CITY OF WOODLAND

HOUSEHOLD HAZARDOUS WASTE ELEMENT

MARCH 1992

91-263

TABLE OF CONTENTS

APPENDICES

SECTION 1

INTRODUCTION

Household hazardous waste (HHW) is waste that results from products purchased by the general public for household use that may pose a hazard to human health or the environment. Examples include paints, solvents, cleaners, bleaches, pesticides, used motor oil, batteries, chemicals for pool and hobby use, and similar products with toxic properties. The statutory definition of HHW from the California Code of Regulations follows (Chapter 9, Section 18720):

> "Household hazardous wastes" are those wastes resulting from products purchased by the general public for household use which, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may pose a substantial known or potential hazard to human health or the environment when improperly treated, disposed, or otherwise managed.

Improper disposal of HHW such as pouring it down the drain, pouring it on the ground, or throwing it in the garbage can result in disruption of wastewater systems, damage to environmentally sensitive groundwater, or injury to sanitation workers. For these reasons the State of California is requiring communities to inform citizens of the problems these products pose and to provide them with an opportunity for their proper disposal.

If there were only a few households disposing of HHW, it would not be much of a problem. But there are over 11 million households in the State of California, and the total accumulation of HHW is significant. Without reducing the amount of HHW in the waste stream, the concentration of toxic constituents would increase because of the reduction of other solid waste. Additionally, municipal landfills (Class III) are prohibited from accepting any form of hazardous waste. Much the way sewer systems and sanitary landfills were introduced to address health needs of other eras, household hazardous waste management programs are addressing the needs of today.

California State law has been actively addressing these issues. Assembly Bill 939 (AB 939) addressed reduction of solid wastes entering State landfills and required a Household Hazardous Waste Component within the Source Reduction and Recycling Element (SRRE). Because of the significance of HHW beyond its small percentage of the total waste stream, AB 2707 elevated that component to a separate Household Hazardous Waste Element (HHWE). Other recent legislation has allowed "small quantity commercial source" participation in HHW collection programs (AB 2641), and AB 2597 has encouraged the collection of recyclable HHW. These latter three bills all took effect January 1, 1991.

This Household Hazardous Waste Element is being prepared under the proposed regulations required by AB 2707. The California Integrated Waste Management Board (CIWMB) has

issued draft regulations for Title 14, Chapter 9, Articles 6.3 and 7 of the California Code of Regulations, pertaining to the preparation of HHWE's. These regulations are subject to change prior to final approval, which could result in changes to this HHWE.

The City should be aware of the following statutory requirements and criteria of AB 2707 (Section 41802 of the Public Resources Code):

1. The CIWMB (the Board) must approve or disapprove the City's HHWE within 120 days of receiving it.

2. The Board shall not disapprove the HHWE if the City preparing the element demonstrates that the following requirements will be complied with:

   a. The City will use feasible methods to properly reduce, collect, recycle, treat, and dispose of HHW generated within its jurisdiction.

   b. The City will devote reasonable expenditures to safe reduction, collection, recycling, treatment, and disposal of HHW.

   c. The City will make all reasonable efforts to inform the public of, and encourage participation in, the HHW program.

   d. The HHW collection program is available for use by all households within the jurisdiction of the City.

3. The Board will approve or disapprove the City's HHWE based on (1) the geographic size and population of the City and (2) the quantity of HHW generated within the City. A City may be exempt from the requirements set out above if the City can convince the Board that compliance is not feasible due to the small size of the City and the small quantity of waste generated within the City.

4. Not less frequently than every two years, the Board shall review the City's HHWE, and if the Board finds that the City has failed to implement the HHWE, the Board shall issue an Order of Compliance with a specific schedule for compliance (Section 41825 of the Public Resources Code)

The focus of AB 2702 and the format of this HHWE deal with the solution of the HHW problem from a local and regional perspective. The City of Woodland feels that this HHWE is also an appropriate forum to point out the possibilities for solutions implemented through higher levels of government involvement. Specifically, funding support for HHW programs could be facilitated through the imposition of advance disposal or recycling fees paid at the point-of-purchase on products that should not be disposed of in the municipal waste stream. It

makes more economic sense for these costs to be born by the consumer of the product rather than by the taxpayer and society as a whole. An alternate approach might involve regulating the toxicity of products when less toxic alternatives are available, although the advance disposal fee could use market forces to achieve the same objectives by giving less toxic products a competitive advantage through exemption from the fee. In order for such an advance disposal fee to work it would have to be implemented on a state or federal level to keep consumers from taking their business to the adjacent community. An example of successful State involvement in the management of HHW are California's statutes encouraging the recycling of lead-acid batteries, used motor oil and other recyclable HHW through both public and private channels.

Programs that involve the handling, storage, transportation, and disposal of hazardous waste expose the operator of the program to legal liability for polluting the environment. The U. S. District Court for the Central District of California ruled on December 4, 1990 that municipalities are not exempt from Superfund liability for contamination caused by HHW originating from their jurisdictions just because HHW is excluded from regulation by the Resource Conservation and Recovery Act (RCRA). This ruling is based on a suit against 29 municipalities in Los Angeles County that were sued for their contribution to the contamination of a landfill based on the fact that their garbage included HHW. It is likely that the existence of a HHW management program to divert the HHW from the waste stream will reduce a jurisdiction's potential liability in similar circumstances.

This case also opens the possibility that the City could be a liable party if the Class I (hazardous waste) landfill that received the HHW from their HHW management program were to become a Superfund site. This is mentioned to emphasize the importance for a jurisdiction to understand hazardous waste management laws such as RCRA and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund), and to understand the implications of responsibility these laws have for the City as a generator of hazardous waste. It is important that manifesting procedures are followed closely to confirm that any disposed of HHW arrives at its intended destination.

For purposes of monitoring and evaluation it is important that each community categorize its HHW in a similar fashion. The CIWMB has chosen the following categories for record keeping purposes:

* **Flammable** - Flammable wastes include fuels, oils, solvents, thinners, aerosols, paints, solvent-based polishes, solvent-based adhesives, etc.

* **Pesticides** - Pesticides are poisons and include insecticides, herbicides, fungicides, rodenticides, etc.

* **Corrosives** - Corrosives are acids and bases and include ammonia-based cleaners, caustic sodas, oven cleaners, drain openers, lye, and acids, both oxidizing and non-oxidizing.

* **Oxidizers** - Oxidizers include bleach, peroxides, pool chlorine, etc., but do not include oxidizing acids.

* **Miscellaneous** - Miscellaneous includes batteries (lead-acid and dry cell) and mercury.

The Department of Toxic Substances Control (DTSC) is in the process of streamlining the permit process for HHW collection alternatives by implementing permit-by-rule (PBR). PBR would substitute the issuance of a permit with a procedure in which the operator of a collection program would maintain complete documentation of compliance with appropriate regulations. Notification would be submitted to the DTSC prior to implementation, and DTSC would have a specified period of time to approve or deny the application, or require more information.

SECTION 2

GOALS AND OBJECTIVES

It is the purpose of this HHWE to identify, evaluate, and select a household hazardous waste management program for the City of Woodland that will:

* Divert HHW from the municipal waste stream with a collection program that is convenient for area residents and will ensure the safe recycling or disposal of the collected waste.

* Minimize the amount of collected waste sent to hazardous waste (Class I) landfills through reuse, recycling, treatment, or incineration programs (with emphasis on reuse or recycling whenever possible).

* Reduce the amount of HHW generated by residents (source reduction) by encouraging the use of less toxic or nontoxic alternatives to toxic household products.

* Maximize the success of the program through an educational program that keeps the public informed of the need for the proper use and disposal of household toxic products, and of their disposal options, including the option of using up the product or giving it away to someone who can use it.

* Minimize the City's legal liability for environmental pollution by managing a legally sound HHW program in a competent and responsible manner. Proper monitoring and evaluation of the program is crucial in this regard.

Program objectives are identified for the short-term planning period and the medium-term planning period. The short-term planning period runs from January 1, 1991 to January 1, 1995. The medium-term planning period runs from January 1, 1995 to January 1, 2000.

Short-Term Planning Period

The above goals will be met by meeting the following objectives during the short-term planning period:

* Achieve a level of participation in the City's and the County's periodic HHW collection programs equal to 2.5 percent of the City's households per year

* Provide a local option for the collection of recyclable HHW and achieve a level of participation equal to 5 percent of the City's households per year

* Implement a public education program that encourages the use of nontoxic or less toxic alternatives to toxic household products, and includes a component for the public school system to ensure long-term results

* Implement a monitoring program that maximizes the safety and integrity of all collection programs available to City residents

Medium-Term Planning Period

The objectives for the medium-term planning period will include the following:

* Refine collection programs implemented during short-term planning period

* Continue educational and monitoring programs implemented during the short-term planning period

* Consider "small quantity commercial source" participation in any locally run collection program

SECTION 3

EXISTING CONDITIONS

Residents of the City of Woodland currently have the option of participating in periodic collection events that are held on a regular basis. During the fiscal year 1990-91, four events co-sponsored by Yolo County were available to all County residents. One of these collection events took place in Woodland, two in the nearby City of Davis, and another in West Sacramento. The event in Woodland took place at a parking lot at the County Fair Mall. Woodland residents also have an ongoing option to drop off used motor oil and spent lead-acid batteries at the Yolo County Central Landfill, about two miles outside of Davis. The private sector also offers opportunities for the recycling of HHW in Woodland. Three automotive-related businesses accept recyclable HHW from do-it-yourselfers (Appendix A). The latex paint, used motor oil, and spent lead-acid batteries that are collected are recycled. Oil-based paint and solvents are incinerated in a fuel-blending program, and aerosols are incinerated out of state. The remaining wastes are landfilled in a Class I landfill.

Residents of the City are kept informed of upcoming collection events through a multi-faceted education program. Notification of periodic events takes place through bill inserts in the City's garbage bills, articles in local newspapers, and the distribution of bilingual flyers. The Yolo County Department of Public Works has recently instituted the publication of "Garbage Talk," a quarterly newsletter that addresses HHW, recycling, and other solid waste issues. Source reduction is addressed by distribution of "Household Hazardous Waste Wheels" or the "Household Hazardous Products" brochure from the Department of Toxic Substances Control (DTSC) at HHW collection events. Participants at the HHW collection events are requested to fill out a survey with questions on recycling and source reduction as well as HHW.

There are approximately 14,935 households in the City of Woodland. Based on the Waste Generation Study, approximately 77 tons of HHW are disposed of annually from residential sources in the City. The annual disposal rate for the residential and commercial sectors combined is approximately 114 tons. The latter figure represents 0.2 percent of the municipal waste stream. Approximately 11 tons of HHW were dropped off by Woodland residents at periodic HHW collection events sponsored by the City and the County during fiscal year 1990-91. An amount of used motor and lead-acid batteries greater than that were dropped off at the Yolo County Central Landfill for recycling, but since no records exist as to the residency of participants in that program, an accurate estimate cannot be made. The only quantifiable amount of HHW that is illegally disposed of would be the amount that is disposed of in the municipal waste stream, or 114 tons.

Of the 40 tons of HHW collected at the four County-sponsored events during fiscal year 1990-91, approximately 20 percent was latex paint, 14 percent oil-based paint, 8 percent bulk

solvents, 2 percent aerosols, 20 percent used motor oil, 13 percent lead-acid batteries, and 24 percent was other types of waste that was lab packed.

A hazardous waste exclusion program is in effect at the Yolo County Central Landfill where the City of Woodland's refuse is ultimately disposed. Signs are posted at the entrance to the landfill indicating acceptable and nonacceptable wastes. A load-checking program randomly selects at least five loads per week for thorough inspection at the working face. All of the landfill's clients are subject to inspection, and trucks may be selected at any hour or day that the landfill is open. When hazardous waste is discovered that can be traced to its generator, the generator is notified to retrieve it. If the generator cannot be identified, the County provides proper recycling or disposal. HHW that is discovered is disposed of through the County's HHW collection program. If the type of waste is unknown, the County Department of Environmental Health is contacted for identification.

In most cases, when the generator of the waste is identified and the infraction appears to be a result of carelessness, the generator is given a warning and provided with educational material. If the dumping is determined to be either malicious or intentional, the offender is prosecuted. A recent example of this involved a trucking company that attempted to dump ten 5-gallon containers of formaldehyde at the landfill. An employee had warned the company that this was illegal, but an attempt was made to conceal the chemical with other debris. The landfill was notified by the employee, the waste was discovered during unloading, and the trucking company was prosecuted by the District Attorney's office. A hazardous waste management firm was called to properly dispose of the formaldehyde.

Another aspect of the landfill's hazardous waste exclusion program is predisposal evaluation. In this case a client will have potential waste analyzed prior to disposal to determine its toxicity. Soils and sludges of questionable appropriateness are regularly analyzed prior to disposal, and clients that drop these off on an ongoing basis must have samples analyzed frequently enough to represent a valid statistical sample.

