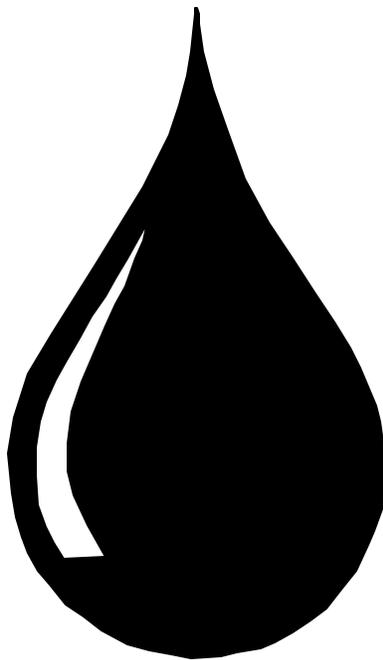


# **A Site Manager's Guide for Starting a "DIY" Used Oil Collection Center**

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**September 1998**



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Department of Conservation & Natural Resources

Division of Environmental Protection  
Solid Waste Branch

# Introduction

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This guideline is intended to provide helpful information to site managers who are interested in setting up a "do-it-yourselfer" used oil collection site. "Do-it-yourselfer" or "DIY" oil is oil that comes from households, such as oil from oil changes on personal vehicles.

Used oil that is disposed of improperly is a waste of a valuable energy resource and a threat to the environment. The oil from a single oil change can contaminate one million gallons of fresh water, a year's supply for fifty people. The EPA has reported that 60% of Americans change their own oil, generating between 200 and 250 million gallons per year. EPA estimates that only 10% of DIY generated oil is returned to collection programs for recycling or energy recovery.

Many DIY'ers who dump their oil on the ground or into storm drains or throw it in the trash, (all of which are illegal), simply lack the opportunity to take their oil to a convenient collection site for proper disposal. That is where you as a site manager can help. Locations where DIY'ers purchase their oil make the most convenient locations for collection centers.

Operating a DIY used oil collection site benefits both the business where it is located and the local community. The community gets a convenient opportunity to recycle its DIY oil. The business gains an increase in store traffic and sales, free publicity, and a positive public image. Independent research conducted by Valvoline MRD showed that 44% of DIY'ers who return used oil make a purchase with an average ticket price of \$13. Also, surveys indicate that when given a choice, most consumers prefer to do business with a company which they perceive as environmentally responsible. In addition, the Nevada Division of Environmental Protection (NDEP) will publicize collection centers in brochures and on a toll-free recycling hotline at no cost.

Because there can be costs associated with a collection site that is not managed correctly, it is important to follow the management standards and used oil acceptance procedures contained in this guideline. If you have any questions, please contact the Solid Waste Branch of NDEP at (775) 687-9459.

# Setting Up a Collection Site

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## Equipment

### 1 - Storage Container

#### Types of Storage Containers

Tanks and drums that are made from steel or fiberglass are typically used as storage containers. Fiberglass units are usually more expensive, but generally outlast steel units because they resist corrosion. Any tank or drum should be constructed of material that meets the UL No. 142 Standard for flammable and combustible liquids.

There are two basic types of tank installations - aboveground and underground. The advantages of installing an aboveground tank over an underground tank are; 1) aboveground tanks are less costly to install and monitor, 2) aboveground tanks are easier to repair, and 3) if an aboveground tank should leak, the cleanup is generally less costly. The disadvantages of aboveground tanks are they pose a fire hazard and are susceptible to vandalism.

All storage containers should be in good condition, free of any rust or corrosion, and inspected on a regular basis. Each should have a wide-mouthed funnel in order to make it easy to transfer oil into it. The container should be kept closed when oil is not being put in it so it does not spill if the container is turned over. A lock is recommended to keep material from being emptied into the container after hours. Every container should have a pressure relief valve or vent to prevent fumes from building up inside. Finally, each container should be equipped with a gauge or measuring stick to avoid overfilling.

#### Size of Storage Container

The size of your storage container will depend on the size of your community and the available frequency of pickup. For example, a site located in a rural community may not need a large tank based on the amount of oil brought in, unless a hauler only services that community once every two months. Also, some haulers require a minimum quantity of oil before they will make a pickup (e.g. 100 gallons). It is best to consult with an oil hauler before selecting a tank or drum.

