



City of Arcata

Storm Water Management
Program

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APPENDICES

- Appendix A – City of Arcata MS4 NPDES Storm Water Permit Application (N.O.I.).
- Appendix B – City of Arcata Storm Water Ordinance
- Appendix C – Erosion and Sediment Control Ordinance
- Appendix D – Draft Pesticide Control Plan
- Appendix E - Creeks Management Plan
- Appendix F - City of Arcata BMP Manual Adopted August 20, 2003
- Appendix G- General Plan Policies Chapter 4, Environment and Resources 2001
- Appendix H – Measures to be Included in Review of City Land Use Policies and Design Guidelines
- Appendix J – Map: Creek Sampling Locations City HSU MOU

ACRONYMS

BMP	Best Management Practice
CASQA	California Storm Water Quality Association
CEQA	California Environmental Quality Act
EHS	Humboldt County Environmental Health Services Division
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
ES	Environmental Services Department
GIS	Geographic Information System
IPM	Integrated Pest Management
MCM	Minimum Control Measure
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NOI	Notice of Intent
POTW	Publicly Owned Treatment Works
PW	Public Works Department
SWMP	Storm Water Management Program
RWQCB	Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board

INTRODUCTION

This is a Storm Water Management Program (SWMP) prepared by the City of Arcata – Natural Resources Division in response to State Water Resources Control Board (SWRCB) Water Quality Draft Order No. 2003 – 0005 – DWQ1 (GENERAL PERMIT NO. CAS000004) for National Pollutant Discharge Elimination System (NPDES) Phase II.

The City of Arcata has a population of 16,000 within the City limits. The City is 11 square miles. There are eight creeks traversing the Urban Area that accept storm water runoff. They are Jacoby, Jolly Giant, Janes, Sunset, Grotzman, Fickle Hill, Beith, and Campbell. All creeks contain coastal cutthroat trout with the exception of Fickle Hill Creek. Jolly Giant, Campbell, Jacoby and Beith Creeks have populations and or habitat for coho, steelhead and Chinook. The Mad River forms the City's north boundary. The portion of the Mad River within the City limits is below the intake for domestic water for the Humboldt Bay Municipal Water District. The City operates and maintains a vast municipal storm drainage system that consists of miles of pipe, open drainage ditches and detention basins. The detention basins have water quality features incorporated into them. For many years, the City has been committed to improving the quality of urban runoff through the development and implementation of a proactive, comprehensive storm water management program that recognizes its unique position in the Humboldt Bay watershed and the need to protect these important resources.

This program covers the eleven square mile area of the City of Arcata (See Figure 1-1, City of Arcata). Although none of the small urban streams in or near the City have been identified as "impaired," by the 303(d) list, the Mad River is listed as impaired due to temperature, sediment, turbidity and siltation. Humboldt Bay, which receives Arcata runoff, is listed as "impaired" by the State of California for PCB's. The City's storm water quality program has been derived from ongoing City programs that have been enhanced to meet the requirements of the RWQCB.

The goal of this SWMP is to protect the health of the recreational public and the environment, meet Clean Water Act mandates through compliance with Phase II NPDES Permit requirements and applicable regulations, and foster heightened public involvement and awareness. Water quality monitoring has identified bacteria, nutrients, and sediment as pollutants of concern. Storm drains typically flow into creeks that have already passed through a variety of land uses, including natural, agricultural, urban and industrial, and in some cases, through more than one permit jurisdiction. The City is faced with the challenge of requiring and implementing controls to reduce the discharge of pollutants in storm water runoff to the technology-based standard of "Maximum Extent Practicable" (MEP) as required by § 402(p)(3)(B)(iii) of the Clean Water Act, 33 U.S.C. § 1342(p)(3)(B)(iii).0

This SWMP outlines activities for the implementation period of October 2003 through July 2008. The City's storm water quality program has been derived from the City Stormwater Master

¹ The State Water Resources Control Board promulgated a Phase II Storm Water General Permit (No. CAS000004) through Order NO. 2003 – 0005 – DWQ on April 30, 2003.

Plan, Creeks Management Plan, Adopt-a-Creek Program, Erosion and Sediment Control Ordinance, City BMP Manual and Stormwater Ordinance. Some of these measures have been in force for a number of years. The strategy in the new program outlined below generally describes ongoing implementation of existing programs. During the implementation period, the City will maintain existing efforts and complete implementation of some control measures that were not implemented by the City prior to 2003.

Humboldt State University has responsibility for implementing Phase II regulations in an area immediately east of the City. The City will be in contact with the appropriate personnel at HSU to complement each other's efforts to reduce stormwater pollution. The City and HSU in some cases conduct joint efforts downstream from the University. For example, we are staging pollution response supplies (absorbent booms secured in metal boxes with combination locks) in strategic locations along creeks that are for response by both City and HSU staff. The City also coordinates with the California Department of Fish and Game, California Coastal Commission, and the Humboldt County Environmental Health Department regarding abatement and enforcement measures.

For more information on the City storm water program or this SWMP, please contact:

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Regulatory Requirements and Applicable Standards

According to 40 CFR 122.26(b)(8), "municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law)...including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act that discharges into waters of the United States.
- Designed or used for collecting or conveying storm water;
- Which is not a combined sewer; and
- Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2."

EPA categorizes MS4s as either "small," "medium," or "large." Regulated small MS4s are automatically designated if they are located in "urbanized areas" (as defined by the US Census Bureau). The City of Arcata is in an "automatically designated" area. However, the City of Arcata is not subject to additional requirements imposed by the State of California on high growth rate areas or areas over 50,000 population. The SWRCB included the City of Arcata in

the Phase II regulations because of the fact that the nearby Mad River and Humboldt Bay are 303(d)-listed water bodies, receiving runoff from the City.

City Responsibilities

The City is responsible for submitting and implementing its SWMP within its corporate boundaries. In the case of land use regulation policies, some BMPs that protect water quality from construction site and post-construction activities exist and are applicable City-wide. The City operates a sewer treatment facility that implements certain BMPs. In addition, the City may implement certain BMPs in topics of overlapping interest, such as public education, with the County and other cities.

