

Solid Waste Special Service District #1 Grand County, Utah

5-Year Integrated Solid Waste Management Plan 2010-2015

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**Solid Waste Special Service District #1
Grand County, Utah
5-Year Integrated Solid Waste Management Plan
2010-2015**

PART A. BACKGROUND

I. Introduction

The Resource Conservation and Recovery Act (RCRA) creates the framework for the proper management of hazardous and non-hazardous solid waste. Each State must have its own legal framework to implement the federal mandates. The Utah Solid Waste Management Act (UCA 17-15-23) requires each county to adopt a solid waste management plan and update it every 5 years. The plan must be submitted to the Utah Solid and Hazardous Waste Control Board and specifically address an estimate of the solid waste capacity needed for the next 20 years and the proposed program to ensure that the capacity is available.

According to the 2007 Utah Solid Waste Management Plan Update, solid waste planning in Utah has turned from disposal capacity to addressing the need for waste diversion, recycling and management of the more toxic portion of the waste stream such as household hazardous waste. Composting has become an important part of the mix of solid waste management options for many areas. This describes the current situation in Grand County as well.

In addition, former Utah Governor Jon Huntsman, Jr. signed the Western Climate Initiative and Moab City Mayor, Dave Sakrison signed the U.S Mayor's Climate Protection Agreement, both of which identified improved solid waste management as a tool to combat climate change.

These developments, in conjunction with an expanding population and growing tourism/amenities economy in Grand County, create the need for a comprehensive update.

This 2010 plan update represents the Solid Waste Special Service District #1's (District) planning efforts to set goals for the next 10 years and beyond. This plan will also serve as the District's working guidance document for the next 5 years. It includes programs that other communities in Utah and the region have adopted or are considering for adoption that represent state-of-the-art techniques and technologies to reduce solid waste generation and landfill disposal.

II. History of Solid Waste Planning in Grand County

In response to state legislation (1990) requiring state and local governments to perform comprehensive waste management planning, Grand County contracted with Beehive Enterprises to prepare Grand County's first plan -- entitled Grand County Solid Waste Management Plan 1993. This section is a summary of information presented in that document.

As with many rural areas in Utah, Grand County is comprised of large areas of predominantly public land and is sparsely populated. Pioneers settling the area disposed of solid waste by burning or by indiscriminate dumping on undesirable parcels of public land. By the 1950's, burning and indiscriminate dumping were discouraged. Local government and the Bureau of Land Management (BLM) entered into cooperative agreements to establish community maintained landfills/dumps. There were no state or Federal regulations controlling the collection or disposal of solid wastes unless a

health hazard existed. Landfilling was the recommended method of disposal, and some progress was made in encouraging governmental entities to adopt this practice.

Existing solid waste management activities within Grand County consisted of a natural attenuation landfill (Moab City Landfill), curbside pickup in the populated areas, and generators hauling to unmanned open dumps in remote areas. Privately-owned collection activities existed near Moab. In other areas solid waste generators were responsible for hauling their own waste. A small percentage of imported waste from Canyonlands National Park in San Juan County was landfilled in Grand County. Canyonlands Community Recycling (CCR) operated a recycling center that provided drop-off service for recyclable materials. These materials were diverted from the waste stream by sale to buyers in Colorado.

Up until the 1993 planning process, the County had “focused planning efforts on obtaining sufficient land to accommodate disposal needs; maintaining the integrity of the disposal process; and providing sufficient manpower (sic) and equipment to eliminate health risks” (Beehive Enterprises 1993).

The 1993 Plan examined existing conditions and facilities. The Plan projected that by 2012 that all waste stream inputs (residential, commercial, non-resident, and industrial) would grow from 6214 tons/year in 1992 to 9779 tons/year, a 57% increase. These estimates recognized the ‘rapidly increasing tourist trade’ and unpredictable status of mining (generating industrial waste). The Plan recommendations concentrated on ways to expand reliable collection and disposal services of residential and commercial solid waste for the entire planning area. In addition to the collection/disposal service options, commensurate financial structures were developed for each option. Sophisticated disposal options (waste to energy, incineration, etc.) were not considered viable for Grand County.

Specific recommendations from the 1993 Plan are noted below with a statement of outcome as of this update:

- Develop a permitted sanitary landfill facility that would serve all of Grand County for a minimum period of 20 years and preferably 50-100 years. *This became Klondike landfill (see detail below).*
- Develop source reduction and recycling programs to exclude unnecessary waste from the municipal solid waste stream. *Partially implemented and on-going through the recycling center operated by Canyonlands Community Recycling, a non-profit organization.*
- Initiate procedures to close existing non-permitted facilities prior to October 9, 1993 and complete cover operations by April 9, 1994. *The decision was subsequently made to operate Moab Landfill as a Class IVb Construction and Demolition waste facility for cost savings of early closure and to provide a community benefit.*
- Develop ordinances requiring state and federal agencies to achieve solid waste objectives mandated by existing and future regulations prior to implementation on the local level. *This recommendation has not been achieved.*
- Create a permanent recycling coordinator that would be funded and accountable to a committee of local government and other agency personnel. *This recommendation has not been achieved.*

During this planning process, Grand County established the Solid Waste Special Service District #1 (District) to administer solid waste management in the County.

At present there is no county ordinance requiring solid waste generated in Grand County to be collected and properly disposed of at district facilities or elsewhere. The County's Land Use Code at 16.6.12.10 "Refuse and Debris" states:

"The space around buildings and structures in any district shall be kept free from refuse and debris. No yard, open yard space, open space or land in any district may be used for the storage of junk, or inoperable or wrecked vehicles, except as specifically permitted by this LUC."

The City of Moab requires municipal solid waste collection (via negotiated contract with hauler). The Town of Castle Valley does not have an ordinance or program addressing municipal solid waste disposal.

III. Public Involvement

The Solid Waste District Administrative Control Board holds monthly meetings. Meeting times and place are noticed in the Times Independent Moab's weekly newspaper. Meetings are open to the public and, when present, the public is encouraged to participate in discussion of agenda items and may ask for inclusion of new agenda items during the "Citizens to be heard" period which is placed at the head of the agenda. Public input is specifically sought during the annual budget planning process. Because the District budget is less than one million dollars, it is not required to post meetings on the Utah Public Notice Website.

A public planning session (special meeting of the Board) was held January 24, 2007 to gather input on the need for a study of District operations and how this study might be accomplished. That process eventually led to the District contracting with Five Star Engineers to conduct such a study. Key findings of the study are found in Section VIII. Two public meetings were held during the development and finalization of the Solid Waste Operations Study Report 2008 (Study). The Study provides the basis for the District's five-year management plan update. Copies are available upon request from the District and are available at the Grand County Library reference section.

The availability of the draft Plan and the June 3, 2010 public hearing for community comment were noticed in the Times Independent May 20 and 27, 2010. Electronic copies were sent to selected interested parties for comment, including the Councils for Grand County, Moab City, and Castle Valley. The draft plan and the Study were posted on the Grand County web page and hard copies were placed at the Grand County Library and Castle Valley Annex. The Board reviewed all comments and the Plan was formally adopted by unanimous vote with the noted changes to be incorporated into the final Plan. The final Plan is available to the public as noted above.

IV. Solid Waste Special Service District Structure

The District is an independent, local government entity authorized under Utah Constitution and UCA 17D. Grand County Resolution 2146 (recorded 12/29/1993) established the District... "for the purpose of constructing, maintaining and operating a sanitary landfill facility for the disposal of solid waste generated by residents and businesses of Grand County, Utah; to operate a recycling program for Grand County, Utah; and otherwise manage solid waste; and to finance the construction, maintenance and operation of such facilities and programs through charges for solid waste disposal and the levy of taxes on property in Grand County, Utah".

According to the Grand County Scenic Byways Corridor Management Plan (R. Jorgen 2008), ownership in Grand County is 71.7 percent federal, 15.5 percent state, 8.4 percent Native American, and 4.3 percent in private ownership. The county is rural comprising 3,700 square miles and population density of only 2.3 people per square mile. The District includes all of Grand County except the portion of the incorporated City of Green River that occurs in Grand County. Most of the County's 9422 residents live in the Moab City/Spanish Valley area. The only other incorporated town is Castle Valley with about 350 people. Public land holdings in Grand County include Arches National Park, Canyonlands National Park, Deadhorse Point State Park, Utah State Institutional Trust Lands, Utah State Sovereign lands, Manti-LaSal National Forest, Bureau of Land Management, Utah Department of Transportation Rights-of-Way, Atlas Tailings Site (DOE/UMPTRA). The Uintah and Ouray Indian reservation, located in northwest corner of the County, handles its own waste management program.

The Administrative Control Board (Board) for the District was established by Grand County Resolution 2153-A. The Board acts, in trust, on behalf of the citizens in the District. The Board is comprised of five members appointed for four-year terms that are staggered. Grand County, Moab City, and the Town of Castle Valley each appoint one member to represent their respective interests. Two members are at-large. The Board advertises at-large vacancies, interviews applicants, and recommends candidate(s) to the County Council for Council appointment. The role of the Board is to provide oversight and direction by establishing goals and policies and to monitor implementation. The Board is responsible for the fiscal stability of the District. The Board selects its officers annually by majority vote.

The Board hires the District Manager to oversee the efficient and economic operation of District facilities and other programs that the District authorizes and to ensure that the District is current with regulatory requirements. The District Manager is answerable to the Chair of the Board. The District Manager also serves as District Clerk.

In addition to the District Manager, the District employs an administrative assistant and operators for the landfills. Temporary employees are hired from time to time as needed.

The District's Administrative Office is located at 1000 Sand Flats Road. The property, owned by the County within the limits of Moab City, is shared with the Mosquito Abatement District, the County Weed District, and the Recycling Center and comprises 4.24 acres.

The enabling language for the establishment of the District provides that the District operate a recycling program for the County. The Recycling Center opened in 1991 and has been operated by Canyonlands Community Recycling (a not-for-profit organization), except for the years 1993-1997 when the District operated it. The District and CCR have acknowledged that the current division of responsibilities for recycling is inefficient and threatens to hamper improved recycling efforts in the future. Based on these circumstances, CCR and the District entered into a one-year agreement (Agreement) to initiate the process of transferring recycling operations back to the District. The agreement, effective until July 2010, serves as a bridge between CCR's independent operation of the Center and the District's operation of the Center as an integral part of the District's mandate and operations. Until such time both entities are ready for the District to assume full operation of the Center, the District has retained CCR to operate the Center.

