

## MEMORANDUM

To: Jason Smisko and Jill Fosselman, City of Santa Clarita  
From: Laith Ezzet and Lisa Keating, Hilton Farnkopf & Hobson  
Regarding: MRF Research  
Date: October 17, 2002

At the study session on October 1, 2002, the City Council requested additional information on material recovery facilities ("MRFs"). This memorandum:

- Describes different types of MRFs used in the solid waste industry
- Identifies the current solid waste facilities used by the City's waste haulers, including MRFs, green waste facilities and landfills
- Describes the current and alternative solid waste facilities that may be available to Santa Clarita
- Provides survey results of:
  - MRFs owned by the other cities in Los Angeles County
  - MRFs owned by cities of comparable size to Santa Clarita in the greater Southern California region
- Identifies facility cost considerations
- Identifies key MRF contracting issues
- Describes three MRF procurement strategy options

We will be available to answer questions about this memorandum at the study session on October 24, 2002.

## **BACKGROUND**

The City of Santa Clarita ("City") will soon be soliciting Requests for Proposals to provide solid waste collection services to businesses and residents. The City's residents have their refuse (trash), recyclables, and green waste (tree trimmings, grass clippings, etc.), collectively referred to as solid waste, collected each week from their curb in three separate containers. Most business owners have all of their refuse collected from one large container, while others also have a separate recyclables container.

After collection, the three streams of residential solid waste and the commercial solid waste are taken to different facilities. Landfills are the final destination for trash that has not been recycled or otherwise diverted from the landfill. However, refuse, recyclables and green waste may also be taken to transfer stations or material recovery facilities sometimes referred to as "MRFs." The City is considering the necessity and feasibility of building a transfer station or MRF within the City.

## **OVERVIEW OF FACILITY TYPES**

Following is a description of MRFs and transfer stations and how they may be used.

### **Material Recovery Facilities**

There are two types of MRFs: a mixed waste processing facility; or an intermediate processing center for commingled recyclables. Both help sort recyclable materials for sale to vendors. For recyclables to have resale value, they must be bundled by the material type and level of quality that each purchasing vendor requires.

#### **A. Mixed Waste Processing Facility**

A mixed waste processing facility, sometimes referred to as a "dirty MRF," receives refuse that still has recyclable materials mixed in the waste. This process is more likely to be used when there is no other recycling program in place, as recyclables have not yet been removed from the waste stream, and all materials are collected together, without separation of recyclables by the waste generator. Collection trucks deliver the refuse to the MRF, which is typically loaded onto a conveyor belt. Along side this conveyor belt, various mechanical processes help to initially separate materials. Additionally, workers pull recyclables out of the refuse. Each worker will have a container and will fill it with a particular material. By the end of the line, most of the recyclable items have been removed and sorted into paper, plastic, metals, etc. These items are bundled and sold. The remainder is then sent to a landfill.

### B. Commingled Recyclables Processing Facility

A commingled recyclables processing facility, or “clean MRF,” receives commingled recyclables with little or no refuse mixed in, such as the mixed recyclables placed in a residential recyclables container. Loads of commingled recyclables are placed on the conveyor belt and the recyclable materials are separated by material type. Materials may be pulled out by workers as the material runs along a conveyor belt, as is done with mixed waste processing. Some facilities use a type of conveyor belt that carries paper, cardboard and larger, lighter materials across the top, while letting heavier materials drop through. Magnets are also used in some facilities to sort ferrous metals from the rest of the materials. After workers and machines sort the recyclables, these materials may be compressed and bundled by material type using a baler. Up to 10% or more of contaminated source-separated materials, or materials mistakenly placed in the recyclables container, may not be salvageable and may still need to be sent to a landfill after sorting. These are referred to as “residuals.”