Requirements for Regulated Small MS4s

The owner or operator of a Phase II regulated small MS4 is required to submit a Notice of Intent (NOI) and Storm Water Management Program (SWMP) to obtain coverage under an NPDES storm water permit. The SWMP describes how the regulated entity will identify and implement a range of “Best Management Practices,” into an effective storm water management program that includes the six “Minimum Control Measures” (MCM’s), evaluation/assessment and reporting efforts, and record-keeping. The storm water management program is intended to:

- Reduce the discharge of pollutants to the “maximum extent practicable”;
- Protect water quality; and
- Satisfy the appropriate water quality requirements of the Clean Water Act.

“Maximum Extent Practicable” (MEP) is a standard set by the Congress in § 402(p)(3)(B)(iii) of the Clean Water Act, 33 U.S.C. § 1311(p)(3)(B)(iii), that establishes the level of effort in reducing pollutants in MS4’s that MS4 operators must achieve through implementation of a storm water management program. The City of Arcata will fully comply with the Small Cities Permit and will fulfill the requirements of the six Minimum Control Measures enumerated in the Permit.

The SWRCB’s Draft Phase II Rule defines a storm water management program for a small MS4 as a program composed of six elements that, when implemented together, are expected to reduce pollutants discharged into receiving water bodies to the MEP. These six program elements, or MCMs, are

1. Public Education and Outreach on Storm Water Impacts
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Storm Water Management in New Development and Redevelopment
6. Pollution Prevention/Good Housekeeping for Municipal Operations

The implementation and evaluation of these 6 minimum control measures comprise the heart of the City’s Storm Water Management Program (SWMP). Because so many diverse factors can dictate the specifics of a storm water management program, the City will regularly evaluate both

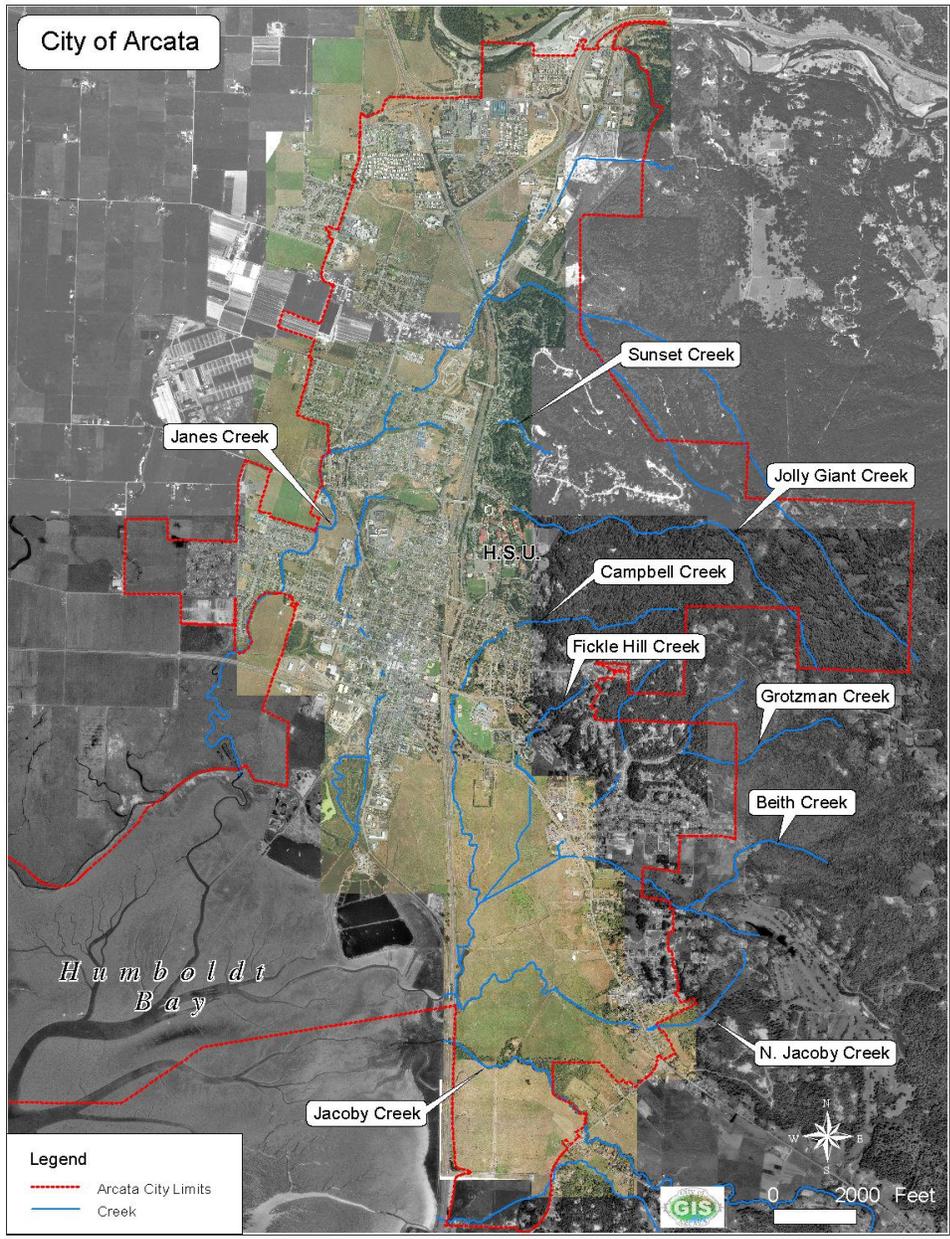
current conditions and BMP effectiveness, and as appropriate update BMPs and measurable goals to achieve the objective of reducing the discharge of storm water pollutants to the Maximum Extent Practicable. It may be necessary to expand or better tailor existing BMPs after implementing the minimum control measures described in this SWMP. Such changes would be based on the results of monitoring reported in the annual reports, and developed in consultation with the Arcata Wetlands and Creeks Committee and the RWQCB.