### Storage Container Permits, Registrations, and Regulations

Underground tanks must be registered with the Underground Storage Tank Branch of NDEP and installed according to state regulations. For more information, please call (775) 687-9368.

Aboveground tanks and drums used to store used motor oil must be installed and sited in accordance with the 1991 Uniform Fire Code (UFC), Article 79 and permitted by the State Fire Marshal's Office. For a copy of UFC Article 79 and a permit application, please call the State Fire Marshal's Office at (702) 687-4290.

Your local fire and building departments should also be contacted before a tank is installed to find out if there are any ordinances or permitting requirements that apply.

### Insurance

The State of Nevada offers insurance to cover the cost of cleanups from leaking underground and aboveground tanks. The insurance is available for an annual fee of \$100 from the Nevada Petroleum Fund. For more information, call 687-9368.

## **2 - Signs**

Signs containing the following information should be posted at the collection site:

- Identify the site as a DIY used oil collection center.
- A statement that the site accepts household motor oil only.
- A "Used Oil" label should be placed on the storage container to prevent accidental mixing with other liquids.
- A "no smoking or open flame" sign should be placed near the container.
- Provide instructions to customers such as "Please empty used oil into tank and keep containers for reuse", or "Please check in with the office. An employee will empty your oil container."
- Make customers aware of the importance of depositing only used oil, i.e. "For used oil only - do not contaminate with gasoline, antifreeze, engine degreasers, solvents, cooking oil, paint thinners, or any other contaminants."
- Post the hours of operation. Notify customers that it is illegal to drop off containers after business hours.

### **3 - Fencing or a Cart**

If the tank or container is located outside during off hours, a fence around the site with a locking gate is recommended, especially if the tank or container does not have a lock. Limiting access to hours of operation will reduce the risk of vandalism, contamination, and spills.

If you are using a drum or some other mobile container, another option is to transport it to a secured area during closure hours. A dolly or cart can be used for this purpose.

### **4 - "Sniffer" or Chemical Test Strips**

If DIY used oil is mixed with other wastes, such as anti-freeze, paint products, or solvents, it will be much more expensive to be disposed of or treated. Electronic halogen detectors or "sniffers" can be used to detect the presence of contaminants in used oil. They are small, portable devices which can detect chlorinated solvents when they are waved over a container of oil. Another method of testing oil for contamination is through the use of an on-site chemical indicator. The indicators are strips that change color when placed in oil that is contaminated with chlorinated solvents.

### **5 - Absorbent Materials**

Absorbent materials such as sawdust, cat litter, or sorbent granules or pads should be kept on hand to soak up any minor spills that may occur. Many commercial spill kits are also available. Absorbent materials that are used to clean up isolated spills so that all free liquid is absorbed can be disposed of with other trash.

## **Site Preparation**

The site should be prepared in a way that reduces the risk of pollution from any leaks or spills which might occur. Locations to be avoided are those that drain directly to a storm drain or waterway or are prone to vehicle collisions. Fire codes and building codes may require minimum separation distances from the site and the property line.

Spill or leak protection for aboveground tanks or drums is best accomplished by providing secondary containment. Examples of secondary containment are; 1) a concrete pad with berms around its edge, 2) a double-lined tank or drum, and 3) a fiberglass cart for drums. The capacity of the containment structure should be at least 110% of the total volume of the storage container.

# Operating a Collection Site

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## Required Standards

State and federal regulations set the following standards for operating a collection site:

- Used oil must be stored properly.
- Used oil must not be mixed with hazardous waste.
- Each storage container must be labeled "USED OIL". Also, the fill pipe to an underground storage tank must be labeled "USED OIL".
- Tanks and storage containers must not leak.
- All tank or container releases must be stopped, cleaned up, and the leaking tank or container repaired.
- The services of a used oil transporter with an EPA identification number must be used to remove oil from the site unless the owner of the site transports less than 55 gallons with his own or an employee vehicle to a permitted collection center or aggregation point.

