

UNINCORPORATED YOLO COUNTY
HOUSEHOLD HAZARDOUS WASTE ELEMENT
FINAL DRAFT
FEBRUARY 1993

**YOLO COUNTY DEPARTMENT OF PUBLIC WORKS
AND TRANSPORTATION**
292 West Beamer Street
Woodland, CA 95695



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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 (Title 14, 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 into the sanitary sewer system or storm water system, 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 are prohibited from accepting any form of hazardous waste, including HHW. 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.

The California State legislature has been actively addressing solid waste and HHW issues. Assembly Bill 939 (AB 939, the Integrated Waste Management Act of 1989), 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). AB 2641 allowed "small quantity commercial source" participation in HHW collection programs, and AB 2597 has encouraged the collection of recyclable HHW. These latter three bills all took effect January 1, 1991.

The focus of AB 2707 and the format of this HHWE deals with the solution of the HHW problem from a local and regional perspective. Yolo County 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 would reduce potential liability.

The possibility exists that the County 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 County 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 standardized fashion. The California Integrated Waste Management Board (CIWMB) has chosen the following categories for record keeping purposes in its Household Hazardous Waste Collection Information form (form CIWMB-303, Appendix A):

CIWMB - Cal Recycle
closure of UC
Landfill.

Added, Ewaste
Batteries
1. Sharps, Fluorescent
2. Pharms
3. Paint Recy.
4. Leg. → Prod. Resp.
Mercury
Batteries

- * **Flammable** - Flammable w aerosols, paints, solvent-ba
- * **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 California 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. A 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.

1.1 AB 2707 OVERVIEW

On October 28, 1991 the California Integrated Waste Management Board (CIWMB) approved regulations for Title 14, Chapter 9, Articles 6.3 and 7 of the California Code of Regulations, pertaining to the preparation of HHWE's. This Household Hazardous Waste Element is being prepared under those regulations as required by AB 2707.

The County should be aware of the following statutory requirements and criteria of AB 2707 (Items 2 through 4 are found in Section 41802 of the Public Resources Code):

1. The County shall hold at least one public hearing before approving its household hazardous waste element (Section 41793, PRC).
2. The CIWMB (the Board) must approve or disapprove the County's HHWE within 120 days of receiving it.
3. The Board shall not disapprove the HHWE if the County preparing the element demonstrates that the following requirements will be complied with:

- a. The County will use feasible methods to properly reduce, collect, recycle, treat, and dispose of HHW generated within its jurisdiction.
 - b. The County will devote reasonable expenditures to safe reduction, collection, recycling, treatment, and disposal of HHW.
 - c. The County 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 County.
4. The Board will approve or disapprove the County's HHWE based on (1) the geographic size and population of the County and (2) the quantity of HHW generated within the County. A County may be exempt from the requirements set out above if the County can convince the Board that compliance is not feasible due to the small size of the County and the small quantity of waste generated within the County.
 5. A County may enter into a memorandum of understanding with another city, county, regional planning agency, agency formed under a joint exercise of powers agreement, or district established to manage solid waste for the purpose of preparing and implementing its HHWE (Section 41823, PRC).
 6. Not less frequently than every two years, the Board shall review the County's HHWE, and if the Board finds that the County has failed to implement the HHWE, the Board shall issue an Order of Compliance with a specific schedule for compliance (Section 41825, PRC).

1.1.1 Approval Process

The process by which the HHWE is approved by the local jurisdiction ensures opportunity for public comment. The first step is publication and circulation for comment of a preliminary draft element. Approval of the preliminary draft must be at a public hearing that is advertised in the local paper at least 30 days in advance of the hearing. The comment period on the preliminary draft HHWE is 45 days. Comments may be received in writing or orally at the public hearing. During this comment period, the CIWMB and the County's Local Task Force (LTF) reviews and comments on the document.

Following the comment period on the preliminary draft element, a final draft element is prepared that addresses all comments received. This is sent to the LTF for 15 days for review and comment. A second public hearing must be advertised at least 30 days in advance of the date at which time the local jurisdiction may approve the final draft element with changes per

comments received. After the second public hearing, a final HHWE is prepared and adapted at a third public hearing held by the local jurisdiction.

After the Cities of Davis, West Sacramento, Winters, and Woodland have approved and submitted their HHWE's and SRRE's to the County, the County Board of Supervisors must hold a public hearing to approve the Integrated Waste Management Plan for the County. This document incorporates all the local jurisdictions' elements with the County's plan for the unincorporated area. When approved, it must be submitted to the CIWMB for approval. The CIWMB has 120 days from date of receipt to approve or disapprove the plans. A notice of disapproval will include specific recommendation for correction. Based on the available capacity of the Yolo County Central Landfill (YCCL), the Yolo County Integrated Waste Management Plan is due January 1994. This approval process is detailed in the California Code of Regulations, Title 14, Chapter 9, Sections 18762 through 18769.

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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 Unincorporated Area of Yolo County 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.
- * Conform to the following hierarchy for managing HHW in the County: reduction; reuse; recycling; incineration; and land disposal. Incineration will be chosen over land disposal when environmentally preferable and financially feasible.
- * 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 County'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:

- * Provide increased opportunities for participation by residents of the Unincorporated Area in the County's periodic HHW collections
- * Increase options for the collection of recyclable HHW

- * 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 County 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

SECTION 3

EXISTING CONDITIONS

Residents of the Unincorporated Area of Yolo County have had the option of participating in periodic HHW collection events that have been held in Yolo County on a regular basis since 1985. During the fiscal year 1990-91, four collection events co-sponsored by the Yolo County Department of Public Works and Transportation were open to all County residents. Two of these collection events took place in the City of Davis, one in West Sacramento, and another in the City of Woodland. County residents also have an ongoing option to drop off used motor oil and spent lead-acid batteries at the Yolo County Central Landfill (YCCL), about two miles outside of Davis (Figure 3-1).

The private sector also offers opportunities for the recycling of HHW in Yolo County. A total of eight service stations, auto repair shops, and auto dismantlers accept recyclable HHW from County do-it-yourselfers (Appendix B). The used motor oil, used antifreeze, and spent lead-acid batteries that are collected by both the private businesses and by the County are recycled. Latex paint collected by the County HHW collection events is also recycled. Some usable materials that are collected are reused through a materials swap table. Participants in the materials exchange are required to sign a Release and Indemnity Agreement (Appendix C). 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 Class I landfills.

Residents of the Unincorporated Area of the County are kept informed of upcoming HHW collection events through a public information program implemented by the County Department of Public Works (DPW). This public information program consists of paid newspaper advertisements, press releases, publication and distribution of bilingual flyers, distribution of source reduction materials at collection events, the publication of a solid waste newsletter, and guest columns by County staff in local newspapers.

Paid advertisements are purchased in the Davis Enterprise, the Woodland Daily Democrat, the West Sacramento Press, the Winters Express, and the Yolo Edition of the Sacramento Bee. The advertisements appear the week before the event and are usually in the Sunday and Wednesday editions of the daily papers. Occasional news articles are particularly helpful in promoting HHW awareness among County residents.

Bilingual flyers are published and distributed prior to collection events. The flyers include the dates, times, and locations of the events, as well as highlighting acceptable and nonacceptable wastes, maximum transportable quantities, and program promotions such as a free landfill coupon for each participant. The flyers are distributed to students in the County schools, at the landfill and transfer station, are available in fire stations and government offices, and sometimes distributed by grocery stores, the League of Women Voters, and waste haulers (Appendix D).

Source reduction is addressed by free distribution of "Household Hazardous Waste Wheels" or "Household Hazardous Products" brochures from the DTSC at County HHW collection events. A HHW brochure prepared by the Woodland League of Women Voters and County agencies is distributed in business and government offices (Appendix E). The Yolo County Department of Public Works has also instituted the publication of "Garbage Talk," a quarterly newsletter started in January 1991 that addresses HHW, recycling, and other solid waste issues (Appendix F). Participants at the HHW collection events are requested to fill out a survey that is helpful in evaluating the HHW management program (Appendix G).

According to the California Department of Finance, there are approximately 6,641 occupied households in the Unincorporated Area of Yolo County. Based on the Waste Generation Study, potentially 22 tons of HHW are disposed of annually in the Yolo County Central Landfill from residential sources in the Unincorporated Area. The annual disposal rate for the residential, commercial and industrial sectors combined is potentially 61 tons. The latter figure represents 0.4 percent of Unincorporated Area's waste stream.

County-wide totals of HHW collected in Yolo County by programs available to residents of the Unincorporated Area during fiscal year 1990-91 show approximately 40 tons of HHW collected by the periodic collection events and 62.6 tons of recyclable HHW dropped off at the recycling center at the Yolo County Central Landfill (34.4 tons of used oil and 28.2 tons of spent lead-acid batteries). The HHW collected by the county-wide periodic collection events consisted of the following types: approximately 20 percent 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 other types of waste for lab pack (Figure 3-2). Because many of the private-sector shops that accept recyclable HHW from do-it-yourselfers do not separate the HHW from their commercially generated hazardous wastes, an accurate estimate of quantities collected is not possible. Additional HHW is collected in Yolo County by programs sponsored by the City of Davis that are open to Davis residents only.

Participants surveyed at the last two HHW collection events during fiscal year 1990-91 in Davis and Woodland were asked if they would utilize a permanent HHW facility if it were located at the YCCL. More than 80 percent expressed a willingness to travel to the YCCL if a permanent HHW facility were located there. Thirty-six percent stated that they had previously attended a HHW collection event. Based on the Zip Codes on the returned surveys, less than 2 percent of the participants were identified as residents of the Unincorporated Area of the County (Figure 3-3). Since about 12 percent of all County residents live in the Unincorporated Area, efforts will be made to increase their participation in County programs.

There are several ways that HHW can be illegally disposed of, including disposal in the waste stream, pouring down storm drains and sewers, and pouring on the ground or in streambeds. The only quantifiable estimate is the amount disposed of in the waste stream or 61 tons per year by residents of the Unincorporated Area according to the Waste Generation Study.

A hazardous waste exclusion program (load-checking) is in effect at the Yolo County Central Landfill (YCCL) and the Esparto Convenience Center transfer station where refuse from the Unincorporated Area is disposed (Appendix H). Bilingual signs are posted at the entrances indicating acceptable and nonacceptable wastes. Random load inspection has been in effect since mid-1990, and at least five loads per week are tipped windrow fashion for thorough inspection near the working face. Two Solid Waste Technicians, trained in Hazardous Materials Management at UC Davis, spend 30 percent of their time in the field doing load-checks. Load-checks occur at both the YCCL and the Esparto Transfer Station. All of the landfill's clients, commercial, private, and self-haul, 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 given the responsibility for its proper disposal. If the generator is a self-haul load that includes HHW, the driver is informed of the County's HHW collection program and asked to bring their HHW back then for proper disposal. If the generator cannot be identified, the County stores the HW at the landfill in a roll-off container modified for HW storage. If the type of hazardous waste cannot be identified, the County Department of Environmental Health is contacted for identification. At the end of a 90-day storage period in the summer of 1991, 13 drums of lab-packed hazardous waste were shipped by a hazardous waste management firm for proper disposal (approximately 1 ton of HW).

In most cases, when the generator of hazardous 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. Clients must have potentially toxic waste analyzed prior to disposal to determine its acceptability. Soils and sludges of questionable toxicity 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.

Figure 3-1 is a map of Yolo County showing the location of the solid waste facilities and the incorporated cities. Figure 3-2 shows the composition by waste type of the HHW collected at county-wide HHW collection events during fiscal year 1990-91. Figure 3-3 shows the residency of participants at county-wide HHW collection events during fiscal year 1990-91 by jurisdiction.

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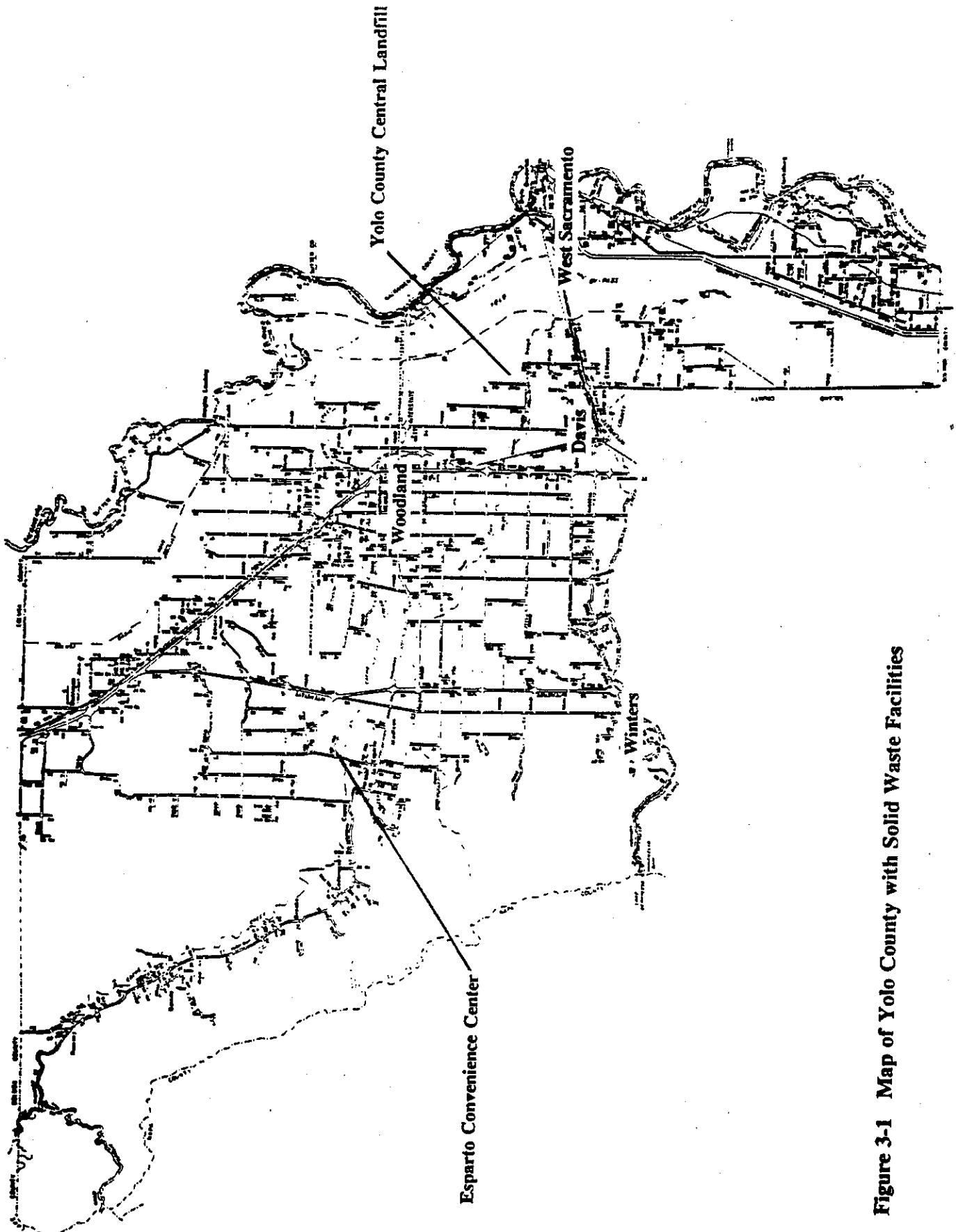


