

HOUSEHOLD HAZARDOUS WASTE ELEMENT

City of San Jose, California

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ATTACHMENT 1 CIWMB form 303

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PART I
CHAPTER 1

OVERVIEW OF HOUSEHOLD HAZARDOUS WASTE PROBLEM

Hazardous substances are prevalent in modern society, not only in the commercial and industrial sectors, but in the residential sectors as well. Hazardous substances can be found throughout the home, garage, garden, and hobby shop as constituents in such products as cleaners, paints, pesticides and glue. Once these products are no longer needed by the consumer, the unused portion is considered household hazardous waste (HHW). Improper disposal of HHW can pose a risk to human health and the environment and thus requires special handling.

A substance is classified as a hazardous waste by the Department of Health Services (DHS), California Code of Regulations (CCR) Title 22, if it demonstrates one of the following characteristics:

- ignitability - flammable (e.g., lighter fluid, spot and paint removers);
- corrosivity - eats away materials and can destroy human and animal tissue by chemical action (e.g., oven and toilet bowl cleaners);
- reactivity - creates an explosion or produces deadly vapors (e.g., bleach mixed with ammonia-based cleaners); and
- toxicity - capable of producing injury, illness, or damage to humans, domestic livestock, or wildlife through ingestion, inhalation, or absorption through any body surface (rat poison, cleaning fluids, pesticides, bleach)

Until the early 1980's, city and county-sponsored programs to properly manage HHW were virtually non-existent, thereby resulting in wastes being disposed in the garbage, down the sewer, into storm drains, or directly onto the ground. The improper disposal of hazardous wastes can result in contamination of ground and surface water and potentially hazardous leachate migration from municipal solid waste landfills.

In response to the growing public awareness of the HHW issue, in 1986 the City began offering household hazardous waste turn-in events.

The City is currently participating in the development and implementation of a new, countywide pilot HHW management effort aimed at providing ongoing, convenient and cost-effective collection services and public education for all residents.

CHAPTER 2

INTRODUCTION TO DRAFT HHW ELEMENT

HOUSEHOLD HAZARDOUS WASTE ELEMENT REQUIREMENTS

Assembly Bill 2707 requires that each city and the County for the unincorporated area characterize and quantify its HHW stream and develop plans for safe collection, recycling, treatment, and disposal of hazardous wastes generated by its households. An AB 2707 Household Hazardous Waste Element must be submitted to the County by each city and the County for the unincorporated area by July 1, 1991.

The County of Santa Clara Solid Waste Program staff anticipates that it will submit the city and unincorporated area HHW Elements to the California Integrated Waste Management Board (CIWMB) in 1994. The CIWMB will review each HHW Element no less frequently than every two years. If the Board finds that the city or county has failed to implement its Elements, the Board shall issue an order of compliance with a specific schedule for achieving compliance.

In Santa Clara County, a number of cities and the County for the unincorporated area have already agreed upon HHW management goals and have developed plans for a pilot multi-jurisdictional HHW collection and source reduction system. However, the California Integrated Waste Management Board (CIWMB) requires that each city and County for the unincorporated area provide its own AB 2707 Household Hazardous Waste Element. The CIWMB will not accept a countywide plan in place of city-specific HHW plans.

HHW PLANNING EFFORTS IN SANTA CLARA COUNTY

BACKGROUND

With nearly 1.5 million residents, Santa Clara County ranks first in the Bay Area and fourth in the State in terms of population (ABAG, 1991). The county covers 1,320 square miles, making it the second largest county in the San Francisco Bay Area. It is a diverse county encompassing both highly urbanized and rural-agricultural areas. The county has experienced rapid population growth since the 1950's, with corresponding growth in solid waste and household hazardous waste generation.

Located at the southern end of the San Francisco Bay, Santa Clara County has a number of landfills located in proximity to the bay and wetland ecosystems. This, coupled with the fact that groundwater supplies 50 percent of the drinking water in Santa Clara County, requires that special measures be taken to protect the environment and groundwater by keeping hazardous waste out of landfills.

Household hazardous waste is generated in almost all homes, and until recently, residents have not had access to proper disposal options for this waste on an

ongoing basis. As a result, HHW has been improperly disposed of in sanitary landfills.

Santa Clara County cities have been in the forefront in California and the nation in developing HHW management programs. Cities have sponsored one-day (or two day) HHW turn-ins and have set up curbside motor oil collection programs for their residents. Some cities sponsor additional HHW disposal programs at their drop-off recycling centers. Cities and non-profit organizations have developed and distributed educational materials that alert residents to the proper disposal methods for HHW and suggest alternatives to household products that generate hazardous waste.

The County has co-sponsored collection events for the unincorporated area with neighboring cities. Reciprocal agreements that allow participation in another jurisdiction's event have been utilized on a limited basis. The City of San Jose is located at the south end of San Francisco Bay. San Jose is the largest city in Santa Clara Valley with a total population of approximately 782,000 including 240,000 single-family and multi-family units.

The success of past HHW programs has resulted in an increasing demand for services. However, because of the limited number of one-day HHW events available in most jurisdictions, the hazardous waste disposal needs of many county residents have not been fully met. This is an acute problem for those with immediate disposal needs, such as residents who are moving.

This increasing demand, together with raising costs of HHW collection and disposal, led a number of local jurisdictions to the conclusion that one-day events alone do not offer a viable solution for meeting future needs. Additionally, there was a recognition that the problems associated with improper disposal of HHW are a regional issue and may require regional solutions.

The Household Hazardous Waste Working Group of the Santa Clara County Tanner Advisory Committee developed a set of goals for management of household hazardous waste in the county. The Working Group is composed of household hazardous waste program coordinators from cities; County hazardous waste, solid waste, and environmental health staff; private and solid waste contractors; and community advisory members. The Working Group developed the following HHW goals for the county.

Tanner Plan Household Hazardous Waste Goals

- Keep household hazardous waste out of landfills; sanitary and storms sewers; and waterways
- Reduce potential adverse effects of household hazardous waste on public health and safety

- Prevent harmful exposures in the home and environment through coordinated public education
- Provide services to all residents in the county

The Working Group determined that while most jurisdictions hold one-day collection events, a number of unmet needs remain in the county.

Unmet Needs

- Access to household hazardous waste collection on an "immediate need" basis (residents who are moving or otherwise need to dispose of materials rapidly)
- Access to ongoing collection centers
- Public education materials and programs that are consistent for all jurisdictions in the county.

These conclusions are echoed in the County's Hazardous Waste Management Plan (Tanner Plan) of 1989 which states that:

"The County and cities shall coordinate the development of a program for the proper management and disposal of household hazardous waste on a county-wide basis in accordance with the waste management hierarchy and considering existing programs and conditions."

Under direction of staff to the Tanner Committee, a HHW Working Group began a planning effort to examine alternative program models and determine equitable and efficient methods of countywide service delivery. During the planning process, the group concluded that a countywide program might be more cost effective and provide greater access to service for county residents.

COUNTYWIDE HHW COLLECTION SYSTEM

The Working Group recommended a HHW Program to provide service via a mobile collection unit, with a permanent HHW facility to be added in the near future. The mobile unit will be located at neighborhood collection sites identified by the city HHW coordinators and will move to new locations throughout the county on a rotational basis. Residents of any participating jurisdiction will be eligible to use the mobile unit on an appointment-only basis at any of its scheduled stops throughout the county.

The mobile collection unit is expected to consist of a specially equipped vehicle, a and/or trailer, a portable chain link fence for security, and canopies to protect workers from the weather. The vehicle could contain an electric generator, a water system, as well as emergency and personal protective equipment and a small lab. A mobile trailer will provide storage space for supplies and equipment needed to conduct the mobile collections. The mobile unit would operate on an appointment basis.

The County Division of Environmental Health Services will serve as the lead agency for the administration and implementation of the countywide HHW program. Hazardous materials specialists and environmental health specialists will be utilized for development and initial implementation of the collection program. Health Department in-house support services include an industrial hygienist, a toxicologist, and a chemist. A public health laboratory will be available to augment the on-site chemical identification kits used for identifying unlabeled wastes. Health Department staff will contract for transportation and disposal of the waste in compliance with federal, state, and local regulations.

The Department of Planning and Development will serve as the lead agency for public education efforts. The Planning Department will coordinate with other agencies to maximize use of available resources and avoid duplication in the development of educational materials and programs. Educational projects will emphasize not only safe disposal practices, but also reduction in the use of potentially hazardous products.

A permanent HHW collection site is planned to begin operation in the near future. The permanent site will provide additional collection services and support the mobile collection program, by allowing expanded storage capabilities for more efficient consolidation of wastes prior to disposal. This may result in lower per unit disposal costs as well as additional opportunities to separate materials for reuse, treatment, or recycling. The permanent facility could also support a door-to-door HHW pickup service for elderly and disabled residents. Such an operation could be developed at one or more existing solid waste facilities. If a joint effort is pursued with solid waste facility operators, such a facility could be operational as soon as July 1, 1993. As this is the start date for San Jose's new garbage and recycling contract, the City of San Jose will be aggressively pushing the countywide process to have this operation launched as part of its new integrated waste collection system in 1993.

PARTICIPANTS

Thirteen jurisdictions are currently planning to participate in the Countywide pilot HHW program:

City of Campbell	City of Cupertino
City of Los Altos	Town of Los Altos Hills
Town of Los Gatos	City of Milpitas
City of Monte Sereno	City of Mountain View
City of San Jose	City of Santa Clara
City of Saratoga	City of Sunnyvale
County for the Unincorporated Area	

The countywide pilot HHW program is expected to begin collection in early 1992. Some participating cities may rely entirely upon the countywide program for collection of HHW. Other cities plan to use the countywide program to augment

existing HHW programs such as periodic drop-off events and curbside oil collection programs.

While the countywide HHW program will be operated as a pilot project in its first year, it is anticipated that it will continue into the short-term (1991-1995) and medium-term (1996-2000) planning periods. At the end of the first year of operation, the program will be evaluated. Participating cities will decide if and to what extent they wish to continue participation in the countywide HHW program. Cities not currently participating in the pilot program in 1991-1992 may decide to join the countywide HHW program at some later date.

PART II
HOUSEHOLD HAZARDOUS WASTE ELEMENT FOR
CITY OF SAN JOSE

CHAPTER 1
OBJECTIVES

GOALS

Improper disposal of household hazardous waste will be reduced or eliminated in the City in the short term and medium term planning periods. Generation of household hazardous waste will be reduced through source reduction efforts. Household hazardous waste generated by residents will be safely collected, recycled, treated or disposed.

1.1 OBJECTIVES FOR SHORT-TERM PLANNING PERIOD (1991-1995)

Landfill disposal of household hazardous waste will be reduced by 75% in the City in the short term planning period by achievement of the following objectives:

OBJECTIVE #1 PROVIDE RESIDENTS OF SAN JOSE ACCESS TO CONVENIENT HOUSEHOLD HAZARDOUS WASTE COLLECTION SERVICES.

Mobile Collection Unit

The City plans to participate in the countywide HHW program which will provide residents with year round collection services. The mobile unit will operate in close proximity of most city residents one to two times per year. In addition, residents in need of immediate disposal services will be able to deliver their HHW to the mobile collection unit at any location in the county.

Telephone Appointment Service

The countywide HHW program will initially operate on an appointment-only basis. The County Division of Environmental Health Services will operate the telephone appointment line for the mobile collection unit and the permanent HHW facility.

Telephone Information Service

The City of San Jose will continue to provide information on household hazardous waste to its residents through the Office of Environmental Management. Residents who wish to dispose of household hazardous substances will be screened by the household hazardous waste program specialist before being assigned an appointment in the countywide household hazardous waste program. Residents with small amounts of certain hazardous wastes will be asked to use them up, rather than bring them to a drop off location.

Permanent Facility

The City intends to participate in the countywide HHW program plan to develop and operate a permanent HHW collection facility in addition to the mobile collection unit.

Periodic Drop-Off Events

The City will continue to provide periodic drop-off events until the county household hazardous waste collection program is implemented.

OBJECTIVE #2 EXPAND CURBSIDE MOTOR OIL COLLECTION PROGRAMS, TO THE MAXIMUM EXTENT POSSIBLE, TO INCLUDE ALL MULTI-FAMILY DWELLINGS

Expand Collection

Existing curbside motor oil collection programs will be gradually expanded. The curbside collection of used motor oil will be expanded to all multi-unit dwellings which are eligible for curbside collection. Those dwellings not currently eligible for collection will be studied for integration into the existing curbside program in FY93-94 when the new Recycling Plus! system is to start service.

Increase Participation

In areas where participation is low, special publicity and educational efforts will be conducted to increase the percentage of residents using the curbside motor oil collection service and/or drop-off locations.

OBJECTIVE #3 MINIMIZE DISPOSAL OF COLLECTED HHW THROUGH DISTRIBUTION OF REUSABLE MATERIALS AND RECYCLING

Distribution to Agencies and Municipal Departments

When practical, usable materials such as paint and automotive maintenance products will be offered to non-profit agencies, and city and county departments.

Distribution at Collection Events

When practical, reuse tables will be operated at HHW collection events to allow residents to select usable products.

Recycling

To the maximum extent possible, recyclable HHW such as paint, motor oil, and automotive batteries will be separated from incoming waste and sent away for recycling.

OBJECTIVE #4 IMPROVE MONITORING AND EVALUATION OF HHW PROGRAMS

The City intends to participate in the development of county-wide standardized methods for measuring collected HHW.

OBJECTIVE #5 LIMIT IMPROPER DISPOSAL OF HAZARDOUS WASTE AT SOLID WASTE LANDFILLS BY CONTINUING STATE-MANDATED HAZARDOUS WASTE EXCLUSION PROGRAMS

Load Checking, Sign Posting, Training, and Customer Notification

Incoming solid waste at Guadalupe Mines, Zanker, Newby Island, and Kirby Canyon landfills which serve the city will be monitored by load checking programs under the oversight of County Environmental Health, the local enforcement agency, as required by the Regional Water Quality Control Board. Landfill operators will carry out required sign posting, employee training and customer notification regarding the prohibition of HHW from landfill disposal.