### **Transfer Stations**

The purpose of a transfer station is to consolidate loads of waste into larger vehicles with greater capacity for more cost-effective transportation to a landfill. They are typically employed when the landfill is 15 miles or more away from the source of waste. A transfer station is a facility where solid waste collection vehicles bring the waste collected from customers. Refuse is transferred from the collection vehicles that carry from 7 to 10 tons into transfer vehicles that can carry approximately 20 to 24 tons. This decreases the number of vehicles that must travel to the landfill. The longer the distance to the landfill, the more likely the transportation savings will outweigh the fixed cost of operating a transfer station. While the transfer vehicle is driving to and waiting at the landfill, the collection vehicle is free to collect a second load of waste. Waste must be inspected at a transfer station prior to being brought to the landfill, possibly preventing hazardous materials from improper disposal.

All facilities described here (including MRFs) require some sort of transfer function in order to send residual waste to a landfill.

At transfer stations, smaller collection vehicles dump material on the tipping floor of the facility. While this material is on the floor of the transfer station, workers may remove larger items for salvage. Most of the waste is transferred to a landfill. There are many different types of facility designs that determine the method for moving the waste from the tipping floor into the transfer vehicles, including open-top tunnels, compactors, and direct loading with a loader.

## CURRENT WASTE QUANTITIES

Based upon 2001 tonnage reports from the City's current franchise haulers (Waste Management and Republic), the City's residents and businesses generate the following waste quantities:

	<u>Annual Tons</u>	<u>Tons Per Day</u>
Refuse	140,546	541
Recycling	13,462	52
Green Waste	19,743	76

These calculations are based on a five-day work week.

## CURRENT SOLID WASTE FACILITIES USED

The current solid waste facilities reported as being used by the City's franchise haulers are described below. The following facility information is based upon conversations with haulers and the facilities.

### Refuse

Both of the City's current haulers send the refuse they collect directly to the Chiquita Canyon Landfill located adjacent to the city of Santa Clarita.

### Recycling

Waste Management takes the City's commingled recyclables to Quality Paper Fibers in Santa Clarita. When this facility is unavailable, material has been taken to Sun Valley Paper Stock. Previously, Republic used City Fibers in North Hills in the San Fernando Valley. Currently, the company is taking material to Del Norte Regional Recycling in Oxnard. The gate rate varies with commodity pricing.

### Green Waste

Republic Services delivers the green waste it collects to the Chiquita Canyon Landfill. The majority of this material is processed and marketed through Aguanaga fertilizer. Some is used for slope maintenance. Waste Management delivers the green waste it collects to California Wood Recycling's transfer site located in the city of Santa Clarita on the Rent-A-Bin company facility site in Canyon Country. California Wood Recycling operates a small transfer operation on this site, transferring the material to its facility in Ventura for processing. California Wood Recycling reports that it has the capacity to accept up to twice as much green waste as is currently delivered from the city of Santa Clarita.

## EXISTING FACILITY OPTIONS IN THE REGION

Based on conversations with the City's haulers and other industry participants, these facilities were recognized as being reasonably available to accept city of Santa Clarita solid waste.

### **Material Recovery Facilities**

#### Quality Paper Fibers

Quality Paper Fibers has a commingled recyclables processing facility in the city of Santa Clarita that currently receives city of Santa Clarita commingled recyclables from Waste Management.

#### Del Norte Regional Recycling Center

Del Norte Regional Recycling Center is owned by the city of Oxnard and operated by Republic Services, Inc. The facility is located approximately 50 miles from the City. Republic is currently hauling recyclables collected from Santa Clarita directly to this site for processing in order to determine whether the 50-mile direct haul to this facility is economically feasible. This facility is both a transfer station and a commingled recyclables processing facility. It has permitted capacity for 2,776 tons per day and is currently receiving 1,400 to 1,500 tons per day.

#### Community Recycling and Resource Recovery, Inc.

Community Recycling and Resource Recovery, Inc. operates a transfer station in Sun Valley about 17 miles from Santa Clarita. This facility includes a transfer station attached to a mixed waste processing facility that is used to sort recyclables from refuse. The facility is permitted to take 1,700 tons of refuse per day and is currently receiving about 1,100 tons of refuse per day. In addition to this refuse, the facility estimates that it can also process approximately 1,000 tons of construction and demolition, or "C&D," debris per day and 800 tons of green waste per day.

