill.)
- Continue asphalt shingles recycling program.
- Continue implementation of watershed protection program (Boone County Landfill.)
- Continue non-ferrous metal reclamation program (ARRP).
- Monitor status of transferring pre-ground/pre-inspected waste from Landfill to ARRP for RDF processing (Boone County Landfill and ARRP.)
- Examine the feasibility and need for an Electronics Recycling Program.

The above programs and activities are designed to maintain planning area waste management and waste diversion efforts.

- 2019-2020**
- Continue to conduct household hazardous waste mobile collections on an as needed basis. Evaluate effectiveness of program and determine level of continued involvement.
 - Continue used tire public awareness program. Evaluate effectiveness (Boone County Landfill.)
 - Continue financial support of recyclables processing facilities (Boone County Landfill)
 - Revise and update comprehensive public education awareness program.
 - Promote programs and services to residents and businesses in service area.
 - Continue glass crushing program (ARRP.)
 - Continue to provide assistance to Greene County Recycling Agency with their public education efforts (Boone County Landfill.).
 - Continue Sharps disposal program (ARRP and BCL.)
 - Continue CESQG hazardous waste program (BARRP and BCL.)
 - Update and continue implementation of Keep Boone County Beautiful Action Plan.
 - Conduct business awards program (Boone County Landfill.)
 - Update and continue implementation of Keep Boone County Beautiful Action Plan.
 - Continue Dragoon River Romp (Boone County Landfill.)
 - Continue asphalt shingles recycling program.
 - Continue implementation of watershed protection program (Boone County Landfill.)
 - Continue non-ferrous metal reclamation program (ARRP).
 - Monitor status of transferring pre-ground/pre-inspected waste from Landfill to ARRP for RDF processing (Boone County Landfill and ARRP.)
 - Examine the feasibility and need for an Electronics Recycling Program.

The above programs and activities are designed to maintain planning area waste management and waste diversion efforts.

APPENDIX "A"
RESOLUTIONS OF SUPPORT

APPENDIX "B"
AFFIDAVITS OF PUBLICATION AND PUBLIC INPUT MEETING MINUTES

**APPENDIX “C”
OTHER LICENSED/PERMITTED FACILITIES:**

Boone County Landfill Service Area:

Boone County:

Bell Salvage
980 Quartz Ave
Boone, IA 50036

David Garreans Auto Salvage
2269 Angus Ave
Perry, IA 50220

Jerry’s Cars and Parts
2077 Rose Rd
Madrid, IA 50156

Pickett’s Salvage LLC
70 C Ave
Paton, IA 50217

Ogden Iron & Metal
615 210th Rd
Ogden, IA 50212

Questions about Boone County facilities should be directed to:
Boone County Planning and Development Department
515.433.0550

Greene County:


Hoffman Brothers
1201 Main Street E
Grand Junction, Iowa 50107

Jerry’s Auto
1829 Sherwood Avenue
Jefferson, IA 50129

City of Ames/Story County:

Bell Salvage
500 Freel Drive
Ames, IA 50010

Jerry Carney & Sons, Inc.
1816 SE 5th Street
Ames, IA 50010

Mike Lewis Auto 
1901 East Lincolnway
Ames, IA 50010

**APPENDIX “D”
ELECTRONICALLY SUBMITTED DATA**

The attached certification represents that data approved by the Central Iowa Waste Management Association (CIWMA) for plan update submittal to the Iowa Department of Natural Resources (IDNR) via the Comprehensive Plan Submittal Website. The following stipulate the conditions implied with the electronic transfer of the referenced 178 pages of data:

Deterioration or Alteration of files: Because electronic data can deteriorate, be altered, or modified without our knowledge or consent, the CIWMA and/or its consultant, HLW Engineering Group, cannot be held liable for the completeness or correctness of the electronic data after submittal. CIWMA and HLW do stand by the accuracy of the submitted on-line material in as much as the IDNR forms have been completed. A duly recorded and certified hard-copy of the on-line data has been filed with the Boone County Recorder and the Ames City Clerk. However, it should be noted that while the CIWMA has completed the forms provided by the IDNR as best as it can, the forms do not necessarily provide for proper reflection of programs or program components.

Right/Ability to Alter/Edit Data: Any use or reuse of this data by the State of Iowa or others beyond this one-time submittal will be at the risk and legal responsibility of the State of Iowa. Furthermore, the State of Iowa will, to the fullest extent permitted by law, indemnify and hold CIWMA and HLW harmless for any and all claims, suits, liability, demands, or costs arising out of or resulting therefrom.

Data and Database Maintenance: Any use and maintenance of this data by the State of Iowa or others beyond this one-time submittal will be the full responsibility of the State of Iowa.

SOLID WASTE COMPREHENSIVE PLAN UPDATE ONLINE DATA SUBMITTAL CERTIFICATION

Date:

I certify under penalty of law that I am the authorized representative of the comprehensive planning area and that I have examined and am familiar with the information reported online, and that I believe the information is true, accurate and complete. Please see the attached stipulations.

Signed: _____

Name and Agency of Person Certifying:

Scott A. Smith

Boone County Landfill/CIWMA

Comprehensive Planning Area:

CENTRAL IOWA WASTE MANAGEMENT ASSOCIATION

Date: _____

Telephone Number: 515.433.0591