V. Current Operations

The District operates the Moab and Klondike landfills and has responsibility for the closed portion Moab Municipal Landfill.

A. Old Moab City Landfill

The Old Moab City landfill was closed in 1996. The final cover specifications have been engineered, but the State has waived the requirement that final cover be immediately emplaced upon closure. This is because the old landfill has become part of the new permitted landfill (see below). Moab City and Grand County will have perpetual responsibility to monitor and ensure the integrity of the final cover. The District is charged with implementing final cover. Based on engineering and monitoring studies, the State Solid and Hazardous Waste Board concluded that the old landfill, once closed according to permit requirements, did not require water quality monitoring.

B. Moab Landfill

The Moab Landfill (MLF) was established in 1997 after the Moab City landfill closed. The landfill is a Class IVb landfill permitted to accept construction and demolition (C&D) waste. The landfill is located on 50 acres south of Sand Flats Road and includes a portion of the Old Moab City Landfill most of which is owned by the City of Moab. Grand County owns acreage that surrounds the landfill footprint. The State Institutional and Trust Lands Administration owns about 1/3 acre adjacent to Sand Flats Rd.

The District assumed full operations of MLF in July 2009. Prior to that time, the District contracted with KSUE Corporation to perform daily compaction and cover. Waste is accepted from private waste haulers, contractors, and citizens. The landfill has no scale. Waste entering the landfill is estimated in cubic yards at the gate. A full time district employee conducts visual screening as the waste enters the landfill. The landfill charges all waste entering the landfill at a rate of \$6.00 per yard for the public and \$10.00 per yard for contractors.

Class IVb C&D waste includes bricks, concrete, asphalt, rock, roofing shingles (non-asbestos), tree roots, yard trimmings, building materials, sheet rock, remodeling or building repair, and demolition materials from pavement, houses, commercial buildings, and other structures. Excluded wastes, include, but are not limited to, dead animals, foam insulation, asbestos (tape floor tiles, siding, shingles, etc.), contaminated soil, remediation or cleanup tanks, waste paints, solvents, sealers, adhesives, containerized liquids, non-containerized liquids, or sludge containing free liquids, “small quantity generator hazardous wastes”.

The Utah Administrative Code at 315-305-3-2 specifies that Class IVb landfills cannot accept more than an average of 20 tons per day or hazardous waste from Conditionally Exempt Small Quantity Generator (CESQG). Businesses generating no more than 220 lbs of hazardous waste per month are CESQG. The District has no formal program to exclude hazardous waste generated by CESQG. District staff screen generators at the gate and refuse loads based on interview and visual inspection. Loads rejected are taken to Bob’s Sanitation transfer station and are ultimately disposed of at the Klondike landfill.

The Moab Landfill also receives a significant amount of waste tires from the public and from private haulers for a fee. The District then pays a tire disposal contractor to remove the tires from the landfill. A new fee schedule was adopted in April, 2010 that will just cover the cost of disposal.

The latest State of Utah facility inspection report shows that MLF is in compliance with the permit requirements. The permit is under review for renewal. Once approved it will be in force until 2019.

C. Klondike Landfill

The Klondike Landfill (KLF) is a permitted Class I landfill owned by the District. The location, design, and permitting of this landfill was the primary outcome of the 1993 plan. The District was granted a land patent on August 7, 1995 by the United States of America on an 80-acre parcel (T23S, R19E, Section 14, S ½ NW ¼) located about 25 miles north of Moab and 1 mile west of Highway 191. KLF was opened in March 1997. The first phase was designed for 6 cells to occupy 40 acres. The first cell has been filled and was closed in 2001. The second cell is nearly full. The permit allows for final cover emplacement for both Cells 1 and 2 when Cell 2 is ready for final closure. Cell 3 is being constructed in anticipation of Cell 2's closure. DEQ has approved closure extension.

KLF receives the majority of municipal solid waste generated in the District and some from San Juan County.

KLF is not open to the public. Waste is received from franchised haulers. Bob's Sanitation operates the only transfer station in the District and is the major supplier of waste to KLF. The District recently assumed operation of the landfill including cell construction and daily compaction, and cover. KLF receives all of its daily cover soil needs from the landfill property.

KLF has one scale for tonnage tracking purposes. The tipping fees are \$29.00/ton for residential and commercial waste and \$10/ton for C&D waste and contaminated soil. Industrial waste is a small percentage of the waste received. KLF is permitted to accept some grease trap and septage waste from restaurants. The District has a Memorandum of Understanding (MOU) with Moab City to selectively accept septage from Moab Waste Water Treatment Plant in emergencies.

The landfill accepts special waste from Bob's Sanitation and the other franchised haulers. Special waste accepted at the Klondike landfill includes contaminated soil, dead animals, refrigerators (processed by Bob's Sanitation at their transfer station).

As required by State law, medical wastes generated by the Allen Memorial Hospital, doctors' offices, clinics, etc., are autoclaved. Bob's Sanitation contracts with each entity for pick-up and disposal at KLF.

KLF is exempted from groundwater monitoring and lining requirements, as specified in the permit, because of the site characteristics. The site is located on Mancos Shale that provides a natural clay liner when compacted. The depth to groundwater is over 600 feet.

The latest State of Utah facility inspection report shows that KLF is in compliance with the permit requirements. The permit is under review for renewal. When approved, it will be in force until 2018.

VI. Programs

A. Spring Clean-up

The District offers a spring clean-up each year to encourage proper disposal of inert waste – tires, yard, building materials, and metal. Property owners, excluding those in Castle Valley/Castleton and Thompson areas, receive one coupon (via mail) for free disposal of two cubic yards (about one pick-up load) of inert waste at Moab Landfill. The District works with Bob's Sanitation to place up to 10

dumpsters in Castle Valley and 4 dumpsters in Thompson Springs. Bob's staff and volunteers sort out metal that can be recycled. The tipping fees are waived for Bob's Sanitation to haul the dumpsters to Moab Landfill. The Town of Castle Valley negotiates payment with Bob's for rental of the dumpsters for one day. The District pays for Thompson's dumpsters.

B. Recycling

The Recycling Center opened in 1991 and has been operated by Canyonlands Community Recycling (a not-for-profit organization), except for the years 1993-1997 when the District operated it. Under the Agreement noted above, CCR is operating the Center for the District until July 2010.

The Center accepts corrugated cardboard, glass (separated by color), steel (tin) and aluminum cans, newsprint, white and mixed office paper, and #1 plastic. In 2009, the Center began accepting and processing #2 and #3-7 plastics. The Center operates as a drop-off site, where recyclables are sorted by the generator into designated bins. The public and two businesses (Bob's Sanitation and Green Solutions) that provide recyclables collection services are charged no fee for this drop facility. Bob's Sanitation contracts with some local businesses and institutions to collect cardboard, which is a significant percentage of the cardboard, processed at the Center. CCR employs two full time and one part time staff to operate the center. The Center has also provided a work site for youth and adults sentenced to community service. Weekly since 2007, the Wednesday Morning Recycle Club has sorted plastics and other recyclables under direction from the Center's Supervisor.

CCR also does some public education via fundraisers and public service announcements. Once the District assumes operations of the Center, CCR will focus its efforts on public education and outreach and seek grants and other avenues of financing.

CCR has financed the Center by sales of recyclables, donations, and grants. Under the Agreement between the District and CCR, the District receives monthly Center revenue from the sale of recyclables and reimburses CCR for approved expenses.

There are other organizations or actions that divert waste from the landfill, but the percentage contribution is not known. Bob's Sanitation sorts a substantial quantity of recyclable metal from the waste brought to the transfer station. Green Solutions offers curbside recycling pick-up. The Solutions, a volunteer group, promotes the respect, reduce, reuse, and recycle lifestyle. It organizes large event and other clean-up efforts and works with the schools, government entities, and others to maintain recycling programs. Wabi-Sabi and Memory Lane Thrift Shoppe accept and resell used/refurbished clothes, household goods, and construction materials. Ad hoc, citizen-based collections for recyclables such as magazines and electronic equipment also occur from time to time and are taken to other locations for processing. The Grass Roots Alliance for Sustainable Practices (GRASP), a citizens' advisory group, recently formed to assist Moab City and others to improve and promote their own recycling efforts.

VII. Finances and Administration

Sources of revenue for the District include tipping fees received at MLF from public and commercial generators and those received at KLF from franchise haulers. Bob's Sanitation is the primary hauler. The District also receives Mineral Lease monies that are distributed from the state based on an allocation formula adopted annually by the County Council. Since 2004, the annual distribution to the District has been relatively stable at about \$200,000 and represents roughly 40% of revenue. This distribution has allowed the District to bring the landfill closure funds closer to that required by statute.

The District maintains a number of policies and procedures that are required for operation such as Board bylaws, employee handbook, operations and safety manuals, employee and Board training, purchasing policy, meeting and minutes procedures to comply with Open Meetings law and GRAMA requests. These are reviewed annually.

The District has outstanding bonds for the construction of KLF and for purchase of the scales at KLF, with payoffs due in 2027 and 2025, respectively. The District must maintain a closure fund for both landfills sufficient to completely retire and monitor the landfills if for some reason that need should occur. Each year, the adequacy of the closure fund is reevaluated by a consulting engineer and approved by the Utah Division of Solid and Hazardous Waste. At the end of December 2009, fund levels were about \$119,000 and \$48,000 for KLF and MLF, respectively.

As mentioned above, CCR runs the Center for the District by agreement until such time the District will assume full operations of the Center. The market for recyclables is in constant flux – 2008-2009 has been particularly poor. Freight costs have generally risen over the years. Because the Center depends on sale of recyclables for the majority of its revenue, center operations are subject to shortfalls of revenue from time to time. In these times, CCR has continued to accept and process recyclables to ensure that the community will keep recycling.

The Grand County and Moab City assure the solvency of the District in writing each year as required by Utah Solid and Hazardous Waste Control Board.

In a public process, the District adopts a budget by December for the following fiscal year (January 1-December 31).