#### Sun Valley Paper Stock, Inc.

Sun Valley Paper Stock, Inc. is located approximately 16 miles from the City center. This facility receives commingled recyclables, such as the recyclable material placed in the residential curbside recycling containers, and has processed Santa Clarita recyclables in the past. The facility currently processes 325 to 340 tons per day, and could accept approximately 325 additional tons per day by adding a second shift.

#### City Fibers

City Fibers in North Hills, 15 miles from the City, received some of the City's commingled recyclables in the past. This facility receives only commingled recyclables. The company indicates that it has additional capacity.

### Bestway Recycling

Bestway Recycling, located approximately 32 miles from the City, will purchase recyclables delivered to their facility for between \$10 and \$40 per ton. Pricing depends upon the quality of the recyclables received, such as how much refuse was mixed in and commodity market conditions. Bestway representatives indicated that Santa Clarita could expect \$25 to \$30 per ton for recyclables delivered to the Bestway facility.

Other more distant MRFs that may be available, but are probably too far away to be cost effective for Santa Clarita include:

- Athens MRF in the city of Industry – mixed waste processing facility
- CR Transfer in Stanton – mixed waste processing facility and commingled recyclables processing facility
- CVT in Anaheim – mixed waste processing facility and commingled recyclables processing facility
- Gold Coast Recycling Center in Ventura – commingled recyclables processing facility
- Angelus Western Paper Fibers in Los Angeles – commingled recyclables processing facility

### **Landfills**

There are three large landfills owned and operated by three major hauling companies in the surrounding area.

#### Chiquita Canyon Landfill

Chiquita Canyon Landfill, located adjacent to the City, has a permitted capacity of 30,000 tons per week, or an average of 5,000 tons per day based on a six-day work week. The landfill is operating at 94% to 95% capacity. The posted gate rate is \$55; however, the majority of the tonnage is received under contracts at significantly lower rates, and many of these contracts will be expiring over the next 12 to 14 months. The landfill is owned by Republic Services, Inc.

#### Sunshine Canyon Landfill

Sunshine Canyon Landfill, owned by BFI, is within six miles of the City center and two miles of the City limits. Receiving 6,400 to 6,500 tons per week, this facility is currently operating near its maximum daily permitted limit. It is in the process of applying for a permit to increase its daily maximum intake from 6,600 tons per day to 12,100 tons per day. BFI anticipates obtaining the permit in 2003.

#### Antelope Valley Recycling and Disposal Facility

The Antelope Valley Recycling and Disposal Facility is located in the city of Palmdale, approximately 35 miles from Santa Clarita. This facility is permitted to receive 1,400 tons per day and is receiving approximately 1,000 tons per day. This facility is owned by Waste Management of California Inc.

### **LOS ANGELES COUNTY FACILITY SURVEY**

We researched MRFs and transfer stations throughout the County of Los Angeles in order to identify facilities owned by cities. Our source was the SWIS database, accessed through the California Integrated Waste Management Board website.

Most MRFs in the region are privately owned. Three cities in the County of Los Angeles own transfer stations: the cities of Beverly Hills, Culver City and Santa Monica. These three cities provide municipal collection service, whereby city employees collect trash and recyclables from city residents. These city facilities are used by city employees to facilitate consolidation of municipal trash.

#### Beverly Hills

Beverly Hills' transfer station is permitted to receive 250 tons per day and uses approximately 71% of capacity. This facility is used to transfer trash to Puente Hills and Sunshine Canyon landfills. Some of the city's recyclables are transferred at the station into transfer trucks to be taken to Bestway Recycling. The city's year 2000 diversion rate was 47%. The city's population is 34,350.

#### Culver City

The Culver City Sanitation Division of the Public Works Department owns and operates a transfer station, established in 1981, that handles trash generated by, and collected by the city. Commingled recyclables are direct hauled to Best Way Recycling, located two blocks from the city's transfer station. The city's year 2000 diversion rate was 50%. The city's population is 39,300.