SECTION 4

EVALUATION OF ALTERNATIVES

The purpose of this section is to provide a decision-making apparatus for designing an integrated HHW management program. For each component needed for a successful program, a series of workable alternatives are presented to facilitate selection by the City. Each alternative is evaluated by a series of criteria such as its effectiveness, ease of implementation and cost, etc. For the most part, the basis for these evaluations are similar programs operated in other parts of the state. This section is divided into subsections corresponding to those components needed for a successful program, which are listed below. Preferred alternatives for education and public information are found in Section 8.3.

* Recyclable HHW alternatives
* Collection alternatives
* Monitoring alternatives

4.1 RECYCLABLE HHW ALTERNATIVES

The California Integrated Waste Management Board (CIWMB) recognizes the importance of recycling in diverting solid waste from the landfill; instead of being a waste, it becomes a raw material. The recycling of HHW has the added advantage of removing hazardous wastes from the waste stream and the environment. To facilitate the collection of recyclable HHW, the State of California has enacted legislation (AB 2597), that eliminates the need for Department of Toxic Substances Control (DTSC) permits for HHW collection programs that target specific categories of recyclable HHW. Those categories include:

* Latex paint
* Used motor oil
* Used antifreeze
* Spent lead-acid batteries
* Small household batteries

In order to qualify for the permit exemptions, no other HHW may be received and handled other than those listed above, and all HHW collected must be transported to a recycling facility. For this reason, these will be the only types of recyclable HHW to be considered for the collection alternatives listed below that focus on recyclable HHW. It is also recommended that small household batteries not be included in any program for recyclables that the City of Woodland plans to undertake. There is no proven and available recycling technology for the majority of household batteries, including the alkaline types; therefore, their collection could jeopardize the status of the program.

Criteria for evaluating the above recyclable HHW alternatives will be considered in the first four collection alternatives for recyclable HHW that follow.

4.2 COLLECTION ALTERNATIVES

Household hazardous waste collection can be handled on different jurisdictional levels; municipal, regional, or county-wide. Planning on a lower jurisdictional level means more local control. Convenience for the public is also increased due to shorter travel distances and more familiarity with collection sites. Planning on a more local level also requires less coordination of government agencies, which means programs can be developed with shorter lead times; however, hazardous waste management can be an expensive service to provide. Involvement of higher jurisdictional levels may be necessary to provide required fiscal resources and some economy of scale. Participation within a larger geographic area can be helpful from the standpoint of public education by making the subject more interesting to mainstream media.

This HHWE considers nine HHW collection alternatives for diverting hazardous waste from the waste stream. The alternatives are listed in the order of appropriateness for immediate implementation. This usually corresponds to a more local level of planning and control. The first four collection alternatives for recyclable HHW are examined as alternatives to be implemented on the local level by the City. The other alternatives are examined as a regional program to be implemented in cooperation with the Yolo County Department of Public Works and Transportation. The nine collection alternatives follow:

* Curbside collection of used motor oil
* Point-of-purchase collection of recyclable HHW
* Periodic collection days for recyclable HHW
* Ongoing collection program for recyclable HHW
* Temporary HHW collection facility
* Permanent HHW collection facility
* Small quantity commercial source participation
* A mobile facility visiting temporary collection sites
* Door-to-door HHW collection

Laws regulating transportation of HHW to collection events should be noted at this time. California residents are allowed to transport up to 50 pounds or 5 gallons of HHW without a hazardous waste manifest, as long as they are the generator of the waste and it is being transported for recycling or proper disposal. Exceptions to this law include some items considered to be recyclable HHW. Up to 20 gallons of used motor oil can be transported at one time, providing the maximum container size is 5 gallons. Transportation of ten or fewer lead-acid batteries is unregulated.

Collection Alternative 1. Curbside Collection of Used Motor Oil

This collection alternative consists of adding used motor oil to the materials collected by a curbside recycling program. Residents would leave their used motor oil from do-it-yourself automotive maintenance projects at the curb with their other recyclables on pickup days. Containers for the used oil could either be supplied by the participant or the operator of the program. In some jurisdictions participants supply their own well-sealed plastic containers, which are recycled at the consolidating site. Other programs supply containers when requested. When a full container is picked up, an empty container is left in its place. Curbside collection of used oil has proven to be a cost-effective means of diverting HHW from the waste stream for communities with a curbside recycling programs.

This alternative may be adaptable for collection of other recyclable HHW as well. The primary concern for the operator would be the utilization of suitable containers to protect the public and their pets from the toxic constituents of the collected materials. The increased toxicity associated with nonrecyclable HHW such as oxidizers, pesticides, and corrosives would make their collection overly hazardous. Storage and disposal considerations also exceed those of recyclable HHW.

Effectiveness

The ongoing regular collection schedule of a curbside collection program adds to the effectiveness of this alternative. Used motor oil usually makes up the majority of HHW collected by communities with both periodic collection days (Collection Alternative 5) and curbside collection of used motor oil.

Hazards

Hazards exist in the handling of used motor oil and other recyclable HHW. Spilled oil should be treated as a hazardous waste. Hazards can be minimized by the use of the proper containers. Brief external exposure to human skin is usually not harmful if washed with soap and water.

Ability to Accommodate Change

This collection alternative is able to accommodate changing conditions because used motor oil is a small percentage of the total amount of recyclables that are collected.

Consequences on Waste Stream Composition

Implementation of this alternative would result in less used motor oil entering the waste stream.

Ability to be Implemented

As an additional material to be added to an existing curbside program, this alternative could be implemented within six months.

Need for Facilities

For an existing curbside program, a storage tank with secondary containment would be necessary at the material sorting facility. Program administrators or operators may decide that uniform containers would minimize hazards or facilitate implementation, in which case suitable containers would be distributed to those who requested them.

Consistency with Local Policies, Plans and Ordinances

Section 252.50.15 of the Health and Safety Code exempts curbside collection of used motor oil from the requirements of hazardous waste storage.

Institutional Barriers to Implementation

Liability would be assumed by the franchising agency or hauler.

Costs

A 1,000-gallon double-walled steel storage tank costs about $5,000. Disposable containers designed for used oil collection cost about $1.00 each. One gallon HDPE milk containers with screw caps are available for about $0.21 each and can be used three or four times, but two containers are usually necessary since most automotive crankcases contain more than one gallon of oil. The extra time for the collectors to pickup and empty the used oil is estimated to cost an additional $9,000 per year. Container costs are estimated at $2,000 per year using the HDPE milk containers.

Market Availability

A market exists for used motor oil, and its value fluctuates with market conditions. Sometimes municipal recycling programs are paid for the oil collected and sometimes must pay to have it taken away. Favorable terms are sometimes dependent on the operator accepting responsibility for proper disposal of a contaminated load. In general, addition of used motor oil to a residential recycling program is revenue neutral.

Collection Alternative 2. Point-of-Purchase Collection of Recyclable HHW

There are a number of variations of this alternative, depending on the material being collected and on whether the participation of the retailer is mandatory or voluntary. Two specific examples follow, but other variations would also be possible. In one example, service station operators would be required to accept used motor oil from the public for a minimum charge. The service stations would also be required to submit a plan for the proper handling, storage, and recycling of the collected oil. In the other example, purchasers of latex paint would be able to return their leftover paint for recycling to the store at which it was purchased. This example is based on a proposed state law, and participation by the retailer would be voluntary. Participation could result in a competitive advantage for a participating retailer, encouraging other retailers to follow suit.

Another variation of this alternative is an existing condition throughout the State of California. The State requires retailers of new lead-acid batteries to accept spent batteries as trade-ins.

Effectiveness

With proper education, consumers have shown a willingness to participate in recycling programs. Collection of recyclable HHW has proven to be an efficient means of diverting HHW from the waste stream. Familiar locations and the regular hours that retail outlets are open should make this a convenient alternative for the public, and to help make it an effective collection alternative.

Hazards

Hazards exist in the public's handling and transportation of even small quantities of HHW. Educational materials should emphasize the need for safe handling and transportation procedures. Retail outlets would be handling the same materials that they handle on a daily basis, so hazardous conditions in the stores should not increase.

Ability to Accommodate Change

Used oil collection at a service station would be utilizing facilities and techniques already in use. Changes in amounts of oil being collected would be dealt with by increased collection by oil recyclers. Retailer collection of latex paint for recycling would involve more of a change in current operating procedures. The retailer might be overwhelmed by increasing amounts of paint brought in for recycling, either by insufficient storage space or inadequate recycling capacity.

Consequences on Waste Stream Composition

This alternative would result in a reduction of HHW entering the waste stream.

Ability to be Implemented

This alternative could be implemented during the short-term planning period. Implementation time could be less than a year.

Need for Facilities

This alternative would utilize existing facilities.

Consistency with Local Policies, Plans and Ordinances

The ability for paint retailers to accept leftover latex paint may be dependent on legislation exempting the retailers from hazardous waste storage regulations. Such a variance exists for used oil recycling programs.

Institutional Barriers to Implementation

Institutional barriers to implementation are not apparent at this time.

Costs
Businesses involved in implementing this alternative would be expected to charge for the services offered.

Market Availability
Market availability is the responsibility of the participating retailers with this alternative. Markets exist for recyclable HHW and are examined in more detail in subsequent collection alternatives for recyclable HHW (Collection Alternatives 3 and 4).

Collection Alternative 3. Periodic Collection Days for Recyclable HHW

On a well-publicized date, residents are urged to bring their recyclable HHW such as used motor oil, latex paint, and spent lead-acid batteries to a temporary location where it is collected by City employees, community volunteers, and employees of the recycling companies involved. At the end of the day, the collected HHW is removed by the recyclers. For promotional purposes, this event could be referred to as a "Roundup for Recyclables," or "Bop Drop" (batteries, oil, paint).

Effectiveness
In terms of the gross weight of HHW collected, this is a moderately effective means of collection. The primary limitation to its effectiveness is its periodic nature. Used motor oil, spent lead-acid batteries, and latex paint often make up a large majority of all HHW collected at HHW collection events held in other parts of the state. Disposal options are not provided for more toxic wastes, such as pesticides and corrosives, that would remain a potential hazard in area households.

The effectiveness of this alternative depends on the frequency of events and the level of public awareness. Regularly scheduled events held at predictable times have more potential for lasting impact than single day "media events."

Hazards
Hazards exist in the handling and transportation of even small quantities of HHW. For recyclable HHW, lead-acid batteries represent the biggest hazard to the handler due to the possibility of an acid spill. Educational materials should emphasize the safe handling and transportation of HHW to the collection site. Relative to other types of HHW, this type of program presents a low level of hazard because of the relatively low toxicity of the wastes collected.

Lead-acid batteries that are cracked or missing caps are a particular hazard. They should only be handled with rubber gloves, and should be stored in a double thickness plastic bag. Recycled latex paint may have a higher concentration of mercury than the latest formulations. For that reason it is appropriate for exterior use only.

Ability to Accommodate Change

Periodic collection days are readily able to accommodate change because of their inherent flexibility. No permanent facilities or staffing are necessary, and changes in markets could be accommodated by adding to or deleting the types of waste collected.

Consequences on Waste Stream Composition

A slight increase in empty paint cans disposed of in the landfill might occur. A reduction of lead-acid batteries, latex paint, and used motor oil from the municipal waste stream would result.

Ability to be Implemented

This alternative can be implemented in the short-term planning period, within a few months.

Need for Facilities

No permanent facilities are needed. A large open paved area with good potential for efficient traffic flow will be needed to conduct the event.

Consistency with Local Policies, Plans, and Ordinances

The latex paint that arrives in gallon containers must be "bulked," or transferred to 55-gallon drums for transport to the recycler. The empty cans must be allowed to dry before they can be deposited in the local landfill, which may present a conflict with the Yolo/Solano Air Pollution Control District (APCD). Since the major latex paint recycler requires the municipality to accept the return of the recycled paint collected, local policy requiring the purchase of recycled latex paint for municipal projects could facilitate the implementation of this alternative.

Institutional Barriers to Implementation

Liability would be assumed by the implementing agency or the recyclers.

Costs

A one day event should cost the City about $7,000 to $8,000. This figure is based on: three weeks compensation for its director ($3,000); one day compensation for 12 City or County laborers ($1560); an estimated 500 gallons of paint collected (two percent of all households participating, 1.5 gallons per participating household), at $3.00 per gallon for recycling and transportation ($1,500); use of one oil collection truck and driver for the day ($250); and miscellaneous expenses ($1,000).

Market Availability

The market for spent lead-acid batteries and used motor oil is well established. Spent lead-acid batteries are worth about $1.00 each. The value of used motor oil fluctuates with market conditions; sometimes municipal recycling programs are paid for the oil that is collected and sometimes must pay to have it taken away. Favorable terms are sometimes dependent on accepting liability for proper disposal of a contaminated load (as a hazardous waste at great expense).

At least three companies in California are involved in recycling latex paint and willing to expand their involvement (Appendix A). One company is a HHW management firm that recycles latex paint that is collected at events where they are the contractor. They then market the paint themselves. The other two companies recycle paint collected by HHW collection programs and usually require the sponsor accept the return of the recycled paint. Local paint manufacturing companies should be contacted to see if they would be interested in participating in this emerging field. Recycling costs are generally less than $3.00 per gallon, but transportation, container, and dilution policies can all affect the final cost.