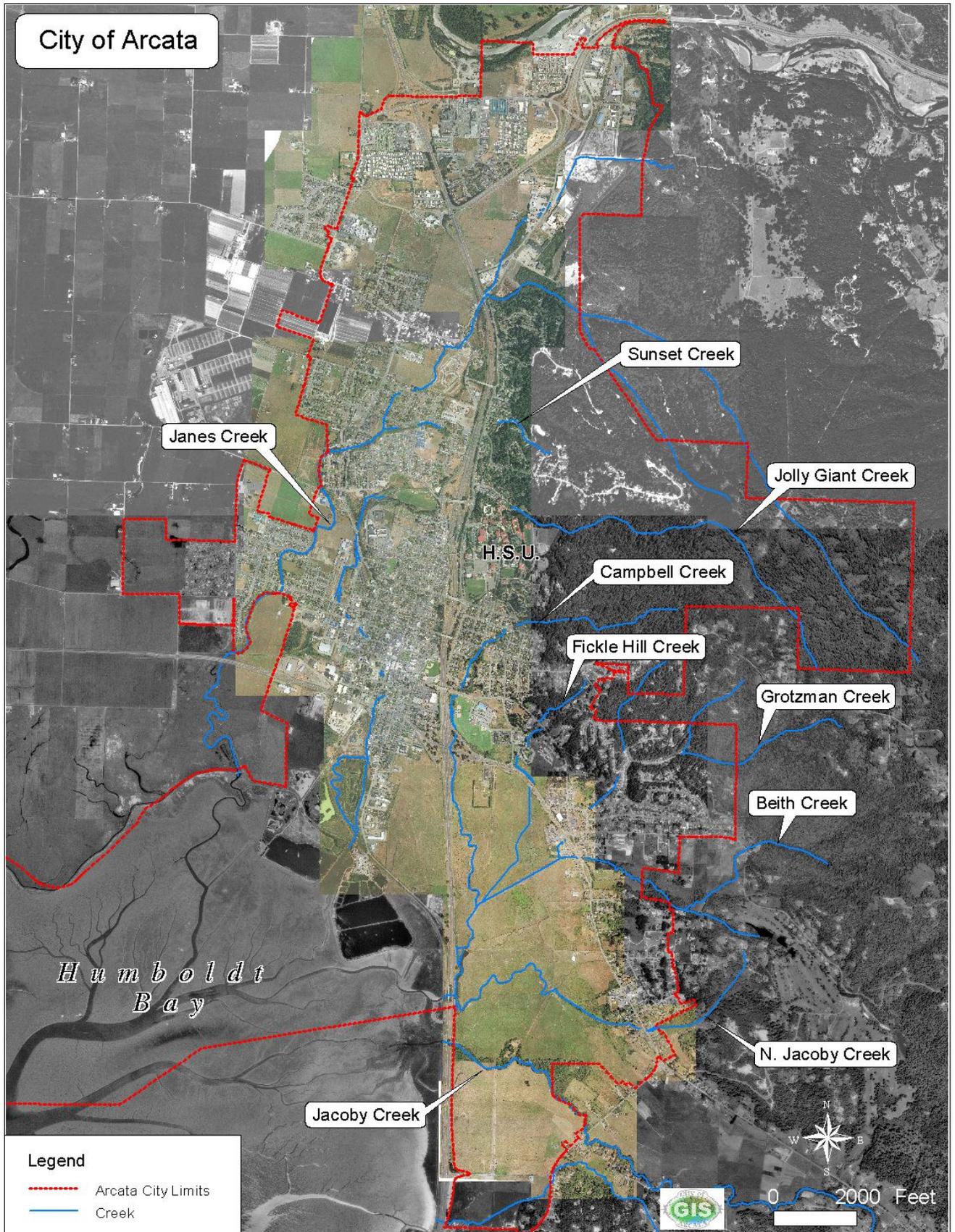
Notice of Intent

The City has filed a Notice Of Intent (NOI), Appendix A “Notice of Intent,” to apply for coverage under the State of California General Permit. As required, the NOI and this SWMP contain the following information:

- The area covered by the SWMP;
- Best management practices (BMPs) for each of the six minimum control measures;
- Measurable goals for each of the BMPs (i.e., narrative or numeric standards used to gauge program effectiveness);
- A timeline for implementation of each measure (estimated months and years to implement each measure, including interim milestones and frequency of evaluation); and
- Individual(s) or group(s) responsible for implementing or coordinating the storm water program.

Each of these topics is discussed in the SWMP; BMPs and their implementation are discussed under the appropriate MCM section. Because significant overlap exists between MCM efforts, some sections contain cross-references to other sections in order to avoid redundancy.





MINIMUM CONTROL MEASURES

The Phase II Rule defines a storm water management program for a small MS4 as a program composed of six elements that, when implemented together, are expected to reduce pollutants discharged into receiving water-bodies to the MEP. These six program elements, or minimum control measures (MCM), are

1. Public Education and Outreach on Storm Water Impacts;
2. Public Involvement/Participation;
3. Illicit Discharge Detection and Elimination;
4. Construction Site Runoff Control;
5. Post-Construction Storm Water Management in New Development and Redevelopment;
6. Pollution Prevention/Good Housekeeping for Municipal Operations.

The implementation and evaluation of these six minimum control measures comprise the heart of the City's Storm Water Management Program. Within each category, specific BMPs were selected based on a number of factors including input from community members, storm water quality assessments completed in 2002 and 2003, and the results of physical observations of local creeks. Information collected by the City and other reports pertaining to this SWMP may be reviewed at the City offices (City of Arcata, 736 F Street, Arcata, California 95521) or at the City website at www.arcatacityhall.org.

1.0 PUBLIC EDUCATION AND OUTREACH

This minimum control measure is intended to ensure greater public support and compliance for the storm water management program. Specifically these efforts are to teach the public the importance of protecting storm water quality, for the benefit of both the environment and human health. The role of each community member, both at home and work, are a particular emphasis.

1.1 Minimum Requirements

EPA guidelines establish the following "Best Management Practices" for Public Education and Outreach Minimum Control Measure (*Fact Sheet 2.3 – Public Education and Outreach Minimum Control Measure, 01/00*):

- Distribute educational materials on the impact of storm water discharges and steps that can be taken to reduce storm water pollution
- Brochures or fact sheets
- Alternative information sources such as web sites, bumper stickers, and refrigerator magnets
- A library of educational materials
- Volunteer citizen educators
- Event participation
- Educational programs for school children
- Storm drain stenciling
- Storm water hotlines

1.2 Best Management Practices

The City will implement all BMPs listed above and additional ones, as deemed appropriate for the community. Each BMP implemented is described in more detail below.