#### Santa Monica

Santa Monica's transfer station is permitted to transfer 400 tons per day and is currently using 250 to 350 tons per day of capacity, and has been in operation over 30 years. Santa Monica brings waste collected in the city to this site. It tips the waste on to a sorting floor where certain large materials may be removed prior to the material being scooped into a transfer vehicle. The city sends its commingled residential recyclables to the Allen Company processing facility located adjacent to the transfer station, on land leased from the city. The city has leased this land to processing companies for over 14 years. The city's year 2000 diversion rate was 55%. The city's population is 85,500.

Some cities have small staging facilities to facilitate other public works' operations. For example, sites may be set up to transfer street sweeping debris, green waste from park maintenance, or material collected through other public works department operations. A list of city-owned, permitted facilities currently reported as operating in Los Angeles County is in Attachment A.

### **SOUTHERN CALIFORNIA MRF SURVEY**

We identified the jurisdictions in Los Angeles, Orange, Riverside, San Bernardino, Ventura and San Diego counties that had a population between 100,000 and 200,000 to compare to Santa Clarita (population of 158,000). We identified 30 cities that met this population requirement. See attachment B for this list. Of these cities, three had MRFs.

Below are profiles of the cities in Southern California of a similar size to Santa Clarita that participated in the ownership of a material recovery facility:

The City of Burbank

The city of Burbank, with a population of 102,800 and a 2000 diversion rate of 47%, owns land upon which BLT Enterprises owns and operates a commingled recyclables processing facility.

The City of Orange

The city of Orange, with a population of 132,900 and a 2000 diversion rate of 32%, provided \$400,000 to Orange Resource and Recovery Disposal in 1993 to establish a mixed waste processing facility and transfer station for the city. The city paid the debt service in return for the recycling revenue. The facility, excluding land and transfer vehicle costs, was approximately \$6.5 million.

Due to the company's alleged fraud with regard to recycling revenues, the agreement was terminated and new arrangements were put in place with Waste Management.

The City of Oxnard

The city of Oxnard, with a population of 182,000 and a 2000 diversion rate of 67%, in conjunction with Republic, owns and operates a transfer station and commingled recyclables processing facility.

**CAPTIAL COSTS FOR MRF**

Determining the cost of a facility depends upon which costs are being considered. Costs fall into four categories:

1. Pre-development costs, including feasibility studies, facility design and permitting costs
2. Land acquisition
3. Construction
4. Equipment, including both fixed equipment such as the sorting lines and balers and rolling stock, such as transfer vehicles

**City of San Bernardino**

In 1997, the city of San Bernardino conducted a feasibility study that included estimating the cost of establishing a MRF / Transfer Station. The city has a population of 189,800. For a facility with the capacity to transfer 660 tons per day of trash and process 155 tons per day of commingled recyclables, the total initial investment in 1997 was estimated to be \$10.9 million. At 3% inflation, this total cost would be approximately \$12.6 million today. The facility was not constructed because the city determined it was not economical at that time. This initial \$10.9 million figure in 1997 included:

Seven acres of land	\$ 1,050,000
Site development	856,400

Buildings and Facilities	4,351,250
Equipment	2,118,000
Design and financing	<u>2,496,330</u>
Total	\$10,871,980

Last year, the city of Santa Clarita disposed of approximately 540 tons per day, and sent for processing approximately 128 tons of recyclables and green waste. The tonnage may increase over time due to growth. The San Bernardino facility is similar to the size necessary to accommodate Santa Clarita's solid waste.