Markets exist in California for the recycling of silver oxide, and to a lesser extent, mercuric oxide button style batteries. Differentiation of different types of button style batteries can only be determined by minute markings on the back, which makes separation difficult. Rechargeable nickel cadmium (nicad) batteries are recycled in Europe, but nicads are often built into the appliance and are difficult to remove. The other types of household batteries have no recycling value at this time, other than that of scrap metal in the Far East, where eventual environmental liabilities are uncertain.

Collection Alternative 4. Ongoing Collection Program for Recyclable HHW

A variation of the previous alternative, this alternative would collect recyclable HHW on an ongoing basis at one or more locations where storage of the collected materials would be possible. Residents would drop off their used motor oil, spent lead-acid batteries, used antifreeze, and leftover latex paint at a convenient location which would be staffed and open on a regular basis. Staffing would be necessary to screen for inappropriate or contaminated wastes. The drop off of used motor oil and spent lead-acid batteries at Yolo County Central Landfill make this alternative an existing condition for the residents of Woodland.

When a sufficient amount of material is collected to make it economical for a recycler to make a pickup, the vendor would be notified. AB 2597 authorizes the jurisdiction that operates such a program to be considered the generator of this recyclable HHW, and therefore exempt from a permit for off-site storage of HHW. Draft regulations prepared by the DTSC refer to this type of collection alternative as a "limited permanent facility" (limited in the types of HHW collected).

Effectiveness

In terms of the gross weight of HHW collected, this is an extremely effective means of collection. Used motor oil, spent lead-acid batteries, and latex paint often make up a large majority of all HHW collected at HHW collection events held in other parts of the state. The fact that it is an ongoing program with a regular schedule of collection adds to its effectiveness.

Hazards

Hazards exist in the handling and transportation of even small quantities of HHW. For recyclable HHW, lead-acid batteries represent the biggest hazard to the handler due to the possibility of an acid spill. Educational materials should emphasize the safe handling and transportation of HHW to the collection site. Relative to other types of HHW, this type of program presents a low level of hazard because of the relatively low toxicity of the wastes collected. However, disposal options are not provided for more toxic HHW, such as pesticides and corrosives, that would remain a potential hazard in area homes. Lead-acid batteries that are cracked or missing caps are a particular hazard. They should only be handled with rubber gloves, and should be stored in a double thickness plastic bag. Recycled latex paint may have a higher concentration of mercury than the latest formulations. For that reason it is appropriate for exterior use only.

Ability to Accommodate Change

This alternative is a bit less flexible because of its need for permanent storage facilities. A staffing commitment on a regular basis would also be needed, but the hours of operation could be altered to accommodate changes in public demand.

Consequences on Waste Stream Composition

A slight increase in empty paint cans disposed of in the landfill might occur. Reduction of lead-acid batteries, latex paint, used motor oil, and antifreeze from the municipal waste stream would result.

Ability to be Implemented

This collection alternative could be implemented by the City of Woodland during the short-term planning period.

Need for Facilities

Storage tanks that meet state and local code would be necessary for the used motor oil and antifreeze. A storage shed is necessary to provide security for the paint and lead-acid batteries. Two debris boxes are necessary for discarded paint cans, one is for dry cans ready for landfill, and the other for drying cans. An adjacent area large enough for access by the public and the recyclers' collection trucks must also be available.

Consistency with Local Policies, Plans, and Ordinances

The latex paint that arrives in gallon containers may have to be "bulked," or transferred to 55-gallon drums for transport to the recycler. The empty cans must be allowed to dry before they can be deposited in the local landfill, and this may present a conflict with the Yolo/Solano Air Pollution Control District (APCD). A local policy requiring the purchase of recycled latex paint for municipal projects could facilitate the implementation of this alternative.

Institutional Barriers to Implementation

Liability would be assumed by the implementing agency or vendor.

Costs

Capital costs would be about $14,000. Facility needs include two 10-foot shipping containers converted to hazardous waste storage specifications, $7,300; one 500-gallon tank for used oil $5,000; one 210-gallon tank for antifreeze, $700; and one 5-cubic-yard debris boxes, $700; The tanks include double wall secondary containment. The storage sheds includes secondary containment and ventilation. Costs for asphalt surfacing and an 8-foot chain link fence for a 4000 sq ft area would add approximately $12,000 to the cost.

Operating costs of this alternative are estimated to be $12,000 to $15,000 per year. Salary estimates are based on two employees devoting five hours a week to this program. For cost estimation purposes the facility would be open every Saturday morning. Using a base pay rate of $13.00 per hour including benefits, this amounts to $6,760 per year. Administrative costs are estimated to be $1,000, based on one week's compensation per year. Paint processing and other recycling costs are estimated at $4,500 per year to recycle approximately 1,500 gallons of latex paint.

Market Availability

The market for spent lead-acid batteries and used motor oil is well established. Spent lead-acid batteries are worth about $1.00 each. The value of used motor oil fluctuates with market conditions; sometimes municipal recycling programs are paid for the collected oil and sometimes must pay to have it taken away. Favorable terms are sometimes dependent on accepting liability for proper disposal of a contaminated load (as a hazardous waste, an expensive proposition).

Used antifreeze is picked up by a recycler in a manner similar to used motor oil. Whether a fee must be paid and the amount of the fee is also based on prior negotiations. Commercial establishments pay as much as $1.40 per gallon to have used antifreeze removed.

At least three companies in California are involved in recycling latex paint and willing to expand their involvement (Appendix A). One company is a HHW management firm that recycles latex paint that is collected at events where they are the contractor. They then market the paint themselves. The other two companies recycle paint collected by HHW collection programs and usually require the sponsor accept the return of the recycled paint. Local paint manufacturing companies should be contacted to see if they would be interested in participating in this emerging field. Recycling costs are generally less than $3.00 per gallon, but transportation, container, and dilution policies can all affect the final cost.

Markets exist in California for the recycling of silver oxide, and to a lesser extent, mercuric oxide button style batteries. Differentiation of different types of button style batteries can only be determined by minute markings on the back, which makes separation difficult. Rechargeable nicad batteries are recycled in Europe, but nicads are often built into the appliance and are difficult to remove. The other types of household batteries have no

recycling value at this time, other than that of scrap metal in the Far East, where eventual environmental liabilities are uncertain.

Collection Alternative 5. Temporary HHW Collection Facility

Yolo County has been co-sponsoring periodic collection events since 1985. While these types of events are included in draft PBR regulations for temporary household hazardous waste collection facilities (THHWCF), this alternative examines the selection of a dedicated location and regular schedule for county-wide HHW collection events. All types of HHW would continue to be collected, and a licensed hazardous waste management firm would be retained to provide the necessary level of expertise and trained personnel (Appendix B). Collected HHW would not be stored at the site, but would be removed for recycling, destruction, or disposal at the end of each event along with load-check hazardous waste from the County's hazardous waste exclusion program.

The site for this temporary HHW collection facility would be at a proposed recycling storage facility at the Yolo County Central Landfill (YCCL). This is envisioned as a 60- by 70-foot enclosed steel structure with a concrete floor that could also be used as a temporary HHW collection facility. Unloading HHW from participants' cars, sorting, bulking, and lab packing would take place in designated, covered areas. Full drums would be segregated from other activities for storage prior to loading into trucks.

It is likely that seven HHW collection events per year will be scheduled. This would allow collection during consecutive months during spring and fall, when participation at HHW collection events is typically high. During the rest of the year there would be a maximum of two months between collection events. Permit-by-rule regulations permit a site to be utilized for up to two days collection once per calendar month.

Members of the public would drive to the facility at the YCCL, and after they filling out a short questionnaire, their wastes would be removed by trained personnel. Manifests would be completed during consolidation and lab packing to identify the contents of the drums in case of an emergency during transport, and to create a "paper trail" to ensure the safe disposition of the wastes. Draft regulations drawn up by the DTSC limit the use of one site to two consecutive days of collection once per calendar month.

The vendor contracted to run the collection events will also manage hazardous wastes pulled from the waste stream and stored as a part of the County's hazardous waste exclusion program. This load-check waste will be consolidated, lab packed, and shipped by the hazardous waste management firm concurrently with the HHW collection events.

Effectiveness

This alternative would provide the public with an increased number of regularly scheduled opportunities to drop off their HHW. The increased scheduling convenience should improve

program effectiveness. This alternative provides the public with the opportunity to dispose of their HHW safely, to keep it out of the landfill, and to reduce the risks of long-term storage and improper disposal of HHW.

Hazards

The types of HHW handled at these events are more hazardous than those handled in the collection days for recyclables. When these materials are handled correctly by a licensed hazardous waste management firm, the hazard to the public is very low. The public's maximum exposure to hazard is during handling and transportation to the collection site. Publicity materials should emphasize safe handling and transportation procedures. The removal of the more toxic wastes from the waste stream, and their removal from homes, will result in a net reduction of hazards.

Ability to Accommodate Change

Since the structure considered for this alternative would have another primary use, HHW collection activities could be moved to a permanent facility built as a part of a future material recovery facility (MRF) at another location at the landfill in the future.

Consequences on Waste Stream Composition

A reduction of hazardous wastes in the municipal waste stream would result.

Ability to be Implemented

This alternative could be implemented in about a year, well within the short-term planning period.

Need for Facilities

A permanent facility is not required by this alternative, but the recycling storage facility that is planned for the landfill would offer weather protection for participants and staff. The recycling storage facility is envisioned as a 60- by 70-foot enclosed steel structure with a concrete floor that could also be used as a temporary HHW collection facility. Unloading HHW from participants' cars, sorting, bulking, and lab packing would take place in designated, covered areas. Full drums would be segregated from other activities for storage prior to loading into trucks.

Consistency with Local Policies, Plans, and Ordinances

Draft permit-by-rule (PBR) regulations have been developed by the DTSC to facilitate implementation of temporary HHW collection facilities. The program operator will submit a permit-by-rule notification form to the DTSC at least 45 days prior to collection events. The County's General Plan permits additional land uses at the landfill that are not harmful to the continued operation of the landfill. This additional use would not require a Conditional Use Permit (CUP) from the County, but should be mentioned in the application when a new CUP is applied for regarding expanded operations.

Institutional Barriers to Implementation

The County's Hazardous Waste Management Plan acknowledges the need for a HHW management program. This alternative represents an improvement over existing conditions in Yolo County and is therefore unlikely to encounter institutional resistance. This alternative is more expensive to implement than the current program which might create some opposition, however.

Costs

The County's cost to operate four HHW collection events during fiscal year 1990-91 was $112,000. The City of Davis operated three additional events during the same time period for approximately $55,000. Both figures include contract costs and administrative expenses. The base cost for the County to operate seven collection events could therefore be assumed to be about $167,000. If the Davis events were open to all County residents, participation and costs could be assumed to be about 10 percent higher. Approximately 10 percent as much load-checking hazardous waste was collected in 1991 as HHW at county-sponsored events. The basic cost should be increased by 10 percent to $184,000 to account for these two assumptions.

Market Availability

Markets are available for recyclable HHW, and the Yolo County hierarchy of HHW disposal requires that all recyclable HHW be recycled.

Collection Alternative 6. Permanent HHW Collection Facility

Yolo County's Hazardous Waste Management Plan recommends that the County begin the process of establishing a permanent HHW collection facility (PHHWCF). A PHHWCF consists of a permanent facility open during regularly scheduled hours that provides residents of the community the opportunity to drop off their HHW. It also provides the operator with facilities to safely store the collected HHW. This storage capability offers the opportunity to maximize disposal options and thereby increase operating efficiency. Its permanent nature means that once the public becomes familiar with its existence, they know that it can be used again in the future. Yolo County is considering siting a MRF at the landfill during the medium-term planning period. A permanent HHW collection facility would likely to be included as a part of the facility. A permanent facility could be used as a "hub" in conjunction with other collection alternatives as a part of a "hub and satellite" system.

The California Code of Regulations Section 18751.3 requires that new and existing multi-use solid waste and hazardous waste facilities be considered as possible locations for a permanent HHW collection facility. Siting a permanent HHW facility at a solid waste facility could offer several advantages to the community in siting a HHW facility. One is that the County General Plan allows compatible land use at the landfill and acknowledges the possible issuance of a Conditional Use Permit for a HHW facility. Another advantage is that by using a site that is already marked for waste management, opposition to the siting process should be reduced.

And finally, by providing the public with a multi-use facility, residents could drop off HHW on the same trip with other cleanup debris, thereby increasing convenience.

This alternative would involve the securing of the necessary state and local permits to allow the collection and the temporary storage of collected HHW at the site of a proposed MRF located at the Yolo County Central Landfill. Facilities would have to provide for the safe storage of hazardous waste. Utilization of modular hazardous waste storage sheds would add flexibility to siting options. Being able to store collected HHW on-site would increase the flexibility of the program. Need for a contractor would then be limited to transportation and disposal of the collected wastes and offer the County the possibility of increased operating efficiency.