- **Brochures:** The City will continue to distribute informational brochures, including “Humboldt Bay Begins At Your Door”, on storm water quality. Additional informational brochures will target audiences such as pet owners, agriculture operations, professional landscaping, automotive repair facilities, household hazardous waste disposal, etc. The city has already distributed a letter and BMP poster to the main construction contractors, landscape service firms, and restaurants in the City. All of these brochures will be distributed at special events, by mail, through enforcement activities, and by request.
- **Alternative Information Sources:** The City will add a page to their existing web site to explain storm water issues and include a copy of the SWMP. The City will also distribute materials that list the web site address and a hotline phone number (described below).
- **Event Participation:** The City will participate in relevant public events (e.g., Earth Day, Oyster Festival, Godwit Days, Forth of July, North Country Fair) to distribute information about the stormwater program.
- **Educational Programs for School Children:** The City will cooperate with the Northcoast Environmental Center and the Coastal Commission to offer classroom presentations for grades K – 6, and distribute materials such as a coloring book on nonpoint source pollution, stickers, and storm drain marker decals. The City will also work with the Northcoast Environmental Center, the Coastal Commission, and other agencies to offer annual training for teachers on a watershed curriculum. The City will purchase or make use of the Environmental Center’s watershed model, which will be made available to teachers as well. The City will make available to teachers the “Waves, Wetlands and Watersheds” curriculum.
- **Storm Drain Marking:** The City will mark all storm drain drop inlets with markers that say, for example: “Don’t Dump – Drains to Jolly Giant Creek.” This is an ongoing program. Markers include painted stencils, as well as metal plates that are bolted to the curb.
- **Creek Crossing Marking.** To promote watershed awareness, the City will complete the placement of wood routed signs at all road crossings of creeks within the City. The signs indicate the name of the creek and list the mileage from the Bay. For example, ”Janes Creek-- Mile. 1.7”. The City will explore the potential for painting creeks on roadways were they are in underground pipes to increase awareness.
- **Storm water Hotline:** The Water Quality Hotline is accessible at (707) 822-8184. The City will modify this hotline so that callers from Arcata can report water quality issues or get information such as where to dispose of hazardous waste.
- **Media Campaigns:** Each year a print ad campaign will be run in October to coincide with Creek Week/Watershed Month events.
- **Business Outreach:** The City will distribute brochures, videos and posters, which target restaurants, automotive services, construction contractors, and mobile cleaners. These are distributed during site visits by City staff. The City will also partner with the Arcata Wastewater Treatment Plant to offer BMP training to restaurant managers.

1.3 Measurable Goals

The City will educate the general public about storm water quality issues and their role in creating solutions through outreach efforts focused for the community, school children, and businesses. Measurable goals for each BMP are listed below.

BMP: Brochures

Alternative Information Sources
Event Participation

- Track the number of brochures and alternative information sources distributed, web site hits, and events attended with displays, as well as the number of people who received materials at these events.
- Reach 25% of the permit area population each year.

BMP: Educational Programs for School Children

- A minimum of 20% of school children (K-8) in the permit area will be educated every two years on storm water quality by providing school districts with classroom presentations, copies of Watershed Curriculum, and curriculum training workshops for teachers.

BMP: Storm Drain Marking

- Mark at least 75% of City storm drains.
- Maintain storm drain plates and/or stencils in the City by checking every two years and replacing as necessary.

BMP: Water Quality Hotline

- Maintain a hotline and document its usage, with a goal of 15 incoming calls per month.
- Promote use of the hotline by publicizing the number on all printed materials and through the web site.

BMP: Business Outreach

- Maintain outreach efforts to targeted businesses, recording the number of brochures/posters distributed to each business type.
- Measure participation in the restaurant education program with Arcata Wastewater Treatment Plant; include 25% of the restaurants in the outreach program each year.

BMP: Media Campaign

- Sponsor one media campaign per year associated with Earth Day, Pollution Prevention Week, Wetlands Month, or Creek Week (October).
- Record the number of print ads run, and storm water related press releases/media coverage.

1.4 Reporting

The data collected for each measure (such as number of brochures distributed) will be compiled, reviewed, and summarized in annual reports. Significant variance from targets will be assessed and discussed in annual reports. Progress in implementing goals that have multi-year timelines (such as joint outreach with Sanitary districts) will be reported annually. Implementation of existing BMPS will be fine tuned as needed. Measurable goals will be adjusted as appropriate, and the basis for any changes will be reported in the next annual report.

**Table 1-1
BMP Implementation: Public Education & Outreach**

Year	BMP/Activity	Current Status	Implementation Details	Record Measurable Goal Target	Responsible Party
1	Brochures Events	Brochures and posters are available in Spanish and English.	Brochures provide info on how community members can prevent storm water pollution. Storm Water page will be added to City web site.	Number of brochures and alternative information sources distributed, add web page and document web site hits, number of people attending public events. Target is to reach 25% of permit area annually.	Environmental Services Dept.
2	Educational Programs for Children	Ongoing	Classroom presentations are available on request, and annual training is held for the watershed curriculum.	Educate 20% of school children (K-8) every two years.	Environmental Services Dept.
1	Storm Drain Marking	Markers applied to 75% of all storm drains by 10/03	Painted stencils or bolted metal plates will be used.	Check markers and replace every six months as needed. Increase coverage by 5% per year until City-wide coverage completed.	Environmental Services Dept.
1	Storm Water Hotline	City connection needs to be added.	Hotline directs complaints and gives information.	Document usage, with goal of 15 calls per month. Promote use of hotline through printed materials and web site.	Environmental Services Dept.
1	Business Outreach	Program focuses on restaurants, automotive services, mobile cleaners, landscape contractors, plant nurseries and construction trades.	Written materials and posters are distributed to businesses, during complaint response, and at events.	Record number of materials distributed annually. Goal = 50/year	Environmental Services Dept.