OBJECTIVE #6 INCREASE EFFICIENCY AND EFFECTIVENESS OF HHW COLLECTION SERVICES AND PUBLIC EDUCATION BY COORDINATING PROGRAMS WITH OTHER JURISDICTIONS AND AGENCIES WHENEVER FEASIBLE

HHW Management in Santa Clara County

The Cities of Campbell, Cupertino, Los Altos, Milpitas, Monte Sereno, Mountain View, Sunnyvale, San Jose, Santa Clara, Saratoga; the Towns of Los Altos Hills and Los Gatos; and the County for the Unincorporated area; the County Hazardous Waste Management Program; the County Environmental Health Services; and the County Solid Waste Program intend to participate in cooperative HHW management efforts. The Nonpoint Source Pollution Control Program, the wastewater treatment plants, community advisory persons, schools, and non-profit organizations will be included in this multijurisdictional effort.

OBJECTIVE #7 DECREASE POTENTIAL SHORT- AND LONG-TERM LIABILITY RISKS BY MONITORING ENVIRONMENTAL COMPLIANCE RECORDS AND PROOF OF INSURANCE OF CONTRACT WASTE HAULERS AND CONTRACT TREATMENT, STORAGE AND DISPOSAL FACILITIES

Environmental Compliance

The past three years' environmental compliance records of all hazardous waste contractors will be examined.

On-Site Audits

Audits of facilities under consideration will be conducted by Environmental Health Services to confirm safe waste management methods

Liability Insurance

Proof of adequate liability insurance will be required to be kept on file.

The verification of environmental compliance will be the responsibility of the Santa Clara County Department of Environmental Health Services.

OBJECTIVE #8 INCREASE SOURCE REDUCTION OPTIONS FOR RESIDENTS BY SUPPORTING LEGISLATIVE EFFORTS AIMED AT PROMOTING DEVELOPMENT OF SAFER PRODUCTS AND SAFER HHW MANAGEMENT METHODS

Legislative Efforts

The City will initiate, endorse, and support efforts to require manufacturers to market less hazardous or nonhazardous products. Increased recycling of household hazardous wastes can also be encouraged through the support of legislation.

1.2 OBJECTIVES FOR MEDIUM-TERM PLANNING PERIOD

Landfill disposal of household hazardous waste will be further reduced or eliminated in the city in the medium term planning period (1996-2000) by achievement of the following objectives:

OBJECTIVE #1 CONTINUE THE OBJECTIVES DEVELOPED FOR THE SHORT-TERM PLANNING PERIOD INTO THE MEDIUM-TERM PLANNING PERIOD

OBJECTIVE #2 MAKE SOURCE REDUCTION THE HIGHEST PRIORITY IN THE MEDIUM-TERM PLANNING PERIOD.

1.3 TARGETED MATERIALS

Household materials that have the characteristics of hazardous waste, as defined by Section 25117 of the Health and Safety Code, have been targeted for collection by the City .

Several types of materials are excluded from HHW collection programs due to potential hazards to the public and collection program staff. Ammunition and explosives will not be accepted. Residents who request disposal services for ammunition or explosives will be referred to the police or fire department. Compressed gas cylinders; eg., propane tanks; over 20 lbs. will not be accepted. Residents will be referred to propane and compressed gas dealers for disposal of gas cylinders.

Medical wastes will not be accepted. Residents requesting disposal services for medical wastes will be advised of proper disposal methods for specific types of waste materials. Radioactive waste will not be accepted. Smoke alarms, the common household product containing radioactive materials, is considered "Below Regulatory Concern" and may be discarded with household solid waste.

CHAPTER 2

EXISTING HHW CONDITIONS

2.1 QUANTITY OF HOUSEHOLD HAZARDOUS WASTE GENERATED BY THE CITY OF SAN JOSE

Currently, 333,600 tons of residential solid waste are disposed by the city annually. Based on the Solid Waste Generation Study, 0.09% of the city's landfilled waste stream, was identified as being HHW. (Extrapolated from the City of Sunnyvale's Waste Characterization study, 1991) Therefore, approximately 303 tons of HHW is being improperly disposed in San Jose landfills annually by City residents through the franchise garbage collection system.

Also in the Solid Waste Generation Study, 3.09% of the 187,064 tons of self-hauled wastes were identified as "household hazardous waste." Although this wastestream is a mixture of residential, commercial, and industrial materials, the hazardous wastes delivered to the fill by small quantity generators is believed to be similar to household hazardous waste and may be most readily diverted by similar methods. Therefore all 5,780 tons of household hazardous waste in this waste stream is included here for purpose of planning proper recovery or disposal.

In 1990, 44.5 tons of HHW was collected by City-sponsored HHW collection programs. This figure was derived by converting amount of gallons collected to pounds and tons. The following conversions were used in this analysis.

1 gallon of liquid (other than oil) = 8.6 lbs. (Source: Santa Clara County Department of Weights and Measures)

1 gallon of used motor oil = 7.6 lbs. (Sources: Santa Clara County Department of Weights and Measures, State Division of Measurement Standards, and Evergreen Oil, Inc.)

1 automotive battery = 34 lbs. (Source: County Environmental Health)

55 gallon drum of lab-packed wastes = 20 gallons of liquid (Source: County Hazardous Waste Management Program) 1 gallon of paint weighs about 8 pounds (Source: Romic Chemical Corporation)

55 gallon drum of consolidated oil-based paint = 55 gallons of paint (Source: Palo Alto Public Works) 1 gallon of paint weighs about 8 pounds (Source: Romic Chemical Corporation)

Table 2.1 below summarizes HHW disposed in the City of San Jose in 1990.

**Table 2.1
HHW Disposed in City San Jose, 1990**

	<u>Residential</u>	<u>Self Hauled</u>
Tonnage Solid Waste =	333,600 tons	187,064 tons
% Identified as HHW =	0.09%	3.09%
Tonnage HHW in Solid Waste Stream = (improperly disposed)	303 tons	5780 tons
Tonnage HHW Collected at Events in 1990 = (properly managed)	44.5 tons	-----
Amount of HHW Discovered in Landfill Load Checking Program =	na	na
Number of Households in 1990 (single family: total) =	166,000	240,000
Estimated HHW Disposed per Household =	3.65 pounds	48.2 pounds

2.2 TYPES AND AMOUNTS OF HHW DIVERTED

The types and amounts of HHW collected by city-sponsored collection events and programs in the City in 1990 are shown on the CIWMB Form 303 "Household Hazardous Waste Collection Information" included as Attachment 1.

2.3 EXISTING SOURCE REDUCTION, COLLECTION, RECYCLING, TREATMENT AND DISPOSAL PROGRAMS

Between 1986 and 1990, several types of household hazardous waste collection and recycling programs were developed and implemented in the city. In 1990, the City sponsored the following programs:

1. Periodic Drop-off Events
2. Curbside Motor Oil Collection
3. Hazardous Waste Exclusion Program
4. Exclusion Measures Taken by Waste Hauler

1. Periodic Drop-off Events

The City has sponsored three household hazardous waste events periodic drop-off events, and 1 battery, oil and paint recycling event between 1986 and 1990. As shown below in Table 2.2, a total of 4,453 residents participated. 224 tons of waste were collected during this period.

Table 2.2
Periodic Drop-off Events in the City San Jose 1986-1990

<u>Date</u>	<u>Total Number of Households Directly Notified</u>	<u># Residents Participating</u>	<u>Amount Collected</u>
10/86	1000	15	.138 tons
05/88	2500	850	35 tons
7/89	3000	2,193	144 tons
10/90	3500	1,395	44.5 tons
Total:		4,453	224 tons

2. Curbside Motor Oil Collection

The City began collection of used motor oil in January 1991 to augment its curbside recycling program and reduce the amount of used motor oil collected at household hazardous waste events. The program serves 169,000 single and multi-family units. Table 2.3 shows the number of households served and the amount collected during January - March 1991.

Table 2.3
Curbside Oil Collection, 1991

<u>Month</u>	<u>Total Households Served</u>	<u>Amount Gallons/Tons Collected</u>
January 1991	169,000	7,050 gal/28.2 tons
February 1991	169,000	9,216 gal/36.9 tons
March 1991	169,000	7,591 gal/30.3 tons

3. Hazardous Waste Exclusion Program

The objective of the Hazardous Waste Exclusion Program is to discourage the improper disposal of hazardous waste at landfills. All landfills are required to implement hazardous waste exclusion programs. This program consists of the following components:

Load Checking at Landfills

Load checking involves inspection of incoming solid waste, landfills employee training, and state and county-mandated hazardous waste handling and reporting procedures.

Landfill Public Awareness Efforts

Landfill public awareness efforts include sign posting at landfill entrances and unloading areas, verbal instructions to residents using landfill, and answering phone inquiries regarding waste disposal.

4. Exclusion Measures Taken by Waste Haulers

Some franchised waste haulers send utility bill inserts, post notices on dumpsters, conduct hazardous materials training, and inspect incoming waste during collection.

5. HHW Waste Paint Reuse

A paint re-use component was operated by Safety Specialists at the 1990 battery, oil and paint recycling event in the city. A total of 1,144 gallons (4.9 tons) of paint was reconditioned for future use.

2.4 MANAGEMENT OF HHW DIVERTED FROM LANDFILL DISPOSAL IN 1990

The City ascribes to the disposal hierarchy "Reduce, Reuse, Recycle, Treat, Dispose" for management of collected HHW. The management methods for diverted HHW are included in Attachment 1. A total of 44.5 tons of HHW was collected at the 1990 collection event. Of this, 70.2% was recycled, 17.6% was treated, and 12.2% was hazardous waste landfilled in 1990. A description of the recycling, treatment and disposal methods for HHW is included in Chapter 4, Section 4.9 and Chapter 5, Section 5.5 and on CIWMB Form 303 which is included as Attachment 1.

2.5 FUTURE STATUS OF EXISTING PROGRAMS

During the first year of operation, the mobile collection unit will operate in the city 15 times. The City intends to contribute \$390,000 for services of the Countywide HHW program for the first 12 months. This level of commitment to the countywide programs will provide 3,900 households with HHW collection services. The City will determine future level of service and financial commitment to the Countywide HHW Program on an annual basis in the short- and medium-term planning periods. In addition, a city-sponsored HHW collection programs will continue, providing residents with proper disposal methods for their household hazardous waste, and continuation and expansion of the curbside collection of used motor oil program.

Existing HHW waste exchange activities and city-sponsored public education activities will be incorporated into the Countywide HHW Program. Other regional public education efforts (Nonpoint Source Program, Non-profits, etc.) are expected to continue into the short- and medium-term planning periods. The curbside motor oil collection program will continue to expand until all single and multi-unit residences have been incorporated into the curbside collection program. The hazardous waste exclusion activities at the landfills are expected to continue into the short- and medium-term planning periods.

CHAPTER 3

METHODOLOGY FOR EVALUATION OF HHW MANAGEMENT ALTERNATIVES

The following evaluation methodology was developed by EMCON Associates for the City of Palo Alto's HHW Element. Additional criteria, "Availability of Service" and "Provides Immediate Disposal Services" were added to reflect needs of other Santa Clara County communities. The evaluation criteria are consistent with the evaluation procedure outlined in the Integrated Waste Management Board's Draft Planning Guidelines for Source Reduction and Recycling Elements.

3.1 EVALUATION CRITERIA

The following twelve criteria have been rated using a scale of high, medium, and low, with high being positive. Ten alternatives for managing HHW were evaluated. The evaluation was summarized in Table 4.1, which is located in the following chapter of this document.

3.1.1 Waste Diversion Potential

"Waste diversion potential" is the estimated ability of the alternative to reduce the amount of HHW improperly disposed in the landfill. Waste diversion potential measures the alternative's ability to accept, handle, recycle or properly dispose of HHW.

- Low: The alternative has low potential to divert HHW.
- Medium: The alternative is likely to divert some HHW.
- High: The alternative is likely to divert large amounts of HHW.

3.1.2 Absence of Hazard

"Absence of hazard" reflects the extent to which hazards result from the alternative. Hazards could include health risks, injury, fire, or other.

- Low: Potential hazards are not completely understood, or the alternative presents potential hazards.
- Medium: Potential hazards are known and controllable. Some impacts remain.
- High: There are few or no potential hazards or unmitigated impacts.

3.1.3 Flexibility

"Flexibility" measures the adaptability to changing economic, technological, and social conditions.

- Low: The alternative is limited in adaptability to changing conditions.
- Medium: The alternative is anticipated to have a moderate adaptability to changing conditions.
- High: The alternative can be readily adapted to meet changing conditions.

3.1.4 Availability of Service (Nearby and Frequent Services)

"Availability of service" is a consideration of travel distance for participants and frequency of service. Optimal travel distance was determined to be no more than a 20 minute drive from residents' homes. Optimal frequency of service was determined to be at least two disposal opportunities per year within the 20 minute driving distance.

- Low: The alternative does not provide services within a 20 minute drive. Cost or logistical barriers make frequent service with this alternative difficult.
- Medium: The alternative has potential to provide disposal services within a 20 minute drive. The alternative has the potential for frequent service.
- High: The alternative is designed to provide disposal services within a 20 minute drive and frequent service is not hindered by cost or logistical barriers, in comparison with other alternatives.

3.1.5 Provides Immediate Need Disposal Services

"Provides immediate need disposal service" refers to the alternative ability to provide disposal services within several days of a request. Residents who are moving often request HHW disposal services. If disposal services are not available, these residents may improperly dispose of their stored HHW.

- Low: The alternative does not accommodate needs of residents requesting immediate disposal services.
- Medium: The alternative may provide some immediate need services.
- High: The alternative has flexibility to accommodate residents requesting immediate disposal of HHW.

3.1.6 Limited Shift in Waste Type Generation

"Limited shift in waste type generation" measures the alternative's ability to limit consequences of diversion of one material at the expense of increased generation of another material.

- Low: The alternative would significantly shift waste production to generation of non-recyclable, non-marketable, or more hazardous materials.
- Medium: The alternative would result in the creation of little shift toward non-recyclable, non-marketable, or more hazardous wastes.
- High: The alternative would result in no shift toward non-recyclable, non-marketable, or more hazardous wastes.