Effectiveness

A permanent HHW facility is an effective means of diverting HHW from the waste stream. Maximizing convenience to the public encourages repeat visits, which in turn maximizes effectiveness. Participation levels and effectiveness tends to decrease as travel distance increases.

Hazards

This type of facility is designed for maximum safety, which minimizes on-site hazardous conditions. This alternative is an effective means of reducing improperly disposed of HHW, which means a net reduction of hazard for the community. The public's maximum exposure to hazard is during handling and transportation to the collection site. Publicity materials should emphasize safe handling and transportation procedures.

Ability to Accommodate Change

By varying staffing levels and hours of operation, an operator can efficiently meet public demand. A permanent facility offers flexibility in its ability to act as a storage facility for other collection alternatives (Alternatives 7, 8, and 9).

The possibility exists that once the high levels of HHW currently stored in area homes are collected and public habits are altered to use less toxic products, a permanent facility would lose its effectiveness. If this were prove to be the case, the program could switch its emphasis from residentially generated HHW to small quantity commercially generated waste (Collection Alternative 7).

Consequences on Waste Stream Composition

A marked reduction in HHW entering the waste stream would result from implementing this alternative. If the facility is located at a transfer station or material recovery facility, HHW that is discovered through a hazardous waste exclusion program can be diverted to the HHW facility.

Ability to be Implemented

Minimum implementation would be about three years, but because of the need for permits, facilities, and multi-jurisdictional coordination, this alternative would be considered for the medium-term planning period.

Need for Facilities

To safely and legally store all types of HHW, a permanent facility is necessary. The facility would have to have separate bays to provide for the segregation of incompatible chemical groups and other considerations that will be specified in the permit-by-rule regulations for permanent HHW facilities that the DTSC will be drafting. There must be sufficient area surrounding the facility for the smooth flow of traffic.

Consistency with Local Policies, Plans, and Ordinances

Section 15 page 15-5 of County's Hazardous Waste Management Plan recommends that Yolo County begin the process of establishing a permanent HHW collection facility. Permit-by-rule regulations will ultimately determine the level of state permitting required. A County Conditional Use Permit would be required, as well as compliance with the California Environmental Quality Act (CEQA). Under some circumstances this type of facility could encounter local opposition and/or require an Environmental Impact Report (EIR).

Institutional Barriers to Implementation

Yolo County may require insurance coverages in excess of State mandates. These insurance coverages address workers compensation, comprehensive general liability, automobile liability, and environmental impairment liability. Permit-by-rule minimum insurance requirements are not likely to differ from current insurance requirements for a permanent HHW facility which require $1,000,000 liability coverage per incident and $2,000,000 aggregate coverage per year.

Costs

Capital costs to retrofit an existing 2,400-square-foot steel building in San Francisco were approximately $300,000 in 1988. The operating budget to serve 7,500 participating households was $560,000 in 1989, for a cost of about $75 per participating household. A 2,800-square-foot facility with a 160-drum capacity designed to serve Yuba and Sutter Counties cost in excess of $300,000 in 1990, with an operating budget of $176,000 per year. While costs are substantial, operating costs compare favorably to a few HHW collection days per year. Storage capabilities permit efficient bulking and lab packing, which are helpful in controlling disposal costs.

The needs of Yolo County could be fulfilled with a smaller facility than those mentioned above. It could be operated for an estimated $250,000 to $300,000 per year. Capital costs amortized over 20 years would be $29,500 per year for a $200,000 facility with $50,000 development and CEQA compliance costs at 10 percent interest. Staffing would be about

$90,000 per year for a chemist/manager and a technician and $120,000 to 180,000 per year operating and disposal costs.

Market Availability

Storage capabilities of a permanent facility allow for maximizing potential of market conditions. Markets are available for recyclable HHW, and the Yolo County hierarchy of HHW disposal requires that all recyclable HHW be recycled.

Collection Alternative 7. Small Quantity Commercial Source Participation

As defined by AB 2641, a "small quantity commercial source" is a business (commercial or agricultural) that generates 220 pounds a month or less of hazardous waste (HW). Although they are exempt from some regulations, they still must test, properly store, treat, and manifest their waste. Rather than sustain the expense of dealing with a licensed hazardous waste management firm, many of these businesses are improperly disposing of their waste.

This alternative could be incorporated into a periodic HHW collection program, or be an extension of a permanent or "limited" HHW facility. If incorporated into a periodic program, a separate collection date should be dedicated to these sources for reasons explained below under Consistency with Local Policies, Plans, and Ordinances. Incorporated as part of a permanent facility, this alternative provides a means to increase the facility's usefulness. In either case, it could offer the jurisdiction an opportunity to divert large quantities of hazardous waste from the waste stream with little or no additional cost through the use of a fee structure.

In the past, participation by small businesses in community HHW programs was expressly forbidden by law. The recent passage of AB 2641 now gives a municipality the option of accepting such hazardous wastes. If the program operator were to accept wastes from small businesses, the operator should charge a fee, since waste disposal is a business expense for the participant. But a relatively low fee and increased convenience for the business would help encourage compliance.

The possibility exists for commercial participation to overwhelm a program intended for residential use. A limiting factor for that problem is the state law that limits unmanifested transportation of hazardous waste to 5 gallons of a liquid or 50 pounds of a solid (note exceptions near the bottom of page 10). By limiting the amount of waste that can be brought to this collection program at one time, the program's capacity is not overextended. This limitation also makes the program most advantageous for the very small quantity sources for whom a commercial alternative would be prohibitively expensive.

Effectiveness

In other community HHW programs that have accepted commercial wastes, the number of participants has been small compared to the number of households, but the amount of waste collected has been substantial. The large amount of waste collected indicates that the program

can be very effective in removing toxics from the waste stream. This is an alternative that could be added at a later date to improve program efficiency.

Hazards

More hazardous waste would be handled than in other alternatives, resulting in an increase in hazards. This would be less applicable if a permanent facility were utilized. By separating collection of residential and commercial wastes, potential exposure to the public would be minimized. As in other HHW collection events, handling and transportation to the collection site is an area that requires particular caution. Also, the reduction of improperly disposed wastes would represent a net reduction of hazard.

Ability to Accommodate Change

Because this option is basically an administrative variation of other alternatives, it could be altered or cancelled without major consequences.

Consequences on Waste Stream Composition

This alternative should further reduce hazardous waste from entering the waste stream.

Ability to be Implemented

If this alternative is part of a drop-off program, it could be implemented during the short-term planning period. If the alternative is incorporated into a permanent HHW facility program, it would likely be part of the medium-term planning period due to permitting and facility requirements.

Need for Facilities

A permanent facility is not necessary for this alternative to be implemented, but a permanent HHW facility would increase the safety and ease of implementation for this type of program.

Consistency with Local Policies, Plans, and Ordinances

Current interpretation of hazardous waste transportation laws indicates there may be a need to keep residential and commercial programs separate to prevent the combined waste stream from falling under jurisdiction of the Resource Conservation and Recovery Act (RCRA). If a fee is charged for the commercial program, but not the HHW program, it makes administrative sense to keep the two programs separate. One way of doing that in a drop-off program would be to dedicate some of the collection days to businesses only.

Institutional Barriers to Implementation

No institutional barriers to implementation are noted at this time.

Costs

A charge to the participants should be made per gallon of liquid waste and per pound of solid waste, so that the City does not sustain a net cost to run the program. For nonrecyclable wastes these costs might be in the neighborhood of $2 to $4 per pound, or $10 to $40 per

gallon. Differing types of hazardous waste have differing disposal costs, which should be reflected in the fee schedule.

Market Availability
Market availability would have little effect on the success of this alternative. Markets are available for recyclable HHW.

Collection Alternative 8. A Mobile Facility Visiting Temporary Collection Sites

The purpose of this alternative is to increase accessibility for the public by increasing the convenience of finding or getting to the collection sites. Mobile facilities visit several collection sites within a large geographic area on a rotating basis. Two basic variations of this alternative exist. In one variation the operator consolidates and lab packs the collected HHW at the end of the event for transportation to recycling or disposal facilities. The other variation uses a permanent facility as a hub to utilize the permanent facility's storage advantages. A mobile program would require facilities that could be rotated from site to site. Riverside County's program is an example of this collection alternative.

Mobile facilities vary in their complexity. Riverside County uses a van conversion, a county pickup with a hydraulic lift, and a compartmentalized roll-off bin for temporary storage of HHW. Weather protection consists of sun shades only; the facility closes in the event of rain. San Mateo County utilizes a 40-foot trailer to transport collection materials to the temporary sites and for overnight storage of collected HHW. King County, Washington, uses a large van and a mobile office. The van is used for storage of portable weather protection for two separate areas, 55-gallon drums, secondary containment, portable fencing, absorbent, and protective clothing. A portable electric generator, and portable toilets are also part of the facility. The mobile office is used for administrative purposes and for analyzing unknowns.

Effectiveness
By increasing accessibility to the public, the percentage of participating households should increase, thereby increasing effectiveness. The effectiveness could be affected by the final DTSC regulations involving mobile facilities. Draft DTSC regulations consider mobile facilities "temporary facilities" and limit the acceptance of HHW to two consecutive days at one time. Such a short collection period could limit the effectiveness of this alternative. DTSC is developing regulations specific to mobile facilities which would allow for longer periods of collection.

Hazards
A relatively short storage time limits the possibility of public exposure. The public's maximum exposure to hazard is during handling and transportation of HHW to the collection site. Publicity materials should emphasize safe handling and transportation procedures.

Ability to Accommodate Change
Being able to change collection sites makes this alternative flexible and open to changing conditions.

Consequences on Waste Stream Composition
Increased public participation should mean fewer hazardous wastes going into the waste stream.

Ability to be Implemented
This alternative requires a level of planning, procurement, and permitting that suggests a lead time in excess of a year. This suggests possible implementation during the short-term planning period.

Need for Facilities
Mobile HHW collection facilities would be necessary for this alternative. Riverside County uses a modified roll-off box that has been compartmentalized, explosion proofed, equipped with false floors with secondary containment sumps, and an external safety shower/eye-wash. A van conversion with a table and sink is used for administrative purposes and for testing unknowns, as well as for storage of protective clothing and equipment. A pickup with a hydraulic lift (permitted for transporting hazardous waste) is used for moving 55-gallon drums at the collection sites as well as occasionally picking up HHW from the homebound.

Consistency with Local Policies, Plans, and Ordinances
No conflicts with local policy are noted at this time.

Institutional Barriers to Implementation
No institutional barriers exist, but implementation would require multi-jurisdictional permitting, cooperation, and coordination.

Costs
Riverside County, with a population of approximately one million residents, is currently operating with an insufficient budget of $450,000 per year. The vast majority of the budget is spent on disposal costs for the collected HHW. The cost of the modified second-hand roll-off bin was approximately $25,000. The van conversion is a hand-me-down hazardous incident response vehicle, and the pickup is a county vehicle on loan. Three permanent employees are included in the budget, but other employees are "borrowed" from other departments to double or quadruple that number during collection days. The San Mateo program operates on a $300,000 budget.

The cost of mobile facilities may ultimately depend on their definition. Regulations governing the operation of mobile HHW facilities are at present undefined in California. The

Department of Toxic Substances Control is aware that mobile facilities are a unique category that require regulations dedicated specifically to them.

Higher costs for educating the public might be construed as being necessary to keep the public informed of the mobile facility's schedule. Any increase in those expenses would most likely be money well spent in keeping the issue of HHW disposal before the public eye.

Market Availability

Market availability would have little effect on this alternative. Markets are available for recyclable HHW collected.

Collection Alternative 9. Door-to-Door HHW Collection

This service would supplement other programs, and would be offered infrequently. Door-to-door collection would require trained hazardous waste personnel stopping at the homes of people who had phoned in their request for service in advance. It would require a DTSC approved vehicle with a crew of two who would remove the wastes from peoples homes and pack them for safe transportation to a consolidation site. Ideally, this consolidation site would be a permanent facility, but could be a HHW collection event or a mobile collection site. The City of Los Angeles is initiating a pilot program for this type of service, utilizing city employees and city-owned vehicles. Private waste management firms are also investigating the possibility of offering this type of service. This program would be especially helpful to the homebound.

Effectiveness

Door-to-door collection is the only alternative that does not require the participant to drive to a remote site to drop off their HHW. Therefore, it would be capable of collecting HHW that would otherwise be left uncollected and would be effective in diverting hazardous waste from the waste stream.

Hazards

Regulatory requirements for the crew and vehicle would address most of the hazards associated with this type of service. Because the waste would be handled and transported to the consolidation site by professionals, transportation hazards would be reduced. Removal of hazardous substances from long-term storage in area homes would contribute to a net reduction of hazards.

Ability to Accommodate Change

The flexibility of a mobile HHW collection program would makes it especially adaptable to changing conditions.

Consequences on Waste Stream Composition
There would be no consequences on the waste stream other than a net reduction of hazardous waste.

Ability to be Implemented
Door-to-door collection is an alternative that would be added to an ongoing HHW collection program. Therefore, this alternative is not likely to be implemented until the medium-term planning period.