Figure 3-1 Map of Yolo County with Solid Waste Facilities

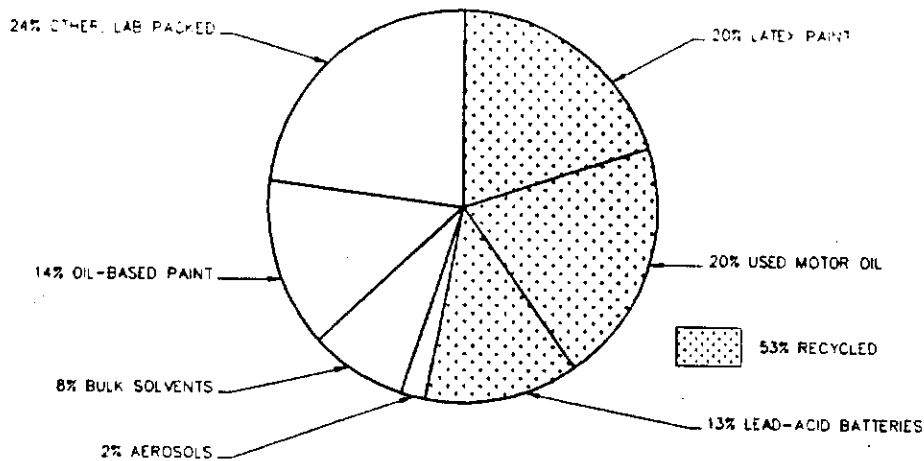


Figure 3-2. Composition of HHW Collected at County-Wide Periodic HHW Collection Events, Fiscal Year 1990-91

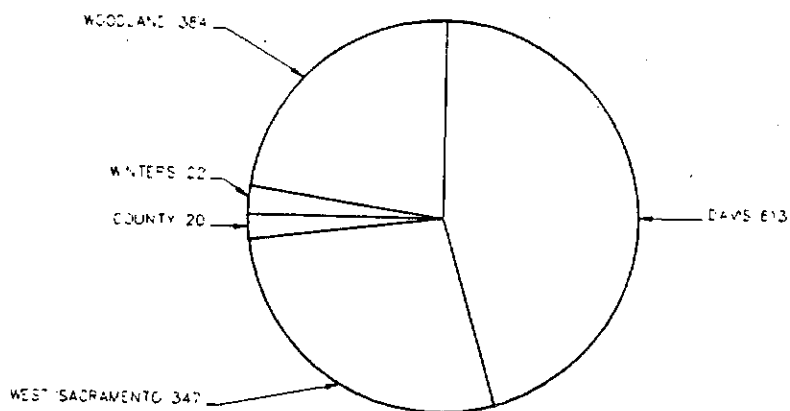
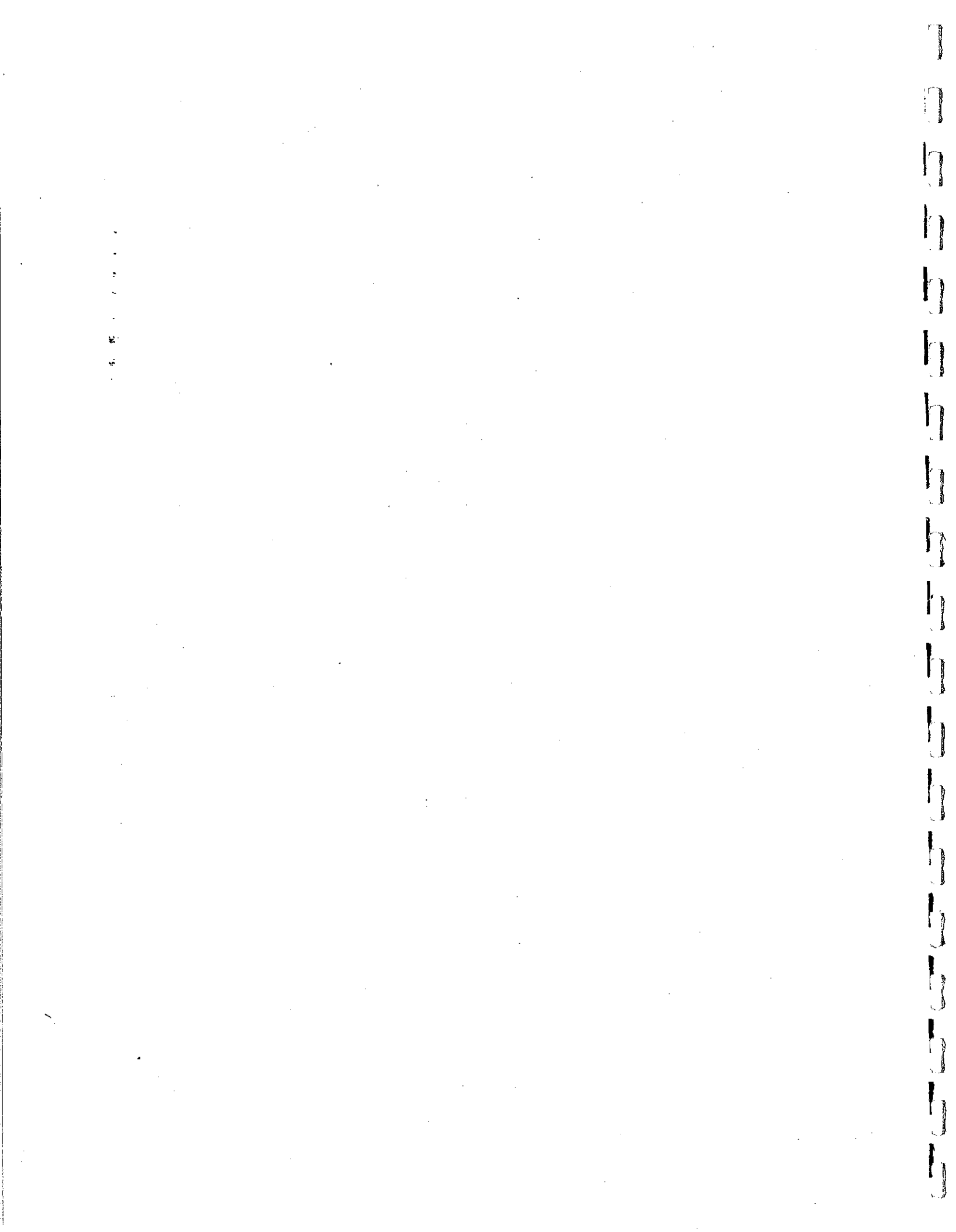


Figure 3-3. Residency of Participants at County-Wide Periodic HHW Collection Events, Fiscal Year 1990-91



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 County. 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. Education and public information preferred alternatives are found in Section 8.3.

- * Recyclable HHW
- * Collection alternatives
- * Monitoring alternatives

4.1 RECYCLABLE HHW

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 Yolo County 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 recyclable HHW 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 provides more local control. Convenience for the public may also be 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. Those alternatives that would require more extensive planning and coordination are listed towards the end of the list. The nine collection alternatives follow:

- * Curbside collection of used motor oil
- * Point-of-purchase collection of recyclable HHW
- * Periodic collection days for recyclable HHW
- * Expanded 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 convenience and effectiveness of this alternative. Used motor oil usually makes up the majority of HHW collected by communities with both periodic collection events (an existing condition in Yolo County) and curbside collection of used motor oil. While curbside collection of used motor oil can be effective for communities with curbside recycling programs, not many communities in the Unincorporated Area of Yolo County have such programs.

Hazards

Hazards exist in the handling of used motor oil and other recyclable HHW. Spilled oil should be treated as a hazardous waste. Collection vehicles must carry absorbant with which to clean up spills and soiled absorbant must be disposed of 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 promptly 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 non-HHW 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. Not many communities in the Unincorporated Area of Yolo County have existing curbside recycling programs, however.

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

Not all areas of the County are served by waste haulers. Liability would be assumed by the franchising agency or hauler.

Costs

A 1,000-gallon double-walled steel storage tank costs about \$5,000. A concrete pad, installation, weather protection, and plumbing doubles that cost. 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 sometimes necessary since some crankcases contain more than one gallon of oil.

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.

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. One variation is an existing condition in Yolo County, in which eight service stations and automobile repair shops voluntarily accept specific HHW, usually on a fee-for-service basis (Appendix B).

Two other specific examples follow, but other variations would also be possible. In one example based on a city ordinance in West Hollywood, 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 recently-passed state law (AB 2178), 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. This collection alternative calls for the County to take specific action to expand the amount of point-of-purchase collection of recyclable HHW.

Effectiveness

With proper education, consumers have shown a willingness to participate in recycling programs. Collection of recyclable HHW has proven to be cost-effective means of keeping HHW out of 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 and service stations 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

Local use permits may be necessary.

Institutional Barriers to Implementation

Mandatory point-of-purchase collection programs might be met by opposition from Chambers of Commerce and industry groups.

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 Collection Alternative 3, Market Availability.

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 County 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 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 solvents, 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 to 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 or regulations 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 County about \$3,500. This figure is based on a price estimate by a contractor who would supply 6 laborers for 9 hours at \$35 per worker-hour, \$2,000; and an estimated 450 gallons of paint collected (1.5 gallons of paint for each of the approximately 300 participating households that typically participate in Yolo County events), at \$3.00 per gallon for recycling and transportation, \$1,350; and miscellaneous expenses, \$150.

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 I). 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 to 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. If the recycler only accepts the best collected paint for recycling, then the unacceptable paint must be disposed of as a hazardous waste. This can either increase the cost of the program or jeopardize the program's permit-free status accorded by AB 2597, since not all the material collected is recycled.

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. Expanded Collection of Recyclable HHW

Residents of Yolo County may currently drop off used motor oil and lead-acid batteries at the Yolo County Central Landfill at any hour the landfill is open. This alternative calls for adding used antifreeze to the list of recyclable HHW that is accepted at the landfill during operating hours. Additionally, leftover latex paint would be accepted by appointment during limited hours that would allow for material monitoring by trained staff. This alternative would require an increase in facilities and staff time. A storage tank for the anti-freeze and a storage shed for the latex paint would have to be added to the current waste oil storage tank and battery storage shed.

Additional staff time would be necessary to monitor the latex paint. The monitoring would be necessary to confirm that it is latex paint and not oil-based paint. By inadvertently accepting

oil-based paint the landfill would be jeopardizing its permit-free status accorded by AB 2597 and be subjected to the higher costs of hazardous waste disposal rather than recycling. If oil-based paint were brought in by mistake, the client would be informed of the schedule of HHW collections and asked to bring it back at one of those times. Staff time would not be used for the consolidation, or bulking, of the latex paint from its original, small containers into 55-gallon drums for transportation to the paint recycler. Instead, consolidation would be done during the next HHW collection event by the hazardous waste contractor. The collection events would be at the same location as latex paint collection and storage; the YCCL.

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 majority of all HHW collected by HHW collection programs 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 collection could be altered to accommodate changes in public demand or budgetary constraints.

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

Additional materials could be added to existing the program in the short-term planning period.

Need for Facilities

A storage tank that meets state and local code would be necessary for the antifreeze. A double-walled polyethylene tank of 100- to 200-gallons would be ideal, but a weather-protected 55-gallon drum in a secondary containment vessel may be adequate on an interim basis. A storage shed is necessary to provide security and secondary containment for the paint. Sufficient paved area 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 or be shipped for recycling, 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. The increased costs involved could create opposition by taxpayers or agencies.

Costs

Capital costs would be about \$4,000. Facility needs include one prefabricated steel storage shed, \$3,000; and one 210-gallon tank for antifreeze, \$700.

Operating costs of this alternative are estimated to be between \$9,000 and \$14,000 per year. Labor cost estimates are based on 5 employee-hours a week. Using a base pay rate of \$13.00 per hour including benefits, this amounts to \$3,500 per year. Administrative costs are estimated to be \$1,200, based on one week's compensation per year for the Waste Reduction/Recycling Coordinator (\$29 per hour including benefits and overhead). Paint processing and other recycling costs are estimated to be between \$4,000 and \$9,000 per year. The former figure is arrived at by assuming that approximately as much latex paint will be collected by this program as the amount collected by the County sponsored collection events during fiscal year 1990-91. The latter figure assumes that half as much latex paint will be dropped off as used motor oil at the recycling center at the landfill during fiscal year 1990-91.