3.1.7 Ease of Implementation

"Ease of implementation" measures the speed with which the alternative can be brought into service, i.e., whether it can be implemented in the short-term or medium-term planning periods.

- Low: Implementation of the alternative could not be completed until after 2000.
- Medium: Implementation of the alternative is anticipated to be completed between 1995 and 2000. This is the medium-term planning period
- High: Implementation of the alternative is anticipated to be completed by 1995. This is the short-term planning period.

3.1.8 Facility Need

"Facility need" measures the need to expand existing facilities or build new facilities to support the implementation of the alternative.

- Low: New facilities must be developed to accommodate the alternative.
- Medium: Existing facilities must be expanded or altered to accommodate the alternative.
- High: The alternative requires no new facilities or modification of facilities.

3.1.9 Consistency with Local Policies

"Consistency with local policies" measures the alternative's compatibility with existing local plans, policies, and ordinances.

- Low: The alternative would require major changes to existing local plans, policies, or ordinances.
- Medium: The alternative would require minor changes to existing local plans, policies, or ordinances.
- High: There are no existing local plans, policies of ordinances that would impede the implementation of the alternative.

3.1.10 Absence of Institutional Barriers

"Absence of institutional barriers" evaluates the extent to which institutional barriers, such as long-term franchise agreements or other contracts, may impact local implementation of the alternative.

- Low: The alternative is impacted by existing institutional barriers which are not under the control of the jurisdiction.
- Medium: The alternative is impacted by existing institutional barriers over which the jurisdiction maintains some control.
- High: There are no existing institutional barriers to the alternative.

3.1.11 Estimated Cost

"Estimated cost" evaluates the projected cost of the alternative, including capital costs and operating costs.

3.1.12 End Uses (Recyclability and Redistribution Potential)

"End uses" measures the short-term recycling or reuse potential of collected HHW products.

- Low: Recycling or redistribution activities are incompatible with the alternative.
- Medium: The alternative might allow for recycling/redistribution.
- High: Recycling or redistribution activities are compatible with the alternative.

CHAPTER 4

EVALUATION OF HOUSEHOLD HAZARDOUS WASTE MANAGEMENT ALTERNATIVES

This section presents an evaluation of alternatives that were considered by the City to meet its HHW management objectives, using the criteria described above in Chapter 3. The following ten alternatives were evaluated. The results of the evaluation are summarized in Table 4.1 included as Attachment 2.

- Alternative 1 Periodic HHW Drop-off Events
- Alternative 2 Five Permanent HHW Facilities
- Alternative 3 Mobile Collection
- Alternative 4 Combination - Mobile Unit Plus One Permanent Facility
- Alternative 5 Curbside Motor Oil Collection
- Alternative 6 Door-to-Door Pickup for Elderly and Disabled Residents
- Alternative 7 Hazardous Waste Exclusion Program
- Alternative 8 Household Hazardous Waste Recycling Component
- Alternative 9 Household Hazardous Waste Exchange

An additional method of HHW management was considered: curbside HHW collection. This method was not included in the "Evaluation of Alternatives" due to unacceptably high potential public health risks. HHW set at the curbside could be blown over or rained upon, resulting in toxic run-off into the storm drain system. Children or pets could tamper with materials left at the curb, and waste haulers could be harmed if residents set out unacceptable types or amounts of wastes.

Curbside HHW collection programs that accept all types of HHW have not been implemented in California. Unlike programs that collect motor oil at the curb, it is not known if permits could be obtained to collect all types of HHW in this manner. The permitting process for curbside HHW collection was not explored as the alternative was deemed unfeasible due to potential health and safety hazards.

4.1 EVALUATION OF ALTERNATIVE 1 - PERIODIC DROP-OFF EVENTS

The City has sponsored periodic drop-off events since 1986. These events have been scheduled, on average, once per year. Events have been held at various locations and have had the participation of a total of approximately 4,000 residents.

WASTE DIVERSION POTENTIAL

Periodic events have proven to be ineffective in collecting large amounts of HHW. The City rated the waste diversion potential of periodic drop-off events as "low." Only 1-2% of the total population generally has participated in such drop-off events in San Jose and most other jurisdictions.

ABSENCE OF HAZARD

Potential public health risks and safety hazards associated with any HHW collection method include spills, fires, leaks, or explosions resulting from improper collection, storage, handling, or transport of hazardous material. However, proper design, equipment, and health and safety training minimize potential hazards. Periodic drop-off events were rated as "medium" in absence of hazard.

FLEXIBILITY

Periodic drop-off events have a limited ability to respond to unanticipated conditions, such as an unexpectedly high turn-out. On the other hand, periodic events are flexible in the sense that, if funding permits, a city can decide to hold more frequent events to accommodate high demand in a safer, more orderly manner. A "medium" rating was assigned.

AVAILABILITY OF SERVICE (Nearby and Frequent Service)

Availability of service refers to the alternative's ability to provide HHW disposal services within a 20 minute commute of residents' homes and at optimally, four times per year. The periodic drop-off event alternative was rated "medium" as these events are generally held in one centralized location and only one or two times per year. However, additional events and event locations could be added.

PROVIDES IMMEDIATE NEED DISPOSAL SERVICES

Periodic drop-off events have generally operated one or two days per year, although the possibility exists to hold such events more frequently. The periodic drop-off event alternative was rated "low" in its ability to provide immediate need disposal services.

LIMITED SHIFT IN WASTE TYPE GENERATION

Not applicable.

EASE OF IMPLEMENTATION

The City has sponsored 3 periodic drop-off events and is familiar with the planning and implementation procedures. Should the city decide to continue operation of periodic drop-off events, it is anticipated that such events could be

implemented within the short-term planning period (before 1995). Ease of implementation was therefore rated "high."

FACILITY NEEDS

Periodic drop-off events do not require expansion or development of facilities and were rated "high."

CONSISTENCY WITH LOCAL POLICIES

The City has sponsored 3 periodic events, and one battery, oil and paint collection event in the past 6 years, indicating that alternatives are consistent with local policies and ordinances. However, the periodic events do not meet the needs of residents requesting immediate disposal services or provide ongoing collection services as recommended in the County Hazardous Waste Management (Tanner) Plan. A "medium" rating was assigned.

ABSENCE OF INSTITUTIONAL BARRIERS

No institutional barriers, such as existing contracts, would impede the City in implementing periodic drop-off events. A "high" rating was assigned.

ESTIMATED COST

In 1990, the City spent \$72,790 to operate a battery, oil and paint recycling event. This amount includes the contractor's fee for management of the event and disposal of collected waste. Additional costs for the program are city planning time, advertising, donated equipment, and volunteer labor. A total of 1,395 residents were served in 1990.

A preliminary cost analysis of past periodic events throughout the county indicates considerable variation in cost between city events. Factors contributing to the cost variations include amount of volunteer labor and other donated services used to plan and operate the events.

Costs for HHW collection alternatives under consideration (periodic; mobile, five permanent facilities; and combination mobile and one permanent facility) are driven primarily by siting, waste disposal, event staffing, and capital expenditures. It was estimated that the cost per vehicle served at all four of these options would be within the \$90 - \$110 range.

END USES (RECYCLABILITY AND REDISTRIBUTION POTENTIAL)

Periodic collection events divert latex paint, oil, and automotive batteries from landfill disposal for recycling. However, lacking storage space and permits to store materials, periodic events are limited in their ability to promote redistribution of usable products. A "medium" rating was assigned.

4.2 EVALUATION OF ALTERNATIVE 2 - FIVE PERMANENT FACILITIES

In this alternative, five permanent HHW collection facilities would be located throughout the county to provide HHW collection services within a 20 minute drive for a majority of residents in participating communities. The program would be administered by the countywide HHW program. Each city would determine, on an annual basis, the desired level of HHW services for its residents.

WASTE DIVERSION POTENTIAL

Five permanent facilities would process participants more efficiently than collection events because of the presence of more extensive equipment and greater storage capabilities. Permanent facilities can provide comprehensive, ongoing disposal services and was rated "high" for waste diversion potential.

ABSENCE OF HAZARD

Permanent facilities can provide a safe means of collecting and properly disposing of HHW. Proper design, equipment, and permanent staff can minimize potential hazards associated with HHW collection. The permanent facilities alternative received a "high" rating.

FLEXIBILITY

Permanent facilities do not have the flexibility to operate in various locations as do periodic collection events or a mobile collection unit. However, permanent facilities can accommodate changing social conditions, such as increasing demand for service, by adjusting the days of operation. A permanent facility can also serve as a "hub" for a mobile collects HHW from elderly and disabled resident. This alternative received a "high" rating.

AVAILABILITY OF SERVICE (Nearby and Frequent Service)

The five permanent facilities alternative has the potential to provide frequent services, depending on the number of days the facility is open. Residents from any participating community could use the permanent facilities. Facilities could be located so that most residents would have a 20 minute or less commute to the nearest facility. The five permanent facilities alternative was rated "high."

PROVIDES IMMEDIATE NEED SERVICES

The five permanent facilities alternative was rated "high" in its ability to provide immediate need services.

LIMITED SHIFT IN WASTE TYPE GENERATION

Not applicable.

EASE OF IMPLEMENTATION

The implementation phase for permanent facilities requires site selection, environmental review, permitting, Board of Supervisors' approval, and construction. In addition, the siting of permanent facilities may be subject to the Tanner Plan review process. The implementation of five permanent facilities could extend beyond the short-term planning period (1991 to 1995) and therefore received a "medium" rating.

FACILITY NEEDS

This alternative requires the location or construction of collection and storage facilities. A HHW facility must meet local, state and federal safety and operating standards. A facility should have separate storage bays or bins to prevent spilled or leaked incompatible wastes from mixing. A collection and storage building may need explosion proofing, ground columns, proper containment, and sufficient ventilation. Adequate emergency response and safety equipment would be necessary. A permanent facility should be situated on an impervious surface and fenced for security. A "low" rating was assigned to this alternative due to the complexity of facility needs for five permanent facilities.

(Note: State regulations for permanent HHW facilities are being developed. It is not possible to describe in further detail the requirements of the permanent facilities until the new State regulations are available.)

CONSISTENCY WITH LOCAL POLICIES

The five permanent facilities alternative appears to be consistent with the Tanner Plan recommendations to provide ongoing and immediate need disposal services for all residents. However, a land use decision may be required by the local planning commission. A "medium" rating was assigned.

ABSENCE OF INSTITUTIONAL BARRIERS

No contractual or other institutional barriers exist to implementing the five permanent facilities alternative. A "high" rating was assigned.

ESTIMATED COST

A preliminary cost analysis for the five permanent facilities indicates that the cost of this alternative is dependent, to a large extent, on two factors: availability of sites and facility design.

If appropriate sites could be located that did not require purchase of land, the cost of this alternative would be significantly lower. It might be possible to site permanent HHW facilities at existing landfills, wastewater treatment plants, transfer stations, materials recovery facilities, or public works facilities. However, if siting permanent facilities requires the purchase of property, or if

residents opposed the siting of such facilities, a significant increase in cost would result.

The second factor that would affect the cost is the actual design of the facilities. A range of options exists for structural design and equipment for permanent HHW facilities. These factors would greatly influence the cost of implementing the five permanent facilities alternative. The cost estimates used here assume permanent facilities consisting of slightly modified existing structures and/or the use of roll-off bins for waste collection and storage.

It was estimated that it might be possible to implement the five permanent facilities alternative at a cost similar to costs for the other HHW collection alternatives under consideration (periodic, mobile, and combination mobile and one permanent facility). Costs of all options are driven primarily by siting, waste disposal, event staffing, and capital expenditures. It was estimated that the cost per vehicle service at all four of these options would be in the \$90 - \$110 range. However, the unknown factors regarding facility siting and design could significantly change this estimate.

END USES (RECYCLABILITY AND REDISTRIBUTION POTENTIAL)

Valuable materials diverted from the incoming waste stream can be stored at a permanent facility, thereby making waste exchange or organized waste referral services feasible. The presence of permanent, trained staff enhances ability to carry out recycling and redistribution activities. The five permanent facilities alternative received a "high" rating for recycling/redistribution potential.

4.3 EVALUATION OF ALTERNATIVE 3 - MOBILE COLLECTION

A mobile collection program consists of a modified collection vehicle or vehicles which may contain an electric generator, compressor, and water system; a fire response system; emergency equipment; and a lab for identification of unlabeled HHW. A mobile facility can be dismantled in a short time once a collection event is completed. This alternative assumes no permanent sites would be developed.

WASTE DIVERSION POTENTIAL

A mobile collection program is an effective approach for HHW collection in a large geographical area. A "high" rating was assigned to this alternative.

ABSENCE OF HAZARD

The mobile collection alternative involves more transportation of equipment and staff than a permanent facility and therefore, presents a slightly higher risk of hazard. Proper design, equipment, and health and safety training can minimize this potential hazard. The potential for risks to public health associated with mobile collection was rated as "medium."

FLEXIBILITY

A mobile collection unit is flexible as both location and frequency of operation can be readily changed to accommodate variations in demand or shifts in population density. However, because of location changes, care must be taken to notify the public in advance of the exact location. In addition, finding sites with adequate and safe accessibility might be difficult in some areas. The mobile unit received a "high" rating in its ability to accommodate changing conditions in a large geographical area.

AVAILABILITY OF SERVICE (Nearby and Frequent Service)

The mobile unit would be scheduled to operate in approximately 20 locations throughout the county during the first year of operation. Most residents will have a 20 minute drive to the unit. The mobile unit's operating schedule could be modified to include additional collection locations or more frequent service. Additional locations and days of operation may be added annually throughout the short- and medium-term planning period. The mobile collection unit was rated "high" for availability of service.

PROVIDES IMMEDIATE NEED DISPOSAL SERVICES

The mobile unit would operate at various locations in the county on a rotating basis. The program would operate on an appointment-only basis. Residents in need of immediate disposal would be assigned an appointment, and would be able to deliver their HHW to the mobile unit at its next scheduled day of operation anywhere in the county. A "high" rating was assigned to this alternative for ability to provide immediate disposal services.

