

EL DORADO  
COUNTY



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October 24, 2008

To: Board of Supervisors

From: Gerri Silva, Director of Environmental Management

Reference: West Slope Material Recovery Facility

At the Board of Supervisors Workshop on August 18, 2008, direction was given to the Environmental Management Department to research and return to the Board on October 28, 2008, with a status report and recommendation regarding a conceptual plan for the requirements for and designs of a new Material Recovery Facility (MRF) on the West Slope. In addition, provide a status report and recommendation regarding existing and alternate locations for the MRF, including analysis of County and/or private ownership of a new MRF.

Based upon information currently available, a high-level information gathering and analysis has been completed. On October 28, 2008, staff will be presenting information and seeking further direction. The following information is provided regarding a West Slope Material Recovery Facility.

1. **Conceptual Plan for the Requirements and Designs of a New Material Recovery Facility on the West Slope**

Curbside recycling programs were developed throughout California after the passage of the Integrated Waste Management Act (AB 939). As communities work toward curbside recycling collection programs the processing technology has significantly improved to fully capture the recyclable materials and single stream curbside recycling programs (recyclable materials separated in one container by the customer) have become standardized in industry.

A majority of the West Slope's collection programs have been modified to include a single stream curbside recycling program. The conceptual design for a new MRF on the West Slope must be consistent with the enhanced recycling programs. A single stream MRF with state-of-the-art equipment will maximize the processing of single stream recyclables onsite and boost the diversion rate from landfills. In addition, the facility should be designed with the potential and insight for future expansion and incorporation of new technologies when economically feasible.

At a minimum the new facility must contain the following:

- State-of-the-art Materials Recovery Facility for processing single stream source separated materials and mixed waste with a capacity of 210 tons per day with the potential for growth.
- Full-scale MRF/transfer station to service public self-haul and commercial haulers with a capacity of 790 tons per day with the potential for growth.
- A vibrant and dynamic source separation system that is continuously evolving to embrace and accommodate the flexibility, adaptability, and expansion of new products (i.e., textiles and small electrical appliances) and address challenges in the future.
- Fully enclosed building for the MRF to mitigate noise, odor, and vector issues, and with a public education center.
- The proposed MRF must be designed to accommodate peak self-haul traffic with 12-15 indoor unloading lanes and incorporate newer technologies to recover more recyclable materials from self-haul refuse.
- Full scale C&D processing operation with state-of-the-art processing equipment with a capacity of 70 tons per day.
- Full scale Green Waste processing operation with a capacity of 130 tons per day (where green waste is shredded and transferred to a processing facility).
- Space for future alternative technology within the MRF building and/or on the site.
- Household Hazardous Waste (HHW), material re-use, and e-waste drop-off location.
- Source separated recycling Buy-Back Center.
- The site must be centrally located, at least 15 usable acres to accommodate all of the aforementioned features, and designed to meet the needs of the County for at least the next 20 years.

It is estimated that a cost range for a new modernized MRF as described above is approximately \$22 million to \$39 million depending upon the features included in the design, which includes approximately 91,000 square feet fully enclosed under roof on the low end, and over 136,000 square feet fully enclosed under roof on the high end. This cost includes MRF, C&D, and Green Waste equipment costs that range from \$4 million to \$8 million.

## **A. Existing WERS MRF**

The Western El Dorado Recovery Systems (WERS) Materials Recovery Facility (MRF) currently serves the West Slope of El Dorado County. The existing WERS MRF is a former factory building that was remodeled into a "dirty MRF" in 1994. The projected tonnage for 1995 was approximately 77,000 tons annually. For reference, a dirty MRF accepts a mixed solid waste stream containing both municipal solid waste (MSW) and recyclable materials. The MSW is processed by hand and/or with mechanical sorting equipment to separate and recover the recyclables from the MSW.

Since 1994 the County population has grown significantly and the solid waste collection programs have shifted toward single stream curbside recycling, which increases diversion rates. The existing facility lacks the ability to sort recyclables from the single stream collection process (recyclable materials are trucked off-site for processing), lacks the ability to efficiently sort materials from self-haulers, the current sort line is undersized and at the end of its operational life, and the current approximately 10 acre site has considerable constraints and limitations due to its small size. In addition, the existing WERS MRF will not be able to meet future diversion requirements or handle additional growth of the County due to the usable size of the facility and the geology of the site. The site is on a former lime quarry. The estimated cost to modernize the existing MRF as detailed in previous Conceptual Plan section is approximately \$17 million.