### City of Glendale, Arizona

The city of Glendale, Arizona, with a population of 223,000, built a commingled recyclables processing facility in the year 2000. The capital cost was \$9.9 million, broken down as follows:

\$ 7.3 million	Facility – amortized over fifteen years
+ <u>2.6 million</u>	Sorting equipment and loader – amortized over six years
\$ 9.9 million	Total

Based on year 2001 data, the estimated cash flow is as follows:

Material revenues	\$ 1.3 million
Costs	<u>- 3.1 million</u>
Annual loss	\$ 1.8 million
Tons recycled	16,000 tons per year = 61 tons per day
Loss per ton	\$ 112

The annual cost detail is as follows:

Debt service	\$ 1.2 million
Operations	<u>1.9 million</u>
Total	\$ 3.1 million

The capacity of the facility is 125 tons per day. It is currently operating at 50% of capacity. The facility's capacity could be increased to 250 tons per day by adding a second shift. Higher volumes would improve cash flow on a per ton basis, as debt service and some operating costs are fixed.

### KEY MRF CONTRACTING ISSUES

The City will need to address several key issues prior to seeking MRF proposals in order for proposers to reasonably estimate their costs.

### Type of Processing

As described above, there are different types of facilities to be considered. The City must assess whether it is in need of:

- A mixed waste processing facility to sort recyclables from unsorted trash
- A clean processing line(s) to separate contaminants from commingled recyclables
- Both mixed waste processing and clean processing facilities

For residential waste, successful commingled residential recycling programs that use a clean MRF will usually achieve higher diversion rates than mixed waste processing (without separate collection of recyclables and green waste.) A good residential commingled recycling program with separate green waste collection may recover 30% to 50% of the waste. Mixed waste processing alone may recover 10% to 30%.

### **Transfer Capabilities**

All material processing facilities need the capability to transfer the residual waste to a landfill. In addition, the City will need to decide whether it wants to include a transfer station capable of transferring loads of trash that are not processed from collection vehicles to larger transport vehicles. This decision will depend upon the distance from the City to the landfills.

### **Capacity**

Once the City determines the type of facility it prefers, it must then determine the capacity of the facility. The size of the building must be sufficient to accommodate the different types of processing lines for different materials to be sorted. The building must be large enough to accommodate the number of processing lines needed to handle the volume of material to be processed. The facility will also need to accommodate future growth.

### **Financing Issues**

The City must determine how to pay the initial capital costs. Two options are:

- The City may issue tax-free debt and pass costs through to the MRF operator or the collection contractors that use the facility.
- The contractor can finance the capital costs and include them in its rates.

Lenders will generally charge higher interest rates to private contractors than to municipalities. The higher interest costs would then be passed on to ratepayers.

Usually the contractor must fully recover the initial capital costs over the term of its operations contract, regardless of whether the contract length is seven years or twenty years. If the contract period is shorter than the asset life, initial rates (to ratepayers) will be higher. MRF equipment may have a useful life of five to ten years, while the building and improvements may last for fifteen to twenty years or longer.

## **Facility Siting**

The City may consider two approaches for siting the facility. The City may facilitate the siting process by acquiring the site and obtaining the necessary permits. The City could then lease the site back to the contractor to build the MRF. The other option is that the City could turn all of the responsibility for siting and permitting the facility to the operator; however, because of the limited number of reasonably available sites, this may limit overall competition during the RFP process.

## **Facility Operator**

The City must determine whether it would prefer the facility to be operated by one of the City's waste haulers or by a separate MRF contractor. Each option has its own benefits.

### Advantages of Hauler as Operator

- Coordination of Load Delivery – If the operator also collects the material being brought to the facility, it should be easier for the operator to arrange for staffing needs and hours of operation that coincide with collection needs.
- Contractor Administration – The City would only need to manage the activities of one contractor.

### Advantages of a Separate MRF Contractor

- Expertise in MRF Operations - The best collection contractors may not be the best MRF operators. Different experience and skills are required for each task. The City will not be limited to contractors with experience in both fields.
- Separate Contracts and Contract Terms – With separate contractors, the contract terms can expire at different times to align with equipment amortization periods.
- Hauler/Operator Advantage - If the residential and commercial haulers are different, only one of them would operate the MRF, yet both would use it. This could result in material handling preferences for the MRF operator's collection operations, and possible conflicts of interest with respect to reporting tonnage diverted from each waste stream.