In the near future the Solid Waste Branch of NDEP will establish steps for businesses to become State-Certified DIY Used Oil Collection Sites. Certified collection sites will be publicized in brochures and on the toll-free recycling hotline. There will be no fee involved.

## Recommended Steps

The following steps are recommended, but not required, to safely operate a collection site at minimized cost:

### **Customer brings in used oil.**

Limit each customer to bringing in no more than 5 gallons per visit to prevent use by small businesses who may have mixed the oil with other wastes.

### **Ask the customer if the oil has been mixed with anything.**

Used oil mixed with other waste must be evaluated to determine if the mixture is a hazardous waste. If it is a hazardous waste or mixed with water, it can't be recycled and may be costly to dispose of.

Unacceptable mixtures are anything except motor oil, hydraulic oil, or transmission, brake, or power steering fluid.

### **Examine the oil.**

Any employee who transfers oil into the tank should visually inspect the contents of

each container. Refuse to accept anything you believe may contain something other than motor oil. Things to look for include:

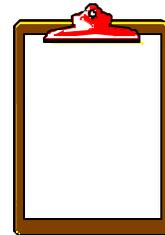
- Water
- Paint chips
- Any color other than black
- Thinness
- Separation into more than one layer

The easiest and surest way to detect contamination is through the use of a halogen detector, or "sniffer". Another method of testing oil for contamination is through the use of an on-site chemical indicator.

If you reject oil because of contamination, instruct the customer to contact NDEP at 687-9466. NDEP will instruct them to take the oil to the nearest household hazardous waste collection facility.

**Have the customer sign a log sheet.**

Each customer should sign a log sheet that includes their name, address, and quantity of oil brought in. Keeping a log will facilitate your recordkeeping. An example log sheet is attached.



**Transfer the oil to the storage tank or drum.**

It is easier to control what goes into your storage tank or drum if only employees are allowed access to it. Employees who handle the oil should avoid prolonged or repeated skin contact (gloves and safety glasses are recommended).

**Offer the empty container back to the customer.**

The customer should be encouraged to reuse the container.

**Check oil levels regularly.**

Normally you should schedule a pickup when the tank or drum is half full.

### **Call an oil transporter to schedule a pickup, or burn oil in an onsite space or water heater.**

There are approximately 10 used oil transporters operating in Nevada. For your convenience a list is provided on the back of this guideline. To check that a transporter has an EPA Identification Number, or to ask if they have been cited for violations in the past, contact the Hazardous Waste Compliance and Enforcement Branch in the Bureau of Waste Management of NDEP at (775) 687-9459.

Businesses can burn non-contaminated DIY oil in space heaters onsite if the space heater is rated at less than 500,000 BTU's per hour and is vented to the outdoors. A permit to operate a waste oil space heater in Washoe County is required by the Washoe County District Health Dept. (328-3753). Equipment is also available commercially to heat water with used oil. For more information contact NDEP at 687-9459.

### **Maintain a recordkeeping system.**

Keep track of the amount of oil received and transported from the site, the transporter's name, and possibly an inspection record for the tank or drum.

### **Report periodically to NDEP.**

NDEP will send a report form to each certified collection center in order to tabulate the amount of DIY oil collected statewide.

## **Spill Procedures**

### **Small Spill (1 gallon or less)**

Absorb all of the oil using paper, vermiculite, sand, sawdust, cat litter, or other absorbent materials. You can dispose of the absorbent material in the trash as long as all free liquid has been absorbed. If soil has been affected, dig it up and place it in a container. Contact your local landfill to see if it will accept the material.



### **Medium Spill (1 gallon to 24 gallons)**

Prevent run-off to sewers or surface waters. Use an absorbent to soak up all free liquid and dispose of the absorbent in the trash.

### **Large Spills (25+ gallons)**

Prevent run-off to sewers or surface waters with an absorbent material, dikes, pumps, etc. If other containers are available, transfer the absorbent or oil for temporary storage. Spills of 25 gallons or more must be reported to NDEP and the Division of Emergency Management (DEM). During working hours call **NDEP at 687-9485** and **DEM at 687-4240**. After working hours the number is **230-4871**.

You will receive technical assistance on clean up procedures. If oil is spilled into storm drains or surface waters, the Clean Water Act requires that the person in charge of the site report the spill immediately to the **National Response Center at 1-800-424-8802**.