Need for Facilities
A DTSC approved vehicle would be necessary, as well as a specially trained crew. A permanent HHW facility would be the best "hub" for the system. But the service could be scheduled to coincide with a HHW collection event instead. In that case no permanent facilities would be necessary.

Consistency with Local Policies, Plans, and Ordinances
No conflicts with local policies are noted at this time.

Institutional Barriers to Implementation
No institutional barriers to implementation are noted at this time.

Costs
The cost of this alternative could be substantial. It is estimated by one hazardous waste management firm that the two person crew could handle two households per hour, at a cost of $150 to $175 per household serviced. This cost would be in addition to the cost of operating a "hub" site that would be needed for consolidation and lab packing prior to disposal. Costs would be minimized if the personnel and storage capabilities of a permanent or mobile HHW facility were utilized to provide the service. A charge for this service could be considered, which could be waived under special circumstances.

Market Availability
Markets exist for recyclable HHW collected by this alternative.

4.3 MONITORING ALTERNATIVES

Criteria applicable to all monitoring alternatives will be addressed after the descriptions. The following monitoring alternatives will be considered for inclusion in the City's HHW management plan:

* Monitoring the waste stream for HHW
* Ongoing evaluation of HHW program
* Waste characterization study

Monitoring Alternative 1. Monitoring the Waste Stream for HHW

Monitoring the waste stream for HHW is an existing condition in the City of Woodland. A hazardous waste exclusion program is in effect at the Yolo County Central Landfill, which includes client awareness and random load inspections at the working face. HHW could be kept from entering the waste stream through the implementation of curbside monitoring. Refuse collectors would have to be trained to recognize HHW, and if it were spotted prior to collection it would be left behind with instructions for proper disposal.

Monitoring Alternative 2. Ongoing Evaluation of HHW Program

Accurate records of the amounts of HHW collected by the collection program will have to be kept in order to evaluate the success of meeting program goals. Form CIWMB-303 (Appendix B) must be used when compiling this information. In addition to the categorization of HHW, this form includes the number of pounds or gallons collected, not just the number of drums shipped. From this information tons per year can be calculated, the unit of measurement used in the Waste Generation Study. Deficiencies in meeting the intended goals can result in modifications of the public education or collection components of the HHW management plan. The County will keep track of the residency of participants in all county-wide programs and the results will be reported to the Cities.

Monitoring Alternative 3. Waste Characterization Study

Another means of monitoring the effectiveness of the HHW management program would be to conduct a waste characterization study. A waste characterization study is similar to the waste generation study that provides the basis for the SRRE but is limited in scope to focus on specific areas, in this case HHW. Selected loads of refuse could be sampled to determine the proportion and type of HHW present. This information would indicate the effectiveness of a HHW program, and could be used to suggest specific areas in which improvement is needed.

4.3.1 Evaluation of Monitoring Alternatives

The following criteria address the alternatives described above:

Effectiveness

Monitoring the waste stream for HHW is a somewhat effective means of diverting HHW. If the generator can be identified and the HHW returned, a powerful lesson could be taught. However, identifying the generator of HHW in a commingled residential waste stream at the landfill is nearly impossible. The effectiveness is then limited to diverting the small quantities of HHW that are discovered and by demonstrating a commitment to excluding hazardous waste from the landfill.

A monitoring and evaluation program is necessary to see that goals are being met. Without one, the effectiveness of the program could not be quantified. Categorizing HHW (as in form CIWMB-303) would increase the usefulness of a waste characterization study as a HHW monitoring tool.

Hazards

Some hazards exist for those conducting waste characterization studies and load-checking for hazardous waste. Hazards are minimized through proper training. Minimum hazards exist for workers who are trained in proper handling procedures for HHW.

Ability to Accommodate Change

These alternatives could be changed easily if conditions change.

Consequences on Waste Stream Composition

Monitoring the waste stream for HHW, proper evaluation of the HHW management program, or a waste characterization study would result in the reduction of hazardous waste entering the landfill.

Ability to be Implemented

These alternatives could be implemented in the short-term planning period and should continue through the medium-term planning period.

Need for Facilities

No new facilities are needed for these alternatives.

Consistency with Local Policies, Plans and Ordinances

No conflicts with local policies are noted at this time.

Institutional Barriers to Implementation

No institutional barriers are noted at this time.

Costs

The additional cost of a monitoring program that included curbside monitoring for HHW would be equivalent to the cost of in-house training of the collectors to recognize and handle HHW, or about $2,000. The cost of evaluating the HHW program would be equal to about one week's salary for the program coordinator, or $1,000. A waste characterization study that examines HHW only would cost between $6,000 and $12,000.

Market Availability

Market availability has no effect on monitoring alternatives.

SECTION 5

SELECTION OF PROGRAMS

This section of the HHWE will outline the alternatives selected to form an integrated HHW management program for the City of Woodland, and explain why they were selected. The success of a collection plan for HHW depends on the simultaneous implementation of public education and monitoring plans to form an integrated program. Preferred alternatives and their implementation for education and public information are discussed in Sections 8.3 and 8.4 or this HHWE. The selection of programs was based on the criteria for evaluation presented in the previous section.

Cost-effectiveness and ease of implementation were of particular importance in the selection of a program for the short-term planning period. Implementation of a program for the medium-term planning period will be based on experience that is gained from developing and implementing a program during the short-term planning period and on the level of success in diverting HHW from the waste stream.

5.1 SELECTED COLLECTION PROGRAMS

The proposed collection programs for City residents will address both recyclable and nonrecyclable HHW on an ongoing basis. Woodland residents are currently able to drop off their HHW through the existing periodic collection program operated by the City and the County. This program will be continued for approximately one more year, after which the County will change collection sites to the Yolo County Central Landfill and begin coordinating HHW drop off with the collection of hazardous waste diverted at the landfill as part of the County's hazardous waste exclusion program. On a local level, facilities will be developed for the collection of recyclable HHW. For the medium-term planning period, Woodland residents will have the opportunity to drop off HHW at the County operated permanent facility planned for the Yolo County Central Landfill. This program is a combination of the following collection alternatives from Section 4 of this HHWE:

* Collection alternative 4. Ongoing collection program for recyclable HHW
* Collection alternative 5. Temporary HHW collection facility
* Collection alternative 6. Permanent HHW collection facility

<u>Ongoing Collection Program for Recyclable HHW</u>

The City will develop a program for the collection of recyclable HHW on an ongoing basis. This alternative was selected because recyclable HHW often makes up the majority of the HHW collected at HHW collections throughout the State. Additionally, an ongoing program with regular hours of operation year-round drastically increases the convenience for the public to participate in the program, as opposed to periodic collections offering few opportunities

each year. The fact that recyclable HHW is less strictly regulated means that it is a cost-effective alternative that can be implemented with a minimum of delays.

This ongoing collection program for recyclable HHW will provide the opportunity for the public to drop off used motor oil, spent lead-acid batteries, used antifreeze, and leftover latex paint. These materials were selected on the basis of the evaluation of recyclable materials in Section 4.1 of this HHWE. It is recommended that small household batteries not be included at this time, due to the limited opportunity to recycle the majority of types currently in use.

The development of this program will entail selection of an appropriate site, specifying facilities, and securing vendors (recyclers). Site selection and planning should include consideration of sufficient traffic flow for both the public and the vendor's trucks. An operating schedule must be developed, personnel requirements determined, and a budget prepared. Funding would depend on a recommendation of the Department of Public Works and approval by the City Council.

The program can be implemented on a staggered basis, starting with used oil and adding additional target materials as vendors are secured or facilities developed. Administration will involve facility development, scheduling of operating hours, supervision of personnel, dealing with the vendors, ongoing monitoring and evaluation, and coordinating with the public education program. At an appropriate point of development, a "grand opening" should be promoted. A public education blitz, along with extended operating hours for a day, and perhaps some festivities, could be used to announce the program to the public.

Facilities at the collection site will include storage tanks with secondary containment for used motor oil and antifreeze. Storage sheds for the paint and batteries will provide security and secondary containment in case of a spill. Latex paint will be stored in a shed in both the small containers in which it arrives and in 55-gallon drums in which it is shipped to the recycler. The empty paint cans will be stored in a 5-cubic-yard bin to dry prior to being disposed of in the landfill or being commingled with other scrap steel for recycling. Solidified paint will be landfilled. Lead-acid batteries will be stored in a shed on wooden pallets covered with a plastic sheet with corrugated cardboard between layers of batteries. The storage area will be paved and located within a fenced area. It is likely that this facility will be located at the City's former corporation yard with a buy-back center for nonHHW recyclables.

The 384 participants from Woodland who participated in the four County-wide HHW collection events represent 2.6 percent of the households in Woodland. A local program with regular hours of collection of recyclable HHW should result in a 5 percent level of participation. The number of lead-acid batteries that could be anticipated to be collected is unclear. Retailers of new lead-acid batteries are required to offer trade-in value for spent batteries which should result in fewer being collected by HHW collection programs. Because the hours of drop off will be limited for material monitoring, collection levels will be somewhat less than for programs that are open for extended hours. A collection rate of 0.25

gallons of used oil per household, or more that 3,500 gallons per year, should be collected by the program. A limited permanent facility in Pacheco collects about half as much leftover latex paint as oil. On that basis, about 1,500 gallons of latex paint might be collected. Some programs have collected 10 percent as much used antifreeze as latex paint. Woodland's program would collect 150 gallons per year on that basis.

The anticipated end-uses of the recyclable material collected could conceivably end up in the local community. In California, the majority of collected used motor oil is re-refined into lubricating oil. The major ingredient of spent lead-acid batteries is lead and lead compounds. These are resmelted for the manufacture of new batteries. The plastic cases are recycled for secondary uses and the acid neutralized. Used antifreeze is redistilled for use as antifreeze. The latex paint would be reprocessed and returned to the community for local use.

Temporary HHW Collection Facility

The City of Woodland has been co-sponsoring periodic HHW collection events with Yolo County in recent years. Recent periodic collection events in Woodland have been held in the parking lot of County Fair Mall, and it is likely that one will be held there in April 1992 as well. While these types of events are included in draft PBR regulations for temporary household hazardous waste collection facilities (THHWCF), this selected alternative calls for the selection of a dedicated location and regular schedule for county-wide HHW collection events. All types of HHW would continue to be collected, and a licensed hazardous waste management firm would be retained to provide the necessary level of expertise and trained personnel (Appendix B). Collected HHW would not be stored at the site, but would be removed for recycling, destruction, or disposal at the end of each event along with load-check hazardous waste from the County's hazardous waste exclusion program.

The site for this temporary HHW collection facility would be at a proposed recycling storage facility at the Yolo County Central Landfill (YCCL). This is envisioned as a 60- by 70-foot enclosed steel structure with a concrete floor that could also be used as a temporary HHW collection facility. Unloading HHW from participants' cars, sorting, bulking, and lab packing would take place in designated, covered areas. Full drums would be segregated from other activities prior to loading into trucks. The YCCL is less that 10 miles from most areas of Woodland and would be about a 15-minute drive for most Woodland residents.

It is likely that seven HHW collection events per year will be scheduled. This would allow collection during consecutive months during spring and fall, when participation at HHW collection events is typically high. During the rest of the year there would be a maximum of two months between collection events. Permit-by-rule regulations permit a site to be utilized for up to two days collection once per calendar month.

Members of the public would drive to the facility at the YCCL, and after they filling out a short questionnaire, their wastes would be removed by trained personnel. Manifests would be

completed during consolidation and lab packing to identify the contents of the drums in case of an emergency during transport, and to create a "paper trail" to ensure the safe disposition of the wastes. Draft regulations drawn up by the DTSC limit the use of one site to two consecutive days of collection once per calendar month.

The vendor contracted to run the collection events will also manage hazardous wastes pulled from the waste stream and stored as a part of the County's hazardous waste exclusion program. This load-check waste will be consolidated, lab packed, and shipped by the hazardous waste management firm concurrently with the HHW collection events.

Collected materials will be disposed of in a number of ways. Oil-based paints and solvents often are shipped to alternative fuel blending programs for incineration. Aerosols are shipped out of state for incineration. Corrosives, pesticides and other poisons will either be incinerated or buried in Class I hazardous waste landfills. Used motor oil, spent lead-acid batteries, leftover latex paint, and used antifreeze that is collected will be shipped to a recycler.

Participation by Woodland residents can be expected to be similar to their level of participation during fiscal year 1990-91, when 384 of the City's 14,935 households participated (2.6 percent). Initially, when collection events are moved to the Yolo County Central Landfill the inconvenience of increased travel distance is anticipated to be offset by increased collection opportunities. As community awareness increases, participation is expected to continue to increase. Initially, quantities and types of HHW collected are expected to be similar to quantities and types collected during fiscal year 1990-91. Of the approximately 40 tons collected by the county-wide program, approximately 11 tons was dropped off by residents of Woodland. Approximately 20 percent was latex paint, 14 percent oil-based paint, 8 percent bulk solvents, 2 percent aerosols, 20 percent used motor oil, 13 percent lead-acid batteries, and 24 percent was other types of waste that was lab packed.