## **Other Issues**

### Facility Maintenance

Provisions will be required to ensure that, when the contractor's contract has ended, that the contractor leave the facility in a well-maintained condition.

### Type of Building

It is important to determine the desired features of the MRF center (e.g. public dump area, buyback center, household hazardous waste handling, education center, quality of construction and landscaping, etc.) to be requested in the proposals.

### Development Schedule

To plan, site and build the facility could take years to complete. The following time estimates assume that the City is providing the land and focusing on moving the process along as quickly as possible. Should lawsuits be filed or significant protesting take place, this process could take longer. Should the operator be responsible for identifying and obtaining the land, there could be further delays.

The first steps in developing the facility are to identify the site to be used and complete a conceptual design, which will be necessary to obtain the permits. This siting exercise could be completed within three months.

The majority of the time required to establish a facility will be for the land-use permitting, environmental studies to comply with the California Environmental Quality Act (CEQA), Local Enforcement Agency (LEA) approval and California Integrated Waste Management Board (CIWMB) approval. For mixed waste processing or transfer capabilities, these tasks could take from two to two-and-a-half years to complete. For a facility that only processes commingled recyclables, the time for this portion of the process is significantly reduced and may only take one year.

After the facility has received the necessary approvals, it may take from three to six months to finalize the construction design and obtain building and occupancy permits. Finally, the construction of the facility could be completed in six to twelve months.

### Sample MRF Development Schedule

### Estimated time

- |   |                |
|---|----------------|
| 1. Siting consideration and conceptual design                             | 3 months       |
| 2. Land-use permitting, possible EIR studies, CIWMB and LEA approvals     | 1 to 2.5 years |
| 3. Finalize construction design and obtain building and occupancy permits | 3 to 6 months  |
| 4. Construction of facility   | 6 to 12 months |

## **MRF PROCUREMENT STRATEGY OPTIONS**

We have identified three options for proceeding with a MRF procurement.

### **1. Integrated Collection and MRF Development RFP**

The City may select one company to both build and operate a MRF and collect solid waste. The City would need to determine whether the residential or commercial waste hauler would be the MRF operator. The following example assumes that the residential contractor would operate the MRF.

The Request for Proposals for the two contracts, one for commercial collection and one for residential collection plus building and operating the MRF, could be solicited simultaneously.

Since the MRF may not be operational prior to the start of collection operations, proposers of solid waste collection services would need to propose rates in such a way that they can be adjusted once the new facility is built to accommodate any increase or decrease in costs due to using the new facility. The RFP should require that the proposer identify that portion of the rate attributable to the MRF services proposed, prior to the establishment of the new facility. The City will then know which portion of the rate to remove and replace with new costs when the City's MRF is complete.

## **2. Separate Collection and MRF Procurements**

Two options exist for separating the collection and MRF procurements.

- A. Issuance of the MRF Development RFP Prior to Issuance the Collection RFP  
The City may conduct the MRF procurement prior to issuing the solid waste collection RFP. Collection proposers could then be informed, prior to preparing their proposals, where material will be taken, how much the anticipated costs will be, and when the new facility will open. The more specific the information given to the collection proposers, the more confident they will be in estimating their costs, possibly leading to lower bids.
- B. Issuance of the MRF Development RFP After Issuance of the Collection RFP  
The City could issue the collection RFP first. In this manner, the City would be able to see the cost alternative to developing the MRF prior to issuing the RFP. This would assist in evaluating the option of building the facility and whether the MRF development proposals are more or less cost effective for the City.

The collection RFP would request that haulers identify the portion of their proposed rate that is attributable to MRF costs. When the City's MRF is complete, this portion of the rate would be replaced with the amount calculated to represent the cost of using the new facility.

### MRF Specifications Required Under All Options

In order to compare proposals on a consistent basis (comparing "apples to apples") and receive a MRF that meets the long-term needs of the City, the City will need to develop MRF specifications. If the specific needs and requirements are not laid out in advance, the City will receive the least expensive, lowest

quality facility that the proposers can develop and it may not meet the City's goals or longer term needs.

