UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION
AGRICULTURAL WATER QUALITY RESEARCH & EDUCATION
SAN DIEGO COUNTY

RECORD KEEPING


Ag Water Quality
WATER SCHOOL



http://ucanr.org/agwaterquality

Introduction

Agriculture is under increasing scrutiny for its contributions to runoff and nonpoint source pollution. Nonpoint source (NPS) pollution, unlike pollution from industrial and sewage treatment plants, comes from many diffuse sources. As runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and groundwater. Although agriculture is not the only concern, runoff from agricultural properties may contain contaminant levels that exceed water quality standards. Certain management practices can contribute to nonpoint source pollution in the form of excess sediments, nutrients, salts, pesticides, or pathogenic organisms. In San Diego County, new regulations adopted in 2001 have created new requirements for runoff entering the storm drain system. These new requirements affect many different types of businesses, including agriculture.

San Diego County's storm water permit specifically requires the county and cities to inspect greenhouses and nurseries for storm water violations. *Other types of agriculture are not exempt from complying with water quality regulations. However, at this time they will not be regularly inspected for storm water violations.*

Instructions

This record keeping system serves as a guideline to assist agricultural operations in compiling, organizing, and recording information necessary to document practices that prevent runoff and nonpoint source pollution from agricultural properties. This document is organized into ten major topic sections that can potentially affect water quality:

1. **Site Maps and Emergency Information**
2. **Hazardous Materials**
3. **Sanitation and Waste Management**
4. **Pesticide Use**
5. **Fertilizer Use**
6. **Irrigation Practices and Runoff**
7. **Equipment Maintenance**
8. **Best Management Practices**
9. **Employee Training/Education**
10. **Reports, Data and Other Info**

Guidelines and suggestions are provided for each section along with blank charts to easily record information. It is recommended this record keeping system be maintained in a binder to easily insert other pages of information. This document is not comprehensive for all agricultural properties but serves as a tool to guide record keeping efforts.

Acknowledgements

Funding for this program has been provided in full or in part through a contract with the State Water Resources Control Board (SWRCB) pursuant to the Costa-Machado Act of 2000 (Proposition 13) and any amendments thereto for the implementation of California's Nonpoint Source Pollution Control Program. The contents of this document do not necessarily reflect the views and policies of the SWRCB, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

Funding also provided by Kee Kitayama Research Foundation, Environmental Quality Incentives Program (EQIP), California Association of Nurserymen, City of Encinitas, and UC Cooperative Extension - County of San Diego.

Table of Contents

SECTION 1
Site Maps and Emergency Information:

1. The **maps** in this section identify the location of various facilities and activities on the property.

2. The **site map** can be a copy of the map required in the Hazardous Materials Business Plan required by the County of San Diego, **but should be modified to include the location of storm drains, wells, and any streams that run through the property.**

   This **site map** can also be hand drawn. Facilities/activities such as fuel tanks, waste oil drums, dumpster areas, service/maintenance areas, and hazardous materials storage should be included. An example site map is included in this section. In addition to the map of the immediate property, a **general area/location map** should be included on a separate page.

   A blank Hazardous Materials Business Plan form is included in this section, as well as a blank site map form for hand drawn maps. Questions regarding Hazardous Materials Business Plans may be directed to the County of San Diego Department of Environmental Health.

3. This section also includes **emergency information**, or contact information in case of a spill that may potentially affect water quality. This information can be directly taken from the Hazardous Materials Business Plan, **but should be modified to include the names and phone numbers of your local water quality enforcement personnel.** These names and numbers will be different in every municipality and the county.

4. For some operations, it may be easier to include a copy of the entire Hazardous Materials Business Plan with modifications to show storm drains, wells, and streams, and the emergency phone numbers of local water quality personnel.

SAMPLE

THOMAS BROS. COORDINATES 1262-F4

SITE MAP (Page 1 of 1)