The District's financials are annually audited by an independent accounting firm.

PART B. SETTING THE STAGE FOR THE PLAN

VIII. Solid Waste Operations Study Report by Five Star Engineers

As noted above, in 2007, the District contracted with Five Star Engineers, Logan, Utah to prepare a study to evaluate the District's management operations and components, to provide a cost of services analysis, and to evaluate the prospect of District ownership of a collection and transfer station system. The primary goal was to assist the District in making the District waste management system more efficient, cost effective, and accountable while diverting more waste from the landfills. The report provides comparisons of options, recommends actions, and suggests measures for determining progress. The District accepted the Solid Waste Operations Study Report (Study) in August, 2008. The Study provides the basis for the District's management plan update. Copies are available at the Grand County Library reference section and upon request from the District.

Key findings and recommendations included:

- Grand County generates 20% more municipal solid waste than the national average (based on 2005), presumably from tourist visitation and some received from San Juan County.
- The District has a number of opportunities to reduce the tonnage disposed of at the landfills.

- The Recycling Center, operated by CCR, diverts considerable waste from KLF. This translates to a very important ‘equivalent cost saving of space’. *As noted above, the District and CCR are in the process of transferring operations of the Center to District authority.*
- The District can further reduce waste going to the landfills by working with CCR to increase recycling through a more collaborative relationship (operationally and financially), pursuing public outreach, and establishing drop-sites.
- The District should implement a household hazardous waste program for residents, develop plans to assist businesses that are considered to be Conditionally Exempted Small Quantity Generators (CESQG), and establish a limited collection/storage program at both landfills.
- Klondike Landfill operation is in compliance with its permit requirements; no substantive changes were recommended.
- Moab Landfill operation is in compliance with its permit requirements. Fee structure for waste tire should be adjusted so that the District is not subsidizing tire disposal. MLF fees do not adequately support its operation; therefore, the fees should be adjusted to cover operating and administrative costs. *Since the adoption of the Study, tire disposal fees have been adjusted. Also, the District assumed operation of MLF in July. This change has resulted in considerable cost savings. It is anticipated that MLF will be fully self-supporting in 2010 and beyond.*
- Cost analysis of various ownership scenarios showed that the District could improve operational efficiency by operating the landfills and, by adjusting landfill fees to eliminate mineral lease monies as a portion of revenue. See the Study for assumptions used. *As noted above, the District now operates MLF. The District assumed operations of KLF in April 2010.*
- Cost analysis of various ownership scenarios showed that it would be feasible to purchase the transfer station and collection business from Bob’s Sanitation should the opportunity arise. See the Study for assumptions used.

IX. Population Projections, Waste Stream Characterization/Trends, and Landfill Capacities

UCA 17-15-23 mandates that “each county solid waste management plan shall include an estimate of the solid waste capacity needed in the county for the next 20 years and the county’s program to ensure that the county will have sufficient disposal capacity for the next 20 years”.

According to the Scenic Byway Study (Jorgen, 2008), Grand County has transitioned from a resource extraction based economy prior to the late 1980’s to a tourist-based economy, the latter contributing 56% of employment to the economy. The county may now be entering a new economic phase, with a trend toward an “amenity” economy, in which people are investing in the community because it is a great place to live. Many of these people bring portable home businesses. Others have relocated somewhat larger businesses here. Home prices have dramatically outstripped local wage increases as homes are bought or built for second homes, retirement, or as investments predicated on future appreciation of the value of amenities.

Grand County population was 9,422 in 2007 (Jorgen, 2008). This compares to 6752 in 1990 and a projected 2007 population of 7,949 given in the 1993 Plan (Beehive Enterprises, 1993). Therefore, the population projection for the 1993 Plan 20-year window has been exceeded.

The Governor's Office of Planning and Budget produces annual baseline population projections. For Grand County, the 2008 report projects a population of 9693 and 11,827 in 2010 and 2030, respectively. This assumes an average annual increase of 1%.

The 1993 Plan projected that by 2007 all waste generated within the County would reach 8077 tons. About 18% would be attributed to nonresident visitors to state and federal lands and less than 1% from industrial waste (mining etc.). The Study estimated that about 20% of Grand County waste comes from visitors. By 2006, disposal at KLF alone was 8686 tons. Municipal solid waste disposed at KLF decreased slightly in 2008 and 2009. In any case, the waste disposal projection for the 1993 Plan 20-year window has been exceeded.

Assuming that the County's waste generation is the same as the national average of 4.54 pounds per person per year (EPA), by 2030 the County would generate 9,799 tons/year $\{(4.54 \times 11,827 \times 365)/2000\}$. This assumes a similar diversion rate of roughly 7% attributable to the Recycling Center. Add to this the 20% estimated as tourist-generated waste, it follows that the 2030 waste projection becomes 11,759 tons/year.

At the time of the opening of KLF in 1997, the projected life of the landfill was 60-80 years. Each cell had a design life of 7-10 years. In reality, Cell 1 took just under three years to fill and received 22,618 tons. The short life is primarily because the cell was not dug deep enough. The permit was modified to allow deeper cells. Cell 2 is currently projected to be filled in 11 years (2012) exceeding cell life target. To date, cell 2 has received about 22,600 tons. The currently permitted site design includes 6 cells.

As discussed above, the District made the decision to close a portion of the Moab Landfill in 1995 and re-permit it as a Class IVb landfill for construction and demolition debris. At current rates of disposal, MLF has 15-16 years remaining. At that time, the materials now disposed of at MLF would go to KLF. Assuming few changes to the volume of waste received at MLF, this would approximately double the landfill disposal rate at KLF starting in 2025 or 2026. See Figure 1.

Therefore, at the current rate of filling, the first 6 cells at KLF would be filled in 44 years (2054).

The KLF, with additional engineering plans, can be expanded into the remaining 40 acres that the District owns. This presumably makes the KLF capable of municipal solid waste disposal for an additional 42 years (2096). This assumes no changes to the waste stream volume, 1% population growth rate, and continued 20% tourist-dependent generated waste rate, and continued 7% recycling diversion rate.

Population, waste generation, and diversion trends should be routinely monitored. Conserving landfill space by increasing diversion is a cost savings to the District and the community overtime. Between 2002 and 2005, the Recycling Center substantially increased processing the amount and types of recyclables. Between 2006 and 2009, the numbers have been steady. See Figure 2. Five Star Engineers estimated that, since 1992, recyclables diverted from KLF was an "equivalent dollar-saving-of-landfill-space" to the community – albeit variable from year to year - based on Center expenses and fluctuating market revenues. Since 2006, the tipping fee at KLF has been \$29/ton for municipal solid waste and \$10/ton for contaminated soil.