LIMITED SHIFT IN WASTE TYPE GENERATION

Not applicable.

EASE OF IMPLEMENTATION

It appears likely that a mobile program could be permitted by the Department of Health Services under the Permit By Rule regulations for "temporary events". These regulations are currently under development and are expected to be finalized in mid-1991. Therefore, it is likely that a mobile program could be implemented in the short-term planning period (before 1995). A "high" rating was assigned to the mobile collection alternative.

FACILITY NEEDS

The mobile collection unit requires a modified trailer, a waste hauling truck, and equipment. However, no purchase of land or construction of facilities is required. The mobile collection alternative was rated "high" for facility needs. The primary needs are for the base of operations, and sites to conduct events at.

CONSISTENCY WITH LOCAL POLICIES

The mobile collection program was determined to be a HHW management technique best able to provide ongoing and immediate need services to residents in a large geographical area. This alternative is expected to require a less complex siting process due the temporary nature of the trailer stopovers. The mobile collection unit was rated "high" in consistency with local policies that recommend countywide access to ongoing HHW collection services.

ABSENCE OF INSTITUTIONAL BARRIERS

No regulatory prohibitions or contractual barriers exist to implementing a mobile HHW collection program. A "high" rating was assigned.

ESTIMATED COST

A preliminary cost analysis for the mobile HHW collection alternative indicates that this alternative might be implemented at a cost similar to the periodic events alternative, five permanent facilities alternative, and the combination mobile unit plus one permanent site alternative. Costs of all options are driven primarily by siting, waste disposal, event staffing, and capital expenditures. It was estimated that the cost per vehicle service at all four of these options would with the \$90 - \$110 range.

END USES (RECYCLABILITY AND REDISTRIBUTION POTENTIAL)

A mobile collection unit can divert materials for recycling and can include a HHW waste exchange component. However, limited space prevents storage of reusable products for distribution at future events. Therefore, this alternative was rated "medium" in recyclability/redistribution potential.

4.4 EVALUATION OF ALTERNATIVE 4 - COMBINATION PROGRAM: MOBILE UNIT PLUS PERMANENT FACILITY

The combination program consists of a mobile unit plus one permanent facility. The permanent facility would be located in a densely populated urban area and the mobile unit would operate in the cities and unincorporated area throughout the county on a rotating basis. The number of vehicles served will be adjusted in response to demand for services and availability of funds.

WASTE DIVERSION POTENTIAL

The mobile unit plus permanent facility can provide convenient, cost-effective service to both a densely populated area and large geographical region. A "high" rating was assigned to the combination alternative.

ABSENCE OF HAZARD

The mobile unit involves more movement of equipment and materials than the permanent facility. The majority of collected HHW would be removed directly from the mobile unit by licensed waste haulers. Partially filled lab pack drums will be delivered to the permanent facility. Proper equipment, training, and operating procedures would minimize the potential hazards. A "medium/high" rating was assigned to the combination mobile plus one permanent facility alternative.

FLEXIBILITY

Depending on demand for services, days of operation of the mobile unit and permanent facility can be adjusted. The mobile unit's schedule can be modified to include additional locations as needed. A special effort to notify residents of changing location would be necessary. In addition, multilingual advertising and telephone appointment services may be necessary. The combination alternative received a "high" rating in its ability to respond to changing social conditions.

AVAILABILITY OF SERVICE (Nearby and Frequent Service)

The combination alternative will provide HHW disposal services within a 20 minute drive for most residents in the participating cities. Depending on demand for services, frequency of both of these collection services can be expanded in the short- and medium-term planning period. A "high" rating was assigned to the combination alternative.

PROVIDES IMMEDIATE NEED SERVICES

A "high" rating was assigned, as residents from any of the participating cities will be able to deliver HHW to the next operating day of either the permanent facility or the mobile unit.

LIMITED SHIFT IN WASTE TYPE GENERATION

Not applicable.

EASE OF IMPLEMENTATION

The Department of Health Services is currently drafting Permit By Rule Regulations for Mobile Collection facilities. Operational procedures must follow these rules once they are drafted.

The implementation phase for permanent facilities requires site selection, environmental review, permitting, Board of Supervisors' approval, and construction. In addition, the siting of permanent facilities may be subject to the Tanner Plan review process. It appears likely that one permanent facility could be operational before the end of the short-term planning period (before 1995). A "high" rating was assigned to the combination alternative.

FACILITY NEEDS

The mobile collection unit requires a modified trailer, a waste hauling truck, and equipment. However, no purchase of land or construction of facilities is required. The permanent facility will require a location for collection and storage roll-off bins or the construction and/or modification of a storage structure. A "medium" rating was assigned to the combination alternative.

CONSISTENT WITH LOCAL POLICIES

Countywide planning efforts have determined that the combination of a mobile unit and a permanent facility for HHW collection appears to be the alternative that best meets the needs of the participating cities. This alternative appears to be consistent with the Tanner Plan recommendations for ongoing, convenient, and immediate need services. Siting of a permanent facility is a complex process, requiring building and operating permits. The mobile facility requires obtaining permits and siting of a number of temporary locations. For this reason, a "medium" rating was assigned to the combination alternative.

ABSENCE OF INSTITUTIONAL BARRIERS

No institutional barriers are known that would prevent the implementation of the combination alternative. A rating of "high" was assigned.

ESTIMATED COST

A preliminary cost analysis for the combination mobile unit plus one permanent facility alternative indicates that this alternative might be implemented at a cost similar to the cost of the periodic events alternative, the mobile collection program alternative, or the five permanent facility alternatives.

A preliminary cost analysis for a permanent facility indicates that the cost of this alternative is dependent, to a large extent, on two factors: availability of sites and facility design.

If an appropriate site can be located that does not require purchase of land, the cost of this alternative would be significantly lower. It might be possible to site a permanent HHW facility on an existing landfill, wastewater treatment plant, or public works facility. However, if siting a permanent facility requires the purchase of property, or if residents opposed the siting of a facility, a significant increase in cost would result.

The second factor that would affect the cost is the actual design of the facility. A range of options exists for structural design and equipment for permanent HHW facilities. These factors would influence the cost of implementing this alternative.

It was estimated that it might be possible to implement the mobile unit plus one permanent facility alternative at a cost similar to costs for the other HHW collection alternatives under consideration (periodic; mobile; and five permanent facilities). Costs of all options are driven primarily by siting, waste disposal, event staffing, and capital expenditures. It was estimated that the cost per vehicle service at all four of these options would be in the \$90 - \$110 range. However, the unknown factors regarding facility siting and design could significantly change this estimate.

END USES (RECYCLABILITY AND REDISTRIBUTION POTENTIAL)

The permanent facility has the potential of facilitating waste exchange activities due to its ability to store valuable products found in the waste stream. The mobile unit has a similar redistribution potential but lacks storage capability of the permanent facility. A "high" rating was assigned to the combination alternative.

4.5 EVALUATION OF ALTERNATIVE 5 -CURBSIDE MOTOR OIL COLLECTION

The City sponsors curbside pick-up of used motor oil. Used motor oil is often disposed into storm sewers, drains, into the trash or onto the ground by residents who service their own cars. Therefore, motor oil collection is an effective means of reducing improper disposal of one type of HHW.

WASTE DIVERSION POTENTIAL

The City's existing curbside oil collection program serves 166,000 single and multi-family households. In the next garbage and recycling contract (Recycling Plus!) which begins in July 1993, curbside oil collection could be also provided to single-family and multi-unit dwellings not incorporated in the collection program presently. Curbside motor oil collection was rated "high" in waste diversion potential.

ABSENCE OF HAZARD

The potential exists that oil set on the curb for collection could be disturbed by children, pets, or vehicles. However, residents generally use the curbside oil collection program as directed and existing programs experience minimal problems. Curbside motor oil collection was rated "medium" for absence of hazard.

FLEXIBILITY

The curbside oil collection alternative can meet growing demand by expanding into previously unserved neighborhoods and multi-family dwellings. Most importantly, the weekly nature of this service responds quickly to the need as

soon as oil is drained from cars. Curbside motor oil collection was rated "high" in flexibility.

AVAILABILITY OF SERVICE (Nearby and Frequent Service)

This alternative requires no travel to a disposal event. In addition, the frequency of service can be adjusted to meet residents needs. Curbside motor oil collection was rated "high" for availability of service.

PROVIDES IMMEDIATE NEED DISPOSAL SERVICES

Curbside motor oil collection programs generally provide weekly service, thereby providing disposal services to residents preparing to move or otherwise in need of immediate disposal. A "high" rating was assigned.

LIMITED SHIFT IN WASTE TYPE GENERATION

Not applicable.

EASE OF IMPLEMENTATION

The City already sponsors a curbside collection program. Therefore this HHW management alternative was rated "high."

FACILITY NEEDS

Existing recycling trucks used for curbside collection of glass, paper, and metals also collect used motor oil. The waste oil collection tank is located at Recycle America. Expansion of the curbside motor oil collection service in the City would require amending the current contract to incorporating multi-unit dwellings. This HHW management alternative was rated "high" as it does not require additional facilities.

CONSISTENCY WITH LOCAL POLICIES

Curbside motor oil collection is consistent with local and state policies that encourage HHW recycling. Effective January 1, 1991, pursuant to AB 2597, HHW collection agencies will no longer need a hazardous waste permit if materials accepted are limited to latex paint, used oil, antifreeze, spent lead-acid batteries, and nickel-cadmium, alkaline, carbon-zinc and other small batteries.

Section 25250.11(a), Health and Safety Code, exempts from its hazardous waste permit requirements "any person who receives used oil from consumers or other used oil generator," as long as no more than 20 gallons of used oil are received at a time, and containers hold no more than 5 gallons each.

Government Code Section 66798.9 (Statute, 1989) provides immunity for local agencies operating HHW programs unless the agencies act negligently.

Additional immunity from state liability is provided in Health and Safety Code, Section 25366.5 for local governments or their contractors who are running HHW facilities and events. However, HHW programs would still be liable if disposal sites holding the program's HHW were declared a federal Superfund site. A "high" rating was assigned.

ABSENCE OF INSTITUTIONAL BARRIERS

Not applicable

ESTIMATED COST

It is estimated that to incorporate multi-unit dwellings into the program, a cost of \$0.75 cents/household/year for 170,000 households plus \$0.65 cents for every additional gallon thereafter.

END USES (RECYCLABILITY AND REDISTRIBUTION POTENTIAL)

Markets for used motor oil are well-established. Used oil from the city is picked up by Recycle America/Waste Management. Evergreen Environmental Services re-refines the oil and then sells it for use again. Sixty-five percent becomes lubricating oil, the remainder becoming fuel or asphalt.

4.6 EVALUATION OF ALTERNATIVE 6 - DOOR-TO-DOOR PICKUP FOR ELDERLY AND DISABLED RESIDENTS

A door-to-door pickup program would provide HHW services to residents unable to participate in turn-in events. Door-to-door pickup would be available by appointment only and the service dates could be coordinated with upcoming mobile unit or periodic events; or a permanent facility in the area. The HHW would be picked up by a registered hazardous waste hauler using licensed hazardous waste transport vehicles that comply with the Department of Transportation (DOT) regulations. HHW collected from residents' homes would be transferred to a permanent HHW facility if the facility were permitted to receive such wastes; to an approved treatment, storage, or disposal (TSD) facility; or transported directly to a permitted hazardous waste disposal facility.

WASTE DIVERSION POTENTIAL

A door-to-door HHW pickup service is designed to collect wastes from individuals who may otherwise not have the opportunity to properly dispose of their HHW. This target population, the elderly and disabled unable to participate in other HHW services, represents a relatively small percentage of households in the city. A "high" rating was assigned to this alternative for its potential to divert HHW from this target population.

ABSENCE OF HAZARD

Proper program design, equipment, and health and safety training can minimize potential hazards associated with door-to-door HHW pickup. A "medium" rating was assigned.

FLEXIBILITY

Door-to-door collection services could be operated as an adjunct to periodic events, a mobile unit or a permanent facility. The service would operate on an appointment basis. The door-to-door service routing plan can be coordinated with other HHW events. A "high" rating for flexibility was assigned to this alternative as its operation schedule and route can be readily modified.

AVAILABILITY OF SERVICE (Nearby and Frequent Service)

The door-to-door HHW pickup service would require no travel for elderly or disabled residents. The frequency of service would be determined by frequency of other HHW events in the area as this service would most likely operate as an adjunct to other HHW collection services. Frequency of service is also dependent upon the level of funding available. A "medium" rating was assigned to this alternative as costs for door-to-door services may be a serious limiting factor for frequency of service.

PROVIDES IMMEDIATE NEED DISPOSAL SERVICES

The door-to-door HHW pickup service is designed to operate on an appointment-only basis due to the cost of providing this service to a small number of residents. If the door-to-door HHW pickup service is operating as an adjunct to a permanent facility, with permanent staff, equipment, and storage space, the potential exists to provide immediate need services to elderly and disabled residents. A "medium" rating was assigned.

LIMITED SHIFT IN WASTE TYPE GENERATION

Not applicable.

EASE OF IMPLEMENTATION

If a door-to-door service operated in conjunction with a permanent facility, the permanent facility would need a variance to accept waste collected by door-to-door service. Collected HHW delivered to the permanent facility could be sorted and stored to enhance recycling and reuse potential. In addition, waste could be bulked to reduce disposal costs. Another method of providing door-to-door service would be to contract with a licensed hazardous waste management company which would transport collected HHW directly to a disposal facility.

It is anticipated that a door-to-door HHW pickup services could be implemented in the short-term planning period (before 1995), either as an adjunct to other

HHW collection services or by contracting for services of a private hazardous waste disposal company. A "high" rating was assigned to this alternative.

FACILITY NEEDS

Door-to-door HHW pickup services require trucks equipped to transport, handle, sort, and store hazardous materials. Space is also needed to store the collected materials unless the wastes are delivered directly to a disposal facility. It is possible that this service could be obtained on a contract basis from a licensed hazardous waste management company. A "medium" rating was assigned.