H # 00000

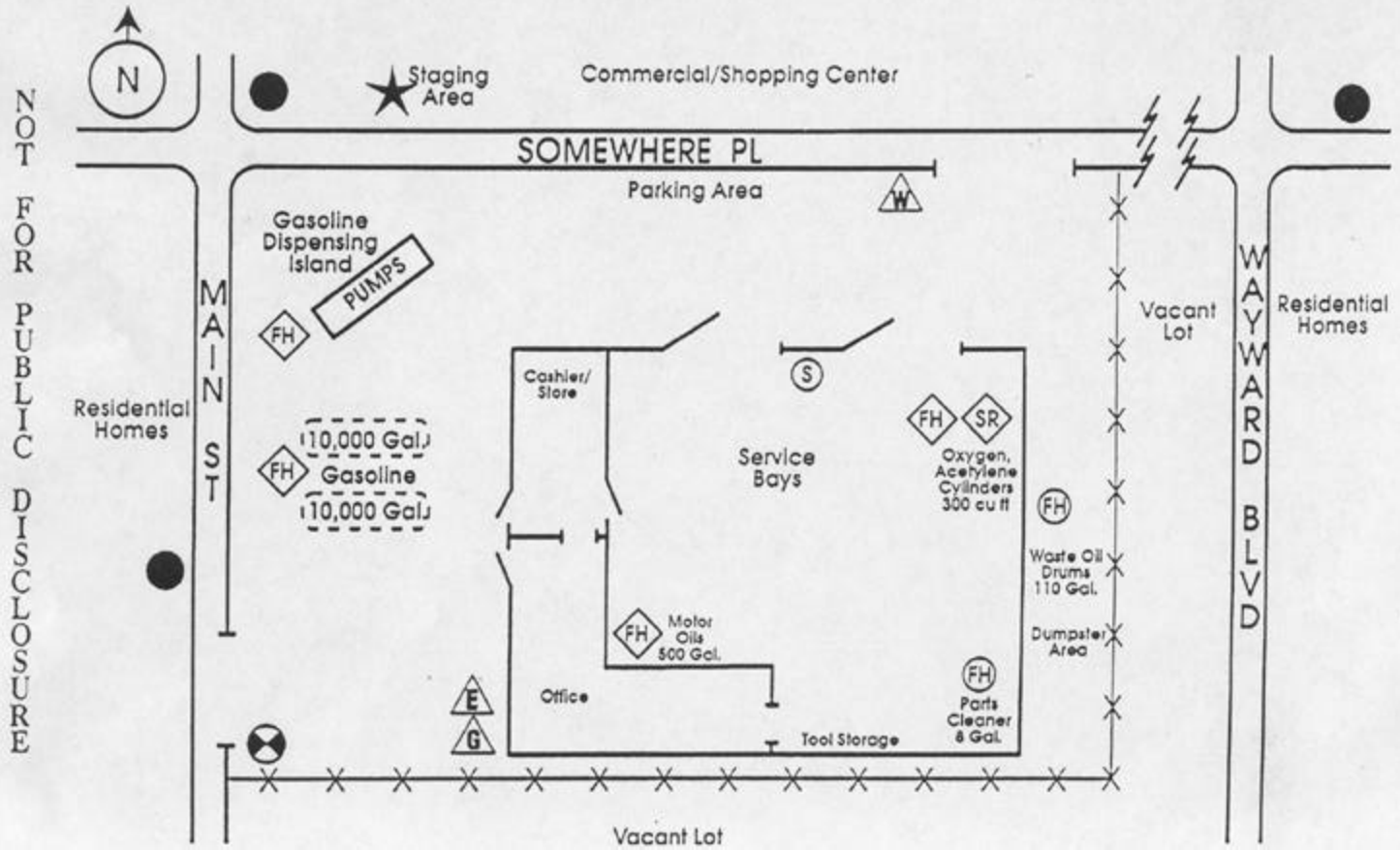
BUSINESS NAME Joe's Automotive Repair

DATE 12-12-98

BUSINESS ADDRESS 1234 Somewhere Pl., Anywhere, CA

ZIP CODE 99999

OFFICE USE ONLY
REVIEWED BY _____
DATE _____



THOMAS BROS. COORDINATES _____ SITE MAP (Page ___ of ___) H # _____

BUSINESS NAME _____ DATE _____

BUSINESS ADDRESS _____ ZIP CODE _____

OFFICE USE ONLY
REVIEWED BY: _____
DATE: _____

N

NOT FOR PUBLIC DISCLOSURE

N

County of San Diego
Department of Environmental Health

DATE ____/____/____

Submit t

(OFFICE USE ONLY)
ESTAB NUMBER

X

HAZARDOUS MATERIALS BUSINESS PLAN

II. EMERGENCY RESPONSE PLAN

2

EMERGENCY COORDINATOR INFORMATION

PLEASE LIST THE NAME, TITLE/POSITION AND PHONE NUMBERS (OFFICE AND HOME/24-HR) OF THE EMERGENCY COORDINATOR AND ALTERNATES W QUALIFIED AND AUTHORIZED TO ASSIST EMERGENCY RESPONSE PERSONNEL (FOR EXAMPLE, FIRE PERSONNEL) IN THE EVENT OF AN EMERGENCY.