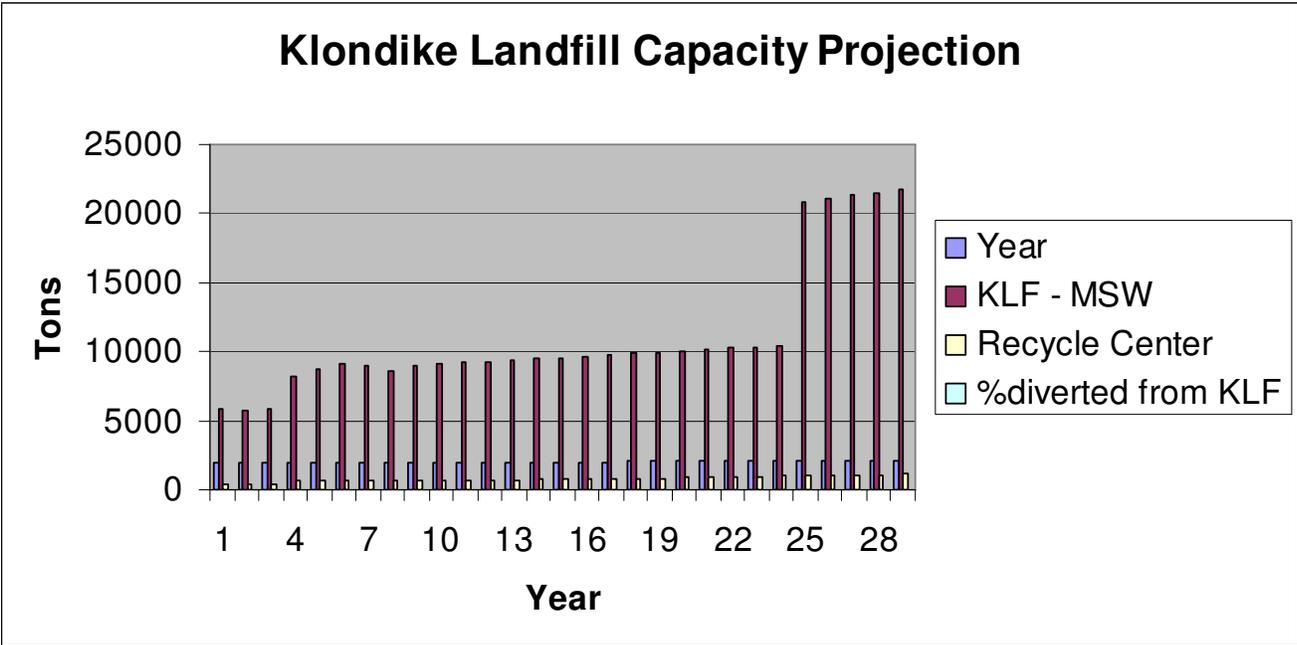


Figure 1. Klondike Landfill Capacity Projection 2010 to 2030

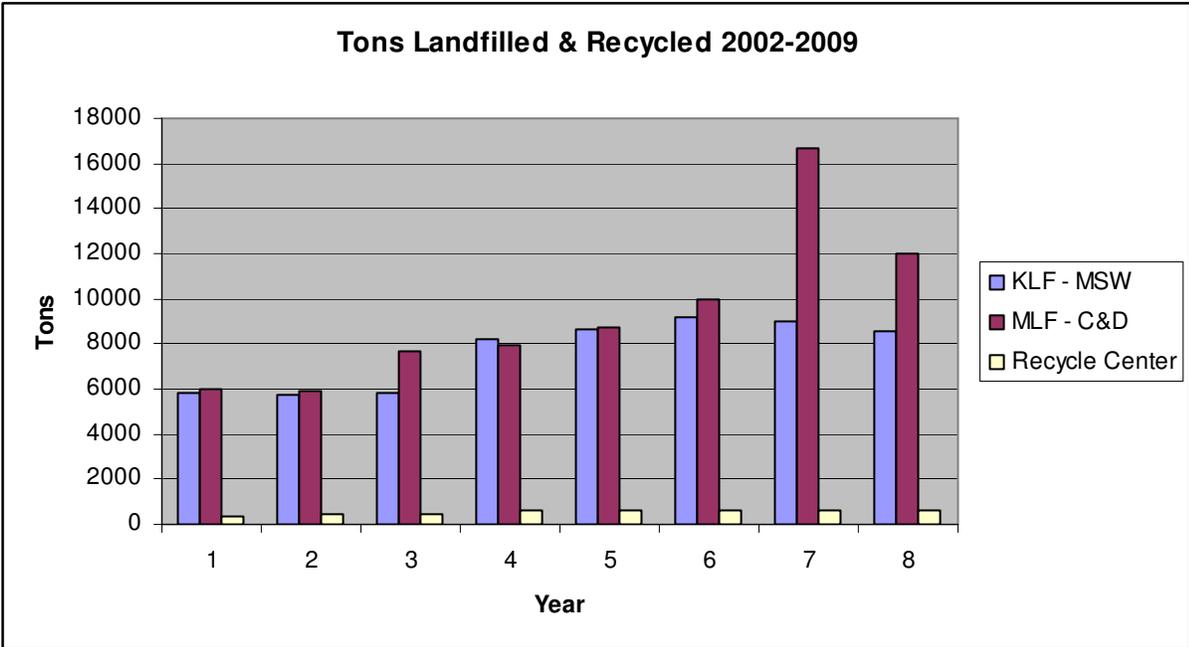


Figure 2. Tons Landfilled & Recycled 2002-2009

PART C. THE PLAN

X. Mission Statement

Manage waste in Grand County to ensure public health, safety, and welfare in a manner that promotes Zero Waste.

XI. Goals and Objectives

This section is an outline of the goals and objectives that the District will pursue in the next five years. Section XII provides more in-depth descriptions on proposed action items and their feasibility. Most action items will need further investigation to determine feasibility and financial impacts before implementation. Timelines for implementation are goals themselves that are dependent, in turn, on feasibility and financing parameters.

A. Comply with state and federal law

- Continue annual assessment of landfill performance and compliance with permit requirements.
- Keep abreast of new and proposed local, state, and federal code/regulations.
- Ensure that staff and board members receive required training annually.
- Seek continuing education opportunities for staff.
- Review policies and procedures.
- Maintain and formalize QA/QC programs.

B. Ensure efficient landfill operations to maximize landfill life.

- Increase compaction, thereby increasing density factor.
- Reduce the daily working face, thereby reducing daily cover needs.
- Evaluate daily cover contribution to available landfill space and explore alternative cover material options.
- Dig cells deeper, as permit allows.
- Evaluate the need/opportunity for reengineering of cell construction at KLF.

C. Encourage the saving of resources by increasing the materials diverted from the waste stream.

- Increase recycling -- volume and categories of recyclables.
- Establish Household Hazardous Waste and E-Waste programs.
- Explore alternative waste reduction strategies (composting yard waste, green waste).
- Explore regulatory and institutional alternatives.
- Reduce energy consumption and release of greenhouse gases.
- Assess other waste sources that are diverted but District may be unaware of.

D. Educate all sectors in the community about the philosophy of reduce, reuse, recycle.

- Work with CCR to achieve an effective outreach plan with recycling volume targets.
- Inform community about District operations and programs.

E. Ensure long-term stability and solvency of the District.

- Ensure that landfill closure funds are adequate.
- Accelerate pay off of bonds for landfills.
- Explore alternative avenues for District financing.
- Evaluate accounting and tracking procedures.

- Develop Master Plan for 1000 Sand Flats property, including shared facilities, to plan for expanded diversion programs.
 - Examine options to garner more control over the waste stream.
 - Assess population and waste generation trends annually to ensure that assumptions in this plan are valid.
 - Institute annual action plan update.

XII. Proposed Actions to Meet Goals and Objectives

Many of the actions noted below are on-going, routine activities of the District. Where new actions are proposed, such as expanding the recycling program at the Center or setting up a Household Hazardous Waste program, the District will continue developing work plans in 2010 to identify specific facilities and equipment upgrades or expansion with cost estimates. Implementation will begin as soon as practicable when sufficient funding is available. See Table 1 Section XIII. In Appendix C, the interested reader can view expanded discussion on some goals and objectives, as indicated by * in the text.

A. Goal -- Comply with state and federal law

1. Objective -- Continue annual assessment of landfill performance and compliance with permit requirements.

a. Action: Board adopts regular schedule of performance and compliance reports from Manager.

2. Objective -- Keep abreast of new and proposed local, state, and federal code/regulations.

a. Action: District Manager reports to Board as needed.

3. Objective -- Ensure that staff and board members receive required training annually.

a. Action: District Manager attends at least one solid waste training or conference per year. This is an on-going action of the District and the responsibility of the District Manger who maintains contact with Solid Waste Association (SWANA) and Utah Association of Special Districts.

b. Action: Board chair or designee attends at least one training or conference per year.

c. Action: Staff and board members receive required open meeting training annually.

The County, City, and Town Board representatives keep the District appraised of actions and policies adopted by local government. The Board reviews of all legal compliance requirements as provided by the District Manager.

4. Objective -- Seek continuing education opportunities for staff

a. Action: The District Manager insures that at least one staff member attends a conference or training each year.

For the purposes of Objectives 2, 3 and 4, an organized visit to another solid waste disposal site or organization may be substituted for formal conference or training attendance.

5. Objective -- Review policies and procedures.

a. Action: Board calendars annual policy and procedure review.

6. Objective -- Maintain and formalize QA/QC programs.

a. Action: Board reviews/adopts QA/QC policies and procedures by 7/1/2010.

b. Action: Staff formalizes recording keeping, inspections, etc as recommended by the Study (2008) and practices already in place.

B. Goal -- Ensure efficient landfill operations to maximize landfill life.

1. Objective -- Increase compaction, thereby increasing density factor.*

a. Action: District staff has recognized the importance of this objective and will continue optimizing compaction and daily cover to maximize cell life. Board adopts standard for measuring compaction, sets goals and adopts procedures.

2. Objective --Reduce the daily working face, thereby reducing daily cover needs.*

a. Action: District staff has recognized the importance of this objective and will continue maintaining an efficient working face at both landfills. Board adopts policy and procedure for target workface size that also provides for monitoring compliance.

3. Objective -- Evaluate daily cover contribution to available landfill space and explore alternative cover material options.*

a. Action: District staff has recognized the importance of this objective and will continue evaluating daily and intermediate cover contributions to landfill space. Board adopts targets for cover thickness and methods for measuring same.

b. Action: Continue to work to utilize stored glass from the recycling center for daily cover at MLF. Evaluate the crushed glass status every six months including possible capital investment to recycle locally.

4. Objective -- Dig cells deeper, as permit allows at KLF.

a. Action: Board adopts standards for cell depth.

5. Objective -- Evaluate the need/opportunity for reengineering of cell construction at KLF.

a. Action: District contracts with engineering firm for reengineering of cell construction at KLF to increase the capacity at KLF.

C. Goal -- Encourage the saving of resources by increasing the materials diverted from the waste stream. *

The District will establish a goal of increasing diversion from 7% to 15% of waste produced within 5 years and a long-term goal to increase recycling to maximum potential. As the District works through it's action planning process, the District will develop a method to determine the 'real dollar' cost savings projection and will report this finding in it's annual report to the community.

1. Objective -- Increase recycling -- volume and categories of recyclables.*

a. Action: Operate the recycling center.

The District will continue working with CCR to streamline recycling operations and increase recycling county-wide and will strive to finalize transfer of Center operations to the District as per agreement between District and CCR.

b. Action: Support expansion of residential curbside recycling program.

c. Action: Institute drop-site recycling program.

The District will engage Moab City, Town of Castle Valley, and County to explore locating sites on local government properties. Also, the District will contact owners of large lots that may provide convenient drop off. These could include locations such as City Market, Village Market Square, WabiSabi. Considerations include costs for bins, supporting facilities (such as fence, platforms), logistics and who will pay for hauling to the Center, and on site (periodic or continual) monitoring if needed.

d. Action: Encourage commercial recycling

Determine what percentage of businesses use Bob's Sanitation's service to evaluate the potential for additional cardboard recycling.

Design and offer an education program and waste audit programs to convince businesses of the advantages of recycling. The District shall consider contracting a waste hauler to collect recyclables from commercial facilities.

The District in conjunction with CCR will work with hospitality and recreation outfitter sectors and Travel Council to encourage visitor recycling.

e. Action: Expand recyclable materials categories/commodities.

The District will explore expanding the recyclables collected and processed to include magazines and paperboard.

f. Action: Support a recycle center mall and exchange program.

A program to educate and direct self-haulers to these drop off locations will be developed and implemented.

g. Action: Evaluate annually capital investment opportunities to process recycled materials locally in conjunction with District budget process.

2. Objective – Establish Household Hazardous Waste and E-Waste Programs.*

The HHW and E-waste programs will be designed and implemented in conjunction with a public education program.

a. Action: Implement HHW Program.

Follow through with Study (2008) recommendations. In consultation with County, City, Mosquito Abatement District and Weed Department, evaluate the suitability and feasibility of using the 1000 Sand Flats property for the program location.

b. Action: Develop E-waste Recycling Program.

The District shall consider an E-waste recycling program in conjunction with the Household Hazardous Waste program.

3. Objective -- Explore alternative waste reduction strategies (composting yard waste, green waste).*

The District will explore handling of green wastes.

a. Action: Explore chipping of yard waste for mulch.

The District will continue to explore the feasibility and costs of chipping yard waste that would otherwise go to Moab Landfill, including partnering with Utah Division of Forestry, Fire and State Lands and others.

b. Action: Explore composting of yard waste by working with the City sewage treatment plant.

c. Action: Explore composting of green food wastes with YGP, markets, restaurants etc.