CONSISTENCY WITH LOCAL POLICIES

Door-to-door HHW collection does not appear to be incompatible with local policies. The City supports the provision of services to its residents regardless of handicap or physical limitation. A "high" rating was assigned. (Cities need to verify this.)

ABSENCE OF INSTITUTIONAL BARRIERS

There are no existing contracts or agreements that would prevent the implementation of a door-to-door HHW pickup service for elderly and disabled residents. A "high" rating was assigned.

ESTIMATED COST

Door-to-door HHW pickup services have been sponsored by the Cities of Burbank and San Diego. In Burbank, a licensed private waste hauler collected HHW from approximately 200 elderly and disabled residents. The service was operated in conjunction with a city-sponsored HHW drop-off event. The routing schedule was prepared by city staff. The collected HHW was delivered to the drop-off event. The cost for this service was \$8,000. This cost includes only the actual collection of the HHW from the elderly and disabled residents, and does not include planning time or waste disposal costs which were included with the costs of operating the drop-off event.

END USES (RECYCLABILITY AND REDISTRIBUTION POTENTIAL)

Recyclability and redistribution potential of HHW collected in a door-to-door service would depend on whether the service was associated with other HHW collection programs. If collected HHW were delivered to a permanent facility, recyclable and reusable materials could be retrieved. However, if the door-to-door service were operated independent of other HHW programs, the collected wastes were delivered directly to a hazardous waste disposal facility and all wastes would be treated. A "medium" rating was assigned to this alternative.

4.7 EVALUATION OF ALTERNATIVE 7 - HAZARDOUS WASTE EXCLUSION PROGRAM/LOAD CHECKING

The purpose of a load checking program is to detect and deter attempts to dispose of prohibited waste in landfills. It involves visual inspection for hazardous waste at the entrance to the landfill and at the working face. If prohibited waste is identified, the generator is notified and becomes responsible for removing the waste. If the generator cannot be found, the waste is removed and properly disposed. Other waste acceptance control activities include sign posting and employee training. In addition, some waste haulers notify customers about the prohibition on disposing of hazardous waste in the landfill by posting signs on dumpsters, including messages in utility bills and by training employees to inspect incoming waste for hazardous materials.

WASTE DIVERSION POTENTIAL

The load-checking program diverts a small amount of HHW from landfill disposal. However, load checking and the other hazardous waste exclusion programs educate generators, haulers, disposal facility personnel, and the public about the proper disposal of hazardous waste. An effective hazardous waste exclusion program reduces landfill disposal of HHW in landfills, and was therefore rated "medium."

ABSENCE OF HAZARD

The potential hazards involved in a load checking program include the risk from exposure while inspecting and handling waste. Proper equipment, training and management of the load checking program can reduce hazards. Other waste acceptance control activities, such sign posting, training, and notification of proper HHW procedures pose minimal hazards. The overall hazardous waste exclusion program alternative was rated "medium."

FLEXIBILITY

The load checking program is mandated by the state. Additional inspections and notifications can be added to strengthen existing programs. Hazardous waste exclusion activities are judged to have "medium" flexibility

AVAILABILITY OF SERVICE

Not Applicable.

PROVIDES IMMEDIATE NEED SERVICES

Not Applicable.

LIMITED SHIFT IN WASTE TYPE GENERATION

A Hazardous Waste Exclusion Program might result in a desirable shift in waste type generation. By preventing illegal landfill disposal of hazardous waste, residents may be more likely to purchase and use less hazardous substitutes.

It is possible that load checking might deter landfill disposal of hazardous waste but at the same time result in an increase in illegal disposal elsewhere. It is anticipated, however, that illegal disposal will decrease as legal disposal options become more widely available and awareness increases about environmental impacts of improper disposal. This alternative was rated "medium."

EASE OF IMPLEMENTATION

The Hazardous Waste Exclusion Program was rated "high" as it is currently in place at all landfills in the County of Santa Clara.

FACILITY NEEDS

No new facilities are needed for the load checking program. Signs have been posted at the landfills. A "high" rating was assigned to this alternative.

CONSISTENCY WITH LOCAL POLICIES

The Hazardous Waste Exclusion Program is consistent with local and state policies to keep prohibited wastes from entering the landfill. A load checking program is required in the State of California. The State Water Resources Control Board requires landfills to operate hazardous waste load checking programs (Section 2523, Title 23, California Code of Regulations (CCR)). The Department of Health Services and the California Integrated Waste Management Board require solid waste facilities to follow certain procedures regarding their load checking programs. The Department of Health Services requires a solid waste facility with a hazardous waste load checking program to obtain an identification number as a hazardous waste generator. Hazardous waste will be stored for less than 90 days in accordance with a hazardous waste permit issued by the Department of Health Services. If hazardous waste will be stored for more than 90 days, the solid waste facility must apply to the Department of Health Services for a hazardous waste facility permit or variance. Hazardous Waste Exclusion Programs were rated "high" for consistency with local policies.

ABSENCE OF INSTITUTIONAL BARRIERS

No contractual or other institutional barriers are known that would interfere with the continuation of Hazardous Waste Exclusion Programs. A "high" rating was assigned.

ESTIMATED COST

All landfills in San Jose are privately owned and include the full cost of their Hazardous Waste Exclusion Programs in landfill tipping fees. The relatively low cost of this program is therefore properly assigned to landfill users. A "high" rating was assigned to this alternative.

END USES (RECYCLABILITY AND REDISTRIBUTION POTENTIAL)

It is unlikely that significant amounts of HHW in good condition would be retrieved in the load checking program. Efforts by waste haulers to identify and reject HHW might encourage residents to use proper disposal methods, including recycling materials such as automotive batteries, latex paint and motor oil. Landfill sign posting and utility bill notices also could encourage residents to use the City-sponsored HHW collection system that will separate a number of materials for recycling and redistribution. The Hazardous Waste Exclusion Program was rated "low" in recyclability/redistribution potential.

4.8 EVALUATION OF ALTERNATIVE 8 - HHW RECYCLING COMPONENT

A HHW Recycling Component would implement recycling procedures at all HHW collection programs. Oil, auto batteries and latex paint are currently recyclable. Solvents may also be recycled in the future.

WASTE DIVERSION POTENTIAL

Markets are already established for waste oil, auto batteries, and latex paint. Strong community support exists for the concept of recycling. HHW recycling diverts wastes from both solid waste landfills and hazardous waste landfills. Therefore, the waste diversion potential of the HHW recycling component is rated "high."

ABSENCE OF HAZARD

Some hazards are associated with collection and handling of latex paint. Latex paint that has been stored for many years may contain mercury and/or lead. Older latex paint, improperly labeled paint, paint not in its original container, and possibly contaminated paint should be disposed instead of recycled. Collection of used auto batteries may present hazards if batteries are cracked and leaking. Oil collection presents hazards of accidental spillage or exposure in a curbside collection program. However, recycling programs for latex paint, motor oil and auto batteries are well-established in some Santa Clara County communities and have operated safely. Proper staff training and operating procedures can reduce potential hazards. A "medium" rating was assigned.

FLEXIBILITY

As more residents use the HHW programs, additional collection opportunities and HHW handling space might be required. This alternative was rated "high"

in flexibility. Increasing amounts of recyclable materials can be accommodated without major changes in the program.

AVAILABILITY OF SERVICE

The HHW recycling component could be incorporated into mobile collection and/or the permanent facility. A "high" rating was assigned.

PROVIDES IMMEDIATE NEED SERVICE

Recyclable HHW can be accepted at a mobile unit and/or permanent facility, both of which are able to accommodate residents requesting immediate HHW disposal service. A "high" rating was assigned.

LIMITED SHIFT IN WASTE TYPE GENERATION

Not applicable.

EASE OF IMPLEMENTATION

Recycling of oil, auto batteries, and latex paint are well-established components of city-sponsored programs and will also be incorporated into the Countywide HHW Program. No obstacles are known that would hinder the continuation of existing HHW recycling programs or implementation of new recycling procedures. The HHW recycling component alternative was rated "high."

FACILITY NEEDS

A "high" rating was assigned, as no additional facilities are required to operate the recycling component of a HHW collection program.

CONSISTENCY WITH LOCAL POLICIES

The City encourages recycling of solid and hazardous waste. The County Hazardous Waste Management (Tanner) Plan ascribes to the waste management hierarchy in which source reduction and recycling are the most desirable management option. In addition, state regulations encourage the collection and recycling of latex paint, used oil, antifreeze, and lead-acid batteries. HHW recycling was therefore rated "high" in consistency with local policies.

ABSENCE OF INSTITUTIONAL BARRIERS

There are no known long-term contracts or franchise agreements that would interfere with recycling of HHW. A "high" rating was assigned.

ESTIMATED COST

The addition of a HHW recycling component would reduce the costs of any HHW collection and disposal system. Therefore, a "high" rating was assigned to this alternative.

END USES (RECYCLABILITY AND REDISTRIBUTION POTENTIAL)

A "high" rating was assigned, as recycling options for motor oil, automotive batteries, and latex paint are well-established. Common uses of recyclable HHW include the following:

- Latex paint can be collected, sorted, consolidated, blended, repackaged, and sold or given to local public agencies and nonprofit groups. It is commonly used to cover graffiti. It can also be sent to a paint company to be re-manufactured.
- Used oil is a valuable resource. Recycling used oil saves energy and natural resources. Used oil can be refined into lubricating oil, reused as motor oil, or reprocessed and used as fuel in industrial burners and boilers. The Environmental Protection Agency estimates that only 1 gallon of used oil is needed to make 2.5 quarts of lubricating oil, compared to 42 gallons of raw crude oil.
- Lead-acid batteries - According to the CIWMB, 70 percent of spent lead-acid batteries are recycled nationwide. In California, state law requires retailers to accept trade-in of used batteries. Consumers can also deliver batteries to lead-acid battery recyclers or to HHW programs.

The average lead-acid battery contains 17.5 pounds of lead and 1.5 pounds of sulfuric acid. After the lead is separated from the non-metallic components of the battery, it is then smelted to produce soft lead and lead alloys. The non-metallic materials include sulfuric acid, which is neutralized and released into the sewer; and other non-recyclable, non-hazardous materials are disposed. (Household Hazardous Waste, Lead-Acid Batteries, CIWMB, September, 1990).

- Small Household Batteries - Recycling options for small household batteries are limited at this time. Silver oxide button batteries may be recycled, but substantial obstacles exist to collecting and sorting these batteries. Consumer nickel cadmium battery recycling may be available in the near future. Recycling options for small household batteries are currently under study by the CIWMB. When the results of the CIWMB study of household battery management are released, the Countywide HHW Program will consider these findings and the State's recommendations.
- Antifreeze - Used antifreeze can be recycled for use by the mining and glycol industries. Antifreeze is sprayed on coal to inhibit sticking. Antifreeze can also be used for airplane de-icing solution, cement grinding and brake fluid. (Household Hazardous Waste, Antifreeze, CIWMB, September, 1990).

4.9 EVALUATION OF ALTERNATIVE 9 - HHW WASTE EXCHANGE COMPONENT

A waste exchange program recovers valuable materials from the HHW waste stream and makes these materials available for use. Waste exchange activities can take place, at varying degrees, at periodic events, mobile collection units, and permanent facilities. A permanent facility allows for storage of valuable products thereby enhancing waste exchange activities.

WASTE DIVERSION POTENTIAL

Usable materials can be diverted from disposal and made available to participating residents, voluntary organizations and public agencies. A HHW waste exchange program has a "high" waste diversion potential in that a high percentage of usable materials found in the incoming waste stream could be diverted from disposal by this program.

ABSENCE OF HAZARD

Waste exchange takes place under the supervision of HHW program staff, thereby limiting hazard. However, care must be taken that outdated or contaminated products are not redistributed. In addition, residents should be required to sign a waiver of liability before accepting reusable products. Waste exchange was rated "medium" in absence of hazard.

FLEXIBILITY

A HHW waste exchange component can be implemented or eliminated depending on available space, staff, and demand. Waste exchange was rated "high" in flexibility.

AVAILABILITY OF SERVICE

The HHW waste exchange activities can be added to periodic events, mobile collection or a permanent facility. A "high" rating was assigned.

PROVIDES IMMEDIATE NEED DISPOSAL SERVICES

Not applicable.

LIMITED SHIFT IN WASTE TYPE GENERATION

Not applicable.

EASE OF IMPLEMENTATION

A HHW waste exchange component involves examination of incoming waste and display of acceptable products on a table. Staff will need minimal additional training to operate waste exchange tables. The implementation of waste

exchange activities is tied to the operation of periodic, mobile, or permanent facilities, all of which can be implemented in the short-term planning period (before 1995). A "high" rating was assigned.

FACILITY NEEDS

No new facilities would be required to implement a HHW waste exchange component. However, the ability to store valuable products between events at the permanent facility will increase the program's ability to redistribute valuable products. A "high" rating was assigned.

CONSISTENT WITH LOCAL POLICIES

The City supports efforts to reduce volume and toxicity of the waste stream. Waste exchange efforts were therefore rated "high."

ABSENCE OF INSTITUTIONAL BARRIERS

There are no known institutional barriers, such as contracts or franchise agreements, that would interfere with implementation of a waste exchange activities as a component of HHW collection programs. A "high" rating was assigned.

ESTIMATED COST

Waste exchange activities are not expected to add to the cost of HHW collection. In fact, this alternative has the potential to reduce waste disposal costs by distributing valuable products to residents and agencies.

END USES (RECYCLABILITY AND REDISTRIBUTION POTENTIAL)

A HHW waste exchange component was rated "high" in recyclability/redistribution potential as the purpose of this component is the redistribution of usable products.

CHAPTER 5

SELECTION OF HHW PROGRAM

5.1 ALTERNATIVE SELECTED

The selection of HHW management alternatives was based on the evaluation described above in Chapter 4 and summarized in Table 4.1.

5.1.1 Short-Term Planning Period

The following alternatives were selected to properly manage HHW during the short-term planning period (1991-1995) in the city .