## **B. Alternative Technologies**

Due to increasing regulatory solid waste land filling restrictions and the current energy situation in the U.S. research and development of alternative waste sorting and waste conversion technologies is rapidly progressing. Many new technologies are currently being developed and put into operation by numerous companies.

An economically viable, state of the art waste facility incorporating both MRF and Waste to Energy (WTE) alternative technologies would produce the highest benefit to El Dorado County residents and the environment. A new MRF design should include energy and labor efficient waste sorting technologies that produce clean high quality recyclable streams desired by manufacturers in our region. In addition, sites selected must be sized to accommodate alternative technology.

Initial capital costs associated with processing 300 tons of residual waste per day can range from \$50 million to \$100 million depending upon the technology. Conversion technology operating costs vary between \$15-\$100/ton depending on the technology used. The current cost for landfill disposal in El Dorado County is approximately \$15-\$22/ton.

Based on the preliminary analysis, the Environmental Management recommends further research to assess the economic feasibility and potential alternative technology application as an alternative to land filling residual post MRF MSW.

## **2. Alternative Considerations for the Location of a New Redesigned and Reconstructed MRF**

The goal of this task was to search and identify the best location for a new MRF for the Western Slope of El Dorado County. The analysis was conducted in a quantitative two-step process. The first step was to identify fatal flaws and eliminate parcels which did not meet the requirements of a potential MRF site. The following list identifies the set of primary criteria used in this analysis.

- Centrally Located - Based on the West Slope population distribution and the center of mass.
- Vacant and Industrial - This operation identified 245 potential parcels that were vacant and zoned industrial.
- Industrial Use/Zoning - This operation identified 40 of the 245 potential parcels that were within an Industrial zoned area of the current Zoning Ordinance and within the 2004 General Plan Industrial Use designation.
- Site greater than 15 acres - This operation identified 26 of the 40 potential parcels, which included adjacent parcels less than 15 acres that could be combined to meet the minimum acreage requirement.
- Away from Rivers and Creeks – This operation identified 20 of the 26 potential parcels that will not be on the path of an existing river or creek.
- 200 Feet Away from a Holocene Fault – This operation did not eliminate any of the 20 potential parcels.
- Five Miles within US Highway 50 – The selected parcel must be within five miles of Highway 50. This operation did not eliminate any of the 20 potential parcels.
- Outside of Known Historic or Cultural Sites – The parcel cannot be located on a known historic or cultural site. This operation did not eliminate any of the 20 potential parcels.
- Slope Must Be Less Than 20% - The selected parcel needs to be less than 20% slope in order to accommodate the proposed development. This operation did not eliminate any of the 20 potential parcels.

The results of the primary site selection analysis yielded 20 parcels that comprise a total of 6 potential sites for a new MRF on the West Slope. These sites were then evaluated based upon a set of secondary criteria including: land use compatibility, development concerns, transportation impacts, site economic criteria, and impacts to biological resources.

The potential sites are located in:

- Cameron Park 1
- Cameron Park 2
- Camino/Apple Hill
- Greater Placerville
- Latrobe
- South Shingle

**A. Board and Community Interest Regarding the Existing MRF Location on Throwita Way and Union Mine Landfill**

The selection process included the existing MRF location on Throwita Way and the Union Mine Landfill due to the Board's interest and community preference. Both sites did not meet the primary criteria.

**Existing MRF** - An option considered was the reconstruction of a MRF at the existing WERS site. The existing site did not meet the primary selection criteria because it is not at least 15 acres.

In addition, there are significant costs associated with remediating and stabilizing site soils, demolishing the existing facility, and the construction a new upgraded facility at the existing location that may still not meet the future needs of the County. The intensity of this reconstruction would negatively impact the existing refuse recovery and transfer operations for the entire West Slope of the County. Also, short-term construction impacts would include dust, construction traffic, and increased noise.

**Union Mine Landfill** -The Union Mine Landfill was considered as a potential site for a new MRF. The Union Mine Landfill did not meet the primary selection criteria because it is not centrally located, the topography at the site does not lend itself to 15 acres of generally level usable land, and the site has significant slopes greater than 20%.

Additionally, the site is more removed from Highway 50 than some of the other alternatives. Development of this site would also require methane protection and differential slope mitigation measures typically associated with building on or near a landfill.