Year	BMP/Activity	Current Status	Implementation Details	Record Measurable Goal Target	Responsible Party
1	Media Campaign	Media campaigns are run on an annual basis and include print and radio PSAs and ads.	Media campaigns are held during events such as Earth Day, Pollution Prevention Week, and Wetlands Month.	<ul style="list-style-type: none"> • Sponsor one media campaign each year. • Run a minimum of four stormwater message PSA's or newspaper ads per year. 	Environmental Services Dept.

Year	BMP/Activity	Current Status	Implementation Details	Measurable Goal Target	Responsible Party
2	Pesticide Reduction Plan	Initiated	Inform nurseries, retailers, landscapers, and pest control operators, along with the Agricultural Commissioner, to encourage less toxic methods of pest control to reduce pesticide toxicity in urban creeks.	Number of educational brochures distributed. Record amount of pesticides reduced from City operations Goal – by year 2 provide all nurseries, and landscape contractors with Arcata Business Licenses copies of Arcata's Pesticide Reduction Program and list of less toxic alternatives	Environmental Services/Parks
2	Pet Waste Control	Initiated	Continue to post pet waste information and collection bag stations at public trails and parks at rate of one new site per year.	Record number of new stations installed Goal one/year	Parks Div. and Environmental Services Natural Resources Division
2	Public Agency Outreach		Provide City Council with copies of the annual reports as they are submitted to the RWQCB once per year	Annual report-Response from Council members	Environmental Services
2	Department Partnerships		Provide information to Dept. Heads regarding upcoming community events, and encourage staff participation at two events per year.	Annual report-Response from Dept. Heads	

2.0 PUBLIC PARTICIPATION AND INVOLVEMENT

This minimum control measure is intended to foster active community support for the SWMP, and direction as to its implementation. Participation by the public ensures that the program reflects community values and priorities and thus has the highest potential for success.

2.1 Minimum Requirements

EPA guidelines establish the following “Best Management Practices” for the Public Participation/Involvement minimum control measure (*Fact Sheet 2.4 Public*

Participation/Involvement Minimum Control Measure, 01/00; and “Measurable Goals Guidance for Phase II Small MS4s”):

These BMPs assure that the program will be supported by City residents and provide input to guide development of the program in the future.

2.2 Best Management Practices

The City will implement the adopted Best Management Practices Handbook.

- Establish a storm water subcommittee of the Wetlands and Creeks Committee.
- Hold regular public meetings.
- Establish regular coordination among agencies.
- Establish volunteer water quality sampling.
- Held community clean-ups and more robust Adopt-a-creek program

2.2.1 Wetland and Creeks Committee role

The City will invite a community stakeholders groups to special bi-annual out reach and education meetings of the City Wetlands and Creek Committee during calendar year 2004. Participation will be encouraged by posting information on the City web site, contacting community groups and businesses, and sending notices out with other City mailings. The City will also participate in stakeholder meetings held by the local watershed groups such as the Humboldt Bay Watershed Advisory Committee and Humboldt Bay Stewards.

2.2.2 Hold Regular Public Meetings

The community stakeholder meetings, which will be held bi-annually by the City Wetlands and Creek Committee, will feature updates on the City and regional storm water programs with guest speakers, and will provide the opportunity for community members to discuss any storm water issues of concern. Attendance is expected to vary from approximately 10 to 60 people. City staff will maintain a community interest group email and mailing list, and those on the list will be notified of regular meetings, announcements, and other events through the email system and by bi-annual update reports. In addition, City staff will work with other local Phase II permittees and the Regional Water Quality Control Board to explore alternative public forums on water quality.

2.2.3 Establish Regular Coordination Among Agencies

The City of Arcata will participate in meetings to coordinate and compliment storm water education/outreach activities between Humboldt State University, the City of Eureka, the City of Fortuna, California Coastal Commission, California Department of Fish and Game, the County of Humboldt, Cal Trans and other interested agencies.

Each year, in conjunction with Wetlands Week, the City will sponsor community wetland and creek clean-up efforts. The City will solicit community participation through local clubs and

youth organizations. Six Rivers Trout Unlimited and Redwood Region Audubon have been the main sponsors in the past.

The City will also continue to participate with the North Coast Pollution Prevention Committee. The North Coast Pollution Prevention Committee (NCP2C) was originally established in April 1993 to improve local agency coordination and to identify methods for reducing regulatory burden on local businesses. Overwhelming state legislation has resulted in duplicate requirements enforced by an increasing number of regulatory agencies. Several agencies on the North Coast saw the need to organize and find ways to provide compliance assistance to businesses in the area.

Since then, the group's focus has shifted to cross-media pollution prevention. Pollution prevention is significant to the group because it not only prevents cross-media movement of pollutants, but also benefits businesses by reducing regulatory requirements, reducing costs associated with waste storage and disposal, and improving worker health and safety.

Membership

Active members of NCP2C include Humboldt County Division of Environmental Health, City of Eureka, City of Arcata, City of Trinidad, Trinidad Rancheria, California Department of Toxic Substances Control (DTSC), California Department of Fish and Game, California Coastal Commission, California Conservation Corps (CCC), College of the Redwoods, Humboldt State University, and the United States Coast Guard. DTSC has supported the continuation of the NCP2C and provided resources to participants in regional committees and conferences.

Goals

The primary objective of the NCP2C is to facilitate local government pollution prevention programs on the North Coast. NCP2C, building on this philosophy, has developed the following priorities:

- Focus on cross-media pollution prevention.
- Support development and implementation of local government pollution prevention programs.
- Improve coordination among local, state, and federal regulatory agencies.
- Identify and implement programs and activities to assist local businesses with compliance, reducing waste, and preventing pollution.

2.2.4 Additional Measures

Water Quality Hotline

See discussion under "Public Education & Outreach" Minimum Control Measure. The hotline encourages community members to report water quality problems that they observe. The hotline is promoted on all printed materials and through the City website. The City will attempt to work with the County and Humboldt State University to establish a regional hotline in addition to the City of Arcata number. The DFG CALTIP hotline will also be promoted

2.3 Measurable Goals

Public involvement and participation has been essential to the development and ongoing activities of the City storm water program, “ensuring” that our program reflects community concerns and priorities while improving creek and ocean water quality. Measurable goals for each BMP are listed below.