### **Offsite Spills**

Businesses that commercially service vehicles and follow the required standards for accepting DIY oil are not liable for any cleanup costs under Superfund from spills or mismanagement of oil once it has left the site.

## **Abandoned Oil Procedure**

Occasionally customers will drop off containers of oil after business hours. If this happens, it is recommended that you follow these steps:

1. Inspect each abandoned container to determine the approximate volume of oil.
2. If there is less than 5 gallons of oil and it does not appear to be mixed with anything, transfer the oil to the storage container and log the oil as "Orphan volume".
3. If the container is greater than five gallons or the oil does appear to be contaminated, set the oil aside to be tested by an oil transporter. Call NDEP at 687-9459 for information on the nearest household hazardous waste collection program.

## **Contaminated Oil Procedure**

If the oil in your storage container is found to be contaminated with other wastes such as solvents, antifreeze, or paint products, it will be considered hazardous waste. For information on hazardous waste management and disposal and hazardous waste transporters, please contact the Nevada Small Business Development Center at (800) 882-3233. If the tank is contaminated with water only, the oil transporter will probably be able to accept it.

## **Oil Filter Collection**

If you are considering collecting used oil filters as well as used oil, residents should be instructed to pierce and then hot-drain the filters before bringing them to the collection site. You can also hot-drain or crush the filter as a service to your

customers. Oil filters that have been drained so that there is no free-flowing liquid in them can be disposed of or sold to a scrap dealer. Fuel filters and filters other than oil filters are still considered hazardous waste and should not be accepted.



# Collection Site Costs

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## Capital Costs

It is estimated that an environmentally-sound used oil collection site can be set up for approximately \$500 to \$3,000. The total cost depends on the type and size of storage container purchased and whether site preparation is done inhouse or contracted out.

ITEM		COST
Tank: Double-walled, steel		\$500- 2,000
Tank: Fiberglass w/containment basin		\$2,000- 2,500
Drum: Double-walled, steel		\$200-500
Permit for an aboveground tank or drum		\$120
Site Set-Up: Concrete pad, collision protection, rain shed		< \$2,500
Spill Kits		< \$250
Signs		\$100
Contamination testing equipment	Halogen "sniffer"	\$100-200
	Chemical kits (one use)	\$6-10

For specific information on equipment manufacturers, contact the Solid Waste Branch of NDEP at 687-4670 ext. 3002.

Several major oil companies have established corporate used oil collection programs. In most programs, equipment and promotional materials are offered to distributors at discounted prices. Some programs offer collection service and indemnification from potential liabilities.

# Operating Costs

## **Transporting**

In addition to the capital costs of setting up a site, you may be charged a fee to have the oil removed from the site. Due to market factors, transporters have not paid site owners for oil in recent years. However, many transporters do not charge to pick up DIY oil, although depending on what part of the state you are in, there may be a transportation fee. Among transporters that do charge, the cost ranges from \$.10 to \$.50/gallon. Average costs for management and disposal of contaminated used oil range from \$500 to \$600 per 55 gallon drum.

## **Staff Time**

The staff time involved in accepting oil, signing in customers, cleaning the site, or scheduling a pickup is minimal.

## References

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Guidelines for siting used oil collection tanks for "Do-It-Yourselfer" Recycling Programs. New Jersey Dept. of Environmental Protection and Energy. Contact Ellen Bourbon, (609) 530-4001.

A guidebook for implementing curbside and drop-off used motor oil collection programs. American Petroleum Institute. Contact Brad Jones, (202) 682-8000.

Used oil storage tank grant program. 1994 procedures manual and application form. Minnesota Pollution Control Agency. Contact Julie MacKenzie, (612) 297-8322.

Guidelines, laws, and recommendations for siting, design, and operation of household used oil collection facilities. Washington Department of Ecology. Contact Steve Barrett, (206) 459-6286.

How to establish a public collection program for used motor oil. Pennzoil Products Company. Contact Kip Colcord, (702) 359-1439.

Used oil collection program manager's guide. Valvoline Environmental Services. Contact Tony Puckett, (606) 264-7002.