Because there will be seven county-wide HHW collection events per year implemented by this program instead of the four implemented during fiscal year 1990-91, the total amount of HHW collected is expected to be approximately 60 tons. During fiscal year 1990-91 there were four county-wide events and three Davis-only events and the total was 59 tons of HHW collected. The types of HHW are expected to be similar to similar to those described above.

Permanent HHW Collection Facility

The Yolo County Department of Public Works and Transportation, lead enforcement agency for operations at the YCCL, envisions construction of a material recovery facility (MRF) and permanent HHW collection facility at the landfill during the medium-term planning period. The permanent HHW collection facility would be used for storage of HHW discovered at the MRF as well as that collected from the public during scheduled collection hours. The County's Hazardous Waste Management Plan recommends the construction of a permanent HHW collection facility, and the County's General Plan acknowledges the appropriateness of

utilizing the landfill site for compatible uses such as these through issuance of a Conditional Use Permit. The permanent HHW facility would be open to all County residents.

Prior to construction of the MRF, hazardous waste storage sheds will be purchased by the County for the storage of HHW that is pulled from the waste stream as a part of the landfill's hazardous waste exclusion program. Consolidation of that waste for recycling and disposal will be coordinated with the drop off of HHW by County residents at the temporary facility described above. These load-check hazardous waste storage sheds may then be incorporated into the new permanent facility at the MRF, thereby minimizing duplication when switching from a temporary to a permanent HHW facility.

Storage facilities should have sufficient capacity to make transporting collected drums to disposal facilities an efficient proposition. Shipping full drums in a full truck is an example of this efficiency. This threshold of efficiency is likely to be a storage capacity in the neighborhood of 100 drums or more. The facility would need separate bays or sheds to segregate incompatible chemicals and would require secondary containment sumps. A fire prevention system and safety wash would also have to be a part of the facility, as well as an area for administrative details and testing unknown chemicals. Disposal methods would be the same as for the temporary HHW collection facility described above.

The breakdown of HHW collected by type is likely to be similar to the breakdown described above for the temporary facility. One difference may be an increase in the proportion of leftover latex paint and a decrease in leftover oil-based paint as changes in the marketplace move in that direction. The quantities of HHW to be collected will be dependent on the collection schedule that is adopted by the program operator. When the program is initiated it is likely that the operators will stick with the schedule of the temporary facility while operations are fine-tuned. In that case, quantities of HHW collected would be similar to those described above for the temporary facility. Levels of participation would be expected to increase with increased awareness created by the education program, and operating hours would likely need to increase to accommodate increased demand.

5.2 SELECTED MONITORING PROGRAM

The existing hazardous waste exclusion program that is in effect at the Yolo County Central Landfill will be continued, and storage facilities will be improved. Refuse collectors will be trained to recognize HHW so that it can be left behind at curbside before it becomes a part of the waste stream. HHW that is left behind will be tagged with the reasons why and with instructions for proper recycling or disposal. Records will be kept regarding HHW dropped off by Woodland residents at the City's collection of recyclable HHW and at the County temporary HHW collection facility. From these records the City will prepare an annual report on the overall effectiveness of the HHW management program.

The basis of record keeping for the Woodland HHW program will be form CIWMB-303. This will enable the collected HHW to be categorized in a manner consistent with other jurisdictions around the state. It will also keep track of the material collected in units (pounds and gallons) that are convertible to tons per year, the units of the Waste Generation Study. The County will keep track of the residency of participants in all county-wide programs and the results will be reported to the Cities. Using these records the City will evaluate the effectiveness of the program in meeting program goals. Deficiencies in meeting the intended goals will result in modifications of the public education or collection components of the HHW management plan.

SECTION 6

PROGRAM IMPLEMENTATION

Program development and administration will be the responsibility of the City's Department of Public Works. The program will be funded by an increase in garbage rates. Funding requirements for all selected programs are shown in Section 9, Funding, Table 9-1. If the program or any portion of the program is contracted to a vendor, that vendor will be under supervision of the Assistant to the Public Works Director, who has the responsibilities of implementing the HHW program.

Tables 6-1 through 6-4 show timelines for the implementation tasks necessary for selected programs through the medium-term planning period.

Table 6-1. Implementation Tasks for Temporary HHW Collection Facility

Tasks	Completion Date	Responsible Entity	Funding Source
Continue current program	Through 1992	County Dept of Public Works	Tipping fees/Cities' general fund
Design coordination of HW exclusion program and HHW collection program	5/92	County Dept of Public Works	County general fund
specify HW storage facilities	5/92	County Dept of Public Works	
specify site development at landfill	5/92	County Dept of Public Works	
Provide recommendation	5/92	County Dept of Public Works	Tipping fees
Approve funding	7/92	Board of Supervisors	
order HW storage facilities	7/92	County Dept of Public Works	
improve site at landfill	12/92	County Dept of Public Works	
Implement HHW collection at landfill	3/93	County DPW/Vendor	
Ongoing monitoring	3/93	County DPW/Vendor	

Table 6-2. Implementation Tasks for Drop-Off of Recyclable HHW

Tasks	Completion Date	Responsible Entity	Funding Source
Design program site, facilities, schedule, personnel	5/92	Franchised Waste Hauler	Rate Structure
Provide recommendation	6/92	City Dept. of Public Works	
Approve funding	7/92	City Council	
Coordinate publicity program	7/92	Franchised Waste Hauler	
Implement program	1/93, ongoing	Franchised Waste Hauler	
Ongoing monitoring	1/93, ongoing	Franchised Waste Hauler	

Table 6-3. Implementation Tasks for Monitoring and Evaluation

Tasks	Completion Date	Responsible Entity	Funding Source
Curbside monitoring for HHW			
collector training	6/92	Franchised Waste Hauler	Rate Structure
program implementation	6/92, ongoing	Franchised Waste Hauler	Rate Structure
Program monitoring			
Quantification of recyclables collected	1/93, ongoing	Franchised Waste Hauler	Rate Structure
City participation in County program	1/92, ongoing	County Dept. of Public Works	
Annual report	2/93, ongoing	City Dept. of Public Works	Rate Structure

Table 6-4. Implementation Tasks for Permanent HHW Collection Facility

Tasks	Completion Date	Responsible Entity	Funding Source
Study feasibility of expanded operations	3/94	County Dept of Public Works	Tipping fees
Provide recommendation	3/95	County Dept of Public Works	
Approve funding	6/95	Board of Supervisors	
Submit PBR ap. for permanent facility	7/95	County Dept of Public Works	
Fulfil CEQA requirements	7/96	County Dept of Public Works	
Hire staff	9/96	County Dept of Public Works	
Implement regular collection events	12/96, ongoing	County Dept of Public Works/ Permanent facility staff	
Ongoing monitoring	12/96, ongoing	County Dept of Public Works/ Permanent facility staff	

SECTION 7

MONITORING AND EVALUATION

Through monitoring and evaluation, the City of Woodland can determine the success of their HHW management program. Total HHW collected is determined by using form CIWMB-303 to find the quantity of HHW collected by the various collection programs. For this form to be of value, it must be accurately filled out by those conducting the collection programs. It is important that accurate estimates are made of the actual amount of HHW deposited in each drum. The actual amount of hazardous waste that is lab packed in a drum varies greatly, and accurate estimates of HHW collection cannot be determined by only knowing the number of drums shipped from a collection program. (Lab packing is the process of safely packing many smaller containers of hazardous waste into a larger container, usually a 55-gallon drum. All wastes in a drum must be of the same hazard class, and the smaller containers are separated and protected by sufficient vermiculite to absorb all of the liquid wastes in the drum).

To be consistent with the Waste Generation Study, records should include quantities of HHW collected in tons per year. This is achieved by adding the total number of pounds of HHW collected during the year and dividing by 2000. Pounds of liquids are determined by multiplying the number of gallons listed on form CIWMB-303 by the number of pounds per gallon of the particular liquid (for instance, used oil weighs about 7.5 pounds per gallon; latex paint weighs about 11 pounds per gallon). If the City is unable to meet the goals and objectives stated in Section 2 of the HHWE, it will act on one or more of the following:

* Increase the level of education and public information
* Increase the operating hours of the recyclables collection
* Conduct a waste characterization study to redefine the amount of HHW currently being disposed of in the landfill and to determine types of HHW to target for collection
* Implement an alternative collection program such as small commercial source participation

The Department of Public Works will monitor the City's HHW management program for the following criteria: effectiveness, safety, and public approval. These criteria will be documented in an annual report. Deficiencies in meeting program criteria would result in the implementation of one or more of the above modifications of the public education or collection programs.

The effectiveness criteria will document whether anticipated levels of participation are being met, and if not, examine methods to increase participation. Monthly totals of recyclable HHW

collected by the City's program will be included. Participation levels by residents of Woodland in the county-wide collection program and quantities and types of HHW collected by that program will also be included in the annual report. The safety of the programs will also be a criteria of evaluation that will be documented as well. The annual evaluation report will document that facilities and operating procedures meet all applicable regulations, standards of professional management, and common sense. Public comments will be solicited and included in annual monitoring and evaluation reports.

It is estimated that the preparation of the above annual evaluation report will require one week of staff time, or approximately $1,000 per year. Training costs to implement curbside monitoring of HHW are estimated to be approximately $2,000 per year. The funding source for this monitoring and evaluation will come from increases in the rate structure.

SECTION 8

EDUCATION AND PUBLIC INFORMATION

The Education and Public Information section of this HHWE will consist of the following subsections: Objectives, Existing Programs, New Programs and Their Implementation, and Monitoring and Evaluation.

8.1 OBJECTIVES

The City will develop an education and public information component for their HHW management program that will accomplish the following objectives:

* Create a general awareness among City residents of the problems that toxic household products pose among 60 percent of the City's residents within the short-term planning period and among 80 percent of the residents within the medium-term planning period.

* Reduce the amount of HHW generated (source reduction) by encouraging the use of less-toxic or non-toxic alternatives to toxic household products.

* Inform the public of the City's HHW management program and encourage public participation in the program.

* Create an awareness of the City's HHW collection program sufficient to achieve a participation rate equal to 5 percent of the City's households at the local drop-off for recyclables, and a participation rate of 2.5 percent of the City's households at the YCCL by the end of the short-term planning period.

The City of Woodland will develop a public education program designed to keep the public informed of the proper use and disposal of toxic household products. The program will highlight the dangers of improper disposal of HHW, such as pouring it down the drain, pouring it on the ground, or throwing it in the garbage. Such actions can result in disruption of wastewater systems, damage to environmentally sensitive groundwater, or injury to sanitation workers.

An alternative to disposal is for the consumer to use up the product according to directions on the label. The empty container can then be safely disposed of in the garbage. Likewise, paint cans containing only dried remnants can be safely disposed of in the garbage. Eliminating these containers from HHW collection programs helps to control the cost of the program, and should be a part of the educational campaign.

Source reduction, in terms of HHW, is the substitution of non-toxic products for toxic ones. The American public will be asked to change some of their long-established habits.

Publicizing HHW collection programs and encouraging the public to participate is a major objective of the public education program. In addition to the dates, locations, and times of the events, this information should include the types of wastes that will and will not be accepted and should mention the maximum quantities that can be transported according to state law. The need for safe handling and transportation to collection sites must also be emphasized.

8.2 EXISTING PROGRAMS

Residents of the City are kept informed of upcoming collection events through a multi-faceted education program. Notification of the annual periodic event is made by advertisements in the local paper and the distribution of bilingual flyers. Source reduction is addressed by distribution of "Household Hazardous Waste Wheels" or the "Household Hazardous Products" brochure from the Department of Toxic Substances Control (DTSC) at HHW drop-off events. Participants at the HHW collection events are requested to fill out a survey with questions on recycling and source reduction as well as HHW. The Yolo County Department of Public Works has begun publication of a quarterly newsletter, "Garbage Talk," that deals with solid waste issues including HHW.

8.3 PREFERRED ALTERNATIVES

The following nine public education alternatives will be considered for Woodland's HHW management program. Criteria applicable to all of the education alternatives will appear after the descriptions.

* Original Printed Material
* Use of Existing Source Reduction Material
* Use of Existing Video Productions
* Establishment of a School Curriculum
* Awards Program for Local Businesses
* Media Releases
* Direct Mail
* Utility Bill Inserts
* HHW Hotline

Education Alternative 1. Original Printed Material

Printed material comes in an infinite variety of forms and provides an indispensable element in any educational campaign. General information about HHW that is applicable to all jurisdictions is a valuable resource in a multi-faceted approach, because it helps to provide an

awareness of HHW; but, even more important is original material printed specifically about the program developed for the City of Woodland.

The key piece could either be a newsletter format or a brochure that works both as an effective mailer and as a poster. The newsletter would include other topics in addition to HHW and could be distributed quarterly. The Yolo County Department of Public Works is in the process of developing "Garbage Talk," a quarterly newsletter that meets this description. As a variation of this alternative, a brochure could be mailed to every household once a year, distributed to new arrivals, posted on various public bulletin boards, and distributed to school children to take home to discuss with their families. While the overall layout of the piece might remain consistent year-to-year, a new version should be printed each year in a different color to reflect changes in the program and to reinforce previous mailings.