4. Objective -- Explore regulatory and institutional alternatives.*

a. Action: Explore regulatory program options (such as mandatory recycling and rate incentives) that result in waste generation reduction or diversion such as mandatory garbage collection and disposal. in collaboration with local governments, institutions and businesses.

b. Action: Explore Pay-as-You-Throw (PAYT).

Evaluate a variable rate waste collection fee structure commonly referred to as “pay as you throw.”

Initiate discussions with the City and County to establish a new enterprise fund. The enterprise fund would be paid for by waste collection/disposal fees paid by the residents.

Explore variable can, metered bag, metered tag, and standardized container rental systems.

c. Action: Explore establishing a universal recycling fee.

d. Action: Explore partnership with private recyclers.

e. Action: Explore procurement standards, purchasing guidelines, and market development. Work with local governments to consider adopting policies for purchase of materials produced from recycled products.

f. Action: Explore office recycling program.

Work with local governments to encourage recycling at all government-owned facilities. Include outreach to state and federal agencies as well.

g. Action: Adopt rules and regulations, including fee schedules, to reduce the dumping of certain recyclable materials.

The District will strive increase its ability to remove recyclables delivered by self-haulers from the waste stream. Cardboard that arrives via commercial business must be diverted from the landfill. One option is for staff to refuse loads with a significant amount of cardboard. Another option would be to have a differential tipping fee for materials that are easily recycled.

5. Objective - Reduce energy consumption and release of greenhouse gases.*

a. Action: Monitor methane production.

Sampling at Moab and Klondike landfills has not shown methane production.

b. Action: Conduct annual assessment of energy uses and revise job descriptions to reflect the District's commitment to energy savings.

6. Objective - Assess other waste sources that are diverted that are unknown.

a. Action: Develop a plan to complete this assessment.

D. Goal -- Educate all sectors in the community about the philosophy of reduce, reuses, recycle*

The District, in partnership with CCR, The Solutions, Green Solutions, Bob's Sanitation, and others, will strive to increase public education programs for sustainability, conservation, and recycling.

1. Objective -- Work with CCR to achieve an effective outreach plan with recycling volume targets.*

a. Action: Board assigns member as liaison to CCR.

b. Action: Board develops specific goals for education program bi-annually.

c. Action: District will budget for and collaborate with CCR for education programs.

2. Objective -- Inform community about District operations and programs.

a. Action: Conduct annual community meeting on Plan progress.

b. Action: Publish a flyer or news article that focuses on "Solid Waste Year in Review".

E. Goal -- Ensure long-term stability and solvency of the District.*

Objective 1 -- Ensure that landfill closure funds are adequate. *

a. Action: Continue to bring the closure funds into compliance.

Objective 2 -- Accelerate the pay off of bonds for the landfills. *

a. Action: Budget annual amounts for early bond repayment.

Objective 3 -- Explore alternative avenues for District financing.*

a. Action: Decrease dependence on mineral lease monies.

b. Action: Evaluate tipping fee structures including waste from San Juan County.

Objective 4 -- Evaluate accounting and tracking procedures.*

a. Action: Adopt "Full Cost Accounting" procedures.

Objective 5 -- Develop a Master Plan for the 1000 Sand Flats Road property, including the shared facilities, to plan for diversion programs.

a. Action: Assess the needs for recycling center expansion – facilities, storage, and ADA/OSHA facilities.

b. Action: Assess requirements for Household Hazardous Waste and E-waste facilities.

c. Action: Clarify Moab City zoning implications.

d. Action: Consider solar power generation for the property.

e. Action: Initiate plan to install emergency shower at the Recycling Center.

Objective 6 -- Examine options to garner more control over the waste stream.*

a. Action: Explore collection options and opportunities.

Continue to evaluate feasibility/opportunity to operate collection service/transfer station. Discuss contract opportunities with city, county, Bob's Sanitation.

Objective 7 -- Assess population and waste generation trends annually to ensure that assumptions in this plan are valid.

- a. Action:** Work with Moab City, Town of Castle Valley, and County to understand housing/population trends.
- b. Action:** Work with Travel Council and others on evaluation of tourist trends
- c. Action:** Review Governor's Office of Planning and Budget population projections each year.
- d. Action:** Factor in 2010 census.

Objective 8 -- Institute annual action plan update.

- a. Action:** Board calendars annual review of plan.

XIII. Proposed Priorities, Relative Costs, and Implementation Timetable

Table 1 displays goals, objectives, and actions discussed above. Each action is assigned the District's proposed priority, relative cost for implementation, and the timeline for initiation. Relative priorities reflect the mission statement for the Plan update. A Moderate (M) priority serves to either 1) protect the public health, safety, and welfare or 2) reduce the waste stream. High (H) priority actions would serve both priorities. There are no Low priorities. Some actions are mandated by law and indicated as required (R).

Relative costs depend on projected funding levels and sources to implement an action. A High (H) relative cost would require bonding or borrowing capital. A Moderate (M) relative cost would be planned for and paid from reserve funds. A Low (L) relative cost would have little or no fiscal impact and would be paid from operating funds based on the annual budget process.

Table 1. Actions Implementation Priority, Relative Cost, and Timeframe										
			Relative Priority	Relative Cost	2010	2011	2012	2013	2014	2015-2020
Goal A. Comply with state and federal law										
Objective 1.	Continue annual assessment of landfill performance/Compliance w/ permits									
	a. Action – Board adopts regular schedule performance/compliance reports from Manager	H	L	x						
Objective 2.	Keep abreast of new and proposed local, state, and federal code/regulations									
	a. Action – Manager reports to Board as needed.	R	L	x						
Objective 3.	Ensure that staff and board members receive required training annually									
	a. Action – Manager attends at least 1 SW training/conference per year	H	L	x						
	b. Action – Board Chair/designee attends at least 1 SW training/conference per year	H	L	x						
	c. Action – Staff and Board receive required open meetings training annually	H	L	x						
Objective 4.	Seek continuing education opportunities for staff.									
	a. Action – Manager insures at least 1 staff member training/conference per year	H	L	x						
Note	For Obj 2, 3, 4: substitute organized visit to SW disposal site.									
Objective 5.	Review policies and procedures									
	a. Action – Board calendars annual policy and procedure review	R	L	x	x	x	x	x	x	x
Objective 6.	Maintain and formalize QA/QC programs									
	a. Action -- Board reviews/adopts QA/QC policies and procedures.	H	L			x				
	b. Action -- Staff formalize recording keeping, inspections, etc as recommended by the Study (2008) and practices already in place.	R	L	x	x					

Table 1. Actions Implementation Priority, Relative Cost, and Timeframe										
			Relative Priority	Relative Cost	2010	2011	2012	2013	2014	2015-2020
Goal B. Ensure efficient landfill operations to maximize landfill life.										
Objective 1.	Increase compaction, thereby increasing density factor.									
	a. Action Board adopts standard for measuring compaction, set goals and adopt procedures.	H	L	x	x					
Objective 2.	Reduce the daily working face, thereby reducing daily cover needs.									
	a. Action Board adopts policy and procedure for monitoring compliance with workforce size target.	H	L	x	x					
Objective 3.	Evaluate daily cover contribution to available landfill space and explore alternative cover material options.									
	a. Action Board adopts targets for cover thickness and methods for measuring same.	R	L	x	x					
	b. Action Utilize stored crushed glass for daily cover. Evaluate every 6 months	H	M	x	x	x	x	x	x	
Objective 4.	Dig cells deeper, as permit allows.									
	a. Action Board adopts standards for cell depth.	H	M	x	x					
Objective 5.	Evaluate the need/opportunity for reengineering of cell construction at KLF.									
	a. Action District contracts with engineering firm for reengineering of cell construction at KLF to increase the capacity at KLF.	M	M		x					

Table 1. Actions Implementation Priority, Relative Cost, and Timeframe										
			Relative Priority	Relative Cost	2010	2011	2012	2013	2014	2015-2020
Goal C. Encourage the saving of resources by increasing the materials diverted from the waste stream.										
Objective 1.	Increase recycling -- volume and categories of recyclables.									
	a. Action – Seek to operate the recycling center.	H	L	x						
	b. Action – Support expansion of residential curbside recycling program.	H	L	x						
	c. Action – Institute drop-site recycling program.	H	M/H	x	x	x				
	d. Action – Encourage commercial recycling	H	L	x	x					
	e. Action -- Expand recyclable materials categories/commodities.	H	L	x	x	x				
	f. Action – Support a recycle center mall and exchange program	L	L	x						
	g. Action – Evaluate annually capital investment opportunities to process recycled materials locally in conjunction with District budget process	H	L	x	x	x	x	x	x	x
Objective 2.	Establish Household Hazardous Waste and E-Waste programs.									
	a. Action – Implement HHW Program.	H	H	x	x	x				
	b. Action -- Develop E-waste Recycling Program.	H	M	x	x	x				
Objective 3.	Explore alternative waste reduction strategies (composting yard waste, green waste)									
	a. Action -- Explore chipping of yard waste for mulch.	H	L	x	x	x				
	b. Action -- Explore composting of yard waste	H	L	x	x	x	x			
	c. Action -- Explore composting of green food wastes	M	L	x	x	x	x			
Objective 4.	Explore regulatory and institutional alternatives.									

		a. Action – Explore mandatory recycling participation	M	L	x	x	x	x	x	
		b. Action – Explore Pay-as-You-Throw (PAYT)	M	L	x	x	x	x	x	
		c. Action – Explore establishing a universal recycling fee.	M	L	x	x	x	x	x	
		d. Action – Explore partnership with private recyclers	M	L	x	x	x	x	x	
		e. Action --Explore procurement standards, purchasing guidelines, and market development local governments.	M	L	x	x	x	x	x	
		f. Action --Explore office recycling program for local governments.	M	L	x	x	x	x	x	
		g. Action -- Adopt rules and regulations, including fee schedules, to reduce the dumping of certain recyclable materials at Moab Landfill.	H	L	x	x	x	x	x	
Objective 5.		Reduce energy consumption and release of greenhouse gases.								
		a. Action – Monitor methane production	M	L	x	x	x	x	x	
		b. Action – Conduct annual assessment of energy uses; revise job descriptions to reflect District commitment to energy savings.	M	L	x	x	x	x	x	
Objective 6.		Assess other waste sources that are diverted but District may be unaware of.								
		a. Action -- Develop a plan to complete this assessment.	M	L	x	x				