Market Availability

Markets are available for recyclable HHW and are covered in detail under Market Availability for Collection Alternative 3. The Yolo County hierarchy of HHW waste disposal requires that all recyclable HHW be recycled.

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 I). 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 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. Such additional uses require a Conditional Land Use Permit from the County.

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 cover these two assumptions, or \$184,000.

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 Land 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 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 9). 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 if program goals are not being met.

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 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 collection 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). The reason for this is that while there are exemptions under RCRA for certain existing waste streams such as HHW, new waste streams would not be exempt, and this combined waste stream is interpreted by some TSD operators and hazardous waste haulers as a new waste stream. If a fee is charged for the commercial program, but not the residential HHW program, it makes administrative sense to keep the two programs separate.

Institutional Barriers to Implementation

Yolo County's Hazardous Waste Management Plan recommends establishment of education and technical assistance programs to small quantity generators. Small quantity commercial source participation in HHW collection programs would be consistent with these objectives.

Costs

A charge to the participants should be made per gallon of liquid waste and per pound of solid waste, so that the County 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

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

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. A mobile facility visits 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 each collection 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. This alternative would require facilities that could be rotated from site to site and temporary collection locations.

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 site 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 DTSC 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.

A study conducted by the Santa Clara County Office of Toxics and Solid Waste Management found that permanent facilities, mobile facilities without hub storage, and mobile facilities with hub storage have similar costs. Based on this analysis, Yolo County should be able to operate a mobile program for about the same cost as a permanent facility, or \$250,000 to \$300,000 per year.

Market Availability

Market availability would have little effect on this alternative. Markets are available for recyclable HHW, and the Yolo County hierarchy of HHW disposal requires that all recyclable HHW be recycled.

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 collection program would make 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 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 are available for recyclable HHW, and the Yolo County hierarchy of HHW disposal requires that all recyclable HHW be recycled.

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 County'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

There are two main opportunities for monitoring the waste stream for HHW. The first is curbside, before the refuse is hauled away, and the last is at the landfill or transfer station before potentially offending waste is buried. Yolo County has a strong hazardous waste exclusion program in effect at its solid waste facilities. Curbside monitoring is an existing condition in the City of Davis in Yolo County, and this alternative calls for its expanded implementation of curbside monitoring for HHW in areas where franchised waste collection offers curbside refuse collection.

Monitoring for HHW at the curbside offers the opportunity to remove it before it becomes a part of the municipal waste stream. If a quick visual inspection revealed HHW, the offending can would be left behind with a tag stating why it was left behind and instructions for proper disposal. Waste haulers are trained to recognize and handle HHW, not only to keep HHW out of the landfill, but to protect themselves from injury.

The objective of a hazardous waste exclusion program at solid waste facilities is not only to keep HHW and HW out of the waste stream, but to minimize HHW and HW that becomes the County's responsibility. This is achieved by client education and by spotting the HW before it is impossible to identify the generator of that waste. That way, responsibility for proper disposal is left with the generator of the waste.

The hazardous waste exclusion program at Yolo County solid waste facilities consists of four components: customer education including predisposal evaluation, site surveillance, random load inspections, and enforcement. Customers are educated of the County's policy through signs, handouts, and other mechanisms. Incoming loads are initially screened at the scalehouse for the presence of hazardous waste or otherwise prohibited wastes. Surveillance of loads by transfer station personnel is conducted on an ongoing basis. Random waste inspections by trained personnel involve a more extensive examination of the waste stream. Enforcement is handled by the County Department of Environmental Health with possible referral to the District Attorney's office.

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 A) 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.

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 collector to recognize and handle HHW (\$1,000). The cost of evaluating the HHW program would be equal to about one week's salary for the program coordinator (\$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 Yolo County, 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 education and public information alternatives and their implementation are discussed in Sections 8.3 and 8.4 of this HHWE. The selection of programs was based on the criteria for evaluation presented in the previous section.

For the short-term planning period emphasis was given to the improvement of existing programs as well as coordinating the disposal of collected HHW with that collected by the County's hazardous waste exclusion (load-check) program. For the medium-term planning period consideration was given to continuity with programs implemented during the short-term planning period and consistency with the County's Hazardous Waste Management Plan (Tanner Plan).

5.1 SELECTED COLLECTION PROGRAMS

The proposed collection programs for County residents will address both recyclable and nonrecyclable HHW on an ongoing basis. County residents are currently able to drop off their HHW through the existing periodic collection program developed by the Yolo County DPW. 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 collection with the disposition of hazardous waste diverted at the landfill as part of the County's hazardous waste exclusion program. The number of HHW collection opportunities will be expanded and a dedicated facility for HHW collection will be utilized. For the medium-term planning period, County residents will have the opportunity to drop off HHW at the County-operated permanent facility planned for the Yolo County Central Landfill (YCCL). This program is a combination of the following collection alternatives from Section 4 of this HHWE:

- | | |
|----------------------------------|---------------------------------------|
| * Collection alternatives 3 & 4. | Expanded collection of recyclable HHW |
| * Collection alternative 5. | Temporary HHW collection facility |
| * Collection alternative 6. | Permanent HHW collection facility |

Expanded Collection of Recyclable HHW

Two of the collection alternatives evaluated in this element have been selected for implementation to improve the collection of recyclable HHW in Yolo County. Two alternatives of approximately the same estimated cost of implementation were chosen to

provide for maximum flexibility in meeting the County's goals and maintaining regulatory compliance. Collection Alternative 3, periodic collection days for recyclable HHW (bop-drops), was chosen for initial implementation, with a possible change to Collection Alternative 4, expanded collection of HHW at the landfill to include latex paint. In either case, storage facilities for used antifreeze will be added to the recycling center at the Yolo County Central Landfill for the public to drop off used antifreeze during the landfill's operating hours.

Bop-drops were chosen as a complement to the next selected alternative, a temporary HHW collection facility (THHWCF). The County was considering implementing the maximum number of collection events allowed under THHWCF permit-by-rule regulations, but examining data from other jurisdictions that went to 12 collection events per year suggested that from a cost-effective standpoint, 12 collection events might not be the optimum number. Instead, six or seven collection events per year appeared to offer more effectiveness per dollar. Bop-drops were selected as an alternate collection event for those months that a temporary HHW collection event for all types of HHW is not scheduled.

The County recognizes that the collection of latex paint requires monitoring to prevent the accidental collection of oil-based paint which would jeopardize the regulatory advantages that the collection of recyclable HHW offers. The ongoing monitoring of latex paint collection could present personnel and training requirements that the County would find difficult to meet. Bop-drops were selected to increase the collection of latex paint from the public by a program that could be supervised by a licensed hazardous waste management firm on a periodic basis. The County's tentative schedule for HHW collection calls for 7 THHWCF events and 5 bop-drops per year.

The biggest potential disadvantage of bop-drops foreseen by the County could be confusion by the public who might confuse a bop-drop with a collection event for all types of HHW. If this were to occur the confused participant would then be asked to bring back their nonrecyclable HHW to the next THHWCF event. Educational materials will make every effort to clarify the difference between the two types of collection events. If this proves to be a continuing problem, the County will consider collecting latex paint at their recycling center at the landfill on an ongoing by-appointment basis.

Regardless of which collection alternative the County ultimately implements for the collection of latex paint, storage facilities will be added for the public to drop off used antifreeze at the recycling center at the landfill. These storage facilities are likely to be a double-walled polyethylene storage tank, but it is possible that a weather-protected 55-gallon drum in a secondary containment vessel will be used on an interim basis to determine public demand. If the County decides to collect latex paint at the recycling center, a ventilated storage shed with secondary containment will be purchase for that purpose. The shed would be used to store the paint in the containers in which it was brought to the landfill. Consolidation into 55-gallon drums for transportation to the recycler would be done by the licensed hazardous waste management firm during THHWCF events. A permitted tank exists at the landfill for the

storage of used motor oil. Spent lead-acid batteries are stored in a hazardous materials storage shed on pallets and will continue to be stored in this manner.

The current collection program for recyclable HHW at the recycling center at the YCCL collected 34.4 tons of used oil and 28.2 tons of lead-acid batteries during fiscal year 1990-91. The level of used oil collection should continue to grow with improved public education, but the level of spent lead-acid battery collection should fall because of the State-mandated program that requires retailers to offer cash trade-ins when selling new batteries. The bop-drops are projected to collect about 450 gallons of leftover latex paint per event, or 2,225 gallons per year. A limited HHW facility in Pacheco collects a little less than half as much leftover latex paint as it does used motor oil. On that basis, Collection Alternative 4 could be expected to collect about 17 tons of latex paint, or about 3,100 gallons per year. Used antifreeze has been collected at a rate of about 10 percent of the latex paint. Three-hundred and ten gallons per year could be expected to be collected on that basis.

A latex paint recycler in Sacramento has begun a pilot marketing program for paint recycled by HHW programs. Documentation is being prepared to certify the quality of the product which could lead to government or other large-scale procurement. The success of this program could lead to reduced paint recycling costs for the Yolo County program.

The anticipated end-uses of the recyclable material collected by these two programs could conceivably end up in the local community. In California, the majority of used motor oil that is collected 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 is reprocessed and returned to the community for local use.

Temporary HHW Collection Facility

Yolo County has been co-sponsoring periodic collection events since 1985. Currently, events open to all County residents are held twice a year in Davis, and once a year in both West Sacramento and Woodland, and it is likely that this schedule will be continued through spring of 1992. 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 I). 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 (Figure 5-1). 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.

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 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.

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. The load-check waste is stored in shipping containers modified for hazardous waste storage. These storage facilities may be used as a part of the permanent HHW collection facility when that alternative is implemented during the medium-term planning period.

The four HHW collection events that were opened to all Yolo County residents during fiscal year 1990-91 resulted in the collection of about 40 tons of HHW. Three other events were open only to residents of the City of Davis which resulted in approximately 19 additional tons of HHW being collected. The seven total events resulted in the collection of approximately 59 tons of HHW being collected. This new collection program is expected to collect approximately 60 to 65 tons of HHW per year. The types of HHW collected are expected to be similar to that collected by the county-wide events: approximately 20 percent 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 other types of waste for lab pack.

Some usable materials that are collected are redistributed through a materials exchange swap table. Participants in the materials exchange are required to sign a Release and Indemnity Agreement (Appendix C). Reused materials have included usable paint, garden supplies and unopened cans of motor oil. This is a new program and has not yet proven to have a large cost-saving impact; but reuse is ingrained.

Collected materials will be disposed of in a number of ways. Oil-based paints and solvents are most likely to be shipped to alternative fuel-blending programs for incineration. Aerosols are most likely to be shipped out of state for incineration. Corrosives, pesticides and other poisons will either be incinerated or buried in Class I hazardous waste landfills. Recyclable HHW that is collected will be recycled by the same methods described in the previous selected alternative.

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 County residents at the collection for recyclables and at the collection events for all types of HHW. From these records the County will prepare an annual report on the overall effectiveness of the HHW management program.

The basis of record keeping for the County 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. Using these records the County 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.

Participants at HHW collection events are surveyed to help monitoring and evaluation of the program (Appendix G). Two questions will be added to the surveys to help staff more accurately determine and monitor participation levels: "Is this your first HHW collection event?", and "Is this your first HHW collection event this calendar year?"

Figure 5-1 on the next page shows the location of the proposed recycling storage facility that will be used as the site for HHW collection events at the Yolo County Central Landfill. Traffic flow for participants of the events is also shown.