BMP: Establish public forum for storm water quality program.

- The City assigns responsibility to the existing Wetlands and Creeks Committee by establishing a “Stormwater sub-committee.”
- The City will participate in a regional Pollution Prevention Committee.

BMP: Hold regular public meetings with focus on stormwater issues.

- Bi-annual meetings of the community will be established, and the number of attendees will be documented.

BMP: Establish regular coordination among agencies

- The City will attend City/HSU liaison meetings whereby progress with the two stormwater programs will be discussed, and attendance and actions will be documented.
- City staff will make a presentation at an Arcata Design Review Commission meeting.

BMP: Community clean-ups.

- The City will coordinate with Coastal Clean Up Events to sponsor volunteer creek clean-ups each fall.

BMP: Establish a water quality hotline.

- See Public Education and Outreach Measurable Goals.

**Table 2-1
BMP Implementation: Public Participation**

Year	BMP	Current Status	Implementation Details	Measurable Goal Target	Responsible Party
1	Establish sub-committee within existing Wetlands and Creeks Committee	Initiated	Establish community stakeholder group by advertising and contacting community groups.	Community stakeholder group committee meeting bi-annually by end of year 1.	Environmental Serv. Dept..
2	Regular Public meetings	Pending	Establish community stakeholder group by advertising and contacting community groups.	Community stakeholder group committee meeting bi-annually by end of year 2.	Environmental Serv. Dept.
1	Coordination among agencies	Ongoing	The HSU/City liason committee meets bi-monthly	Attend HSU/City liaison meetings, document attendance and actions.	Environmental Serv. Dept/HSU
2-5	Community Clean-ups and Adopt-a-creek program	Ongoing	The City will sponsor creek clean-ups and continue to partner with local groups.	Sponsor one volunteer creek clean-up each year. Add one new Adopt-a-creek group per year. Plant streamside trees by holding 2 tree planting events per year	Environmental Serv. Dept.
1	Water Quality Hotline	See Public Education and Outreach section.			

2.4 Reporting

The data collected for each measure (such as number of Adopt-a-creek volunteers in each area) will be compiled, reviewed, and reported in annual reports. Significant variance from targets will be assessed and discussed in annual reports. Measurable goals will be adjusted as appropriate; the basis for any changes will be included in the next annual report. Feedback from the Wetlands and Creeks Committee and other sources will be used to improve implementation of all six minimum control measures.

3.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION

This minimum control measure of the Storm Water Management Program is designed to reduce pollutants in storm water runoff to receiving waters. It requires the development and implementation of a system to identify and eliminate sources of illicit discharge and illegal dumping. The City has mapped its stormwater utility system using GIS. The City will enhance its current system to identify and eliminate illicit discharges throughout the permit area. This system will depend on a number of partners, including the public and other local agencies. The specific requirements for this system are described in detail below, including measurable goals for determining effectiveness.

3.1 Minimum Requirements

The regulations generally classify non-storm water discharges as either illicit or exempted.

An illicit discharge is defined as “a point source discharge of pollutants to a separate storm drain system which is not composed entirely of storm water and not authorized by an NPDES permit.” Improperly disposed of materials that enter the storm water system can cause health and safety concerns, as well as other receiving water impacts. Discharge sources must be controlled and illegal behavior prevented. Controlling and eliminating illicit discharges through a comprehensive detection and abatement program can protect the public health and safety. Humboldt State University student interns and City Resource Technicians have conducted outfall reconnaissance surveys along all surface waterways within the City mapping channel bank erosion and possible illegal discharge pipes. To date, no known discharge pipes are readily visible that reach urban creeks. Prevention can be enhanced through education on hazards and consequences of illegal disposal, provision of alternative disposal options and incentives, and through legal enforcement procedures.

The following discharges may be exempted from being regulated discharges unless they are determined to be a significant source of pollution or a nuisance.

Table 3-1: Discharges Exempted from SWMP Regulation

irrigation water	emergency fire fighting discharges
landscape irrigation	springs
diverted stream flows	water from crawl space pumps
rising ground waters	footing drains
lawn watering	dechlorinated swimming pool/hot tub discharges
foundation drains	uncontaminated pumped ground water
air conditioning condensation	
flows from riparian habitats and wetlands	

3.2 Best Management Practices

The City intends to maintain ongoing efforts at current levels and will implement all suggested “Best Management Practices” listed in the City’s adopted BMP Manual. In addition, the City implements the “storm water ordinance” during the first year of the implementation period.

3.2.1 Storm Drain System Mapping

The City has mapped its underground storm drains showing pipes and outfall locations of the City’s storm drain system. Additional research is necessary to confirm the completeness of the storm drain system map, in particular storm drain inlet locations. This existing storm drain system map information is available in the GIS mapping office of the City (phone 707 825-2457).

3.2.2 Storm Water Ordinance

The City adopted Storm Water Ordinance no. 1319 in 2001. See Appendix “B” This fully comprehensive ordinance provides the City with a mechanism to enforce water quality standards. The City currently has a number of ordinances prohibiting inappropriate waste disposal, including prohibitions against unpermitted discharge of liquid waste, and illegal disposal of solid waste. These ordinances also apply to and regulate the prevention of storm water impairment through the prohibition, enforcement, and abatement remedies that they encompass. Although these ordinances have been sufficient to meet storm water protection objectives to date, a future evaluation of existing City ordinances is part of this SWMP.

Authority for detection and elimination of illicit dischargers and illegal connections are referenced or described in:

- SEC. 7999.04 Illicit connections conveying pollutants into stormwater drainage facilities prohibited. No person shall install, use or maintain a drain, conveyance, pipe, channel or other connection to the stormwater drainage facilities, whether on the surface or subsurface, that may result in the discharge of a pollutant or pollutants into the stormwater drainage facilities. For example, such illicit connections include but are not limited to those that could allow sewage, wastewater, and wash water to enter the stormwater drainage facilities and connections from indoor drains and sinks, regardless of whether the connection had been previously allowed, permitted, or approved by the City.
- Adoption of “conditions of approval” for new development projects. Per AB 3180 (PRC 21081.6). The City has established a program to monitor CEQA mitigation measures for stormwater adopted as conditions of approval on new development projects,
- City Grading Ordinance, which require preparation and implementation of erosion control plans.