Cost estimates of the materials include development and printing costs. The cost to the HHW management program would be about the same for a newsletter or brochure. Based on a brochure with development and printing costs of $0.40 each, 15,000 copies would cost $6,000. The advantage of the newsletter approach would that a schedule of events would not have to be prepared a year in advance.

Education Alternative 2. Use of Existing Source Reduction Material

A wide variety of professionally produced source reduction material is available for communities to incorporate into their public education campaigns (Appendix A). The "Household Hazardous Waste Wheel," a colorful and useful reference for alternatives to toxic products, costs governments between $1.15 and $1.50 each, depending on quantity. A comprehensive source reduction resource is a 40-page booklet entitled "Making the Switch" that is available to local governments for $1.00 when purchased in quantity. Currently, the CIWMB is offering free color source reduction flyers that are available in English and Spanish. Likewise, DHS has a colorful brochure that is available free of charge for municipalities to use as a part of a HHW management program.

The City of Woodland can take advantage of this opportunity to receive source reduction material free of charge from the State. If requested while the supply still lasts, the material can be utilized for distribution in the future. The cost of requesting these source reduction materials would be about $500 for administrative time and expenses. Postage for the CIWMB flyers would be covered by the utility bills, and the DHS brochures would be distributed at collection events.

Education Alternative 3. Distribution of Existing Video Productions

At one point early in the development of the HHW education and public information program HHW, videotapes could be purchased for presentation to schools and civic groups. Suitable tapes have been produced by Grass Valley Productions, the Cities of Hercules and Pinole in

Contra Costa County, and The League of Women Voters. Costs range from $20 to $60 per tape. Five-hundred dollars is budgeted for videotape procurement.

Education Alternative 4. Establishment of a School Curriculum

The Woodland Unified School District will select and implement educational programs for all elementary grades. Particular emphasis will be given to grades 4 through 6. Children of this age are able to understand abstract concepts and are beginning to play an increasingly important role as a member of their family. Useful material has been prepared on this subject by agencies such as DHS and nonprofit organizations, but material specific to the City's program should be prepared and utilized as well. Development of school curriculum for HHW is conceptualized as being integrated with development of a curriculum for source reduction and recycling and is budgeted in the City's SRRE.

Education Alternative 5 . Awards Program for Local Businesses

Several of these public education alternatives could have their costs offset by encouraging local businesses to provide sponsorship. Examples include media advertising, printing of materials, or providing expertise. This participation would be recognized by the presentation of awards to those firms providing exemplary levels of support. Such an awards program would be a newsworthy story for the local media. This alternative would not be implemented if income from business sources was not sufficient to cover the alternative's costs.

Education Alternative 6. Media Releases

In addition to the paid advertising space in the local newspaper, the program coordinator will produce and transmit appropriate press releases to all media throughout the County regarding various aspects of the HHW program. Expenses for this alternative are budgeted at $500 for the preparation of a media packet and miscellaneous expenses.

Education Alternative 7. Direct Mail

Direct mail has a unique ability to target every household in the community with an eye-catching brochure in a timely fashion. For budgetary purposes two mailings each year are proposed. The cost of bulk rate mail for a governmental agency depends on the size and weight of the piece mailed. An average cost of $0.20 per piece is a likely average. The budget is $3,000 per year based on the mailing of one piece to each household. This represents either the mailing of one brochure per year dedicated to HHW, or one quarter of the cost of a quarterly newsletter dedicated to solid waste issues.

Education Alternative 8. Utility Bill Inserts

Utility bill inserts offer the County an inexpensive means to distribute printed material. Notices of the changing location of the drop-off sites could be announced in each monthly bill. A successful promotional campaign relies on a multi-faceted approach with one approach reinforcing another. The annual cost of this alternative has been estimated at $500, in addition to the cost of the printed material enclosed. Postage would be paid for by the utility sending the bill.

Education Alternative 9. HHW Hotline

Provide a telephone number dedicated to the public's questions about HHW or other solid waste issues. The person answering the phone should be familiar with the HHW program and know who to contact if unable to answer a question. No new personnel is required. This program is seen as being implemented by the County with no cost to the City.

8.3.1 Evaluation of Public Education Alternatives

The following criteria address the public education alternatives described above:

Effectiveness
In general, the effectiveness of public education campaigns is proportional to the amount of money spent on them.

Hazards
There are no hazards associated with public education alternatives.

Ability to Accommodate Change
Public education campaigns can easily be changed to accommodate changing conditions.

Consequences on Waste Stream Composition
An effective campaign will result in reduced HHW entering the waste stream.

Ability to be Implemented
These alternatives can be implemented in the short-term planning period and should be an ongoing part of any HHW management program.

Need for Facilities
No facilities are needed to implement these alternatives.

Consistency with Local Policies, Plans, and Ordinances
No conflicts with local policies are noted at this time.

Institutional Barriers to Implementation
No institutional barriers to implementation are noted at this time.

Costs
An effective educational campaign for the City is estimated to cost $11,000 per year. This is based on implementation of each of the alternatives listed above.

Market Availability
Market availability does not apply to these alternatives.

8.4 PROGRAM IMPLEMENTATION

The City of Woodland will adopt a public education program that encompasses elements of all the public education alternatives discussed in Section 8.3 of this HHWE. Program administrators in the City's Department of Public Works will play a key role in determining the final shape of the City's education program. The overall approach is to create an awareness on the part of the public of the problems that toxic household products pose, which will help stimulate demand for the City's collection programs.

The public education program will include development of a school curriculum, direct mail, utility bill inserts, direct distribution of bilingual source reduction material, awards programs, and a telephone hotline to answer questions on HHW and other source reduction and recycling matters. An important component of the program would involve the public schools. Presentations by solid waste and environmental health officials should lead to classroom discussions relating to the developing curriculum. The direct mail campaign should utilize original material that applies specifically to the program developed for the City of Woodland.

Targeted audiences include grade-school children and do-it-yourselfers, both home repair and automotive maintenance. Grade school students are targeted because of their interaction with their families. Homeowner and automotive do-it-yourselfers are targeted because the types of HHW associated with these activities contribute a large part of the HHW stream. They will be targeted by offering information on the City's HHW program at home improvement and auto parts stores that cater to these community audiences.

The annual costs of implementing the preferred education alternatives described above has been identified as approximately $11,000. The source of funds will come from an increase in the rate structure for refuse collection. Secondary sources of funding may include private contributions described in Education Alternative 5 and grant monies distributed for HHW expense reimbursement or used oil collection. The quantity of funds to be generated by these funding alternatives is not possible to determine at this time. Therefore, they are not considered a known funding source for the purpose of this planning element.

Table 8-1 shows the tasks and the timeline necessary for the implementation of the City's education and public information program.

Table 8-1. Implementation Table for Public Education Program

Tasks	Completion Date	Responsible Entity	Funding Source
Establish HHW hotline	6/92	County Dept. of Public Works	
Procure source reduction material	6/92	City Dept. of Public Works	Rate Structure
Procure videotapes	6/92	City Dept. of Public Works	
Prepare school curriculum	9/92, ongoing	School District	
Implement curriculum	9/92, ongoing	School District	
Distribute media releases	12/92, ongoing	City Dept. of Public Works	
Prepare original printed material	1/93	City Dept. of Public Works	
Mail original printed material	1/93	City Dept. of Public Works	
Insert CIWMB brochures in bills	3/93	City Dept. of Public Works	
Awards for business contributions to HHW program	9/93	City Dept. of Public Works	

8.5 MONITORING AND EVALUATION

Success in meeting program goals is dependent on a high level of public awareness. The success of the public education component of the HHW in creating that awareness should also be monitored. The monitoring criteria for the education program will be the program's effectiveness in meeting the objectives stated in Section 8.1. A random telephone survey of City residents will be conducted annually to determine the level of public awareness of the City's source reduction, recycling, and HHW management programs. Deficiencies will be addressed by program administrators in the City's Department of Public Works who will modify the public education program to address the particular inadequacy. This education monitoring program is integrated with the source reduction and recycling program and its funding requirements and revenue sources are addressed in the SRRE.

SECTION 9

FUNDING

In addition to funding sources identified for the implementation of the City's HHW management program, the City of Woodland feel that this HHWE is an appropriate forum to recommend funding alternatives implemented at the State level. An advance disposal fee could be charged at the point-of-purchase for items that cannot be disposed of in the municipal waste stream. This would create a funding pool which would be distributed to local jurisdictions to finance HHW management programs.

9.1 Funding Sources

Historical funding for the City's share of periodic drop-off events in Woodland that were co-sponsored by the County came from the City's general fund with a financial contribution from Woodland Disposal, the City's franchised waste hauler. Future HHW management programs will be funded by a portion of the $0.70 per month per household residential refuse collection rate increase that went into effect on October 1, 1991. An increase in commercial rates that was implemented at the same time will also contribute to HHW collection and education programs. While it appears that these increases will be sufficient to fund the City-sponsored HHW management program recommended in this element through the short-term planning period, if additional revenues are necessary they will be generated through another rate increase.

The $0.70 residential rate increase is expected to generate at least $1,275 per month for HHW collection programs and $1,900 per month for HHWE/SRRE education programs. The commercial rate increase is expected to generate at least an additional $225 per month for HHW collection programs and an additional $3,100 per month for HHWE/SRRE education programs. This amounts to a total in excess of $18,000 per year for HHWE collection and monitoring programs and $60,000 for HHWE/SRRE education programs. Assuming that the HHWE commands 20 percent of the total education budget, sufficient funding for the program described in this element is demonstrated.

Secondary funding will include reimbursement in part through grants awarded by the CIWMB. The revenue generated by grants is not possible to determine at this time; therefore, they are not considered a known funding source for the purpose of this planning element.

The County's temporary and permanent collection programs at the Yolo County Central Landfill and the hazardous waste exclusion program at the landfill will be funded by tipping fees. HHW management programs that are funded by tipping fees are shown in Table 9-2. Secondary funding will include reimbursement in part through grants awarded by the CIWMB.

9.2 Cost Estimates for Selected Programs

Table 9-1 shows the estimated costs for the City's HHW program for each fiscal year of the short-term planning period. Table 9-2 shows the estimated costs for the County's HHW program for each fiscal year of the short-term planning period.

Table 9-1. City of Woodland HHW Program Cost Estimates, Short-Term Planning Period, 1991-1995 [1]

Program	Fiscal Year 1991-92	Fiscal Year 1992-93	Fiscal Year 1993-94	Fiscal Year 1994-95
City's share of 1992 HHW collection	$8,000			
Drop-off program for recyclable HHW		$14,000 [2]	$14,000 [3]	$14,400 [3]
Monitoring		$3,000	$3,100	$3,200
Total collection/monitoring programs	$8,000	$17,000	$17,100	$17,600
Revenue available for above	$18,000	$18,000	$18,000	$18,000
Education and public information		$11,000	$11,300	$11,700
Revenue available for above (approx.)	$12,000	$12,000	$12,000	$12,000

1 Including 3% annual inflation rounded to nearest $100

2 Capital costs only

3 Operations and recycling costs

Table 9-2. Yolo County HHW Program Cost Estimates, Short-Term Planning Period [1]

Program	Fiscal Year 1991-92	Fiscal Year 1992-93	Fiscal Year 1993-94	Fiscal Year 1994-95
Periodic collection days	$112,000			
Expanded collection of recyclable HHW		$17,500	$18,000	$18,600
Temporary HHW collection facility		$184,000	$189,500	$195,200
Education and public information	$5,000	$7,000	$10,000	$15,000
Monitoring	$16,000	$16,500	$17,000	$17,500
Total	$133,000	$225,000	$234,500	$246,300
Tons of refuse disposed at YCCL [2]	213,368	212,916	216,824	276,878
Cost per ton of garbage disposed	$0.62	$1.06	$1.08	$0.89
Needed increase in tipping fee [3]	$0.00	$0.44	$0.46	$0.27

1 Including 3% annual inflation rounded to nearest $100

2 Yolo County DPW (accounting for AB 939 diversion; population and industrial growth)

3 Increase over FY 91-92 levels

SECTION 10

RESPONSE TO COMMENTS

In accordance with Section 18780 of the Guidelines, the City of Woodland has responded to comments received, completed the necessary revisions, and prepared a final draft of the City of Woodland HHWE. To facilitate the reader's ability to understand the revisions that have been incorporated into the documents, the City has prepared this Section.

Regarding the City of Woodland HHWE, formal comments were received from the California Integrated Waste Management Board (CIWMB). All comments received have been reviewed and appropriate response provided. Where necessary, text revisions to the document have been made. Informational comments are noted and areas of divergent opinion receive a valid explanation.

It must be realized that political processes remain dynamic while documents such as an HHWE must choose a point in time and become static. The intent of these documents is to provide the City of Woodland, Yolo County, and the CIWMB a baseline from which programs may be implemented, success evaluated, and programs modified as required. There may be issues that cannot be resolved because the data is not currently available and will not be available until the programs commence operation. As information is developed, it will enter the decision-making process and provide opportunities for the documents to be used pro-actively throughout the life of the project.