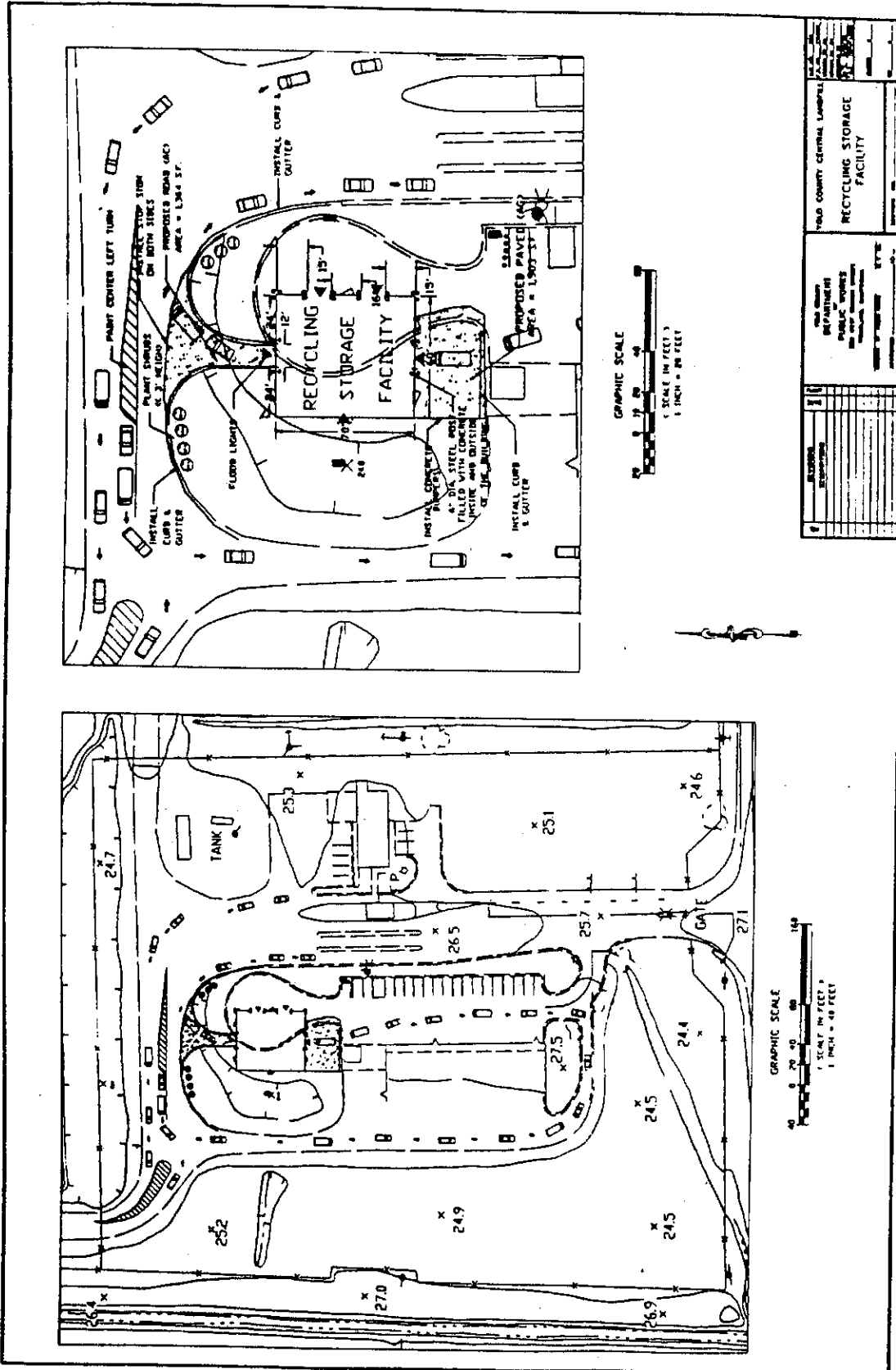
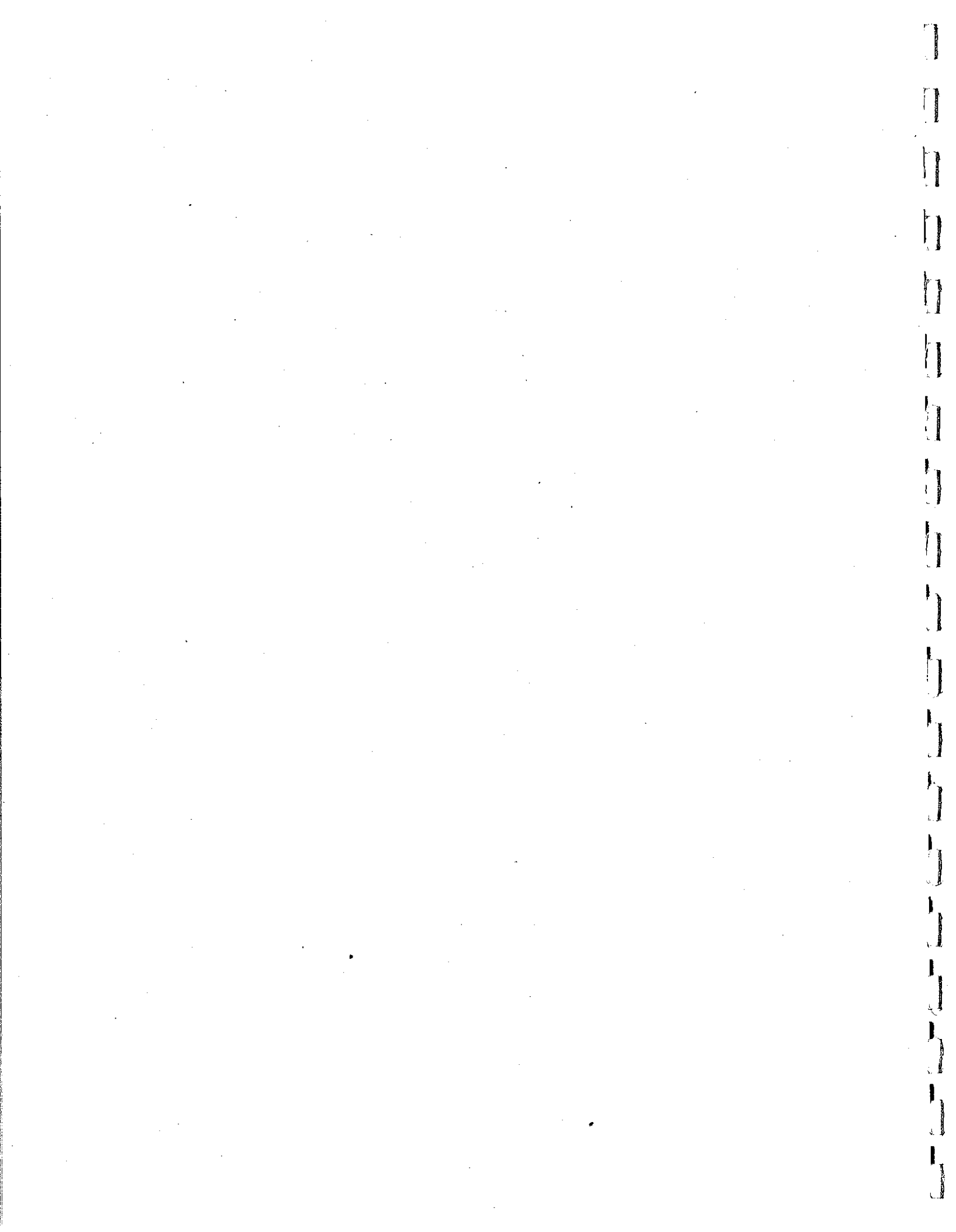


Figure S-1 Proposed Site of HHW Collection at the YCCCL



SECTION 6

PROGRAM IMPLEMENTATION

Program development and administration will be the responsibility of Yolo County's Department of Public Works. The program will be funded by an increase in tipping fees. If the program or any portion of the program is contracted to a vendor, that vendor will be under supervision of the Department of the Public Works.

Tables 6-1 through 6-5 show timelines for the implementation tasks necessary for all selected programs through the medium-term planning period.

Table 6-1. Implementation Tasks for Expanded Collection of Recyclable HHW

Tasks	Completion Date	Responsible Entity	Funding Source
Design program site, facilities, schedule, personnel	5/92	County Dept. of Public Works	Tipping fees
Provide recommendation	6/92	County Dept. of Public Works	
Approve funding	7/92	Board of Supervisors	
Coordinate publicity program	7/92	County Dept. of Public Works	
Implement program	1/93, ongoing	County Dept. of Public Works	
Ongoing monitoring	1/93, ongoing	County Dept. of Public Works	

Table 6-2. 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' contribution
Design coordination of HW exclusion program and HHW collection program	5/92	County Dept of Public Works	
specify HW storage facilities	5/92	County Dept of Public Works	Tipping fees
specify site development at landfill	5/92	County Dept of Public Works	
Provide recommendation	5/92	County Dept of Public Works	
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 6-3. Implementation Table for Monitoring and Evaluation

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

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, Yolo County can determine the success of their HHW management program. Total HHW collected by County programs will be recorded by using form CIWMB-303. 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 County 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 public education and 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 increased collection
- * Implement an alternative collection program such as small commercial source participation

Participants at HHW collection events are surveyed to help monitoring and evaluation of the program (Appendix G). Two questions will be added to the surveys to help staff more accurately determine and monitor participation levels: "Is this your first HHW collection event?", and "Is this your first HHW collection event this calendar year?"

The Department of Public Works will be responsible for keeping track of program success. Records will be kept for the amount of HHW collected by each collection alternative, and summarized into monthly totals. These monthly totals will then be utilized to prepare periodic

reports which will be available for review by other municipal agencies. Evaluation of the program will take place on an annual basis. Deficiencies in meeting the intended goals would result in the implementation of one or more of the above modifications of the public education or collection programs.

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

- * Create an awareness among County residents of the problems that toxic household products pose.
- * Reduce the amount of HHW generated (source reduction) by encouraging the use of less toxic or nontoxic alternatives to toxic household products.
- * Inform the public of the County's HHW management program and encourage public participation in the program.

Yolo County 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. Buying only what is needed for a particular project helps eliminate unwanted leftovers. 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. It is an important component of any educational campaign that the County undertakes. 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 County 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 flyers. Source reduction is addressed at County collection events by distribution of "Household Hazardous Waste Wheels" or the "Household Hazardous Products" brochure from the Department of Toxic Substances Control (DTSC). Participants at the County HHW collection events are requested to fill out a HHW survey to help with program monitoring. The Yolo County Department of Public Works has begun publication of a quarterly newsletter, "Garbage Talk," that deals with solid waste issues including HHW. Periodic guest columns of "Garbage Talk" written by the County's Waste Reduction/Recycling Coordinator are published by the Woodland Daily Democrat and the Valley Tribune.

8.3 PREFERRED ALTERNATIVES

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

- * Newspaper Publicity
- * Original Printed Material
- * Use of Existing Source Reduction Material
- * Use of Existing Video Productions
- * Establishment of a School Curriculum
- * Direct Mail
- * Utility Bill Inserts
- * County-wide HHW Hotline

Education Alternative 1. Newspaper Publicity

Newspaper publicity comes in four varieties: paid advertisements, feature stories, guest columns, and news stories. All of them are helpful in increasing participation in HHW collection events. Paid advertisements offer the most control from the sponsoring agency's point of view, and are particularly effective as a reminder for upcoming periodic collection events. Feature stories are most likely to be published when a new HHW collection program is getting started. Media releases should be distributed in advance of collection events to encourage this type of coverage. In addition to being a quarterly newsletter, "Garbage Talk" is a weekly guest column written by County staff for the Woodland Daily Democrat and the Valley Tribune. News stories are sometimes beyond the control of the sponsoring agency.

Yolo County had exceptionally high participation at a HHW collection event that occurred shortly after a landfill explosion and fire that was blamed on the illegal dumping of hazardous waste.

Costs of paid advertisements vary greatly depending on the circulation of the paper and the size of the ad. The Yolo County DPW has been spending about \$200 per event on newspaper advertising. Staff time for preparation and distribution of media releases is estimated at \$1,000. Advertising for twelve events per year plus staff time for media releases would cost \$3,400.

The County Department of Public Works currently purchases advertisements in local newspapers, and the surveys that are completed by program participants indicate that it is the most effective form of public information. Paid advertisements are purchased in the Davis Enterprise, the Woodland Daily Democrat, the West Sacramento Press, the Winters Express, and the Yolo Edition of the Sacramento Bee. The advertisements appear the week before the event and are usually in the Sunday and Wednesday editions of the daily papers. Occasional news articles on the HHW program appear before the events and are particularly helpful.

Education Alternative 2. 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 Yolo County.

The Yolo County Department of Public Works publishes a bilingual flyer for distribution prior to its periodic collection events. The flyers, printed in English on one side and Spanish on the other, indicate the times, dates, and locations of events for a particular month. The flyers also offer descriptions of acceptable and nonacceptable wastes, remind participants of the 50 pound or 5 gallon limit, and offer participants free disposal of their HHW along with a free source reduction resource, and a free pass for the landfill or transfer station. The flyers are distributed to all students in the County schools, at the landfill and transfer station, are available in fire stations and government offices, and sometimes distributed by grocery stores, the League of Women Voters, and waste haulers.

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.

The key piece could either be a newsletter 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. Simpler flyers could also be prepared with announcements of periodic collection events.

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, 7,000 copies would cost \$2,800. The advantage of the newsletter approach would that a schedule of events would not have to be prepared a year in advance.

Education Alternative 3. 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 I). 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. Likewise, DTSC has a colorful brochure that is available free of charge for local jurisdictions to use as a part of a HHW management program.

The County has requested brochures from the DTSC in the past and distributed them at their periodic collection events. This material is a cost-effective source reduction resource that can be continued to be utilized while the supply lasts. 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 DTSC brochures would be distributed at collection events.

Education Alternative 4. Distribution of Existing Video Productions

At one point early in the development of the HHW education and public information program HHW, video tapes 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. "The Home Toxics Quiz" is an excellent videotape produced by the Sacramento County Hazardous Materials Division and KVIE-TV. Costs range from \$20 to \$60 per tape. Five-hundred dollars is budgeted for video tape procurement.

Education Alternative 5. Establishment of a School Curriculum

The County could assist the School Districts in selecting and implementing educational programs for all elementary grades. Particular emphasis could 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 DTSC and nonprofit organizations, but material specific to the County's program should be prepared and utilized as well. The budget for this alternative is estimated at \$3,500 per year of staff time on an advisory basis.

Education Alternative 6. 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 \$1,400 per year based on the mailing of one piece to each household in the Unincorporated Area. 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 7. Utility Bill Inserts

Utility bill inserts offer Yolo County Cities an inexpensive means to distribute printed material. Notices of the changing location of the collection 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 8. County-wide HHW Hotline

Yolo County will provide a telephone number dedicated to the public's questions about HHW or other solid waste issues. The person answering the phone will be familiar with the HHW program and know who to contact if unable to answer a question. No new personnel should be required. The cost of this alternative is estimated to be \$2,000 worth of staff time per year.

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 proportionate 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 County is estimated to cost about \$14,600 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

Yolo County 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 will play a key role in determining the final implementation of preferred alternatives for the County'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 County's collection programs.

The public education program will include development of a school curriculum, direct mail, utility bill inserts, direct distribution of source reduction material, and a County-run 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 developing curriculum. The direct mail campaign should utilize original material that applies specifically to the program developed by Yolo County.

Table 8-1 shows tasks, timelines, responsible entities and funding sources for the County's education and public information program.