ITEM — 15
NAME OF EMERGENCY COORDINATOR — 21

TITLE — 51
WORK PHONE — 71
HOME/24-HR PHONE — 78

NUMBER — 88
STREET — 93
CITY — 110

ITEM — 15
NAME OF ALTERNATE — 21

TITLE — 51
WORK PHONE — 71
HOME/24-HR PHONE — 78

NUMBER — 88
STREET — 93
CITY — 110

ITEM — 15
NAME OF ALTERNATE — 21

TITLE — 51
WORK PHONE — 71
HOME/24-HR PHONE — 78

NUMBER — 88
STREET — 93
CITY — 110

DATE ____/____/____
H _____
SIC Code: _____

HAZARDOUS MATERIALS BUSINESS PLAN

Submit to H
Dunn and Bradstr
Number: _____

II. EMERGENCY RESPONSE PLAN

1. Business Name _____

2. Business Site Address _____

3. Business Telephone _____ 24-Hour _____

4. Brief description of product manufactured and/or service provided _____

_____

5. Evacuation Procedures: _____

_____

_____

_____

_____

6. Notification Procedures:

In the event of a release or threatened release of a hazardous material the follow agencies are to be notified:

		Phone #
A.	Local Emergency Response Agencies	911
	Hazardous Materials Management Division	338-2222 (911 after working hours
B.	State Office of Emergency Services	(800) 852-7550
		(916) 427-4341

Name of person(s) responsible for completing notifications _____

_____

Describe notification procedures: _____

_____

7. Emergency Procedures: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

SECTION 2
Hazardous Materials:

1. List all hazardous materials kept on the property, keeping in mind that you are itemizing those that would affect water quality in the event of a spill or other emergency, or through improper use. Again, if you already have a Hazardous Materials Business Plan, you can use the list required by that document. If you have included the entire Hazardous Materials Business Plan, reference that in this section of the notebook.

Hazardous Materials

Material	Use	Location Where Stored	Disposal Method	Comments

SECTION 2

Hazardous Materials

Material	Use	Location Where Stored	Disposal Method	Comments

SECTION 3
Sanitation and Waste Management:

1. The location of portable sanitation, septic tanks, and municipal sewer line connections should be recorded and noted on the site map as accurately as possible. Improperly maintained septic tanks that are not pumped on a regular schedule have been found to be the source of bacterial contamination of waterways on numerous occasions. Keep good records of the maintenance of sanitary facilities of your operation that includes the pump out schedule of septic tanks and portable sanitation. Copies of receipts/account statements for maintenance activities may be inserted in this section to serve as a record.

2. The location of dumpsters, greenwaste piles, and recycling piles should be recorded and noted on the site map as accurately as possible. Locating trash facilities too close to storm drains and waterways can cause pollution problems and is discouraged. Keep good records of waste management that includes collection schedule for garbage and recycling piles. Copies of receipts/account statements and/or hauling agreements may be inserted in this section to serve as a record.

Sanitation and Waste Management
Sanitary Facilities

Type of Facility	Location	Maintenance Schedule	Comments

SECTION 3

Sanitation and Waste Management
Sanitary Facilities

Type of Facility	Location	Maintenance Schedule	Comments

SECTION 3

Sanitation and Waste Management
Waste Management

Type of Waste Material	Location	Maintenance Removal Schedule	Comments

SECTION 3

Sanitation and Waste Management
Waste Management

Type of Waste Material	Location	Maintenance Removal Schedule	Comments

SECTION 4
Pesticide Use:

1. If a monthly pesticide use report is filed for the State of California, **a copy of the report can be included here.** If the reports are too numerous and are filed elsewhere, refer to the location of those reports in this section.

   For the purposes of annual water quality inspections, pesticide use reports for the last twelve months should be available.

2. If only smaller household amounts of pesticides are used and a pesticide use report is not filed, note these on the following chart. A blank pesticide use form for reference is included in this section.

Pesticide Use

Pesticide Used & Manufacturer	EPA/California Product ID Number from Label	Total Amount Product Used	Total Acreage/Units Treated	Commodity Treated

SECTION 4

Pesticide Use

Pesticide Used & Manufacturer	EPA/California Product ID Number from Label	Total Amount Product Used	Total Acreage/Units Treated	Commodity Treated

STATE OF CALIFORNIA

MONTHLY AGRICULTURAL PESTICIDE USE REPORT

PR-ENF-060 (REV.)