10.1 STATE'S GENERAL COMMENTS

CIWMB

The Household Hazardous Waste Element was reviewed using the proposed regulations. These regulations which have gone through the required public review were approved at the Board meeting October 30, 1991. Soon they will be submitted to the Office of Administrative Law for approval. A copy is attached in case you did no receive them previously.

In the Selection of Program the discussion should include why the alternative was chosen based on the waste generation study and the evaluation process.

The funding section needs revision. More detail is needed on revenues sources and the amounts of funds expected from each source.

There are separate sections in the HHWE for Education and Public Information and Funding. Please note the evaluation for education and public information alternative has been removed

from CCR section 18751.3, evaluation of alternatives, and replaced by CCR section 18751.7 (c), preferred alternatives, in the Education and Public Information Section.

Please note in the attachment those comments on the HHWE which include to CCR concern regulatory requirements and should be fully addressed in the revised Element. Other comments are staff suggestions based on technical review and are provided for the City's consideration. The exception would be a request for missing information or a definition of a term; this type of comment should also be fully addressed.

10.2 STATE'S SPECIFIC COMMENTS

Statement of Goals and Objectives

CIWMB

Please quantify the objectives (CCR section 18751.1) so they can be monitored for achievement (CCR section 18751.6).

CITY

The objectives have been quantified by specifying an expected level of participation by the City's households.

Existing Conditions

CIWMB

Please identify the types and quantities of HHW currently reduced, reused, collected recycled or disposed (CCR section 18751.2(a)). The existing conditions section provides the total quantity of material dropped off by residents at events, but does not break this amount down into quantities by waste types. Please provide this information in the final draft HHWE.

CITY

A paragraph has been added showing a breakdown by waste type of HHW collected by the county-wide HHW collection program.

Program Selection

CIWMB

Please identify why each alternative was selected based on the waste generation study and the evaluation process (CCR section 188751.4(b)(1)).

CITY

The waste generation study regulations do not require the categorization of HHW by differing types. Therefore, the waste generation study is not sufficiently detailed to target specific waste types for collection, or to show an advantage of one alternative over the other when targeting residentially generated HHW.

The evaluation process utilizing mandated criteria is a valuable decision-making tool for calling a myriad of factors to the attention of the decision makers. But trying to attach a quantitative value to each criteria and adding up the total for each alternative as the basis for a decision would fail to give proper weight to external considerations and would be overly restrictive to the decision-making process. Reasons why the selected alternatives were selected were stated in the preliminary draft.

CIWMB

Please identify the anticipated types and quantities of wastes to be recycled, reused, collected or disposed through the selected programs (CCR section 18751.4(b)(1)(A)).

CITY

Anticipated types and quantities of HHW collected by each of the selected collection alternatives has been added to Section 5.

CIWMB

As required by CCR section 18751.4 (b)(3), please describe the cooperative efforts between jurisdictions. The permanent facility, which will be developed by the County, will allow all the jurisdictions in the County to participate. The multi-jurisdictional efforts should be described, including the role of each jurisdiction in the activity, how cost are shared, etc. Please provide this discussion in the final draft HHWE.

CITY

Multi-jurisdictional cooperation has been expanded upon in the discussion of Temporary HHW Collection Facility, and Permanent HHW Drop-Off Facility in Section 5.

Implementation

CIWMB

Please include all tasks needed for implementation in Table 6-3 on page 40 (CCR section 18751.5(a)(3)). Tasks for the awards program are missing. Also, does the mailing of brochures task include the direct mail and utility mailing alternatives? Please address these tasks in the final draft HHWE.

CITY

What was Table 6-3 in the preliminary draft is now Table 8-1. The following additional tasks have been added: Direct mailing of original printed material; Inserting of CIWMB brochures in utility bills; Awards for business contributions to HHW program.

Monitoring and Evaluation

CIWMB

Please provide the written criteria for evaluating the program effectiveness, as required by section 18751.6(c)(1). Also, please provide the known funding requirements and revenue sources for the monitoring program (CCR section 18751.6(c)(3)).

CITY

The description of criteria for evaluation has been incorporated into new text describing the annual evaluation report. A description of funding requirements and revenue sources has been added as well.

Education and Public Information

CIWMB

Please quantify the objectives to meet the requirements of CCR section 18751.7(a).

CITY

Quantifiable objectives have been added that call for a specific level of awareness by the public and a sufficient level of awareness to achieve a minimum level of participation in collection events by the end of the short-term planning period.

CIWMB

Page 43 - The City should investigate bilingual aspects to their public education and information program.

CITY

Reference to the use of bilingual flyers had been inadvertently omitted in Existing Conditions Sections 3 and 8.2 of the preliminary draft. This has been corrected in the final draft. Discussion of the availability of source reduction brochures in English and Spanish from the CIWMB has been added to education alternative 2 in Section 8.3 of the final draft, and again in Section 8.4, program implementation.

Identification of Preferred Alternatives

CIWMB

CCR section 18751.7(c) requires a discussion of preferred alternatives. Please move the discussion found in Section 4.3 to this part of the HHWE to meet this requirement.

CITY

Section 4.3 has been moved to Section 8.3, Preferred Alternatives, in the final draft.

Implementation

CIWMB

Please identify the following, as required by CCR section 18751.7(d):

Community audiences targeted in the public information and education program.

The tasks required to implement the program (see comment above in implementation concerning Table 6-3). Table 6-3 should be moved to this section of the HHWE.

Public and private implementation costs and revenue sources necessary to implement the program.

CITY

Targeted audiences have been identified in the text, tasks added to the education implementation table, and the table moved to Section 8 as Table 8-1. Implementation costs for the preferred alternatives and revenue sources have been identified in the final draft.

Monitoring

CIWMB

On page 44, 8.4 Monitoring and Evaluation, the draft states a survey of County residents will be taken. Should this be City residents? Please clarify this issue in the final draft HHWE.

CITY

This issue has been clarified in the final draft. It should (and now does) read City residents. Section 8.4 has been renumbered as Section 8.5.

CIWMB

Please provide the following requirements, as per CCR section 18751.7(e):

Establish the written criteria for evaluating the program effectiveness.

Identify the responsible agency for program monitoring and evaluation.

Identify monitoring and evaluation requirements and revenue sources.

Identify the actions to be taken if there is a shortfall in attaining the objectives.

CITY

These requirements have been addressed in the rewritten Section 8.5.

Funding

CIWMB

The funding section must identify all program costs and revenues sources for planning, development, and implementation. A summary of the estimated costs and revenues for program planning and implementation for the short-term planning period should be provided. Table 9-1 provides the cost estimates for the short term planning period.

Adequate revenue sources have not been shown. The City must show what revenue sources will be used to fund component programs and the projected amounts expected from each of these sources. This information must be included in the funding component so a comparison of costs versus revenues can be made. Specifically, the following needs to be addressed:

> The General Fund money used to cover program costs must be discussed and the dollar amounts provided. Revenue projection figures must also be shown so a comparison of costs versus revenues can be made. Describe in the final draft HHWE the process and/or limitations, if any, on using the General Fund and what amount can be obtained from this source.
>
> Please include in the discussion of increasing the tipping fees expected dollar amounts for each year from increased and the ability of the City to increase these fees.

CITY

The City's general fund and contributions from its franchised waste hauler will no longer be used to fund HHW management activities. A rate increase has been implemented of which a portion will be used to fund a HHW management program. The County's portion of the county-wide HHW program is and will continue to be funded by tipping fees. These arrangements, the costs and revenues amounts are discussed in a rewritten Section 9.

CIWMB

A discussion is also necessary regarding the City's contingency funding, including projected amount which may be obtained from these various funding sources (CCR section 18751.8(b)(2)).

CITY

Revenue has been appropriated to fund the programs outlined in this element. Therefore, the need for contingency funding is a moot point.

CIWMB

Table 9-1 should compare all costs of the component to projected revenues from all sources so it is clearly demonstrated there are sufficient funds for implementing the programs. This table should include the projected revenue amounts from the General Fund and tipping fees which will demonstrate sufficient finds to support element programs. These projection should be included in Table 9-1 (CCR section 18751.8(c)).

CITY

Table 9-1 has been redone demonstrating sufficient funds to cover program costs.

APPENDIX A

Private service stations, auto repair shops, and auto dismantlers in the City of Woodland that collect recyclable HHW from the public are listed below.

K-Express Lube 120 West Lincoln 666-5823	Used motor oil
Roblin Union 76 1556 East Main 666-3741	Used motor oil
U Pull It Road 102 662-5798	Spent lead-acid batteries

APPENDIX B

A partial list of businesses and agencies who can be of help in developing a HHW management program follows:

Source Reduction Materials

"Household Hazardous Waste Wheel"
Environmental Hazards Management Institute
P.O. Box 932
Durham, NH 03824
603-868-1547

"Making the Switch - Alternatives to Using Toxic Chemicals in the Home"
Golden Empire Health Planning Center, contact:
The Local Government Commission
909 12th Street, Room 205
Sacramento, CA 95814
916-448-1198

"Hazardous Household Products"
California Department of Toxic Substances Control
Education and Information Unit
916-322-0476

"The Hazards of Household Wastes"
California Integrated Waste Management Board
1020 Ninth Street, Suite 300
Sacramento, CA 95814
916-322-8748

Household Hazardous Waste Management Firms

American Environmental Management
11855 White Rock Road
Rancho Cordova, CA 95742
916-985-6666

Chemical Waste Management, Inc.
4227 Technology Drive
Fremont, CA 94538
510-651-2964

AETC
19410 Cabot Boulevard
Hayward, CA 94545
510-782-7000

All Chemical Disposal Company
945 Berryessa Road, Suite C-4
San Jose, CA 95133
408-453-1660

Disposal Control Service, Inc.
884 Freeport
Sparks, NV 89431
702-331-9400

U.S. Pollution Control
731-M North Market Boulevard
Sacramento, CA 95834
916-921-2202

Laidlaw Environmental Services
4501 Pacheco Boulevard
Martinez, CA 94533
510-372-4800

Household HazWaste
1609-A Regatta Lane
San Jose, CA 95112
408-441-0241

Greenfield Environmental
5964 LaPlace Court
Carlsbad, CA 92008
619-431-5500

Recycling Research and Development
23785 Cabot Lane #323
Hayward, CA 94545
510-785-0985

Rollins Environmental Services
3777 Spinnaker Court
Fremont, CA 94538
510-226-1680

Burlington Environmental Services, Inc.
Chempro Division
95-B Gilman Street
Berkeley, CA 94710
510-524-9372

MSE Environmental, Inc.
1250-H Avenida Acaso
Camarillo, CA 93012
805-987-0217

North State Environmental
P.O. Box 5624
South San Francisco, CA 94083-5624

Latex Paint Recyclers

Mason Paint Company
Sacramento, California
Contact: John Mason or Ray Julian
916-922-9311

Major Paint Company
P.O. Box 2868
Torrance, CA 90509
213-542-7701

Household HazWaste
1609-A Regatta Lane
San Jose, CA 95112
408-441-0241

APPENDIX C

A copy of form CIWMB-303 follows.

HOUSEHOLD HAZARDOUS WASTE COLLECTION INFORMATION

CIWMB-303 (1/90)

Name of Local Agency: Phone:

Address: City: County: State: Zip:

(Please Use Applicable Units of Measurement)

Waste Category	Gallons	Pounds	Number of Containers	Number of Drums (55 gal)	Management Method
A. Flammable					
1. Used Oil					
2. Paints					
a. Latex					
b. Oil Base					
3. Solvents, thinners, and stains					
4. Gasoline and oil (mixed)					
5. Aerosols (excluding pesticides/ herbicides)					
6. Other					
FLAMMABLE SUBTOTAL					

Management Methods

Re	Re-used	Tr	Transfer Station	T-3	Stabilization
Rc	Recycled	T-1	Incinerator	D	Land Disposal
Bf	Blended Fuel	T-2	Aqueous Treatment	Other	

Waste Category	Gallons	Pounds	Number of Containers	Number of Drums (55 gal)	Management Method
B. Pesticides					
Such as herbicides, insecticides, fungicides, etc.	———	———	———	———	———
PESTICIDE SUBTOTAL	———	———	———	———	———
C. Corrosives					
1. Acids a. Oxidizing	———	———	———	———	———
b. Non-Oxidizing	———	———	———	———	———
2. Alkaline	———	———	———	———	———
CORROSIVES SUBTOTAL	———	———	———	———	———
D. Oxidizers					
Excluding acids	———	———	———	———	———
OXIDIZERS SUBTOTAL	———	———	———	———	———
E. Miscellaneous					
1. Car Batteries	———	———	———	———	———
2. Dry Cells	———	———	———	———	———
3. Mercury	———	———	———	———	———
4. Other	———	———	———	———	———
MISC. SUBTOTAL	———	———	———	———	———
TOTAL WASTE COLLECTED	———	———	———	———	———