Table 8-1. Implementation Table for Public Education Program

Tasks	Completion Date	Responsible Entity	Funding Source
Prepare original printed material	6/92	County Dept. of Public Works	Tipping fees
Procure source reduction material	6/92	County Dept. of Public Works	
Procure videotapes	6/92	County Dept. of Public Works	
Prepare school curriculum	9/92, ongoing	School Districts	
Implement curriculum	9/92, ongoing	School Districts	
Distribute media releases	12/92, ongoing	County Dept. of Public Works	
Mail brochures	12/92	County Dept. of Public Works	
Establish HHW hotline	6/92	County Dept. of Public Works	

8.5 MONITORING AND EVALUATION

Success in meeting program goals is also 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. A random telephone survey of County residents will be conducted annually to determine the level of public awareness of the HHW management program. Deficiencies will be addressed by modifying the public education program.

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SECTION 9

FUNDING

In addition to funding sources identified for the implementation of the County's HHW management program, Yolo County feels 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

Yolo County's HHW management program is funded through the Sanitation Enterprise Fund which receives its revenue from tipping fees imposed at the Yolo County Central Landfill and the Esparto Convenience Center. Funding for the County's share of periodic HHW collection events in Davis, Woodland and West Sacramento through fiscal year 1991-92, the hazardous waste exclusion program, and existing HHW education programs are funded through existing tipping fees. Funding for an expanded HHW management program will be paid for through the Sanitation Enterprise Fund as well. The County Department of Public Works and Transportation has proposed an increase in tipping fees from \$20 to \$30 per ton to pay for improvements at the landfill as well as SRRE/HHWE programs. Approximately \$0.50 of that \$10 increase will be dedicated to HHW management programs (Table 9-1). An increase in tipping fees would require approval by the Board of Supervisors. Secondary funding includes reimbursement in part through grants issued by the CIWMB.

9.2 Cost Estimates for Selected Programs

Table 9-1 shows the estimated costs of a HHW management program through the short-term planning period. Assumptions for the cost estimates are discussed under the criteria costs when alternatives are evaluated earlier in this element. Estimated program costs are divided by the projected number of tons of refuse disposed for the same time period to determine the cost of the program per ton of refuse disposed. The difference between the projected costs per ton of future programs and current costs per ton give an indication of what proportion of a proposed tipping fee increase will be needed to provide adequate funding for future HHW programs. The projected disposal tonnages are estimates by the Yolo County Department of Public Works and Transportation and include AB 939 diversion, population and industrial growth, including potential industrial development by MacMillen-Bloedel in fiscal year 1994-95. If that development has not occurred by then the needed increase in tipping fees would be approximately \$0.50 per ton over current levels.

Table 9-1. Yolo County HHW 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
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

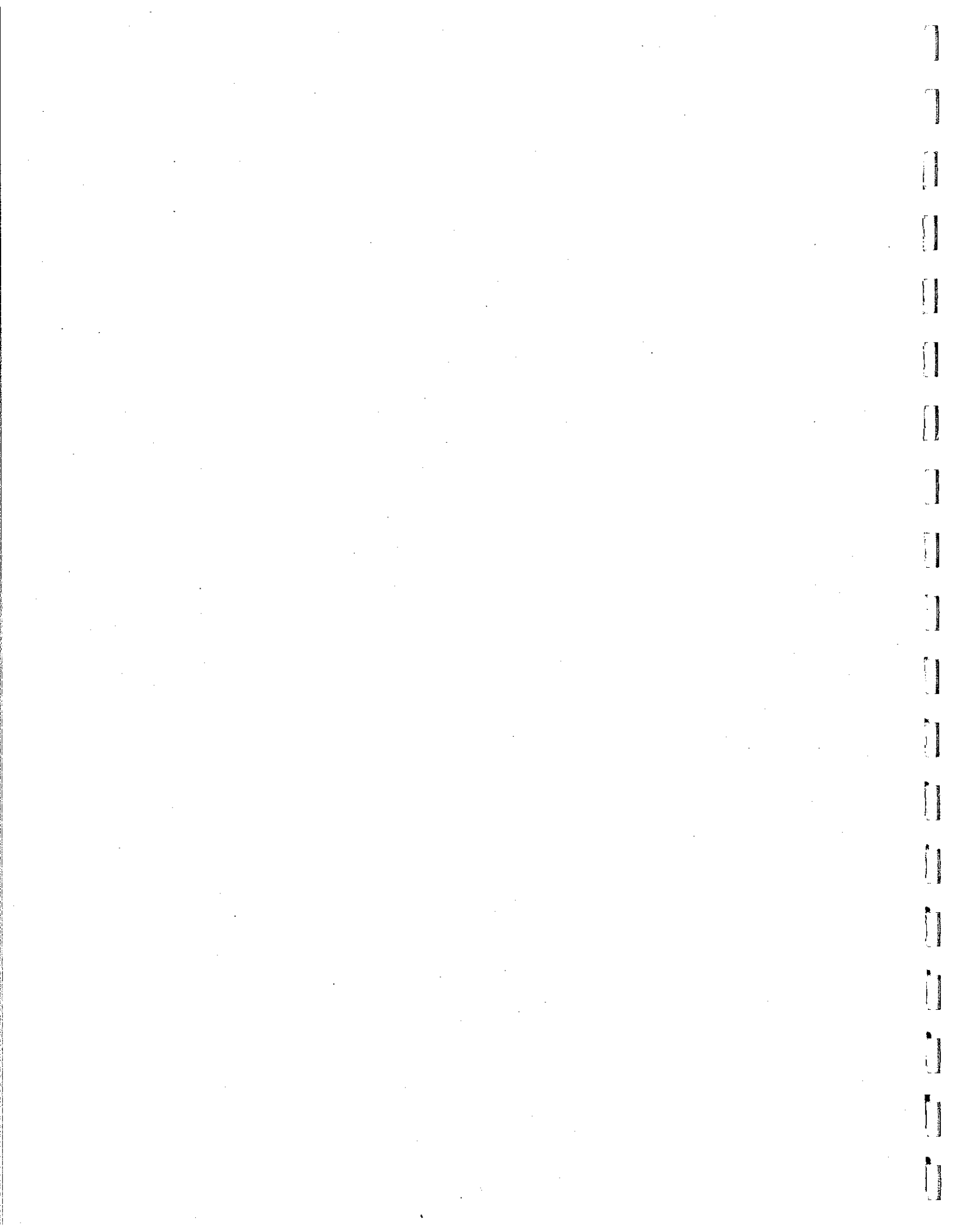
¹ Including 3% annual inflation rounded to nearest \$100

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

³ Increase over FY 91-92 levels

APPENDIX A

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

Waste Category	Gallons	Pounds	Number of Containers	Number of Drums (55 gal)	Management Method
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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

APPENDIX B

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

Davis

Bonoca's
1944 Anderson Road.
758-2900

Used motor oil

Davis Radiator
965 Olive
753-7304

Used antifreeze

El Macero Chevron
Chiles and Mace
753-3352

Used motor oil
Spent lead-acid batteries
Used antifreeze

Johnny's Service
965 Olive
756-4840

Used motor oil

Woodland

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

Winters

Barbasa's Auto
400 Railroad Ave
795-4030

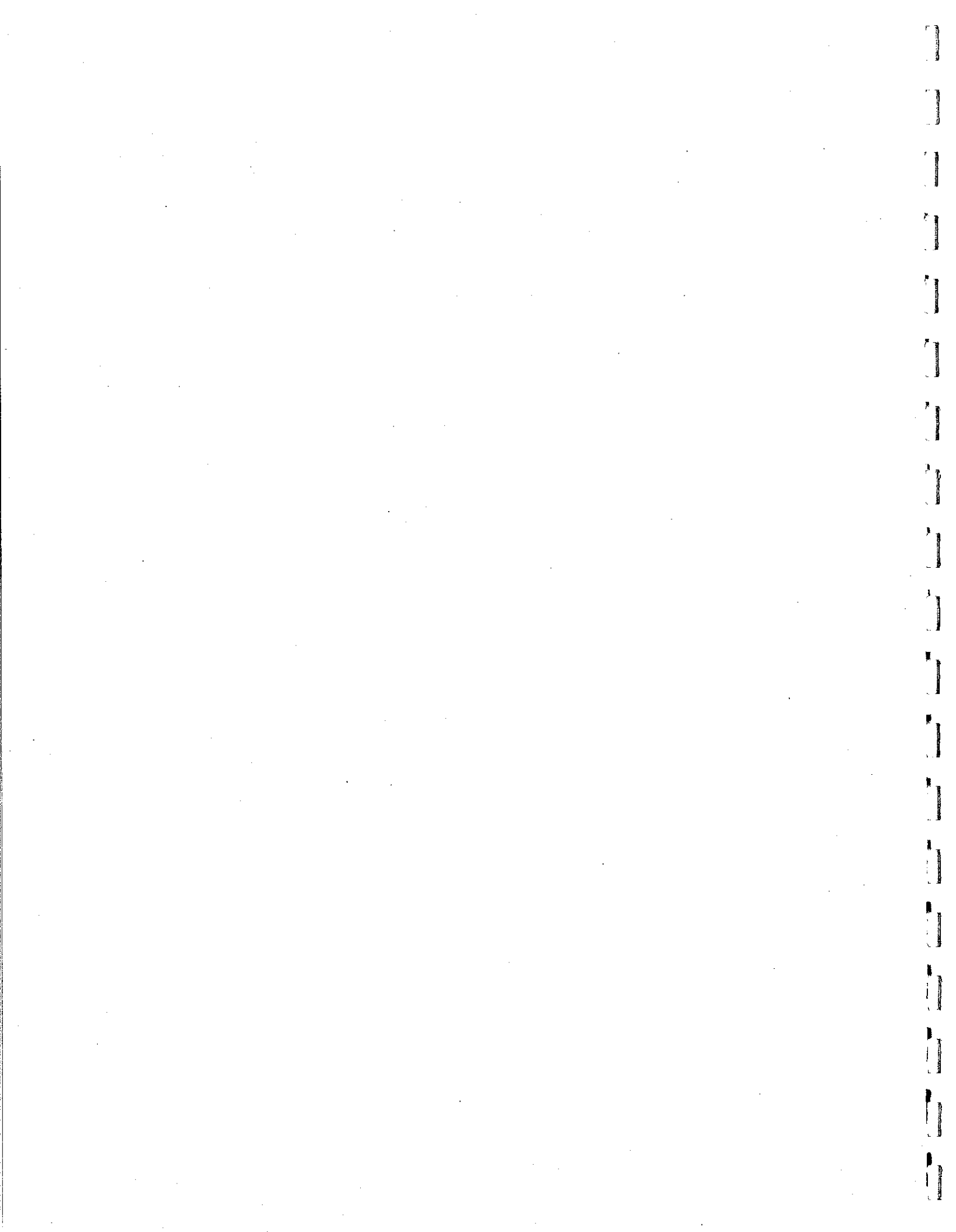
Used motor oil



APPENDIX C

Participants in the materials exchange at HHW collection events are required to sign the Release and Indemnity Agreement that follows.





RELEASE AND INDEMNITY AGREEMENT

The County of Yolo is conducting a Household Hazardous Waste Collection Event. Yolo County residents may dispose of certain hazardous materials through this event. Selected chemicals which would otherwise require special handling and disposal will be recycled. These commodities will be made available to the public for reuse at no charge.

The County has not characterized the Hazardous Materials offered for reuse, and makes no express or implied representations concerning:

1. the physical or chemical characteristics of the materials including the purity, color, texture, or age of the material;
2. the manner in which the materials may be safely transported, stored, treated, disposed of, used, or otherwise managed;
3. any adverse effects on human health and the environment.

The undersigned agrees to indemnify and hold harmless the Agencies from any and all liability, damages, costs, claims, demands, and expenses of whatever type or nature, that may arise out of, or in any manner be connected with, the Hazardous Materials.

The undersigned has read and understands this Release and Indemnity Agreement and agrees to comply with all of its terms.

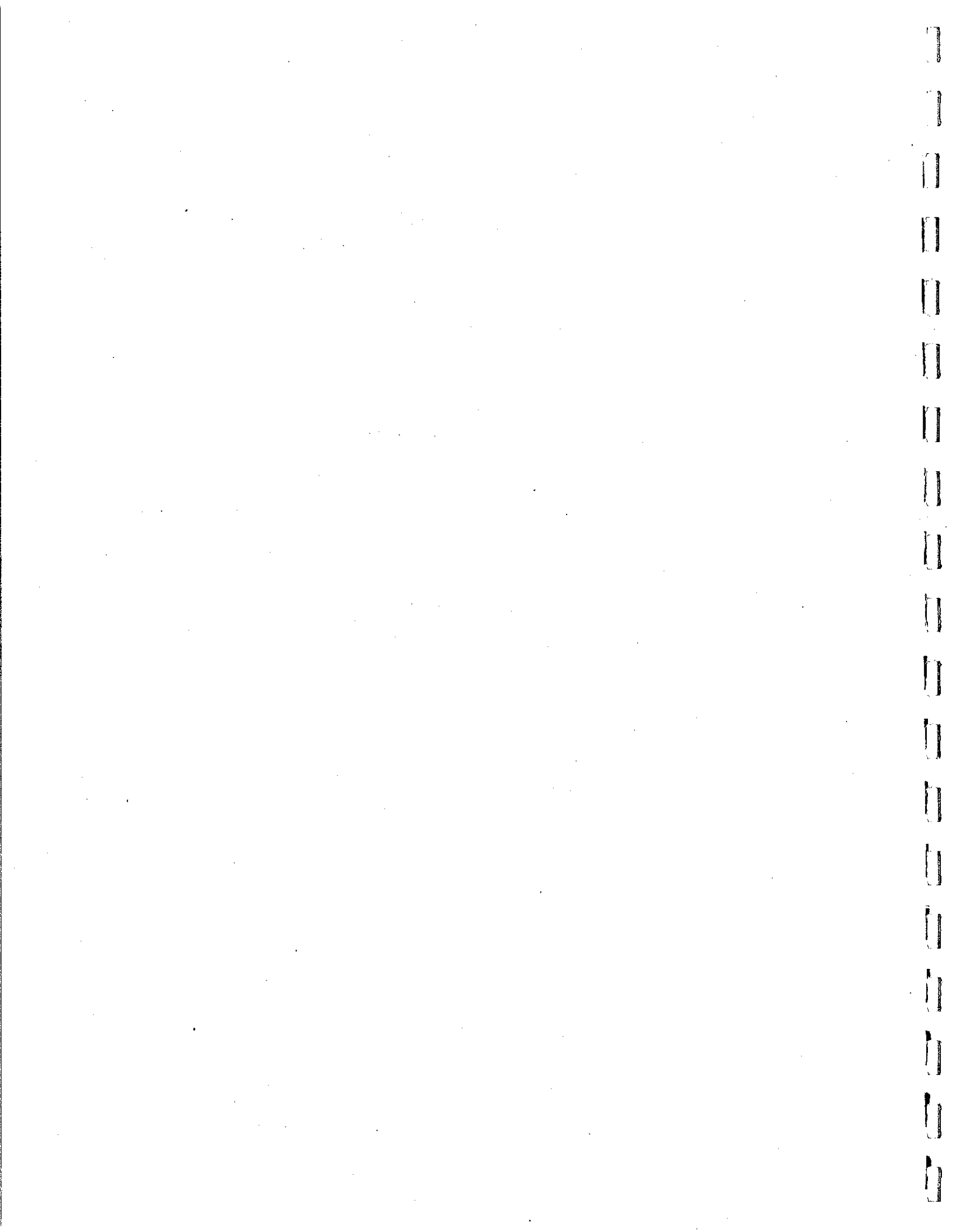
_____	_____
Name (Please Print)	
_____	_____
	Address
_____	_____
Signature	Date

Please list the type and quantity of materials taken for use.