Where water quality impacts are anticipated, new developments may be required to participate in riparian and/or wetland restoration. Creek restoration plans are included in the City Community Development Department’s Standard Conditions and Mitigation Measures.

The City will evaluate the effectiveness of existing laws to ensure that they are adequate to address pet/animal waste and other sources of potential creek contamination. The following evaluations will be part of this assessment to determine the current needs and abilities of the City to regulate and enforce water quality protection measures through the existing ordinance:

- Primary enforcement responsibilities may need to be further clarified among the various City Departments and other enforcement entities.
- A determination will be made regarding whether additional staff resources are needed for enforcement. Additional funding sources for enforcement, if necessary, will be provided to the appropriate departments.

Table 3-2: Legal References Concerning Illicit Discharges

Animal waste

Arcata Municipal Code Title V. General Sanitation and Health
Water Code §§13000 et.seq.
Fish and Game Code §§5650 et.seq.
Penal Code §§374.3 et.seq.

General dumping of trash

Arcata Municipal Code Title V. Public Health and Safety
Arcata Municipal Code Title VIII. Public Ways and Property
Water Code §§13000 et.seq.,
Fish and Game Code §§5650 et.seq.,
Penal Code §§374.3 et. seq.,

Liquid discharge from commercial vehicles

Arcata Municipal Code Title VII. Chapter 5 Stormwater Management
Water Code §§13000 et. seq.,
Fish and Game Code §§5650 et.seq.
Penal Code §§374.3 et. seq.,

Discharge of liquid waste from vehicles

Arcata Municipal Code Title VII. Chapter 2 Sewers
Fish and Game Code §§5650 et.seq.
Penal Code §§374.3 et.seq.

Banning use of pesticides on City Property

Arcata Municipal Code Title V. Sanitation and Health
Chapter 4.5 Pest Control

3.2.3 Education & Outreach

One effective action in the elimination and prevention of illicit discharges is the education and cooperation of a concerned public. Education is a primary tool of enforcement activities. The efforts for educating the community about eliminating illicit discharges, listed below, are discussed in greater detail in Section 1.0 - Public Education and Outreach.

- City web site
- Water Quality Hotline (1-707 822-8184) 1 888-DFG-CALTIP
- Business outreach
- Business Recognition Program
- Brochures
- Public events
- Media campaign

Since many illicit discharges can occur due to a lack of awareness on the part of the discharger, education is an important tool of enforcement activities. Often, simply pointing out the error and suggesting best management practices to be used in the future is enough to convince businesses and homeowners to cease discharging, dumping, or to eliminate an illegal storm-drain connection. In most cases the individual responsible can be motivated to do the right thing, and will implement appropriate BMPs. Targeted information brochures have been developed for creek-side residents, owners of domesticated animals, and various businesses to educate them on appropriate BMPs to reduce these types of violations.

3.2.4 Identification and Elimination of Illicit Discharge Sources

In order to maximize the limited resources available, potential sources of illegal dumping and illicit connections are identified and prioritized based in part on public access and contact to the area (or storm drain), and characterization of nearby land uses as industrial, commercial, and older residential areas. In addition, the sources shown in Table 3-3 will be evaluated on an on-going basis for their potential impacts to storm water quality within City watersheds.

Table 3-3: Potential Illicit Discharge Sources

Accidents	Illicit Connections
Spills of Vehicle Fluids (antifreeze, gas, oil, grease, hydraulic fluids, lubricants)	Residential
	Commercial
	Industrial
Glass	Illegal Dumping
Asbestos Brake Fibers	Solids
Auto Dealers	Liquids
Auto Shops	Industrial Cooling Water
Auto - Residential Cleaning	Oil Drips/Fuel Leaks (new/used)
Businesses Washdown	Commercial
Car Wash	Residential
Carpet/Residential Cleaning	Apartments
Commercial Irrigation	Paint
Construction	Parking Lots
Sediment	Pools, Hot Tubs and Spas
Asphalt Cuttings	Residential
Cement Washing	Grey Water
Equipment Cleaning	Hazardous Materials
Food Facility Cleaning	Pesticides
Facility Cleaning - gray water	Fertilizers
	Sediments
	RV Waste
Cooking Equipment - grease, oil and hazardous cleaning agents	
Grease Trap	Sewage Spills
Dumpsters	Septic Spills/failure
Gas Stations/Vehicle Service Stations	Sumps/Dewatering

The City's existing program for identification and elimination of illicit discharge sources comprises four parts:

1. Spill and Complaint Response
2. Field Investigation and Abatement
3. Students/interns Field Mapping Projects
4. HSU M.O.U. on Water Quality Monitoring

These four program elements are discussed in more detail below. Public Works, Environmental Services, Community Development, County Environmental Health, the Fire District and other agencies are all engaged in detection and elimination of illicit discharge activities within the City of Arcata.

The following procedures are used to address the ongoing identification and abatement of illicit discharges:

Spill and Complaint Response

- Receive complaint or notice of the spill, discharge or illegal connection. Complaints are often received from other local agency staff or through the Hotline at 707 822-8184.
- Identify the potential source of the discharge to determine appropriate response agency.
- Document response and track the spill/discharge to source.
- Use education and enforcement to eliminate the discharge to the storm drain/sewer or ground surface.
- Require BMPs if applicable to assure on-going compliance.
- Maintain records of response to establish database, and to identify re-occurrence patterns.
- Establish ongoing compliance through subsequent site visits/inspections.