DEPARTMENT OF PESTICIDE REGULATION
PESTICIDE ENFORCEMENT BRANCH

INSTRUCTIONS FOR COMPLETING THIS FORM ARE INDICATED BELOW AND ON THE REVERSE SIDE

OPERATOR (Firm Name)	ADDRESS	CITY	ZIP CODE	PHONE NUMBER

OPERATOR IDENTIFICATION/PERMIT NUMBER	LICENSE NUMBER	COUNTY (WHERE APPLIED)	COUNTY NUMBER	MONTH/YEAR OF USE	TOTAL NUMBER OF APPLICATIONS

1. ***Complete Columns A, B, C, and D for All Users***
2. ***Complete Column E by Using One of the Following Codes***
   - Code 10 - Structural Pest Control ..... includes any pest control work performed within or on buildings and other structures.
   - Code 30 - Landscape Maintenance Pest Control ..... includes any pest control work performed on landscape plantings around residences, or other buildings, golf courses, parks, cemeteries, etc.
   - Code 40 - Right-of-Way Pest Control ..... includes any pest control work performed along roadsides, power lines, median strips, ditch banks and similar sites.
   - Code 50 - Public Health Pest Control ..... includes any pest control work performed by or under contract with State or local public health or vector control agencies.
   - Code 60 - Vertebrate Pest Control ..... includes any vertebrate pest control work performed by public agencies or work under the supervision of the State or county agricultural commissioner.
   - Code 91 - Commodity Fumigation (Nonfood/Nonfeed)... includes fumigation of nonfood/nonfeed commodities such as: pallets, dunnage, furniture, burlap bags, etc.
   - Code 100 - Regulatory Pest Control ..... includes any pest control work performed by public employees or contractors in the control of regulated pests.
3. ***Complete Columns F and G, If Use Does not Fit one of the Above Codes***

A MANUFACTURER AND NAME OF PRODUCT APPLIED	B EPA/CALIFORNIA REGISTRATION NUMBER FROM LABEL INCLUDE ALPHA CODE	C TOTAL PRODUCT USED (Circle One Unit of Measure)	D NUMBER OF APPLICATIONS	E CODE	F COMMODITY OR SITE TREATED	G ACRES/UNITS TREATED
		LB OZ PT QT GA				
		LB OZ PT QT GA				
		LB OZ PT QT GA				
		LB OZ PT QT GA				
		LB OZ PT QT GA				
		LB OZ PT QT GA				
		LB OZ PT QT GA				
		LB OZ PT QT GA				
		LB OZ PT QT GA				
		LB OZ PT QT GA				

REPORT PREPARED BY _____ _____ DATE _____

SECTION 5
Fertilizer Use:

1. Fertilizer use is scrutinized because excess nutrients in the waterways/coastal areas can cause numerous water quality problems. Many water quality laws (in addition to storm water laws) monitor the nutrient loading levels of streams. Fertilizer use on your property should be recorded to alleviate questions about the source of nutrients in the waterways and to provide documentation of the levels and time of fertilizer use.

2. Although local requirements may exist, there is currently no requirement in California to report fertilizer use. The following chart will allow you to track you fertilizer use. Receipts recording fertilizer purchases can also be included to further document the quantities used. In addition to amounts of fertilizer used, the delivery method and timing are important and should also be recorded on the following chart.

Fertilizer Use

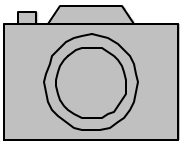
Type of Fertilizer	Application/ Delivery Method	Date/Frequency of Application	Commodity Treated	Comments

SECTION 5

Fertilizer Use

Type of Fertilizer	Application/ Delivery Method	Date/Frequency of Application	Commodity Treated	Comments

SECTION 6
Irrigation Practices and Runoff Management:



1. **Improper or inefficient irrigation practices** often lead to runoff into the storm drain system. Record the irrigation practices used, including irrigation method, installation dates, and maintenance activities. Copies of receipts/account statements from irrigation supply may be inserted in this section to serve as a record. Other maintenance activities, such as results from uniformity evaluations, may also be included in this section.

2. **Management of runoff water** from irrigation and non-irrigation activities should also be documented. Irrigation runoff management might include collection ponds/tanks and/or reuse on landscaping or production plants. Non-irrigation runoff includes wash water from vehicles and walkway/parking areas and roof runoff. Wash water management might include washing over pervious areas or landscaping. Roof runoff management might include gutters and downspouts that direct runoff through pervious areas and/or into collection areas. Directing roof runoff across polluted areas, such as parking lots or outdoor storage areas should be avoided.