<u>Quantity</u>	<u>Size</u>	<u>Type of Material</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
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_____	_____	_____
_____	_____	_____

APPROVED AS TO FORM
CHARLES R. MACK
COUNTY COUNSEL

By Paul A. Kramer
DEPUTY COUNTY COUNSEL



APPENDIX D

A copy of a bilingual flyer used for promoting HHW collection events in Yolo County follows.

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YOLO COUNTY
**Household *Hazardous* Waste
Turn-in Day**

DAVIS

Davis Waste Removal
1818 5th Street
Saturday, October 12, 1991

WEST SACRAMENTO

The New Engstrom Center
W. Capitol Ave. at Jefferson Blvd
Saturday, September 28, 1991

*
9 AM to 2 PM

***FREE* Turn-in and Disposal
(Yolo County Residents Only)**

***Prevent these materials from entering the Yolo County
Central Landfill***

Poisons, Solvents, Pesticides, Herbicides, Paints, Thinners, Gasoline,
Batteries, Preservatives, Adhesives, Bleaches, Polishes, Household
Cleansers, Pool Chemicals, Automotive Fluids, Used Motor Oil, Used
Oil Filters, Aerosol Cans

***LIMIT OF 50 LBS SOLID WASTE , OR 5 GALLONS OF
LIQUID PER CUSTOMER***

(No agricultural or commercial wastes accepted)

Participants receive:

FREE Household Hazardous Waste "Wheel"
(an informative tool indicating safe disposal methods)

If you have explosive or radioactive materials:

Contact the Yolo County Arson Bomb Investigation Unit at (916)
666-8920 for details on proper disposal

Service provided by.

Yolo County Public Works & Health Departments
Davis Waste Removal Company
East Yolo Waste Disposal Company
Cities of Davis and West Sacramento & Engstrom Properties

For more information contact:

Yolo County Public Works Department, 666-8775
Yolo County Environmental Health 666-8646
Davis Waste Removal, 756-4646

EL CONDADO DE YOLO
patrocina
EL DÍA DE LIMPIEZA PRIMAVERAL
y
COLECTA DE PRODUCTOS DOMÉSTICOS DAÑINOS

DAVIS

Davis Waste Removal
1818 5th Street
Sábado 12 de octo, 1991

WEST SACRAMENTO

The New Engstrom Center
W. Capitol Ave. y Jefferson Blvd.
Sábado. 28 de septiembre, 1991

9 AM - 2 PM

***Colecta de desperdicios GRATIS
(solo para residentes en Yolo County)***

***PREVENGA LA ENTRADA DE ESTOS PRODUCTOS A
NUESTROS BASUREROS:***

Venenos, Disolventes, Pesticidas, Aceites, Pinturas, Pegamentos,
Blanqueadores, Quitamanchas Caseros, Botellas de Aerosol,
Químicos para Piscinas, Lubricantes, Automovilísticos. Gasolina,
Baterías

***LÍMITE DE 50 LBS EN DESPOJOS SÓLIDOS, O 5 GALONES
LÍQUIDOS POR PERSONA***

(No se aceptan desperdicios comerciales o agrícolas)

Los Participantes Recibirán:

GRATIS Un instrumento informativo para el manejo con seguridad de
desperdicios dañinos

Si Usted Posee Materiales Explosivos O Radioactivos
Favor de llamar a "Yolo County Bomb Squad Investigation Unit"
(916) 666-8920. Le daran información detallada para el desecho
seguro de estos productos.

Servicio proporcionado por:
Yolo County Public Works & Health Departments
Davis Waste Removal Company
East Yolo Waste Disposal Company
Cities of Davis and West Sacramento & Engstrom Properties

Para más información puede llame a:
Yolo County Public Works Department, 666-8775
Yolo County Environmental Health 666-8646
Davis Waste Removal, 756-4646

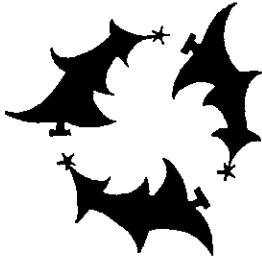
APPENDIX E

Copies of a HHW brochure and a brochure about the Yolo County Central Landfill that were co-produced by the Yolo County Department of Public Works have been inserted in the sleeve following this page.

APPENDIX F

A sample issue of "Garbage Talk", the quarterly solid waste newsletter produced by the Yolo County Department of Public Works follows.

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YOLO COUNTY RECYCLES! § GARBAGE TALK... §

A Quarterly Newsletter from Public Works



Oct. - Dec., 1991

292 W. Beamer Street

Vol. I, Issue 4

RECYCLING WRAP-UP 1991

The year 1991 was a successful year for recycling in Yolo County and its four Cities (also known as Team Yolo). And the staff at Garbage Talk have enjoyed participating in these successes. Here's a look at what happened this past year, starting with each of the Cities.

Davis: Currently diverts over 41% of its garbage from the Yolo County Central Landfill. Davis has established itself as one of the most progressive cities in the State!

Woodland: A successful pilot recycling project earlier this year became a full scale curbside recycling program in October.

West Sacramento: Currently is tallying results from its pilot curbside recycling study. The City will officially begin its curbside recycling program during the spring of 1992.

Winters: All is temporarily quiet in this small community but word has it that the City has negotiated with a garbage hauler to handle refuse collection and curbside recycling.

County: A voluntary drop-off recycling center was opened at the Esparto Convenience Center in June. PVC pipe, tires and steel cans were added to the list of recyclables at the Central Landfill's drop-off recycling center.

Clarksburg: Began its curbside recycling program, servicing 100 homes, on December 7, 1991.

These are the most notable recycling achievements to occur during 1991. And we've only just begun. Lets see what we "pick up" in 1992!

Remember you can "talk trash" anytime with either Eric Miller or Evan Edgar at 666-8775. If we can't answer your question we'll fake it...

RECYCLE YOUR BED????

You have been steadfast in keeping with the theme of "reduce, reuse, recycle" - you have reused your bed so many times that when it comes time to dispose of it, you might feel justified in just throwing it away. After all, it has been put to good use for a long time. But wait! There is an option to throwing it away!

No, you can't put your old, used bed out on the curbside for pickup, but you can recycle it and prevent it from taking up valuable landfill space. Granted, the thought of sleeping on a used bed is not the most appealing, but it's not exactly like that.

Mattresses Rebuilt

Delta Bedding in Sacramento rebuilds mattresses. They take used mattresses to rebuild and sell to local Salvation Army stores. According to Delta employees, approximately 60% of all beds have the potential to be rebuilt.

The company tears beds all the way down to the springs to determine whether the bed is useable. If it is, they rebuild necessary bedsprings, and sterilize the cotton and foams to kill viruses. All metal, foam, and wood that they can't use, is sent to local recyclers.

Once the beds are reconditioned they are sold to Salvation Army stores as used, reconditioned, sterilized mattresses. A reconditioned twin bed with mattress and box springs retails for approximately \$60.00 while a double retails for \$95.00.

Delta Bedding accepts beds from the public. If your bed is brought to them and it is deemed reusable, they will pay approximately \$1 to \$3 based on need for mattresses at the time. However, they will not guarantee to take your bed if it looks unusable.

The Public Works Department is looking into starting a program for mattress recycling at the Yolo County Central Landfill as it is possible to work in conjunction with Delta Bedding. We are currently looking into our options and we will be sure to keep you updated!!

Delta Bedding is located in Sacramento at 1400 North C Street. For further directions or information you can reach them at 446-6694.

BUT WHAT ABOUT MY WATERBED?

Okay, so you don't sleep on a foam mattress and want to recycle your waterbed instead. Well, A.J.'s Waterbeds in Citrus Heights might be the solution for you! For the past five years A.J.'s Waterbeds has been in the business of reconditioning and recycling waterbeds. A.J.'s does not actually regrind the vinyl for remanufacturing, but rather inspects the quality of the vinyl to see if it is suitable for patching. This innovative company also reconditions waterbed frames, and sells

READ IT, PASS IT ON, THEN WOW IT

Page 1

accessories to suit your bedding needs.

A.J.'s Waterbeds won't recycle just any waterbed though. They will purchase bedding frames and mattresses at local auctions or from customers. A.J.'s has even paid up to \$1000 to customers who trade in their waterbeds for newer models. The dirty grungy vinyl, or vinyl mattresses with unpatchable tears, are unfortunately thrown away.

A.J.'s reports that business is doing well, even during this time of recession. Many of their customers include charity organizations or customers who don't mind buying used beds. These reconditioned waterbeds are sold up to 40% off the usual retail price of new models. A.J.'s doesn't need to worry about sterilizing their waterbeds. Unlike foam mattresses, which require approximately three hours of sterilization at 210 degrees for recycling, vinyl waterbed mattresses do not carry viruses. The mattresses are cleaned, patched, and prepared for the showroom.

So get off your back and recycle your bed. If you wish to recycle your waterbed, contact A.J.'s Waterbeds at 334-2337. They're located at 5441 Palm Avenue in Citrus Heights. P.S. Remember to drain your waterbed before recycling.....it'll prevent backaches. And reuse that water in your garden?!!

WOODLAND WINS WITH MOBIL CHEMICAL

With all this recycling hoopla going around, the plastics manufacturers have really taken a bad "wrap." Labeled as a wasteful by-product of our consumer purchases, plastic manufacturers are scurrying to improve plastic's image. And Mobil Chemical is a local plastic manufacturer that is not just "talking recycling," but doing it.

Makes Plastic Bags

Located at a 25 acre site on East Beamer Street in Woodland, Mobil Chemical Company manufactures plastic film products used by supermarkets for bagging produce and groceries, by homes and industry for garbage containers, and by manufacturers and shippers as a wrap that stabilizes and contains palletized loads of freight.

Acquired in 1962, Mobil's Woodland facility uses a process for film-making that is a model in terms of waste minimization. All scrap and unusable film are recycled—that is, reclaimed and returned to the production cycle. Where the printing of film is required, Mobil uses only water-based inks to avoid volatile organic emissions.

Reuse Saves Dollars

By reusing its own scrap, Mobil is able to save not only landfill space, but also money and energy since these materials are immediately made into new plastics. But Mobil's reuse and recycling ventures also cover non-film waste.

Over a recent nine month period, Mobil's 250 employees have diverted, by 85%, the plant's non-film waste previously destined for the County's Central Landfill. This translates to a whopping 6 tons of paper, over 30 tons of corrugated packing, and more than 7 tons of wood scrap. In essence, Mobil Chemical earned the City of Woodland at least 43 tons of waste diversion credit during 1991. These figures do not include the recycling of beverage containers or cafeteria trays.

The staff at Garbage Talk applauds Mobil Chemical for their outstanding recycling efforts. If you operate a business in Yolo County and have your own recycling program, please contact us. You too can be profiled in Garbage Talk, we want to brag about ya!

HOUSEHOLD HAZARDOUS WASTE

Davis Event Breaks Record

October's household hazardous waste (HHW) collection event in Davis was an incredible success. Nearly 460 customers participated in this event, which represents the County's 19th consecutive HHW collection event held since 1985. This record breaks the previous record (405 customers) set also in Davis during September of 1990. Through this program, residents are able to turn in unwanted paint, pool chemicals, waste motor oil, household cleansers, and other HHW not acceptable in our garbage cans or landfill.

HHW Recycling

To avoid expensive HHW disposal costs, the County attempts to recycle as much HHW as possible. The following HHW materials were recycled:

605 gallons of latex paint
600 gallons of motor oil
93 auto batteries

Eleven customers utilized a materials swap table to take home un-opened containers of paint, motor oil or cleaners that were initially brought in for disposal. The total cost of this one day collection event was \$26,000 (or \$56 per customer). The most expensive HHW to dispose of were those blasted aerosol cans (they cost us \$3.00 per each container for disposal).

The County will co-sponsor three HHW collection events during April and May of 1992. These events will be held in Davis, Woodland and West Sacramento. Please call us at 666-8775 for more information. Remember you can recycle your waste motor oil at the Yolo County Central Landfill (666-8729)! We're open 7 days per week.