Table 1. Actions Implementation Priority, Relative Cost, and Timeframe										
			Relative Priority	Relative Cost	2010	2011	2012	2013	2014	2015-2020
Goal D. Educate all sectors in the community about the philosophy of reduce, reuses, recycle.										
Objective 1.	Work with CCR to achieve an effective outreach plan with recycling volume targets.									
	a. Action: Board assigns member as liaison to CCR.		H	L	x	x	x	x	x	x
	b. Action: Board develops specific goals for education program bi-annually.		H	L	x	x	x	x	x	x
	c. Action: District shall collaborate with CCR for education programs.		H	L	x	x	x	x	x	x
Objective 2.	Inform community about District operations and programs.									
	a. Action -- Conduct annual community meeting on Plan progress.		M	L	x	x	x	x	x	
	b. Action -- Publish a flyer or news article that focuses on “Solid Waste Year in Review”		M	M	x	x	x	x	x	

Table 1. Actions Implementation Priority, Relative Cost, and Timeframe										
			Relative Priority	Relative Cost	2010	2011	2012	2013	2014	2015-2020
Goal E. Ensure long-term stability and solvency of the District.										
Objective 1.	Ensure that landfill closure funds are adequate.									
	a. Action -- Continue to bring the closure funds into compliance.		R	L	x	x	x	x	x	x
Objective 2.	Accelerate pay off of bonds for landfills.									
	a. Action -- Budget annual amounts for early bond repayment.		M	M	x	x	x	x	x	x
Objective 3.	Explore alternative avenues for District financing.									
	a. Action -- Decrease dependence on mineral lease monies.		M	L	x	x	x	x	x	x
	b. Action -- Evaluate tipping fee structures including waste from San Juan County.		M	L	x	x	x	x	x	x
Objective 4.	Evaluate accounting and tracking procedures									
	a. Action -- Adopt Full Cost Accounting procedures		M	L					x	
Objective 5.	Develop Master Plan for 1000 Sand Flats property, including shared facilities, to plan for expanded diversion programs.									
	a. Action -- Assess the needs for recycling center expansion – facilities, storage, ADA/OSHA facilities.		H	M	x	x	x			
	b. Action -- Assess requirements for HHW and E-waste facility.		H	L	x	x	x			
	c. Action - Clarify Moab City zoning implications.		H	L	x					
	d. Action - Consider solar power generation for the property.		M	L		x	x	x	x	
	e. Action - Initiate plan for shower construction.		M	H	x	x				
Objective 6.	Examine options to garner more control over the waste stream.									
	a. Action -- Explore collection options and opportunities.		M	L		x	x	x		
Objective 7.	Assess population and waste generation trends annually to ensure that assumptions in this plan are valid									
	a. Action -- Work with City, Town of CV, and County to understand housing & population trends.		M	L	x	x	x	x	x	

	b. Action --Work with Travel Council and others on evaluation of tourist trends	M	L	x	x	x	x	x	
	c. Action - Annual review Governor's Office of Planning and Budget population projections.	M	L	x	x	x	x	x	
	d. Action - Factor in 2010 census.	H	L		x				
Objective 8.	Institute annual action plan update								
	a. Action -- Board calendars annual review of plan.	H	L	x	x	x	x	x	

XIV. References

Beehive Enterprises.1993. Grand County Solid Waste Management Plan. Prepared for Grand County. Panguitch, Utah.

CH2MHill. 2008. Summit County Integrated Solid Waste Management Master Plan. Salt Lake City, Utah.

Five Star Engineers. 2008. Solid Waste Operations Study Report, prepared for Solid Waste Special service District #1, Grand County. Logan, Utah.

Jorgen, R. 2008. Scenic Byways Corridor Management Plan. Prepared for Grand County.

Permits for operation of Moab Landfill Class IVb and Klondike Landfill Class I.

Utah Division of Solid and Hazardous Waste. 2007. Utah Solid Waste management Plan Update through 2006.

XV. Appendices

A. Definitions

B. List of Authorities and Guidance

Solid and Hazardous Waste

Utah Code-- Title 19 Environmental Quality Code -- Chapter 6 Hazardous Substances -- Section 501-505: Solid Waste Management Act.

Utah Code -- Title 19 -- Environmental Quality Code --Chapter 09 -- Hazardous Waste Facilities Management Act

http://le.utah.gov/~code/TITLE19/19_09.htm

Utah Administrative Code Environmental Quality: Title R315 Solid and Hazardous Waste
<http://www.rules.utah.gov/publicat/code/r315/r315.htm>

Department of Environmental Quality, Division of Solid and Hazardous Waste
Utah Solid Waste Permitting and Management Rules (R315-301 through 320)
PDF document revised as of May 15, 2009 (unofficial copy with supporting materials maintained by the Division of Solid and Hazardous Waste.)
<http://www.hazardouswaste.utah.gov/Rules/Adobe/SWRules/R315-301-320eff.pdf>

Utah Code -- Title 17 Counties -- Chapter 15 Miscellaneous Provisions -- Section 23 County solid waste management plans.

Special Service Districts

Utah Code -- Title 17D -- Limited Purpose Local Government Entities - Other Entities -- Chapter 01 -- Special Service District Act
<http://le.utah.gov/~code/TITLE17D/17D01.htm>

Mineral Lease Funds

Utah Code -- Title 59 -- Revenue and Tax -- Chapter 21 -- Mineral Lease Funds
http://le.utah.gov/~code/TITLE59/59_21.htm

Utah Code -- Title 09 -- Community and Culture Development -- Chapter 04 -- Housing and Community Development
http://le.utah.gov/~code/TITLE09/09_04.htm

C. Supporting Discussions

This section includes expanded discussion on some goals and objectives (indicated by * in the text) that may be of interest to the reader.

B. Goal -- Ensure efficient landfill operations to maximize landfill life.

1. Objective -- Increase compaction, thereby increasing density factor.

Compaction is required to reduce the volume of the waste, minimize litter, and decrease the amount of daily cover required. Compaction increases the density of the waste, which directly affects landfill life. A high degree of compaction and increased density extends the cell life.

Compaction operations at MLF and KLF differ at this time because they are permitted to receive different materials. In general, compaction is achieved by operating the compactor up and down the working face between three and five times on 1- to 2-foot layers of waste until no further compaction occurs. The top deck of each cell is also compacted by running the landfill compactor across the top to keep it as level as possible. Long, awkward waste materials, such as trees, stumps, logs, tires, and large metal, are typically removed and handled separately because these materials are difficult if not impossible to compact.

Low-density wastes, such as brush, leaves, yard trimmings, synthetic fibers, loose plastic film or foam, and rubber and plastic scraps or shavings, are compacted until the operator can no longer detect that the surface of the waste layer is being depressed more than it is rebounding. High-density material such as furniture, crushable items, and appliances are dumped

at the toe of the working face if traffic permits. Often the compactor crushes the item on solid ground and then pushes it into the toe of the fill.

2. Objective --Reduce the daily working face, thereby reducing daily cover needs.

The working face is the portion of the uncompleted cell on which additional waste is spread and compacted. The size of the working face depends on the number of vehicles bringing wastes to the site, including the number and type of equipment available for spreading and compacting. Many factors affect the size of the working face, including weather conditions, available equipment, number of employees present, location of daily cover material, amount and type of traffic (especially at MLF). The working face is wide enough to prevent backlog of vehicles, typically about 40 feet, and as safety considerations dictate.

3. Objective -- Evaluate daily and intermediate cover contribution to available landfill space and explore alternative cover material options.

Daily cover is required by state law to be applied to the working face at the end of the day to control vectors (animals), odors, and litter and to reduce the potential of fire. Daily cover is often at least 6 inches of soil.

The Moab Landfill receives nearly all of its daily cover soil from the site. Also, as the opportunity arises, waste materials become available that the District can utilize with permission from the State.

At Klondike Landfill daily cover is weathered shale and soil excavated at the site and for the foreseeable future will serve cover needs.

Intermediate cover is placed on the top and side surfaces of the completed cell until the cell is ready for final cover. It is composed of at least 12 inches of compacted soil materials. This intermediate cover is thick enough to prevent erosion of the cover by wind, water, and traffic.

There are many alternative cover material (ACMs) such as tarps, asphalt grindings and other high-density materials, and cement-based materials and other thin coatings. Alternative cover material products are increasingly being used because they take up less volume and save air space. Since cover materials are readily available, the District will evaluate ACMs if needed in the future.

C. Goal -- Encourage the saving of resources by increasing the materials diverted from the waste stream.

Waste diversion is generally considered any activity that prevents waste from being disposed of in a landfill. This can involve many activities, including the popular Three Rs Program encouraged by the United States Environmental Protection Agency (EPA), which emphasizes waste reduction, reuse, and recycling activities. Waste reduction, or “source reduction,” and waste reuse focus on efforts that decrease the amount of waste generated. Recycling emphasizes the diversion of waste from a landfill after the waste has already been generated. In line with this, the Western Climate Initiative recommended waste reduction and recycling as a high-priority option to reduce greenhouse gases.

Individual efforts to reduce waste generation and reuse waste materials are very important and would be addressed in any education/outreach program developed by the District and the community.

Diversion activities apply after the waste is generated and enters the waste stream. These include four main categories: Recycling; Household Hazardous Waste Recycling; Composting; Alternative Disposal Technologies.

The Study (2008) provided an assessment of recycling program potential. “Based on the waste composition data and the material recycled by county residents, Grand County has the potential to recycle up to 48 percent of the county’s solid waste excluding plastic. If it is assumed that 50% of the community will be involved in recycling, the District can remove up to 24% of its waste stream from the landfill. Using the 2005 data and assuming only 50% of the community involvement in recycling, the District can divert up to 2,117 tons of waste from the landfill compared to the 596 tons recycled in 2005.”

To achieve this substantial increase will require facilities planning and capital expenditures to handle such a large increase. The District will seek a conservative and tangible goal of increasing diversion from 7% to 15% within 5 years. This would represent approximately double the current diversion rate achieved through recycling alone at the Center.