Irrigation Practices

Irrigation Method	Date Installed	Location Installed	Maintenance Frequency/Date	Comments

SECTION 6

Irrigation Practices

Irrigation Method	Date Installed	Location Installed	Maintenance Frequency/Date	Comments

SECTION 6

Runoff Management

Management Method Used	Date Installed	Location Installed	Maintenance Frequency/Date	Comments

SECTION 6

Runoff Management

Management Method Used	Date Installed	Location Installed	Maintenance Frequency/Date	Comments

SECTION 7
Equipment Maintenance:

1. Maintenance of non-irrigation related equipment, particularly the types of equipment that can use petroleum products and machinery fluids, are an important aspect of water quality. Equipment that is well-maintained is less likely to accidentally leak and cause pollution. Record all types of vehicles, trucks, tractors, machinery, and other equipment and their maintenance schedule. Maintenance done on the property must properly manage the hazardous wastes from collected fluids, changed batteries, etc. Copies of receipts/account statements for maintenance activities may be inserted in this section to serve as a record.

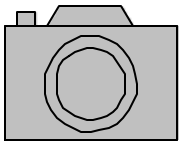
Equipment Maintenance

Type of Equipment	Maintenance Method	Maintenance Frequency/Date	Comments

SECTION 7

Equipment Maintenance

Type of Equipment	Maintenance Method	Maintenance Frequency/Date	Comments



SECTION 8
Best Management Practices:

The following is an example list of recommended Best Management Practices (BMPs). It is not a comprehensive list! Many of the everyday practices your operation uses may actually be considered BMPs if they help prevent pollution and protect water quality. A camera can be an effective way to document BMPs.

Irrigation Management/Runoff Management

- Water Quality Monitoring
- Maximizing Irrigation Efficiency
- Irrigation Scheduling
- Growing Medium Selection
- Use of Wetting Agents
- Leaching Reduction
- Collection/Reuse of Tailwater
- Collection/Reuse of Runoff from Outdoor Production Areas
- Filter Strips and Vegetative Filters
- Constructed Wetlands
- Lined Waterways
- Field Erosion/Drainage Control
- Road Management for Erosion Control
- Water Conservation
- Excess Water Removal
- Other

Nutrient Management

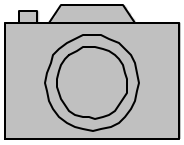
- Choosing Appropriate Fertilizer Materials
- Using Alternative Fertilizers
- Composting
- Determining Nutrient Availability in Recycles Irrigation Water
- Monitoring pH and EC in Soil or Growing Media
- Foliar Testing
- Soil Testing
- Use/Calibration of Fertilizer Injectors
- Other

Pest Management

- Adopting Good Management/Sanitary Practices
- Utilizing a Pest Detection Program
- Selecting Pest-Free Planting Materials
- Utilizing Improved Pesticide Application Techniques
- Utilizing Surfactants
- Other

Other Best Management Practices

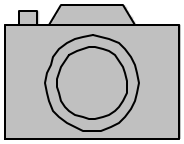
SECTION 8



Best Management Practices Used

BMP	Location	Initiation/ Installation Date	Review/ Maintenance Date	Comments

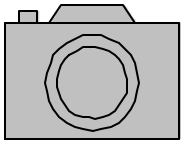
SECTION 8



Best Management Practices Used

BMP	Location	Initiation/ Installation Date	Review/ Maintenance Date	Comments

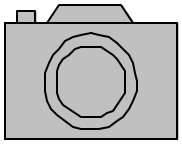
SECTION 8



Best Management Practices Used

BMP	Location	Initiation/ Installation Date	Review/ Maintenance Date	Comments

SECTION 9
Employee Training/Education:



1. The success of water quality management is closely related to the involvement and knowledge of the employees, particularly those with irrigation responsibilities. Although the knowledge of the supervisors is also required, it is imperative that the employees be well trained and implement the practices necessary to manage water quality. Supervisors must make this training available and maintain documentation.

2. This section documents training conducted at your growing operation or attendance at other educational seminars. Documentation of employee training is required. Other forms of training documentation include meeting flyers, meeting handouts, posted signs/instructions, etc.

Employee Training/Education

Title of Program	Date	Organization Presenting Program	Location	Attended By	Comments

SECTION 9

Employee Training/Education

Title of Program	Date	Organization Presenting Program	Location	Attended By	Comments

SECTION 10
Reports, Data and Other Information

1. Examples include water quality testing data, local watershed information, and storm water inspection reports.