MORE ON AEROSOL CANS

In addition to paint and motor oil, California law mandates that full or partially full compressed gas cylinders, which includes aerosol cans, must not be disposed in the Central Landfill. Improperly disposed HHW materials may leach pollutants and contaminate ground water beneath the landfill, and also pose as a health and safety threat to landfill employees and garbage handlers.

An Expensive Nightmare

The reason why aerosol cans particularly alarm us is three-fold. First, these cylinders have exploded and started fires at the Central Landfill. Second, exposure to certain HHW materials poses as a threat to landfill workers. Third, their disposal cost at HHW collection events (\$3 per container) have raised the eyebrows of those who plan and coordinate these events.

Where Do They Go?

Because the aerosol cans recovered at the HHW collection events contain residual chemicals, the containers themselves are deemed unrecyclable.

Once collected, these aerosol cans are packed in 55 gallon drums and sent to Washington for further processing and segregation per chemical hazard class. The cans are then transported all the way to Texas for incineration, essentially burned from the face of the earth. Hence, the \$3 disposal cost.

Johnson Wax Interview

Garbage Talk staff recently interviewed an official at Johnson Wax to see if they proposed to address this dilemma. Johnson Wax, based in Racine, Wisconsin, manufactures Raid insect killer and is promoting the recycling of empty aerosol containers. But County staff has yet to contact a local steel broker who conducts business with aerosol can recyclers.

Officials at Johnson Wax are wary of California's strict environmental laws. They are researching alternatives to use safer non-toxic chemicals. A problem with non-toxic bug killers is obvious though. We actually buy Raid to kill bugs instantly, and not allow the ants or roaches to linger around our homes. Johnson Wax faces other problems with utilizing plastic pump sprays: 1) the plastic pump distribution network to wholesalers and retailers is not yet fully developed, and 2) plastic pump spray containers need to be specially designed to prevent oxygen from entering the container and coagulating the chemicals into gritty globs. In addition, some chemicals react with sunlight so the containers must be impervious to light as well as air tight.

Consumer Preferences

Johnson Wax is trying to stay in touch with consumers. They will manufacture whatever consumers wish to buy. But realistically, to kill some resilient species of insects, stronger chemicals are necessary. And aerosol cans appear to be industry's mechanism for packaging and distributing toxic home chemicals. It all boils down to this basic marketing precept: they'll sell whatever we buy...

The advice from Garbage Talk is this: Use pump sprays whenever possible, or use up your entire aerosol can. Empty containers can be thrown in the trash. Turn in full containers at one of the County's HHW collection events.

Side note: Vermont legislation will soon mandate a product shelf labeling program for HHW materials (bug killers, paint, cleaners). Personal care products (deodorant, hair sprays) will be exempted from this program.

COUNTY HIRES TIRE RECYCLER

Approximately 600 to 700 tires arrive at the Yolo County Central Landfill each month. This translates to about 7 tons of tires every month, or roughly 100 passenger tires per ton. That's an awful lot of tires, especially when your tire handler calls to say they're quitting business and you're out of luck.

Well, the County is pleased to announce that it officially hired Tire Disposal Service of Sacramento to be its tire recycler. Tire Disposal Service signed a 6 month contract with Yolo County to take all the tires collected at the Central Landfill's voluntary drop-off recycle center. Over 90% of the tires will be transported to CemEnergy near Redding, an alternative fuels burning kiln for the cement industry. The remaining tires will either be retreaded or recycled, depending on the quality of the tire.

The use of synthetic rubber from recycling tires saves more than 70% of the energy used to produce virgin synthetic rubber. Recycled tire products include insulation, carpet padding, garden hoses, or rubber crumbs for asphalt roads. One trendy San Francisco store, Used Rubber USA, actually sells handbags, belts, and clothing made from used inner tubes (water proof no doubt).

Tire retreads are also manufactured and currently used by Federal Express, the United Parcel Service, the U.S. Postal Service, and even the Navy's Blue Angels flying acrobatic team. Locally, Yolo Bus uses retreads by recapping their own tires.

County policy is to prevent tires from burial in landfills. Burying tires is problematic since they do not decompose and tend to spring upward, loosening the compacted sanitary cell of garbage. The "open air" burning of tires spews toxic fumes into the atmosphere, and large tire storage piles form rodent and insect habitat.

If you're tired of not knowing where to take your old tire, drop it off at the Central Landfill recycling center (minimum \$ 2 per passenger tire). If you coach a local football team, you're welcome to take them for drills...

STRANGE BUT TRUE

County staff has seen a lot of weird garbage dumped in the Central Landfill but these occurrences take the cake.

- We once received several truck loads of laundry detergent dumped at the landfill. Known as "the day the Tide came in."

- A local turkey rancher wanted to bury the company's turkey guts last Thanksgiving (1990). We only took feathers, feet and beaks, no innards. We're not kidding!

- Ever wonder what happens to unsold lottery tickets? Yep, some are buried in the Central Landfill. Over 295 tons were disposed in December alone, from a game that was never even played! The State actually hired two security guards to supervise the dumping of these unsold tickets. One guard prevented landfill workers from stealing the tickets. The other guard was to prevent the first security guard from stealing the tickets. What a lottery system we have?!

WOW OH WOW

The County's white-office-waste paper (WOW) recycling program is finishing its best year ever. By mid-December, approximately 32 tons of WOW paper had been collected from 54 County offices. And this doesn't include the Monroe Detention Center which comprises an additional 120 employees.

We in the Public Works Department are surprised (but encouraged) about the WOW program. This year's total is 70% more than the total WOW collected in 1990 (18.8 tons). Our records indicate that April was the busiest month (4.7 tons). Maybe preparing all those tax forms had something to do with this.

If you are interested in joining the County's WOW program, call Dave

Hiatt at the Central Landfill (666-8729) to order bags and arrange a pick up. And to the folks at the Monroe Detention Center, we haven't forgotten you! We're ordering more WOW bags and stands...

CHRISTMAS TREE RECYCLING

By now the County-wide Christmas Tree Recycling Program has already passed but we don't yet have participation figures. Collection sites were arranged to accept trees in West Sacramento, Woodland, Esparto and at the Central Landfill. The City of Davis handled the recovery of its Christmas Trees via its curbside yard waste collection program. Results of the tree recycling programs to follow in the next Garbage Talk.

TRASH TRIVIA

- Garbage cops in Newark, New Jersey are now enforcing a \$25 fine on violators who place newspapers and other targeted recyclables in their household garbage. The "garbage fines" may reach up to \$1000 for non-recycling repeat offenders. The City of Newark plans to reduce its garbage buried in landfills 60% by 1994.

- Residents in Omaha, Nebraska are paying 94 cents per household per month for their curbside recycling program.

- Americans throw away 25 billion polystyrene foam cups every year.

- Approximately 500 white goods (appliances such as refrigerators, washers and dryers) are buried at the Yolo County Central Landfill each month. This represents roughly 450 tons of salvageable steel every year! We are planning a "white goods" recovery program to begin in early 1992.

USA BUYS RECYCLED

According to the National Recycling Coalition, every state in the union now has some sort of law favoring the purchase of recycled products. In 1986 only 13 states maintained programs for procuring recycled products.

Yolo County's goal is to purchase 30% of its office paper that originates from recycled fibers by 1993, and 50% by 1995. Janice Ehrke, County Manager of Purchasing Services, has diligently worked to do business with vendors of recycled products. Ehrke reports that more vendors are entering this special market "niche," and that prices for recycled content materials are becoming more competitive. Ehrke recently made contacts to purchase high quality paper towels and toilet paper...all made from recycled fibers!

So consider "buying recycled" for 1992. Lets help Janice meet her goal. You can reach her at 666-8070. Remember, if you buy recycled paper products, it will help us market our newsprint recovered at the Central Landfill. Your demand for recycled paper will stimulate the demand for wastepaper....

RECYCLING RATES AT CENTRAL LANDFILL AND ESPARTO (tons)

	Jan-Jun	Jul-Nov
Batteries	11.52	13.26
Oil	19.32	12.70
Glass	7.12	7.27
Aluminum	0.56	1.82
News	26.81	20.08
WOW	16.42	13.16
PVC	1.44	4.07
Steel Cans	-	0.30
Wood	3507	2312
* Tires	-	8.35

* The County began its tire recycling venture during November of 1991. We will tabulate year end recycling totals for 1991 to be included in the next edition of Garbage Talk.

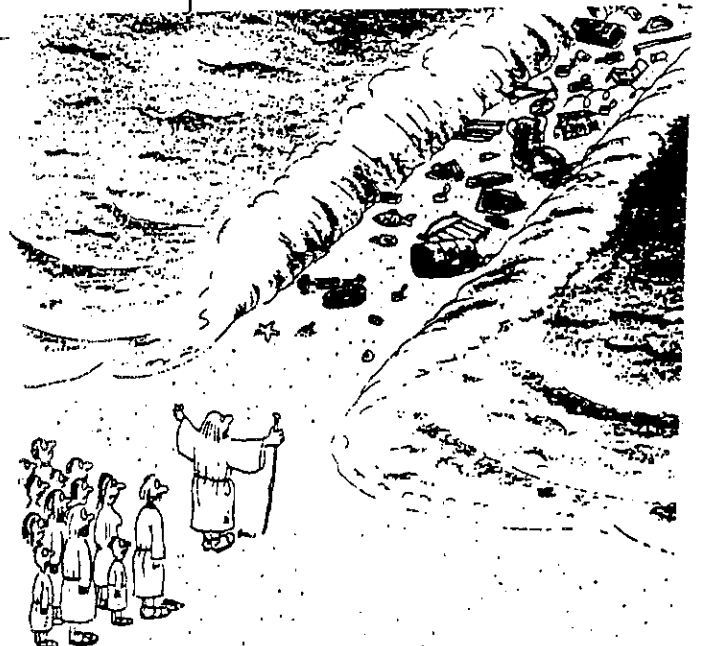
ON TO BETTER DIGS

November 8, 1991 was a sad day for the Yolo County Public Works Department as we lost one of our finest employees, Marcus Davenport. Marcus joined the County back in 1976 and was promoted through the ranks to become the Refuse Disposal Supervisor at the Central Landfill. After working 15 years with Yolo County, Marcus moved on to further his "garbage career" with San Joaquin County, where he's a Solid Waste Foreman. Yolo County's loss is San Joaquin's gain...good luck Marcus, we'll miss you!

The County Public Works Department also saw UC Davis student Linda Kaplan leave in December. Linda joined the County back in May as our Recycling Intern. Linda was a big help in preparing Garbage Talk, and wrote the articles on disposable diapers and mattress recycling. Linda recently completed her B.A. degree in International Relations and may eventually "get back into garbage." Good luck to you too, Linda!

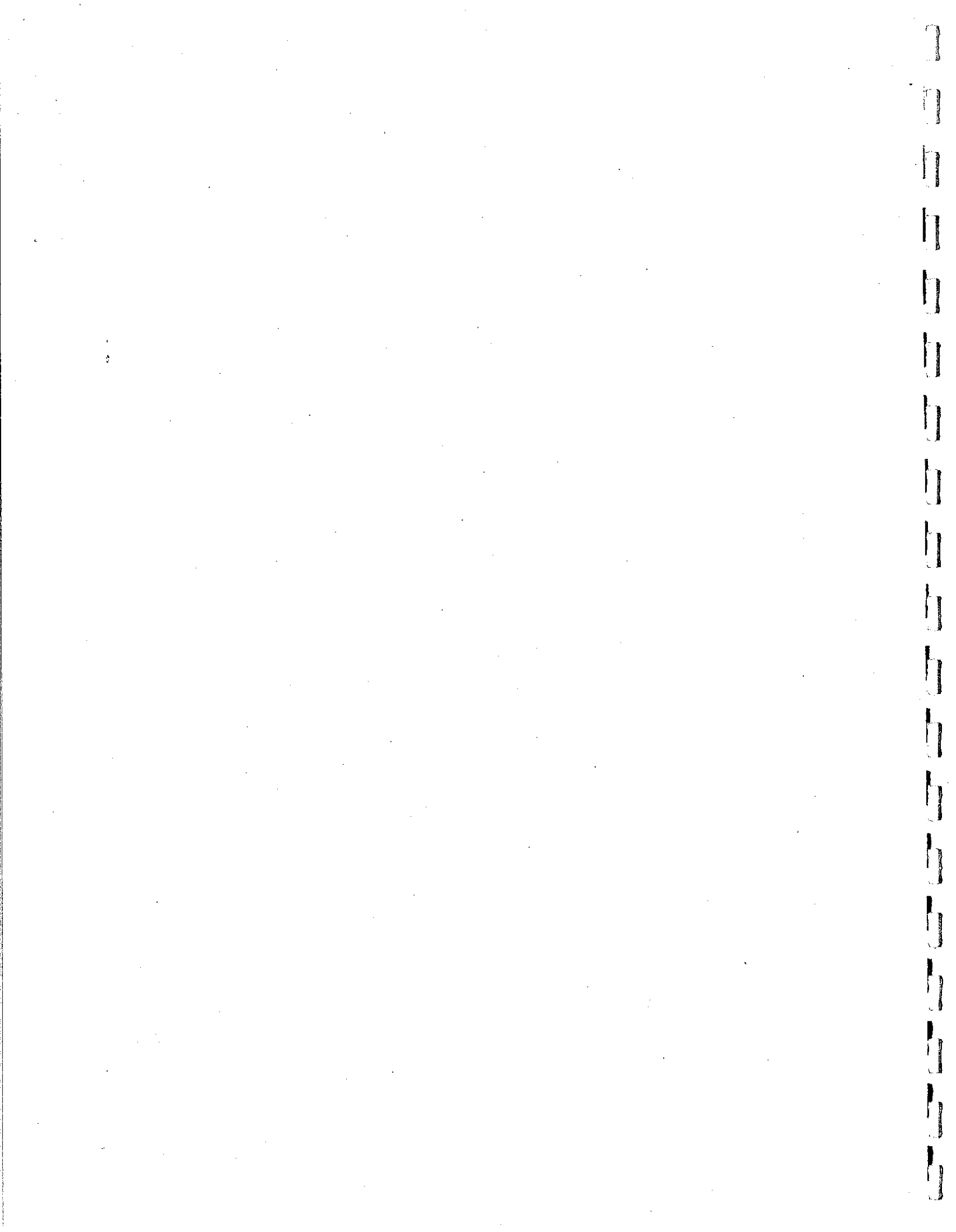
GARBAGE TALK FEEDBACK

Give us your feedback on Garbage Talk. If you like us let us know, and if you don't...too bad. Your comments can be sent to Eric Miller, Yolo County Department of Public Works, 292 West Beamer Street, Woodland, CA 95695 (or courier # 26). Send ideas for news articles!