- Alternative 4 Combination Mobile Unit Plus One Permanent Facility
- Alternative 5 Curbside Motor Oil Collection
- Alternative 7 Hazardous Waste Exclusion Program
- Alternative 8 Household Hazardous Waste Recycling Component
- Alternative 9 Household Hazardous Waste Exchange Component

Alternative 4, the combination program which includes both a mobile collection unit and one permanent facility has the ability to provide convenient, cost-effective services to a large geographical area. The unit will operate within a 20 minute drive of most residents in participating cities. A mobile collection unit is highly flexible as both location and frequency of operation can be readily changed to accommodate variations in demand or shifts in population density. Residents requesting immediate disposal services can be accommodated at the mobile unit. The mobile unit will operate on an appointment basis. Residents arriving at the mobile unit without an appointment will be accommodated when possible. It is anticipated that the mobile unit will be operational in mid-1991.

The permanent collection facility has the ability to provide convenient, cost-effective services for a large, centralized portion of the county. The permanent facility can also meet the needs of residents throughout the county who are moving and request immediate disposal services.

A permanent facility can process participants efficiently and safely due to the presence of trained staff; proper equipment; and storage capabilities. Options for reuse and recycling of collected materials are increased because of storage space. A permanent facilities hours of operation can increase as demand for HHW disposal services increases.

Depending on the complexity of the siting, environmental review, and permitting process, the facility operational should be operational before the end of the short-term planning period (before 1995). The planning process is already underway for the permanent facility and it is anticipated that some type of

permanent facility and it is anticipated that the facility could be operational in one to two years.

Additional advantages of this alternative over the periodic events alternative are as follows. It would relieve cities of the burden of planning and staffing HHW events. Waste disposal and planning costs may be lower due to the advantage of an economy of scale for a countywide program. The combination of these two methods of HHW collection (a mobile unit plus one permanent facility) has the advantages in the location and frequency of service, ease of implementation, and ability to provide immediate need service in a cost effective manner.

Alternative 5, curbside motor oil collection, was selected due to its potential to divert large quantities of one of the most prevalent types of HHW. This alternative does not require the development of a new program; rather, existing programs will be continued and expanded.

Alternative 7, the hazardous waste exclusion program, has the potential to divert incoming HHW from disposal at the landfill. This alternative can also help to educate residents and waste haulers about proper disposal of HHW. Hazardous waste exclusion programs are mandated by the state, and are already in place at all landfills in Santa Clara County.

Alternative 8, the HHW recycling component, was selected for inclusion in the permanent facility and mobile collection unit. Materials such as latex paint, motor oil, and automotive batteries can be easily separated from the incoming HHW and sent for recycling instead of disposal. The recycling component has the potential of reducing the costs of the HHW collection program as there will be a reduction in the amount of HHW sent for more expensive hazardous waste disposal. Recyclable HHW materials will be sent only to permitted facilities and environmental compliance records will be maintained on file for all waste haulers and treatment, storage, and disposal companies.

Alternative 9, a HHW waste exchange component, can divert usable HHW from disposal by making it available for redistribution to residents, public agencies, and non-profit organizations. Waste exchange activities can take place at both the mobile collection unit and the permanent facility. The HHW waste exchange component is not expected to add to program cost, and in fact, may reduce costs by reducing the amount of HHW sent for disposal.

5.1.2 Medium-Term Planning Period

The following programs were selected to manage HHW during the medium-term planning period (1995-2000)

- Alternative 4 Combination Mobile Unit Plus Permanent Facility
- Alternative 5 Curbside Motor Oil Collection
- Alternative 7 Hazardous Waste Exclusion Program
- Alternative 8 Household Hazardous Waste Recycling Component
- Alternative 9 Household Hazardous Waste Exchange Component

All of the alternatives chosen for the short-term planning period will be continued into the medium-term planning period. Additional source reduction options will be explored in the medium-term planning period.

5.2 TYPES AND QUANTITIES OF HHW ANTICIPATED TO BE COLLECTED, RECYCLED, AND/OR DISPOSED

The amount of HHW to be collected, recycled or disposed from 1991 to 2000 is dependent on several factors: convenience, accessibility, and efficiency of the collection service; success of source reduction efforts; and the funding available to operate the services. It is anticipated that demand for HHW services will grow as more residents become aware of proper disposal procedures and as the population of the city increases. At the same time, public education efforts should result in changes in buying habits that result in a decrease in HHW generation.

The amounts of HHW to be collected from 1991 to 2000 from city residents will also partly depend on the level of funding available. The City plans to pay for its residents' participation in the countywide program on a per-car basis.

Each year, the City will evaluate participation rates and demand for services. Additional HHW services may be provided as demand grows and funds become available. Surcharges on garbage collection fees can be considered as a potential source of funding for HHW programs. Advanced disposal fees added to product purchase prices are currently under study and, if implemented in the future, could generate funds for HHW programs.

At present, it is not possible to determine the amount of HHW that will be diverted by source reduction education efforts. Methods for evaluating the success of source reduction activities are currently under development. Possible methods include monitoring of changes in purchasing habits using industry marketing data; random telephone surveys; and questionnaires at collection events. Programs should not be evaluated using only self-reported data from surveys. Survey results can be easily biased by the wording of the questions, respondents' inability to recall details about past purchasing habits, and a tendency to report the desired behavior. The linguistic and cultural diversity of

the community would further complicate use of survey tools to accurately measure source reduction.

The city intends to support legislative efforts, as described in the County Hazardous Waste Management (Tanner) Plan, to encourage the development of less- or non-hazardous products. As such products become available to replace currently marketed products that generate HHW, it may be possible to quantify the resulting reduction in HHW generation for specific products or materials.

5.3 FACILITIES NEEDED FOR IMPLEMENTATION

A permanent facility could be a lower-cost operation utilizing roll-off bins, fencing, and spill/run-off containment structures. Other options include the use of a modified existing structure or in a specially designed and constructed building. A permanent facility should have separate storage bays or bins, explosion proofing, ground columns, proper containment, sufficient ventilation and adequate emergency response and safety equipment. It should be situated on an impervious surface and be fenced for security.

5.4 HANDLING AND DISPOSAL METHODS

Proper handling and disposal methods are regulated by local, state and federal agencies. The mobile unit and permanent facility will be staffed by professionals trained to handle hazardous materials. Contractors who will haul and dispose of waste collected by the program must be licensed hazardous waste haulers. Environmental compliance of treatment, storage and disposal facilities will be monitored.

5.5 MULTIJURISDICTIONAL HHW EFFORTS

As described in Part 1, Chapter 2.2, the City intends to participate in the the countywide HHW Program for collection services and public education. This multijurisdictional effort is expected to provide convenient, accessible, and cost-effective services for residents of the City .

Representatives from all cities and the County participated in the Household Hazardous Materials Working Group planning process which developed the countywide HHW program. The program has been reviewed and endorsed by the Solid Waste Technical Advisory Committee (TAC), the Inter-governmental Council (IGC) Solid Waste Committee, and the IGC. County departments have received the approval to administer the program from the Board of Supervisors on February 26, 1991.

Implementing the Countywide Program will promote regional cooperation and expand services available to residents of all participating jurisdictions. Providing convenient, year-round access to service on a countywide basis will

maximize the amount of HHW diverted from the municipal waste stream and meet the demands for ongoing HHW disposal services.

5.6 REUSE, RECYCLING, AND END USES FOR DIVERTED MATERIALS

In 1990, 12.2% of the HHW collected in the City was sent for disposal and 70.2% was sent for recycling. This includes 31.2 tons of motor oil, paint and automotive batteries collected at HHW events.

New recycling options may become available for materials such as oil-based paints and solvents in the future and should result in a greater percentage of HHW sent for recycling. For recycling methods for specific wastes, see Chapter 4, section 8 of this Element.

A HHW waste exchange component will be included at the mobile collection unit and permanent facility to further divert reusable materials from disposal. The material should be in its original container, and, if opened, the program staff must judge the contents to be sound and uncontaminated. The party accepting material for reuse should be required to sign a liability waiver releasing the facility operator from liability.

End uses for materials diverted through HHW recycling or reuse efforts were described in Chapter 4, Evaluation of HHW Management Alternatives under the "End Uses" criteria.

CHAPTER 6

PROGRAM IMPLEMENTATION

This section describes the responsible parties, necessary tasks, estimated costs, and sources of funding for the implementation of the selected HHW program.

6.1 GOVERNMENT AGENCIES RESPONSIBLE FOR IMPLEMENTATION

The Office of Environmental Management is responsible for oversight of HHW management in the City . The household hazardous waste program specialist will be the liaison between the City and the Countywide HHW Program and will participate in planning and evaluating the HHW collection and education activities as they pertain to the City.

The Countywide HHW Program will be implemented by the County of Santa Clara Division of Environmental Health Services and the Department of Planning and Development. The Division of Environmental Health Services will serve as the lead agency for the administration and implementation of the HHW collection program. Hazardous materials specialists and environmental health specialists will be utilized for development and initial implementation of the collection program. Health Department in-house support services including an industrial hygienist, a toxicologist, and a chemist. A public health laboratory is available. Health Department staff will contract for transportation and disposal of the HHW in compliance with federal, state, and local regulations.

The Department of Planning and Development will serve as the lead agency for public education. The Planning Department will coordinate the educational efforts with participating cities, County Environmental Health, Santa Clara Valley Water District, the wastewater treatment facilities, schools, and non-profit agencies.

6.2 IMPLEMENTATION TASKS AND SCHEDULE FOR SHORT-TERM AND MEDIUM TERM PLANNING PERIODS

The schedules for implementation for the selected HHW programs are included in Table 6.1. Once established, it is anticipated that these programs will continue during the short-and medium-term planning periods. However, each program will undergo an annual evaluation and may be modified to meet the needs of the residents. The completion dated included in Table 6.1 are estimates and may be modified.

Table 6.1 Implementation tasks and schedules for short-and medium-term planning periods

TASK	COMPLETION DATE
<u>Mobile Collection Unit</u>	
•Formalize Interjurisdictional Relationships for HHW Services	1991
•Select Mobile Sites	1991
•Obtain Permits	1991-1992
•Purchase Equipment and Supplies	1991
•Recruit and Train Staff	1991, ongoing
•Develop Collection Program Schedule	1991, annually
•Develop Record Keeping System	1991
•Evaluate Environmental Compliance of Contractors	1991, ongoing
•Contract for Waste Transportation, Recycling and Disposal Services	1991
•Develop and Advertise Telephone Appointment Line	1991
•Develop and Advertise Telephone Information Line	1991
•Advertise Mobile Unit Schedule	1991, ongoing
•Conduct Mobile Collection Events	1991, ongoing
•Conduct Annual Evaluation of Mobile Unit Program	1992, annually
•Adjust Program and Service Based on Cities' Desired level of Participation and Feedback from Cities and Residents	annually
<u>Permanent Facility</u>	
•Identify Potential Sites	1991-1992
•Evaluate Staffing and Operational Alternatives	1991-1992
•Identify Permit Requirements	1991-1992
•Select Site	1991-1992
•Obtain Permits, Variances	1992-1993
•Develop Agreement Between County and Site Location	1992-1993
•Construct/Modify the Facility	1992-1993
•Obtain Equipment and Supplies	1992-1993
•Evaluate Environmental Compliance of Contractors	1992-1993
•Contract for Waste Transportation, Recycling, and Disposal Service	1992-1993
•Recruit and Train Staff	1992-1993
•Develop Record Keeping System	1992-1993
•Advertise Permanent Site Location and Hours	1992-1993, ongoing
•Open Permanent Facility	1992-1993
•Conduct Annual Evaluation of Permanent Facility	annually
•Adjust Program and Service Based on Cities' Desired Level of Participation and Feedback From Cities' and Residents	annually

Curbside Motor Oil Collection

The City currently sponsors a curbside oil collection program. The City plans to expand this program in the short- and medium- term planning period to include multi-unit dwellings. In order to meet this goal, the following tasks will be completed.

- RFP includes expansion 10/01/91
- Award contract 06/01/92
- Recycling Plus! system will include expansion 07/01/93

Hazardous Waste Exclusion Program

- Continue operation of Hazardous Waste Exclusion Program 1991, ongoing
- Include Report on Hazardous Waste Exclusion Program in Annual Evaluations annually

HHW Recycling Component

- Evaluate Environmental Compliance Records of HHW Recycling Contractors 1991, ongoing
- Contract for Recycling Services 1991, ongoing
- Re-evaluate and Update Recycling Options Annually 1991, ongoing

HHW Waste Exchange Component

- Include HHW Waste Exchange Procedures in Staff Training 1991-1992
- Develop Waiver for Residents to Sign Before Accepting Materials ongoing
- Plan for Additional Table and Storage at Mobile Unit and Permanent Facility 1991-1992, ongoing

Monitoring and Evaluation of HHW Program

- Obtain records from mobile unit and permanent facility administrator 1992, annually
- Obtain records from hazardous waste exclusion programs 1992, annually
- Obtain records on city-sponsored HHW programs 1992, annually
- Conduct survey of participating city HHW program administrators 1992, annually
- Analyze participation data for under-representation 1992, annually
- Analyze adequacy of services 1992, annually
- Write and distribute annual report 1992, annually
- Modify Programs as Necessary 1992, annually

6.3 COST OF PROGRAMS

The City's estimated annual costs for 1991 for HHW programs are summarized in Table 6.2. below. Each year, the City will review its HHW services, both

services provided through the Countywide HHW Program as well as the City-sponsored programs such as curbside oil collection, additional City HHW collection programs, and waste acceptance control at landfills.

Table 6.2 Costs for Selected Programs, 1991

Program	Estimated Annual Costs	Source of Funding
<u>Alternative 4</u> Combination: Mobile Plus Permanent	\$1,000,000 ** \$390,000 for 3900 vehicles	All participating cities (City of San Jose)
<u>Alternative 5</u> Curbside Oil Collection	\$170,000	
<u>Alternative 7</u> Hazardous Waste Exclusion Program		
<u>Alternative 8</u> HHW Recycling	Included in \$100 per vehicle cost for Combination: Permanent	
<u>Alternative 9</u> HHW Waste Exchange Program	No additional cost anticipated	

** (The above estimate was derived by multiplying the anticipated 10,000 vehicles to be served by an estimated \$100 per vehicle cost. The 10,000 vehicles figure is based on participating cities' commitment as of March 15, 1990. The \$100 per car is the estimated cost for operating the pilot program in fiscal '91-'92. The \$100 per vehicle cost can be estimated as follows: Labor: \$24, Disposal/Hauling: \$39, Supplies, \$7 Training, Advertising, Equipment and Administrative : \$30.