A qualitative assessment of potential diversion options is provided in the following subsections. It should be noted that the options are not explored in detail, but enough information is provided to assess implementation challenges, environmental impacts, and conceptual costs. A prioritized list of specific options to achieve the 15 percent diversion goal is presented at the end of the document.

The District's long-term goal is increase recycling to maximum potential.

Increase recycling -- volume and categories of recyclables. To reach the established 15 percent diversion goal by 2015, the District would need to quickly implement a more aggressive recycling program. Some recycling alternatives are presented for consideration in the following subsections. The Study (Five Star Engineers) emphasized that the key to increasing recycling by any method in Grand County must be accompanied by a public education program.

The District will continue working with CCR to streamline recycling operations and increase recycling county-wide and will strive to finalize transfer of Center operations to the District as per agreement between District and CCR.

Expand the existing curbside recycling: One option to quickly increase recycling is to expand the existing curbside recycling. As of December 2009, Green Solutions provides curbside recycling pick up to 230 residences and 58 businesses. Customers sort recyclables in provided containers – so-called “multi-stream”. This dovetails well with the drop site sorting at the Recycling Center. The existing curbside collection could be expanded by partnering with private haulers to increase community-wide education and ensuring that Center facilities meet the increased delivery. Presently, cardboard from Green Solutions is received at the Center at no cost and then processed and sold by the Center.

Many communities are moving to commingled waste (or “single-stream”), which is a mix of recyclable materials. Representatives from the District and CCR visited the recycling facilities in Boulder, Colorado and Logan, Utah, both of which use the single-stream approach and serve much larger populations. Changing to this approach in Grand County would be a very large capital investment for facilities, equipment, and staffing. By way of comparison, Summit County's Plan (CH2MHill 2008) states that “The estimated cost for the current curbside program which is multi-stream is about \$160 per ton. The cost to expand into lower density areas would likely cost more per ton of recycled material. The District believes that the Grand County waste stream and the potential for recyclable recovery is not large enough to examine this path much further in this planning cycle.

Institute drop-site recycling program: Another option to quickly increase recycling is to start a drop-site recycling program. There may be some potential zoning impediments to implementing a drop-off program especially in residential areas. As a first step, the District will engage Moab City, Town of Castle Valley, and County to explore locating sites on local government properties. Also, the District will contact owners of large lots that may provide convenient drop off. These could include locations such as City Market, Village Market Square, WabiSabi. Considerations include costs for bins, supporting facilities (such as fence, platforms), logistics, and who will pay for hauling to the Center, and on site (periodic or continual) monitoring if needed. In Summit County for comparison, current costs for the drop-site program are about \$85 per ton (CH2MHill 2008).

Once the effectiveness of drop-site program is established then the District would seek regional drop off/collection (Paradox, Monticello, La Sal, Crescent Junction, Thompson, etc).

Encourage commercial recycling: Commercial recycling means recycling waste from commercial facilities, industries, offices, and other institutions. As noted above, a significant amount of cardboard is recycled via Bob's Sanitation by offering cardboard collection service to businesses and institutions. It would be useful to determine what percentage of businesses use this service to determine the potential for additional cardboard recycling. Currently, cardboard is one of the more marketable recyclable commodities processed by the Center. Presently, cardboard from Bob's Sanitation is received at the Center at no cost and then processed and sold by the Center.

For commercial recycling of other commodities to be successful, a well-crafted education program and waste audit programs to convince businesses of the advantages of recycling is needed. The District could consider contracting a waste hauler to collect recyclables from commercial facilities. If this concept were to be implemented, the District would likely need to consider a charge for processing to make it self-supporting.

The District in conjunction with CCR will work with hospitality and recreation outfitter sectors and Travel Council to encourage visitor recycling.

Expand recyclable materials categories/commodities: According to Summit County's Integrated Solid Waste Management Master Plan (CH2MHill 2008), diversion methods can offer many significant environmental benefits, in addition to saving landfill capacity. The energy that is saved by recycling can be significant. If the material is recycled, there can also be a significant reduction in Green House Gases (GHG) due to reduced energy requirements, as well as the reduction in GHG from the decomposing material in the landfill. Not all materials offer the same energy and GHG savings. How much GHG can be saved per ton of recycled composted material is based on many assumptions regarding travel distance and other factors from the EPA's Waste Reduction Model, which is updated annually. Some materials, such as paper or metals, offer significant savings in GHG emissions while some materials, such as glass, offer little. The potential carbon savings for a particular waste material should factor into the decision if that particular material will be recycled.

The District will explore expanding the recyclables collected and processed to include magazines and paperboard. CCR recently began receiving and processing plastics.

Start a recycle center mall and exchange program: The purpose of a mall is to target reusable material before this material becomes part of the waste stream. This service is effectively done by local thrift stores such as Wabi-Sabi. Rather than the District starting this sort of program, educating and directing self-haulers to these drop off locations would be more productive.

2. Objective – Establish Household Hazardous Waste and E-Waste Programs.

The HHW and E-waste programs would be enhanced by and should be done in conjunction with a public education program.

Develop Household Hazardous Waste Recycling Program: Household hazardous waste can be extremely toxic. As such, it is important to remove as much HHW as possible from the solid waste stream. Federal and state laws allow disposal of some HHW in the trash; however, the dangers of such disposal methods might not be immediately obvious. Improper disposal of these wastes can pollute the environment and pose a threat to human health. Hence, the state of Utah strongly encourages the establishment of local HHW collection programs that ensure proper disposal.

Common household materials that are considered hazardous waste include:

Cleaning products	Indoor pesticides
Oven cleaners	Ant sprays and baits
Wood cleaners and polishes	Flea repellents and shampoos
Toilet cleaners	Bug sprays
Tub, tile, shower cleaners	Houseplant insecticides
Bleach (laundry)	Moth repellents
Computer monitors/Electronics	Mouse poisons and baits
Automotive products	Workshop/painting supplies
Motor oil	Adhesives and glues
Stains and finishes	Oil- or enamel-based paint
Air conditioning refrigerants	Automotive batteries

Visit this site for complete information: <http://www.hazardouswaste.utah.gov/Adobe/GUIDE1a.pdf>

The State of Utah requires C&D landfills, like the Moab Landfill, to demonstrate that no conditionally exempt small-quantity generator of hazardous waste is accepted at the landfill. The District staff screen incoming loads and refuse loads as needed.

- Evaluate the suitability and feasibility of using the 1000 Sand Flats property as the best place for location; will require consultation with County, City, Mosquito Abatement District and Weed Department; may require long-term site plan development and zoning considerations.

- The Study (Five Star Engineers 2008) recommended a \$50K commitment over 5 years to build the facility and \$15,000/year for contract disposal.

- Initiate contract bid process for construction of HHW facility including verifying specifications for facility.

- Verify accessory material, supplies etc that will be needed to properly staff the facility.

- With CCR, develop public education so that people understand the adverse impacts of HHW and how to dispose of it properly.
- Set up program to educate small business that qualify as small generators of HW about disposal requirements; possibly coordinate a disposal program – would have to have a fee system
- Establish a satellite HHW collection point at Moab landfill to store material removed from the waste stream by landfill operator. This will include the establishment of fully contained storage area, collection, and disposal tracking system. Alternatively, the operator would haul, at the end of each day, any HHW collected to the main facility at 1000 Sand Flats Rd.

Develop E-waste Recycling Program: Electronic waste (e-waste) is a rapidly growing portion of the waste stream; e-waste includes televisions, cell phones, computers, monitors, printers, peripherals, fax machines, VCRs, radios and stereos, telephones, video games, wiring, and other electronic products. Most of these wastes contain lead and other leachable metals, and if they are not disposed of properly, they can contaminate the groundwater underneath the landfill.

The District would consider establishing this program in conjunction with Household Hazardous Waste program. Storage requirements would need to be considered. Costs for contract hauling may be less than HHW since there is considerable value to be recovered from E-waste.

3. Objective -- Explore alternative waste reduction strategies (composting yard waste, green waste).

In Utah, composting is considered recycling, and the state of Utah solid waste rules define composting as a method of solid waste management whereby the organic component of the waste stream is biologically decomposed under controlled aerobic conditions. The end product, or compost, should be a product that can be handled, stored, or applied to the land without adversely affecting human health or the environment.

The District will explore handling of green wastes. One major concern with the potential for composting in Moab is that typically a significant amount of water is needed.

Explore chipping of yard waste for mulch: The District will continue to explore the feasibility and costs of chipping yard waste that would otherwise go to Moab Landfill. Chippers of sufficient capacity for to handle the yard waste received at MLF are very expensive. Partnering with Utah Division of Forestry, Fire and State Lands that contracts chipping services for Firewise may be an avenue to explore.

Explore composting of yard waste: This requires space, equipment investment, and water. The District will explore this idea by working with the City sewage treatment plant.

Explore composting of green food wastes: (work with YGP, markets, restaurants etc); part of composting yard waste to get good C:N ratio and additional moisture; collection feasibility required.

Excerpts from Summit County Solid Waste Management Plan (CH2MHill 2008):

This section deals specifically with composting organic material from the MSW stream.

Compostable Material

Summit County MSW contains about 30 percent compostable waste that could theoretically be diverted from the landfill. This includes about 10 percent yard trimmings and up to 20 percent food waste. This is a significant amount of waste that can be diverted from the landfill and recycled using the proven technique of composting. Composting of green waste is common in Utah, but composting of food waste is not as common. In Utah, established yard trimming composting facilities are diverting between 5 to 10 percent of the waste stream.

The collection and processing of compostable material can be difficult and is a critical component of the success of the program. Some methods of collecting compostable material can include providing residents a separate green waste container, accepting self-hauled green waste at the landfill for free, or working with businesses such as landscapers or farmers to accept green waste in bulk at designated areas. The green waste is then usually sorted and processed with

large grinders to get it ready for composting. The requirements to collect and process food waste are more complex; therefore, most communities start with green waste composting.

Diverting 10 percent of yard trimming could increase recycling significantly. If the total current waste generation rate were 50,970 tons, diverting 10 percent of the waste stream would result in about 5,097 tons being diverted. This means that composting the yard waste alone would increase the current diversion rate of 20 percent by an additional 10 percentage points, resulting in meeting the 2010 diversion goal of 30 percent.