APPENDIX G

Participants at Yolo County HHW collection events are asked to complete a survey to assist the County in monitoring and evaluation of the HHW management program. A copy of the HHW survey follows.



HOUSEHOLD HAZARDOUS WASTE TURN-IN

April 13, 1991
Davis

April 27, 1991
Woodland

<u>Type of Waste</u>	<u>Living Unit</u>	<u>Learned of Service</u>
Household _____	House _____	Flyers _____
Garden _____	Apt. _____	Newspaper _____
Automotive _____		Word of Mouth _____
Paint _____	<u>Origin</u> _____	Cable T.V. _____
Motor Oil _____	Zip Code _____	Billing _____

Have you participated in past HHW events? Yes ___ No ___ How Many? _____

The County is hoping to install a permanent HHW facility at the Central Landfill. Are you willing to travel to the YCCL to properly dispose of your HHW? Yes ___ No ___

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April 13, 1991
Davis

April 27, 1991
Woodland

<u>Type of Waste</u>	<u>Living Unit</u>	<u>Learned of Service</u>
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Motor Oil _____	Zip Code _____	Billing _____

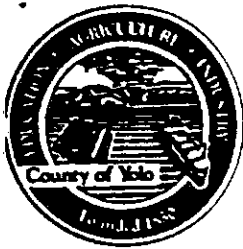
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The County is hoping to install a permanent HHW facility at the Central Landfill. Are you willing to travel to the YCCL to properly dispose of your HHW? Yes ___ No ___

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APPENDIX H

A copy of an outline of Yolo County's Hazardous Waste Exclusion Program follows, including lists of typical wastes that are acceptable and not acceptable for disposal at the YCCL.



County of Yolo

DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
ROAD COMMISSIONER
292 WEST BEAMER STREET

SURVEYOR
WOODLAND, CALIFORNIA 95695-2598

ENGINEER
(916) 666-8775

JOHN M. ROBERTSON
DIRECTOR

DATE: September 25, 1990

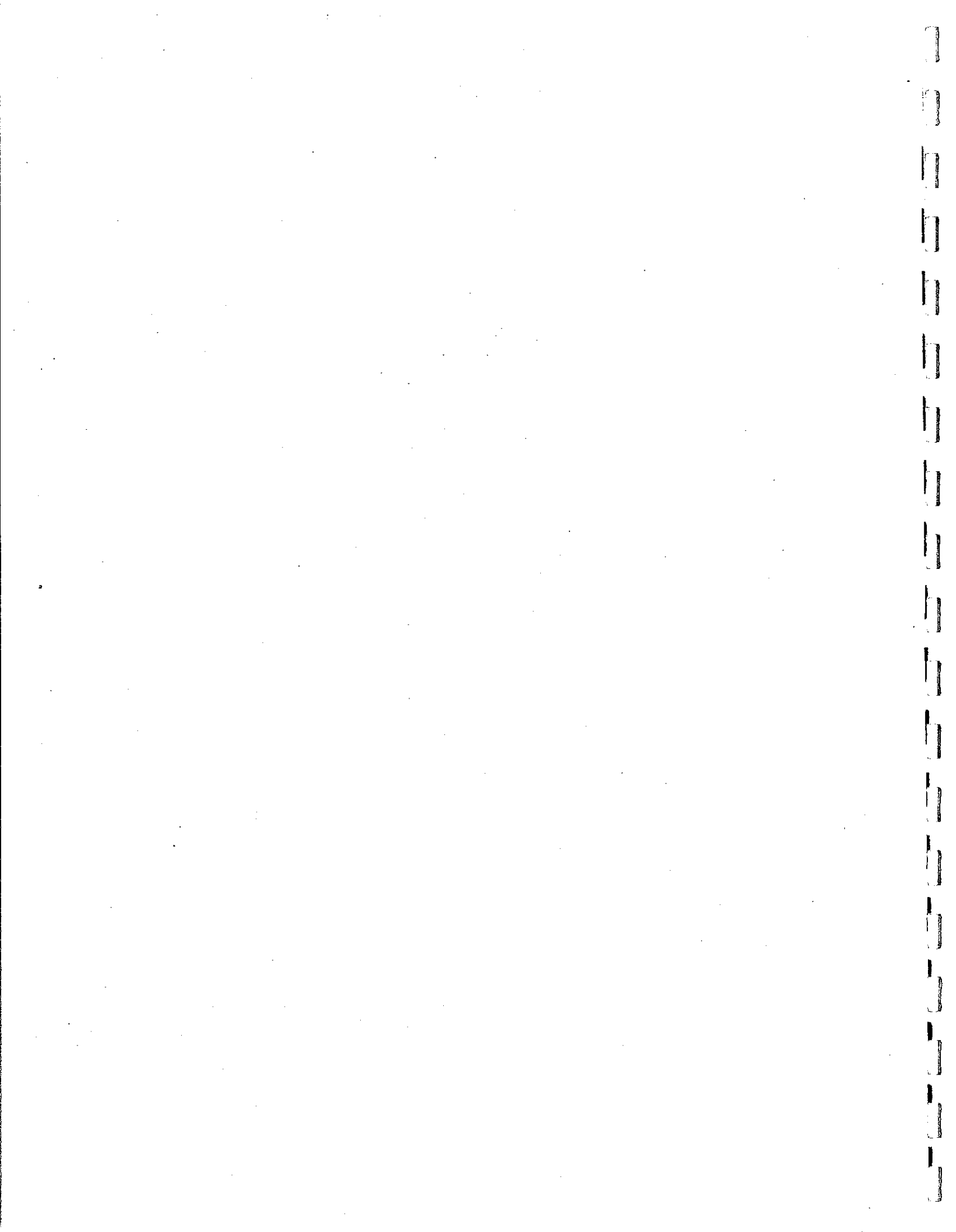
TO: Yolo County Central Landfill Patrons

FROM: Yolo County Department of Public Works, The Sanitation Enterprise

SUBJECT: Yolo County Sanitation Enterprises'
HAZARDOUS WASTE EXCLUSION PROGRAM

Under the California Code of Regulations, Titles 22 and 23, the Yolo County Sanitation Enterprise is regulated as to which wastes are acceptable for disposal at the Yolo County Central Landfill (YCCL). Based on the guidelines and criteria established under this code, wastes defined as 'hazardous' or 'designated' are not acceptable at the YCCL. In compliance with this state administrative code, as well as federal legislation, the Sanitation Enterprise will be developing a HAZARDOUS WASTE EXCLUSION PROGRAM to detect and prevent attempts to dispose of hazardous wastes at the YCCL. In the spring and early summer of 1990, the Sanitation Enterprise will actively incorporate the measures outlined in the program. Some of the measures that will be in the program will be random inspections of incoming loads, inspections of suspicious loads, recordkeeping of inspection results, training of personnel to recognize hazardous wastes, provisions for safe handling and disposal of hazardous wastes and procedures for notifying the proper State authorities if a regulated hazardous waste is found at the landfill.

In preparation for the implementation of the HAZARDOUS WASTE EXCLUSION PROGRAM, the Sanitation Enterprise has compiled two lists, one for wastes that are acceptable, and one for wastes that are not acceptable, for disposal at the YCCL. These lists should serve to inform all current users of the YCCL of the types of wastes that are allowed in the landfill, and those that are not. The attached lists were compiled based on wastes specified under CCR, Titles 22 and 23, as well as current regulated waste disposal practices. These lists are considered working lists, containing the best information currently available, and subject to modification as required. Attachment I, 'TYPICAL WASTES ACCEPTABLE AT THE YCCL', specifies wastes that are generally considered to be nonhazardous solid wastes or inert wastes acceptable for discharge at the YCCL. Attachment II, 'TYPICAL WASTES NOT ACCEPTABLE AT THE YCCL', specifies wastes that are generally considered to be hazardous wastes or designated wastes not acceptable for disposal at the YCCL. Disposers of wastes at the YCCL should become familiar with the attached lists, and take the necessary steps to eliminate hazardous wastes from the incoming wastestream. All disposers at the YCCL will be subject to the HAZARDOUS WASTE EXCLUSION PROGRAM.



Attachment I

TYPICAL WASTES ACCEPTABLE AT THE YCCL

The following wastes are generally considered to be nonhazardous and inert wastes, as defined in the CCR, Title 23, Chapter 3, and are acceptable at the YCCL.

Food and food products
Paper (newspaper, office paper, paper products)
Plastics (bags, bottles, wrappings)
Cardboard
Boxboard
Tin
Scrap metal
Dried empty paint cans
Oil filters (drained for 48 hours)
Rubber products

Medical wastes (if rendered not infectious via autoclave or other approved disinfection method. ~~No red bags or red sharps or containers allowed without evidence of effective~~ treatment)

Dirt and rocks
Roofing paper and shingles (non-bestos shingles)
Plant residues of agriculture origin
Aluminum (recycled)
Styrofoam
Fabrics/clothing
Cannery waste
Glass (recycled)
Yard trimmings
Wood
Concrete, asphalt, sheetrock
Tires (recycled)
Furniture
Sewage sludge (disposed into Class II Liquid Waste ponds only)
PVC pipe (recycled)

Any metal, plastic or glass containers used for liquid or powder chemicals must be processed by rinsing and draining, or some other approved decontamination method. Otherwise containers must be empty, opened and dry.

Cloths may not be oil or solvent soaked industrial cleanup rags.

Dirt and other construction wastes may not be contaminated with chemicals or other hazardous material or hazardous wastes.

Attachment II

TYPICAL WASTES NOT ACCEPTABLE AT THE YCCL

The following wastes are generally considered to be hazardous wastes, as defined in the CCR, Title 22, Chapter 30, and are not acceptable at the YCCL.

AUTOMOTIVE SUPPLIES

Antifreeze
Starter fluids
Air-conditioning refrigerants
Fuel additives
Grease and rust solvents
Transmission and brake fluids
Used motor oil (may be recycled on-site)
Batteries (battery acid, corrosive battery fluid - must be recycled on-site)
Car wax
Lubricating oil
Automotive cleaners/polishes (aluminum/carburetor cleaner, chrome polish)
Gasoline/diesel fuel (fuel wastes)
Kerosene or lamp oil
Auto body filler

BUILDING, PAINTS AND WOODWORKING SUPPLIES

Enamel, latex, acrylic and water-based paints
Paint thinner, turpentine, mineral spirits
Paint or varnish removers and strippers
Wood preservatives (creosote)
Stains and finishes
Rust paints and metal primers
Flourescent lamps with ballast and tubes (PCB's
- may accept up to 25 tubes maximum per load)
Glues and cements
Asbestos

HOBBY AND HOUSEHOLD

Aerosol cans containing any pressure or fluids
Abrasive cleaners and powders
Adhesives, glues and cements
Butane lighters
Chemistry sets

TYPICAL WASTES NOT ACCEPTABLE AT THE YCCL

Oven cleaners
Toilet cleaners
Bleach cleaners
Drain and plumbing cleaners
Ammonia-based cleaners
Rug and upholstery cleaners
Resins, fiberglass and epoxy
Mothballs and flakes
Household batteries
Pharmaceuticals (chemotherapy drugs)
Ammunition
Gun powder
Broken thermometers with mercury
Disinfectants
Photographic chemicals and solutions
Rubber cement thinner
Shoe die and polish
Spot removers
Nail polish and polish remover, cuticle remover
Furniture and floor polish
Hair permanent, colorant and straightener solutions
Clothing and chemical dyes
Printer inks
Pool chemicals
Model airplane paint
Metal and silver polishes
Etching acid liquid or solvent
Cleaning solvents or acids
Any solvents or acids other than water
Data processing fluids
Explosives
Plating wastes

GARDEN AND PET SUPPLIES

Chemical fertilizers
Fungicides
Herbicides
Ant and roach killers
Insecticides (organophosphates)

TYPICAL WASTES NOT ACCEPTABLE AT THE YCCL

Drycleaning or any other solvents
Pet care products (flea powders, tick powders, shampoo)
Rat, mouse and gopher poisons
Snail and slug poisons
Soil fumigants
Ashes (incinerator, baghouse)

OTHER WASTES

Boiler cleaning waste
Bilge water
Caustic sludge and wastewater
Acid sludge
Alkaline caustic liquids
Bunker oil
Fly ash
Oil ash
Lime and sulfur sludge
Tanning sludge
Soda ash
Sulfonation oil
Used acids
Used chemical solutions (cyanide, etc.)
Pickling liquor
Air reactive or water reactive solids or liquids
Flamable gases
Flamable liquids
Flamable solids
Compressed gases
Corrosives
Oxidizers, organic peroxides
Poison gases
Non-flamable gases - compressed
Radioactive wastes

APPENDIX I

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

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

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

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

Green Alternatives
1609-A Regatta Lane
San Jose, CA 95112
408-441-0241

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

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

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

Green Alternatives
1609-A Regatta Lane
San Jose, CA 95112
408-441-0241