**3. Alternatives Regarding Possible County and/or Public Ownership of the MRF**

Three options were considered for the ownership and operation for the proposed new MRF. The first option is for a MRF to be fully-owned and operated by El Dorado County. The second option is for a MRF to be wholly privately-owned and operated by a private company. The third option would be a hybrid of the first two options, with the County to own the MRF and contract out the operations to a private company.

**A. Option 1 - MRF to be fully-owned and operated by El Dorado County**

The first option for a publically-owned and operated MRF has the following advantages:

- Control over decisions including design, operation, costs, tipping fees, and expansion.
- Control over waste stream, diversion program and recycling revenue.
- The County would have ownership of the Solid Waste Facilities Permit.

The first option for a publically-owned and operated MRF has the following disadvantages:

- The County would be required to provide all capital funding. This could be generated many ways, including user fees, grants/funds from public waste management programs, revenue from the sale of recyclables, property taxes, special assessments, and tipping fees.
- The County would be responsible for contracting and hiring consultants and others to assist in appropriate design and construction of the MRF.
- The County would be responsible to hire staff to operate the facility.
- The County would need to handle the task of marketing recyclables.
- The County would be responsible for ongoing capital improvement costs as the facility ages.
- The County would be responsible for closure costs.

In accordance with the NewPoint Group Solid Waste Rate and Service Study, the County should start to have some direct involvement in terms of ownership and/or control of its waste management facilities; however this should not extend to County run operations and would expose the County to a host of unnecessary ownership and operation risks.

## **B. Option 2 – Privately-owned and operated MRF**

The second option for a privately-owned and operated MRF has the following advantages:

- The private company would provide the capital and expertise necessary for the MRF, and possibly recoup the costs through rates.
- The cost of contracting with the private company may be offset by the higher level of efficiency provided by a company with more experience and knowledge of MRF's.
- The marketing of products could be handled by a private firm that operates more than one MRF facility. Such a firm may be able to market the products as part of a bulk supply that would be more attractive to buyers requiring large amounts of materials.
- The private company assumes the risks associated with market fluctuations for the sale of recyclable commodities.
- The private company would be responsible for closure costs.
- The County could negotiate a new franchise agreement extension in conjunction with the County's first option to purchase the facility from the franchisee, either when the franchise agreement terminates, or the Contractor sells the business.

The second option for a privately-owned and operated MRF has the following disadvantages:

- Less direct control by the County regarding decisions specific to the operation of the MRF.
- Possibly no revenues from recycled materials, unless provided for in the franchise agreement.
- No control as to where materials are transferred unless stipulated in the franchise agreement.
- The County may not want the first option to purchase the facility due to factors such as the age of equipment, and potential site cleanup liabilities.

Per the NewPoint Group Solid Waste Rate and Service Study, the County should continue to work with the franchisees toward desired solid waste collection and processing improvements on the West Slope.

### **C. Option 3 – Publically-owned and privately-operated MRF**

The third option for a publically-owned and privately-operated MRF has the following advantages:

- The County could have control over building design, equipment, and features.
- The private company would provide the expertise necessary to efficiently operate the MRF.
- The marketing of recyclable materials could be handled by a private firm that operates more than one MRF facility.
- The County could have control as to where materials are disposed.
- The County would receive a share of recycling revenue.
- The County would have ownership of the Solid Waste Facilities Permit.
- The County would have the option to take over MRF operations at the end of a contract term with the private company.

The third option for a publically-owned and privately-operated MRF has the following disadvantages:

- Less direct control by the County over decisions regarding operations of the MRF.
- Cost of contracting with a private company and sharing profits.
- County to provide all capital funding for construction and ongoing improvements of a new MRF.
- Public works contracting requirements.

Based on the new information provided and the updated status report, the Environmental Management Department is seeking Board direction in the following areas:

1. Does the Board want staff to negotiate the, "Conceptual Plan for the Requirements and Designs of a New Material Recovery Facility" should an application for a new MRF be submitted to the County?
2. Does the Board want staff to continue pursuing a publically-owned and privately-operated MRF?



Sincerely,

A handwritten signature in black ink that reads "Gerri Silva". The signature is written in a cursive style with a long horizontal stroke at the end.

Gerri Silva, MS, REHS  
Director, Environmental Management Department  
County of El Dorado

Cc: Gayle Erbe-Hamlin, Chief Administrative Officer  
Mike Ciccozzi, County Counsel