Composting Process

The method of composting can be active or passive. Active composting is the process in which aerobic bacteria decomposes the organic waste to produce humus (compost). This method produces fewer odors and is generally used by commercial composting facilities.

Passive composting allows nature to take its course in a very slow process. This method is generally used for home composting and is not applicable for commercial composting facilities.

Generally, compost feedstock consists of carbon, nitrogen, oxygen, and water. The mixture should have a carbon-to-nitrogen ratio of between 25 and 30.

4. Objective -- Explore regulatory and institutional alternatives.

Evaluate regulatory program options (such as mandatory recycling and rate incentives) that result in waste generation reduction or diversion. A first step toward mandatory recycling would be mandatory garbage collection and disposal. Some of these are more institutional in nature and would likely be combined with some of the other recycling alternatives already discussed. At present, the District does not control collection of solid waste. Therefore, most of these possible actions would require collaboration among the District and local governments, institutions and businesses in the near term.

Explore mandatory recycling participation: The County could pass an ordinance that requires residents and businesses to recycle. This would certainly increase the solid diversion rate. Alternatively, a disposal ban for specific materials such as green waste could be established. If mandatory commercial recycling or a disposal ban on green waste were enacted, the County, via the District, would need to provide easy access to recycling options and green waste disposal alternatives.

The implementation of mandatory countywide residential recycling raises another set of concerns. It could be viewed as a heavy-handed action on the part of local government that has fostered and supported voluntary programs to date. Also, the logistics of collection of recyclables would have to be worked out. Collections services to the outlying areas of the County would likely not be financially feasible for the hauler.

Explore Pay-as-You-Throw (PAYT): The process of implementing a variable rate waste collection fee structure is commonly referred to as “pay as you throw.” Residents are charged for the collection of household trash based on the amount they throw away. This creates an incentive to recycle more and to generate less waste. The idea is to charge a progressive rate for each additional garbage unit collected above the basic service level.

Implementing this kind of system would require discussions with the City and County because the District does not have control over collection policies. PAYT systems require a mechanism to charge each resident individually for garbage collection. In order to implement a PAYT alternative, the County/City would need to establish a new enterprise fund. The enterprise fund would be paid for by waste collection/disposal fees paid by the residents.

PAYT systems have also encountered some challenges with some residents overfilling cans or a resulting increase in illegal dumping. These systems may have a higher administrative cost if trash receptacles as well as resident behaviors have to be monitored.

For informative purposes, four user-pay systems are described that can offer the greatest waste reduction impacts, provide convenience to the users, and administrative ease to program operators (CH2MHill 2008).

- **Variable Can System:** Customers sign up for a “subscription level,” a specific number of cans or units of service that are collected weekly from customers. Rates are calculated based on the subscribed service level. Generally, each additional can costs more, creating incentive to reduce waste generation. Subscription levels could include yard waste and recyclables collection. Customers supply their own cans, or special cans could be provided as part of the collection service. Rate incentives can be provided by introducing a smaller trash can size (32-gallon and/or 60-gallon can) for

residents and charging a lower rate for the smaller can. The idea is to encourage individuals to recycle so they can fit all their waste to be disposed of in the smaller can. For this incentive to work, the rate difference between the small can and the big can should be substantial.

- **Metered Bag:** Residents purchase standardized marked bags at local retail outlets. Bags are priced at a level that covers the cost of collection and waste disposal. Waste set out in different containers is not collected. Some people object to this approach because it requires the use of disposable bags (which, in themselves, create waste) and precludes the use of reusable garbage cans.
- **Metered Tag:** Instead of purchasing bags, residents buy tags at the same cost as the bags. These tags are attached to bags or cans that do not exceed the defined maximum size. One potential drawback is that tags can easily be stolen.
- **Standardized Container Rental:** Each resident receives one or more standardized, reusable containers that are rented out on a monthly basis. This system has an initial capital cost, but it allows for greater control over the amount of garbage received.

Explore establishing a universal recycling fee: Universal recycling can be implemented to increase participation in recycling programs if voluntary efforts fall short of recycling goals. The County can establish a recycling fee and make everyone pay for the recycling service. Residents and businesses that are currently involved in recycling can benefit from the economics of scale and see cost reduction.

Explore partnership with private recyclers: At this time there are no recycling businesses in Grand County. Certain recycled materials may have potential to be used locally. CCR has investigated supplying crushed glass to the County Road dept and others. If the District can increase the volume of glass received and processed, local markets might be able to depend on a steady supply.

Explore procurement standards, purchasing guidelines, and market development: The District would work with local governments to consider adopting policies for purchase of materials produced from recycled products. A number of communities in Utah have adopted these types of policies.

Explore office recycling program: The District would work with local governments to encourage recycling at all government-owned facilities. Outreach to state and federal agencies would be done as well.

Establish Moab Landfill recycling program.: The District will consider establishing a landfill recycling program to remove recyclables delivered by self-haulers from the waste stream. Cardboard that arrives via commercial business must be diverted from the landfill. One option is for staff to refuse loads with a significant amount of cardboard. Another option would be to have a differential tipping fee for materials that are easily recycled. This would require a staging area at the MLF and staff-time to haul the materials to the Center.

5. Objective - Reduce energy consumption and release of greenhouse gases.

Monitor methane production: Neither landfill has tested for positive for methane production. The State considers these landfills "dry" such that conditions do not generate methane.

D. Goal -- Educate all sectors in the community about the philosophy of reduce, reuses, recycle

Public education alone could increase recycling percentages even without any other changes to the current diversion avenues -- curbside and drop-off recycling programs. However, it is difficult to determine whether education programs by themselves will achieve the 15% diversion goal. The District in partnership with CCR, The Solutions, Green Solutions, The Solutions, Bob's Sanitation, and others could increase public education programs for sustainability, conservation, and recycling. Achieving the 2015 diversion goal of 15 percent will require contributions from the residential, commercial, industrial, and institutional sectors and will impose many changes in the way in which individuals and organizations think about their waste and how it is managed. An education and promotion program will be necessary for programs to be successful.

1. Objective -- Work with CCR to achieve an effective outreach plan with recycling volume targets.

Some specific recycling education program elements could include:

- Research different segments of the population who are targeted for programs; prepare a 3-year plan
- Allocate adequate staff time and budget to this program
- Coordinate program activities with schools, businesses, agencies, and institutions.
 - Maintain a consistent “look” for the program
 - Develop integrated media plan -- Web site, radio, TV, newspaper
 - Evaluate the impact of education programs, including annual goals and public feedback
 - Use community and private resources
 - Cross-promote solid waste management activities
 - Maintain telephone hotline number
 - Seek funding opportunities
 - Highlight and recognize public and private efforts taken to recycle and establish a recycling recognition program
 - Continue annual Fair and Fundraiser

E. Goal -- Ensure long-term stability and solvency of the District.

Objective 1 -- Ensure that landfill closure funds are adequate.

The District has slowly been bringing the closure funds into compliance. This is key to long term stability and solvency of the District and solid waste management for the County.

Objective 2 -- Accelerate the pay off of bonds for the landfills.

The District believes that paying off these bonds is good fiscal policy. This will also decrease the financial assurance that Grand County and Moab City must guarantee each year.

Objective 3 -- Explore alternative avenues for District financing.

Decrease dependence on mineral lease monies: As discussed above, the District receives mineral lease monies from the State via the County. The amount allocated is determined every year by the County. In several past years, the mineral lease monies have been lower from the State or the County has needed to direct more monies to other Special Districts. At these times, the District has experienced serious shortfalls of revenue requiring budget cuts and spending from the landfill closure funds (with State permission). Because there is uncertainty from year to year as to the amount to be allocated to the District, the District would like to reduce the dependence on these “soft monies”. However, the District will likely require current funding levels for the next 5 years to implement some of the new programs and until these programs are determined to be self supporting.

Evaluate tipping fee structures: As recycling increases, more revenue will be generated from the sale of recyclables. At the same time, revenue will decrease at the landfills, particularly at KLF. Therefore, the District will need to evaluate tipping fee structures at the landfills and possibly consider fees at the Recycle Center to ensure that all costs are covered. Proposed fee structure changes are subject to public process.

Other ideas:

- Determine the San Juan county waste contribution; consider inter-local agreement with payment
- If a County-wide ordinance can be passed, consider a property tax or fee (nominal) to further support
- Explore grant opportunities to fund education, new equipment etc
- Investigate a fee schedule for commercial recycling drops

Objective 4 -- Evaluate accounting and tracking procedures.

Adopt “Full Cost Accounting” procedures: The District currently uses some elements of “Full Cost Accounting” procedures. This allows tracking of the landfill costs and revenues. With the addition of Recycling Center operations and new programs, it may be necessary to adopt full cost accounting procedures as recommended by Utah Department of Environmental Quality for municipal solid waste programs. Although this will require more staff time to track hours and resources to various ‘account centers’, once in place, this approach will make evaluation of programs easily transparent.

Objective 6 -- Examine options to garner more control over the waste stream.

Initiate District Operation of Landfills: The Study evaluated in detail the feasibility of several scenarios for landfill operation and recommended that the District assume operations of the landfills. As of July 2008, the District operates the landfill. The savings for the six-month period was substantial and the District is confident that the landfill will pay for itself.

By April of 2010, the District will assume operation of KLF. Equipment has already been purchased for this transition. Preparation for staffing needs and training are in progress.

Explore collection options and opportunities: The current collection system is owned and operated by a private business (Bob's Sanitation). Bob's Sanitation has exclusive right to collect residential and commercial waste from the Moab City. This contract is renewed periodically. Waste collection is not mandatory for the unincorporated areas of the county. The Study (Five Star Engineers 2008) evaluated in detail the feasibility of several scenarios for solid waste collection. At the time of the Study, the owners of Bob's Sanitation were considering the sale of the transfer station and collection business. The feasibility of the District purchasing Bob's was one alternative evaluated. Using a number of assumptions, the study concluded that the District should consider this purchase if the opportunity arises. The District may choose to continue evaluating the feasibility/opportunity to operate collection service/transfer station and to discuss contract opportunities with city, county, Bob's Sanitation.