6.4 SOURCES OF FUNDING FOR IMPLEMENTATION OF HHW PROGRAM

The Countywide HHW Program has several sources of funding, as described below.

- Each city participating in the program will pay for services of the countywide program on a per-car basis.
- Funds for serving county unincorporated residents will come from garbage surcharge fees levied on those residents.
- The County Solid Waste Program staff may assist in preparation of annual reports.
- The City's HHW programs (curbside oil collection, etc.) will be funded by the General Fund and monies from AB939 fees.

CHAPTER 7

MONITORING AND EVALUATION

7.1 METHODS TO QUANTIFY AND MONITOR ACHIEVEMENT OF SHORT-TERM PLANNING PERIOD OBJECTIVES

OBJECTIVE #1 PROVIDE RESIDENTS ACCESS TO CONVENIENT HOUSEHOLD HAZARDOUS WASTE COLLECTION SERVICES.

EVALUATION METHOD 1 - Participation records will be kept at all events and programs. Results will be compiled for inclusion in annual reports.

EVALUATION METHOD 2 - Analyses will be done of the geographical distribution of collection event participants. If communities or neighborhoods are found to be under-represented, the causes of the under-representation will be analyzed and appropriate steps will be taken to address this problem. This data will be included in annual reports.

EVALUATION METHOD 3 - Progress on siting, permitting, and constructing a permanent HHW collection facility will be monitored by the County Health Services Administrator every 3 months to assure the project is progressing on schedule. A progress report on the development and operation of the permanent facility will be included in annual reports.

EVALUATION METHOD 4 - A survey of participants will be performed annually to determine level of satisfaction and identify problems. Participants will be queried regarding: ease in obtaining information about the program; length of wait for appointment; convenience of location; length of wait at collection site; the service provided by the collection event staff; and convenience of operating hours.

EVALUATION METHOD 5 - The amount (tonnage) of material collected by all HHW programs will be recorded. This data will be compiled and included in annual reports.

It should be noted that figures on total waste collected can be misleading for use as a program evaluation criterion. A number of factors can affect these figures, making year-to-year comparisons difficult. For example, successful source reduction efforts will reduce the amount of HHW generated per household. Furthermore, many households' first drop-off is likely to be larger than subsequent drop-offs because it includes items that have been stored for extended periods of time. Therefore, while HHW collection programs will become more accessible and efficient, the amount of HHW collected per household may actually decline over time. These effects may be particularly noticeable during the medium-term planning period (1995-2000).

Despite these limitations, the total amount collected is an important element in evaluating the success of the program. Every effort will be made to collect accurate data on amounts of HHW collected. The Countywide HHW Program's efforts to standardize HHW measurement methods will increase the accuracy of these evaluation efforts.

EVALUATION METHOD 6 - The baseline waste characterization study data will be compared to subsequent waste characterization studies to evaluate the amount of HHW entering the landfill.

This type of comparison should be used with caution. In addition to the limitations described above, the percentage of the waste stream that is HHW in future waste characterization studies may not be an accurate means of evaluating the HHW program. The solid waste recycling, composting and source reduction programs will substantially reduce the overall amount of solid waste in the short-term planning period. The amount of HHW entering the landfill is expected to decline, but may not decline at the same rate as solid waste. This may result in an increase in the percentage of HHW in the solid waste stream, while the amount of HHW may actually be decreasing. Adjustments should be made to account for these factors.

OBJECTIVE #2 - EXPAND CURBSIDE MOTOR OIL COLLECTION PROGRAMS TO THE MAXIMUM EXTENT POSSIBLE, TO INCLUDE ALL SINGLE AND MULTI-FAMILY DWELLINGS.

EVALUATION METHOD 1 - The amount of motor oil collected by the curbside collection program will be included in the annual report. The number of households eligible and number of households participating in curbside oil collection will be included.

EVALUATION METHOD 2 - The City's curbside motor oil collection expansion plans and expansion progress will be included in the annual report.

OBJECTIVE #3 - MINIMIZE DISPOSAL OF COLLECTED HHW THROUGH DISTRIBUTION OF REUSABLE MATERIALS AND HHW RECYCLING

EVALUATION METHOD 1 - Each type of HHW diverted for recycling will be tracked to determine the total amount of waste recycled. The data will be included in annual reports.

EVALUATION METHOD 2 - The types and amounts of HHW redistributed to non-profit groups and public agencies will be recorded for inclusion in annual reports.

EVALUATION METHOD 3 - The amount of HHW redistributed to residents at HHW events will be recorded for inclusion in annual reports.

OBJECTIVE #4 - IMPROVE MONITORING AND EVALUATION OF HHW PROGRAMS

EVALUATION METHOD 1 - At the end of the first year of operation, the new measurement methods will be evaluated by participating cities and agencies.

OBJECTIVE #5 - LIMIT IMPROPER DISPOSAL OF HAZARDOUS WASTE AT SOLID WASTE LANDFILLS BY CONTINUING STATE-MANDATED HAZARDOUS WASTE EXCLUSION PROGRAMS

EVALUATION METHOD 1 - The Department of Environmental Health Services' annual reports on the hazardous waste exclusion program will be included in the annual HHW program reports.

EVALUATION METHOD 2 - The quantities of HHW discovered in the load checking program will be charted in order to monitor increases or decreases from previous years.

OBJECTIVE #6 - INCREASE EFFICIENCY AND EFFECTIVENESS OF HHW COLLECTION SERVICES AND PUBLIC EDUCATION BY COORDINATING PROGRAMS WITH OTHER JURISDICTIONS AND AGENCIES WHENEVER FEASIBLE.

EVALUATION METHOD 1 - Annual surveys of participating city officials will be performed to determine overall level of satisfaction and to identify problems in the collection and public education programs.

EVALUATION METHOD 2 - Annual surveys of agencies and organizations involved in the countywide HHW program will be performed to assess satisfaction with the cooperative HHW collection and public education efforts.

OBJECTIVE #7 - DECREASE POTENTIAL SHORT- AND LONG-TERM LIABILITY RISKS BY MONITORING ENVIRONMENTAL COMPLIANCE RECORDS AND PROOF OF INSURANCE OF CONTRACT WASTE HAULERS AND CONTRACT TREATMENT, STORAGE AND DISPOSAL FACILITIES

EVALUATION METHOD 1 - An environmental compliance file will be maintained for each hazardous waste management and recycling firm utilized by the program. The file will be reviewed and updated annually to include environmental compliance records, results of on-site audits; and proof of liability insurance. A summary of these activities will be included in the annual reports.

OBJECTIVE #8 - INCREASE SOURCE REDUCTION OPTIONS FOR RESIDENTS BY SUPPORTING LEGISLATIVE EFFORTS AIMED AT DEVELOPMENT OF SAFER PRODUCTS AND SAFER HHW MANAGEMENT METHODS

EVALUATION METHOD 1 - The annual HHW management report will include a summary of legislative efforts sponsored or endorsed by participating cities and the County for the unincorporated area.

7.2 METHODS TO QUANTIFY AND MONITOR ACHIEVEMENT OF MEDIUM-TERM PLANNING PERIOD OBJECTIVES

OBJECTIVE #1 CONTINUE THE OBJECTIVES DEVELOPED FOR THE SHORT-TERM PLANNING PERIOD INTO THE MEDIUM-TERM PLANING PERIOD

EVALUATION METHOD 1 - The evaluation methods described above for the short-term planning period objectives will be continued into the medium-term planning period.

OBJECTIVE #2 INCREASE SOURCE REDUCTION EFFORTS

EVALUATION METHOD 1 - At the beginning of the medium-term planning period, additional strategies for promoting source reduction will be considered.

7.3 WRITTEN CRITERIA FOR EVALUATING PROGRAM'S EFFECTIVENESS

The County HHW Program will prepare annual reports describing the findings of the evaluation outlined above. Also included in the reports will be city-specific data for each jurisdiction participating in the program. For each city, the total amount of HHW diverted; amount recycled; number of residents utilizing the programs; amount recycled; and cost per ton, yard, or drum to divert HHW will be included. When future waste characterization studies are performed, the amount of HHW remaining in the waste stream will be itemized.

Additional information describing the markets for recyclable HHW materials will be included in the annual report. The markets for recyclable materials will be monitored to determine if additional markets are necessary or if additional materials can be sent for recycling.

The annual report will also include an overall evaluation of the adequacy of the HHW collection services. Increases in demand for services and increases in population will warrant adjustments in the operating schedule of the mobile collection unit and the permanent facility. In addition, under-utilization in specific communities or neighborhoods will be examined and addressed.

7.4 RESPONSIBLE PARTIES FOR MONITORING, EVALUATION, AND REPORTING

The City, the Santa Clara County Solid Waste Program and the County Department of Environmental Health Services will monitor and evaluate the HHW Program described above. The City will participate in countywide HHW planning, implementation, monitoring, and reporting activities. The County Solid Waste Program intends to assist in preparation of annual reports on the Countywide HHW program. The Department of Environmental Health Services will implement and monitor the mobile and permanent facility collection activities as well as the landfill load checking programs.

7.5 FUNDING REQUIREMENTS FOR MONITORING AND EVALUATION

Monitoring and evaluation of HHW management in the City will be funded through OEM and Environmental Enforcement. The County Solid Waste Program budget includes funding for administrative activities such as record keeping, monitoring recyclable materials markets, tracking the demographics of participants utilizing the program, and annual report-writing. The County Environmental Health Department's HHW and landfill load checking programs included recording keeping and reporting procedures.

7.6 CONTINGENCY MEASURES

If the programs described above fail to meet the goal of diverting HHW from landfill disposal, the following tasks can be implemented:

- Analyze existing programs for obstacles to successful implementation
- Increase amount of education and advertising
- Increase the number of sites for the mobile collection unit
- Increase the hours of operation at the permanent facility and mobile collection unit
- Increase funding and staff
- Modify objectives
- Revise the implementation schedule for permanent facility
- Increase enforcement efforts
- Increase penalties for improper disposal

CHAPTER 8

EDUCATION AND PUBLIC INFORMATION

8.1 OBJECTIVES FOR SHORT AND MEDIUM TERM PLANNING PERIOD

OBJECTIVE #1 INCREASE RESIDENT'S AWARENESS OF SOURCE REDUCTION, SAFER USE AND PROPER DISPOSAL OF HHW

Multijurisdictional Education and public Information Program

The City will participate in public education programs which will be coordinated by the Countywide HHW Program. The Countywide HHW Program will coordinate public education efforts with the Nonpoint Source pollution Control Program, the wastewater treatment plants' source reduction programs, the school science education curriculums, and non-profit educational organizations.

Source Reduction

Residents will be informed of the availability of less or non-hazardous substitutes. The need for public support for development of products which do not result in the generation of household hazardous waste will be included in public education materials.

Proper Use and Storage

Residents will be informed about the hazardous nature of some products and methods for proper use and storage of such products.

Proper Disposal

Residents will be informed of the environmental hazards associated with improper disposal of HHW, and will receive guidance on proper disposal methods.

OBJECTIVE #2 INCREASE THE ACCURACY AND UNIFORMITY OF HHW SOURCE REDUCTION AND DISPOSAL PUBLIC INFORMATION DISSEMINATED BY PUBLIC AGENCIES

Training for Use of Guidebook

Employees of public agencies and organizations in Santa Clara County who respond to public inquiries will be eligible to participate in training on the use of the "Guidebook for Proper Management of Household Waste for the Protection of Our Local Environment". The Guidebook will be distributed by the county, to approximately 500 agencies and organizations in the Spring of 1991.

Guidebook Updates

The County Hazardous Waste Planning staff will oversee updates and supplements of the manual as necessary.

8.2 EXISTING PUBLIC EDUCATION PROGRAMS

City-sponsored Education Efforts

The City has sponsored educational efforts to inform residents of proper disposal methods for HHW. In addition, residents have received guidance on how to generate less hazardous waste by using less- and non-hazardous alternatives. These efforts include:

- Publication and distribution of the "Take Me Shopping-A Consumer Guide To Safer Alternatives For Household Hazardous Products." Approximately 500 copies were distributed to residents in 1990.
- Phone inquiries from residents regarding HHW disposal and alternative products are answered by City staff. In 1990, approximately 5,200 calls were handled.
- Advertising was done in preparation for upcoming collection events. The following methods were used:

- Advertisements in local newspapers
- Flyers to residents who called the City for direct information
- Radio Public Service Announcements
- Television Announcements

Non-profit and Volunteer Organization Efforts

League of Women Voters

In 1990, the League of Women Voters sponsored the production and distribution of a video entitled "Cleaning Up Toxics at Home." The League distributed copies of the video to 16 libraries, 15 city governments, the County Hazardous Waste Management Program, 7 junior colleges, 3 universities, and 8 prenatal education groups in Santa Clara County.

The League also printed and distributed 4,000 copies of "Take Me Shopping," as well as a flyer entitled "Cleaning Up Toxics," in 1990.

Peninsula Conservation Center

Santa Clara Valley Manufacturing Group

Public Agency -Sponsored Programs with Participation of City

Nonpoint Source Pollution Control Program

The City is a member of the Nonpoint Source Pollution Control Program, a project of the Santa Clara Valley Water District. Nonpoint source water pollution refers to pollutants which run-off from broad areas of land rather than enter the water through a discrete pipe or conduit. The purpose of the Nonpoint Source Program is to reduce stormwater-borne pollutants entering the southern San Francisco Bay. Specific pollutants of concern, in order of priority, are heavy metals (cadmium, copper, lead, mercury, nickel, silver, and selenium); hydrocarbons (contained in oil and grease); pesticides and herbicides; suspended sediments; and organic pollutants.