Due to the limited number of reasonable sites, the proposers might lock up these sites by purchasing land options. Otherwise competent operators may be prevented from proposing on preferred sites. The process may be more successful if the City were to identify and take an option on the site to be used and have all proposers propose on the building on the same site. The successful proposer could then take over the option on the land from the City.

The City should be aware that the proposers will use subcontractors for portions or all of the facility development, and possibly for its operation.

As the new facility is unlikely to be ready prior to the implementation of the new commercial contract, the haulers may be using different facilities initially. Therefore, a different initial set of rates will probably be required under any scenario.

## ATTACHMENT A

### Table of Small Public Works Facilities in Los Angeles County

The following sites are listed as open and permitted in the SWIS system according to the California Integrated Waste Management Board.

<b>Owner</b>	<b>Facility Name</b>	<b>Capacity</b>	<b>Permitted Materials</b>
City of Alhambra	Alhambra Roll- Off Bin Transfer Station	80 cubic yards/ day	green, mixed municipal
City of Compton	City of Compton Maintenance Yard	13 tons/ day	C&D, inert, mixed municipal
City of Inglewood	City of Inglewood Transfer Station	99 cubic yards/ day	green, mixed municipal
City of Irwindale Public Works Department	City of Irwindale LVTS Operation	9 tons/ day	green, inert, tires, mixed municipal
City of Lancaster Public Works	City of Lancaster Maintenance Yard MVTs	100 tons/ day	mixed municipal, but only used for street sweeping debris
Long Beach, Public Works Department	Public Service Transfer Station #1	12 tons/ day	green
Long Beach, Public Works Department	Public Service Transfer Station #2	8 tons/ day	green, mixed municipal
City of Los Angeles – various departments	Numerous sites used for city services	Varies	
City of Pasadena Public Works	City of Pasadena Public Works LVTS	9 tons/ day	C&D, green, mixed municipal
City of Redondo Beach	Redondo Beach Transfer Station	46 cubic yards/ day	C&D, green, mixed, municipal
City of South Gate	Salt Lake Transfer Station	99 cubic yards per day	green, mixed municipal
City of Torrance	Torrance City Services Facility	7 cubic yards per day	C&D, inert, mixed municipal

## ATTACHMENT B

### Southern California Cities of Population 100,000 to 200,000

Jurisdiction	Population	Owns MRF Facility
<i>Los Angeles County</i>		
Burbank	102,800	city owns land, BLT Enterprises owns/operates facility
Downey	110,400	no
El Monte	119,400	no
Inglewood	115,100	no
Lancaster	123,100	no
Norwalk	106,700	no
Palmdale	123,700	no
Pasadena	138,800	no
Pomona	153,900	no
Torrance	142,100	no
West Covina	109,100	no
<i>Ventura County</i>		
Oxnard	182,000	yes, in partnership with Republic Services Inc.
Simi Valley	115,500	no
Thousand Oaks	121,000	no
Ventura	102,300	no
<i>Orange County</i>		
Costa Mesa	110,700	no
Fullerton	129,300	no
Garden Grove	168,600	no
Huntington Beach	194,600	no
Irvine	157,500	no
Orange	132,900	previously owned a MRF
<i>Riverside County</i>		
Corona	134,000	no
Moreno Valley	146,400	no
<i>San Bernardino County</i>		
Fontana	139,100	no
Ontario	162,300	no
Rancho Cucamonga	137,100	no
San Bernardino	189,800	no
<i>San Diego County</i>		
Chula Vista	190,900	no
Escondido	137,000	no
Oceanside	167,200	no

## ATTACHMENT C

### **“Full Speed Ahead: Moving Material Through Your MRF or Transfer Station”**

Attached is an article on MRFs from the January/February 2002 issue of “MSW Management” magazine, pages 40 to 49.

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*Draft, October 15, 2002*