The Nonpoint Source Program Public Information/Participation Plan aims to inform the public about the causes and origins of nonpoint source pollution, explain the correct practices for controlling pollutants at their source, and involve the active support of the public in implementing these practices. The Nonpoint Source Program aims to reduce improper disposal of HHW into nonpoint pathways and at the same time discourage disposal of HHW into the solid wastestream.

In 1991, the Nonpoint Source Program began its public educational efforts with publication of a brochure entitled "The Bay Begins at Your Front Door!" The brochure explains how residents can prevent pollution of the San Francisco Bay by keeping hazardous materials from entering the storm drain system.

Wastewater Treatment Plant

The San Jose/Santa Clara Water Pollution Control Plant serves the Cities of San Jose, Santa Clara, and Milpitas; the Cupertino Sanitary District, County Sanitation District No. 2-3, the West Valley Sanitation District serving the Cities of Campbell, Los Gatos, Monte Sereno and Saratoga; and the Sunol Sanitary District and the Burbank Sanitary District in the unincorporated area. In April 1991 the plant began a public education effort, aimed at reducing the discharge of hazardous waste into the sanitary sewer system. Residents were informed of proper disposal methods for household hazardous waste, and urged to use the collection events for household-generated wastes.

County Office of Education

The County Office of Education oversees the implementation of the State Department of Education's mandated Science Framework in the 37 school districts in Santa Clara County. A revised science curriculum is being phased into the schools in 1990 and 1991 and contains lessons on hazardous materials for grades K-12.

County Hazardous Waste Management Plan (Tanner Plan)

The Santa Clara County Tanner Committee developed the following three public education policies for management of HHW. The plan was formally approved by the City and will be adopted by the City upon approval of the plan by the State Department of Health Services.

Public Education Policy #1

The County and Cities shall coordinate the development of a program for the proper management and disposal of household hazardous waste on a countywide basis in accordance with the waste management hierarchy and considering existing programs and conditions.

This policy resulted in the formation of the Household Hazardous Materials Working Group. The Working Group is composed of representatives from each of the cities; County hazardous waste, solid waste and environmental health staff; private solid waste contractors; and community advisory members. The Working Group conducted a thorough evaluation of HHW management alternatives. This evaluation resulted in a decision to implement a pilot countywide HHW collection and public education program in fiscal year 1991-92. The evaluation of HHW management alternatives and a description of the selected program are included in this document.

Public Education Policy #2

The County, in coordination with the Cities, shall initiate a public education campaign which will inform all county residents about the potential hazards associated with household products, how to dispose of them safely, and safe substitute products and practices that can be used in place of hazardous substances.

Several educational publications have been produced, including "Take Me Shopping - A Consumer Guide To Safer Alternatives For Household Hazardous Products" and "The Guidebook for Proper Management of Hazardous Wastes". Additional countywide educational activities are currently under development and are described in detail in this document.

Public Education Policy #3

The County, in coordination with the Cities and industry, shall engage in direct public education concerning hazardous waste reduction and management such as workshops, utilization of the media, school programs, and information dissemination.

As a result of this policy, industry-specific waste minimization workshops have been held in the county. Workshops for the metal finishing industry and the automotive service industry provided up-to-date waste minimization and regulatory compliance information to over 500 local businesses as of March 15,

1991. In addition, one jurisdiction is working with its local industry in developing a pilot educational program to provide waste minimization information to all types of hazardous waste generators. Business and industry associations are also participating in these efforts. In addition, an effort to coordinate hazardous waste public education programs with local schools is underway, and includes the participation of several local community colleges.

8.3 IMPLEMENTATION OF EDUCATION AND PUBLIC INFORMATION PROGRAMS IN THE SHORT AND MEDIUM-TERM PLANNING PERIODS

8.3.1 Program Description

Countywide Efforts

The City plans to participate in the educational efforts coordinated by the Countywide HHW Program. Residents will be informed about how to use, store, and dispose of hazardous products properly. An aggressive source reduction component will be included to promote less hazardous alternatives and thereby reduce generation of HHW.

The countywide HHW program will coordinate educational efforts with participating cities, non-profit organizations, and public agencies such as the Nonpoint Source Control Program, wastewater treatment plants, and local schools.

City Efforts

The public education efforts currently underway in the city are described above under "Existing Conditions." It is anticipated that these programs will be continued into the short- and medium-term planning period. A summary of public education activities follows.

- HHW appointment telephone line
- Printing and distribution of "Take Me Shopping" at HHW events and upon request
- Use of "The Guidebook for Proper Management of Hazardous Wastes"
- Advertising in local papers, radio public service announcements

8.3.2 Community Audiences to be Targeted

The City intends to provide HHW collection services and source reduction public information for all residents. However, in order to achieve this goal, it may be useful to identify the various "publics" or audiences that exist within the population of the city. When preparing and disseminating educational materials designed to promote source reduction and proper disposal factors such as potential language barriers will be taken into account. The City plans to provide educational and public information messages in English, Spanish and Vietnamese.

8.3.3 Agencies Responsible for Implementation of Education and Public Education Information Programs

The Office of Environmental Management is responsible for oversight of HHW management in the City . The household hazardous waste program specialist will be the liaison between the City and the Countywide HHW Program and will participate in planning and evaluating the HHW collection and education activities as they pertain to the City.

The County Department of Planning and Development will serve as the lead agency for public education. The Planning Department will coordinate the educational efforts with participating cities, County Environmental Health, Santa Clara Valley Water District, the wastewater treatment facilities, schools, and non-profit agencies.

8.3.4 Public Education

- Develop and Distribute Event Advertising Notices 1991, ongoing
- Develop and Distribute "The Guidebook" to public agencies 1991
- Provide Training for Staff Using the Guidebook 1991-1992
- Reproduce and Distribute the "Take Me Shopping" booklet 1991, ongoing
- Establish HHW telephone appointment line 1991
- Participate in ongoing multi-agency HHW public education efforts 1991, ongoing
- Develop and Distribute Product-Specific Hand-outs including point of sale advertising. 1991, ongoing

8.3.5 Costs and Sources of Funding for Implementation of Education and Public Information Programs

Public Information

Each city participating in the Countywide HHW Program will pay for services on a per-vehicle basis. The cost of publicizing the mobile and permanent facility services was included in the \$90 to \$100 per vehicle cost. Funds for serving county unincorporated residents will come from garbage surcharge fees.

Education

The budget for implementing education programs is currently under development. The Countywide HHW Program is coordinating its education efforts with participating cities, public agencies, and non-profit organizations.

The City's HHW education and public information programs are anticipated to cost \$90,000 each year. Funding sources for these programs are included in the Household Hazardous Waste base budget.

8.4 MONITORING AND EVALUATIONS

8.4.1 Evaluation Methods

The methods described below will be used to measure achievement of the education and public information objectives.

OBJECTIVE #1- INCREASE RESIDENTS' AWARENESS OF SOURCE REDUCTION, SAFER USE, AND PROPER DISPOSAL OF HHW

EVALUATION METHOD 1 - Annual surveys of residents will be performed to determine the extent to which buying habits have changed to reduce generation of HHW; and the percent of residents aware of safe use and disposal practices. Results of the surveys will be included in the annual reports.

EVALUATION METHOD 2 - The evaluations of number of participants and geographic distribution of participants will be analyzed to determine the adequacy of HHW program advertising efforts.

EVALUATION METHOD 3 - An annual survey of retail businesses to determine if their product sales have changed.

OBJECTIVE #2- INCREASE THE ACCURACY AND UNIFORMITY OF HHW SOURCE REDUCTION AND DISPOSAL PUBLIC INFORMATION DISSEMINATED BY PUBLIC AGENCIES

EVALUATION METHOD 1 - Annual surveys of public and non-profit agencies using the "Guidebook for Proper Management of Household Waste for the Protection of Our Local Environment" will be performed to determine level of satisfaction and need for changes.

EVALUATION METHOD 2 - Periodic updates of the Guidebook will be done to accommodate changes in HHW management.

8.4.2 Written Criteria for Evaluating Program Effectiveness

The County HHW Program, in conjunction with the City will prepare annual reports describing the findings of the evaluation outlined above. Education and public information programs will be evaluated to determine changes in purchasing habits, level of awareness of proper use and disposal, level and distribution of participation, and changes in availability of less-hazardous products. Criteria for evaluating the Guidebook include level of satisfaction among users and a determination regarding the need for revision.

8.4.3 Agencies Responsible for Monitoring, Evaluation and Reporting

The agencies responsible for monitoring, evaluation and reporting include the Office of Environmental Management, the County Division of Environmental Health Services, and the County Department of Planning and Development.

8.4.4 Funding Requirements and Sources for Monitoring and Evaluation

Monitoring and evaluation of HHW management in the City will be funded through the Household Hazardous Waste Program. The County Solid Waste Program budget includes funding for administrative activities such as record keeping, monitoring recyclable materials markets, tracking the demographics of participants utilizing the program, and annual report-writing. The County Environmental Health Department's HHW include record keeping and reporting procedures.

8.4.5 Contingency Measures

In the event that the annual evaluations indicate a shortfall in attainment of the education and public information objectives, the following measures may be implemented.

- Analyze existing programs for obstacles to successful implementation
- Increase or improve education and advertising efforts
- Increase funding and staff
- Modify objectives
- Increase frequency of program monitoring and review

8.4.6 Program Monitoring and Reporting Schedule

Annual reports will be written and distributed at the end of each 12 months of operation. It is anticipated that the first annual report will be written in October, 1992

CHAPTER 9

FUNDING

9.1 PROGRAM COSTS AND ALLOCATION OF RESOURCES

The City must demonstrate that there is sufficient funding and allocation of resources for program planning and development and implementation of required programs.

Cost estimates for programs scheduled for implementation, as well as revenue sources to support these programs, are contained in Table 6.2 in Chapter 6 of this element. In addition, more detailed descriptions of estimated program costs are contained in Chapter 4, Evaluation of Household Hazardous Waste Management Alternatives.

9.2 CONTINGENCY FUNDING

In the event that adequate funding is not available from the revenue sources identified in Table 6.2, the City may consider new or additional surcharges on garbage, or landfill tipping fees, advance disposal fees, as provided by AB939.

Attachment 1

State of California

California Integrated Waste Management Board

HOUSEHOLD HAZARDOUS WASTE COLLECTION INFORMATION

CIWMB-303 (1/90)

Name of Local Agency: OFFICE OF ENVIRONMENTAL MANAGEMENT

Phone: (408) 277-5533

Address: 777 North First St., San Jose City: Santa Clara County: CA State: 95112 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	5045				RE
2. Paints					
a. Latex	2076				Re, T-1
b. Oil Base	1045				Bf
3. Solvents, thinners, and stains	385				Bf
4. Gasoline and oil (mixed)					
5. Aerosols (excluding pesticides/herbicides)		516			T-1
6. Other				69	D
FLAMMABLE SUBTOTAL	8936	516		69	

Management Methods

Re Re-used
Re Recycled

T-1 Transfer Station
T-1 Incinerator

T-3 Stabilization
D Land Disposal

Attachment 1

Waste Category	Gallons	Pounds	Number of Containers	Number of Drums (55 gal)	Management Method
B. Pesticides					
Such as herbicides, insecticides, fungicides, etc.	_____	_____	_____	<u>10</u>	<u>T-1</u>
PESTICIDE SUBTOTAL	_____	_____	_____	<u>10</u>	_____
C. Corrosives					
1. Acids	_____	_____	_____	<u>2</u>	<u>Re</u>
a. Oxidizing	_____	_____	_____	_____	_____
b. Non-Oxidizing	_____	_____	_____	<u>1</u>	<u>Re</u>
2. Alkaline	_____	_____	_____	<u>3</u>	<u>Re</u>
CORROSIVES SUBTOTAL	_____	_____	_____	<u>6</u>	_____
D. Oxidizers					
Excluding acids	_____	_____	_____	<u>5</u>	<u>Ru, Re</u>
OXIDIZERS SUBTOTAL	_____	_____	_____	<u>5</u>	_____
E. Miscellaneous					
1. Car Batteries	_____	_____	<u>422</u>	_____	<u>Re</u>
2. Dry Cells	_____	_____	_____	_____	_____
3. Mercury	_____	_____	_____	_____	_____
4. Other	_____	_____	_____	_____	_____
MISC. SUBTOTAL	_____	_____	<u>422</u>	_____	_____
TOTAL WASTE COLLECTED	<u>8936</u>	<u>516</u>	<u>422</u>	<u>90</u>	_____

Attachment 2

Table 4.1 Evaluation of Household Hazardous Waste Management Alternatives

	Alt. 1 Periodic Drop-Off Events	Alt. 2 Five Permanent Facilities	Alt. 3 Mobile Collection	Alt. 4 Mobile Unit + Permanent Collection	Alt. 5 Curbside Motor Oil Collection	Alt. 6 Door-to- Door Eid/ Disabled	Alt. 7 HW Exclusion Program	Alt. 8 HHW Recycling Component	Alt. 9 Waste Exchange Component
Waste Diversion Potential	High	High	High	High	High	High	Medium	High	High
Absence of Hazard	Medium	High	Medium	High/Med.	Medium	Medium	Medium	Medium	Medium
Flexibility	Medium	High	High	High	High	High	Medium	High	High
Availability of Service	Medium	High	High	High	High	High	N/A	High	High
Provides Immediate Need Svcs.	Low	High	High	High	High	Medium	N/A	High	N/A
Limited Shift in Waste Type Production	N/A	N/A	N/A	N/A	N/A	N/A	Medium	N/A	N/A
Ease of Imple- mentation	High	Medium	High	High	High	High	High	High	High
Facility Needs	High	Low	High	Medium	High	Medium	High	High	High
Consistent With Local Policies	Medium	Medium	High	Medium	High	High	High	High	High
Absence of Institutional Barriers	High	High	High	High	?	High	High	High	High
Estimated Cost	\$90-110 per car	\$90-110 per car	\$90-110 per car	\$90-110 per car	?	\$40 per household	N/A	N/A	\$0
End Uses	Medium	High	Medium	High	High	Medium	Low	High	High

Note: N/A = Not Applicable