Field Investigation and Abatement

- Identify and prioritize areas of potential illicit discharge and/or illegal connections for residential, commercial, and industrial locations based on water quality monitoring data and discoveries during project inspections.
- Conduct annual creek walks to identify potential sources.
- Conduct field/manhole/site inspections.
- Verify illicit discharge/illegal connection and identify the source.
- Use education and/or enforcement to eliminate the discharge to the storm drain/sewer or ground surface.
- Require BMPs if applicable to assure on-going compliance.
- Maintain records of response in established data base to identify reoccurrence patterns
- Establish ongoing compliance through subsequent site visits/inspections

Enforcement of existing policies and ordinances is crucial to the effort of maintaining water quality in the creeks and oceans. The City reports water quality problems, tracking follow-up, and ensuring enforcement of water quality policies/ordinances. These efforts include a water quality reporting hotline, coordination between various enforcement agencies and personnel, and report follow-up.

The initial approach to prevention and elimination is education on what the pollution source is, what effects it has on our watershed, and how the problem may be eliminated through best management practices. When necessary, education can be used in combination with legal enforcement to achieve elimination of the illicit discharge.

In addition to complaints, the scheduled creek walks conducted in each watershed discover places where solid waste has been discarded into the creek or along the creek banks. To address these issues, letters and informational brochures are sent to property owners whose parcel is clearly identified as the source of contamination. For example, if a large pile of greenwaste is seen directly on the creek bank behind a home, a letter would be sent to the owner of that parcel explaining the impacts greenwaste has on water quality and outlining alternative methods of disposal or composting of greenwaste. The City also references the code section that is being violated. Brochures, such as “Gardener’s Guide to Clean Water”, “Humboldt Bay Starts on Your

Street”, “A Dog-Owner’s Duty”, and “Helpful Hints for Horse Owners” are included in the letter as appropriate.

Educating the general public, business owners, industries, school children, teachers, and regulatory personnel on the hazards associated with illegal discharges and improper disposal of waste is being accomplished in a number of ways. A detailed discussion on storm water educational outreach and participation is presented in Sections 1 and 2 of this document.

Activities by City departments to identify and eliminate illicit discharges are summarized below:

Environmental Services Natural Resources Division: City staff responds to complaints regarding water quality throughout the year. Response occurs within twenty-four hours of notification, resulting in compliance with the performance measures regarding service response. Complaints range from illegal dumping of trash, horse manure and green-waste in the creeks to the illegal disposal of liquid waste. Complaint response may require the cooperation of many agencies. Callers are not always aware of the boundaries between incorporated and unincorporated areas, so a call referral system has been established so that calls can be efficiently redirected to the correct agency. Natural Resources Division staff use Arcview desktop GIS to verify if the locale is within the City limits. If not, County and California Department of Fish and Game staff are notified.

The “Dogi-pot” program consists of providing pet waste disposal bags and containers at City parks and open spaces for use by the public. This program is successful in eliminating pet waste pollution. The City will evaluate new Dogi-pot stations and more visible signage at various parks and trails as needs are identified. City Park facilities and operations are discussed in Section 6.0 Pollution Prevention/Good Housekeeping.

County Environmental Health Services (EHS): Another program that abates illicit discharge violations is the EHS Community Health Program. District Specialists perform routine annual inspections and complaint investigations at all retail food facilities. EHS responds to each complaint and takes appropriate enforcement action. The appropriate Health and Safety Code authority is cited for each violation and abatement obtained.

Arcata Fire Protection District – Protection Services: Labeling and storage of hazardous material is within the jurisdiction of the Fire Department. For new businesses that use or store hazardous materials, conditions of approval are included in the standard conditions and mitigation measures enforced by this department. These require that a safe, storage area for pesticides, herbicides, and fertilizers be designed to contain spills. In addition, a Hazardous Materials Business Plan must be submitted to the Fire Department for review and approval for each business in order to detect potential hazards associated with the chemicals.

The Fire District is responsible for inspecting sites and monitoring their compliance with hazardous materials best management storage practices and spill response. First responders and the hazardous materials response team may conduct a spill response, depending on the hazard level and severity of the spill. Emphasis is made on containment and cleanup in an

environmentally sensitive manner with public health and safety as the foremost consideration. The City will request the Fire Department to alert the Environmental Services Department when firefighting activities may route potentially contaminated runoff to street drains. The Environmental Services and Public Works Departments will work to deploy absorbent booms, etc. at critical locations to protect storm drains and creeks.

Wastewater Programs

City of Arcata Wastewater Division

The City operates a wastewater treatment plant serving both the City and portions of the unincorporated areas. The system serves approximately 5,380 connections and collects, treats and disposes of 2 million gallons of wastewater per day. Wastewater is generated primarily from domestic sources, with 570 connections from commercial establishments, but does not include storm water collection. During intense winter rainfall events, inflow and infiltration can add several million gallons of stormwater to the treatment system. Inflow and infiltrations are being reduced systematically through replacement and repair of old lines. The City maintains 11 lift stations and 61 miles of collection sewer lines. All of the wastewater is treated and cycled through a marsh system at the Arcata Marsh and Wildlife Sanctuary, then discharged to Humboldt Bay via Butcher Slough.

The Plant meets or exceeds all permit requirements. The City conducts routine flushing of the collection system every two years. In addition, preventative maintenance is provided on a regular basis for older portions of the system. Pipeline video inspection is done routinely to further assess the system's condition. Identified trouble spots are then scheduled for repair. At this time, the City has only a few minor industrial discharges and maintains a set of requirements for pretreatment for these facilities.

The State Water Resources Control Board permits the wastewater treatment plant. Facility operations and water quality programs are summarized below. Activities are discussed in more detail to the extent that they address NPDES Phase II regulations. Programs such as restaurant outreach are discussed in Section 1 "Public Education."

Pursuant to their permit, the treatment facility employs procedures designed to discover illicit discharges and illegal connections to the storm sewer system. These include:

- Good housekeeping and preventative maintenance of facility equipment and machinery to capture and prevent spills and discharges.
- Smoke testing of the City sewer system. Smoke testing is used to detect interconnections and leaks (cross connections) between the sewer system and the storm drain system, groundwater, and creeks. The City also performs smoke testing to detect illicit storm drain connections to the sewer, including residential rain gutters and other hard piped connections collecting surface runoff to the sewer. Diverting storm water discharge away from the sewer prevents sewer overflows to storm drains and creeks in wet weather conditions.
- Closed circuit television video of sewer lines is part of their ongoing program to assess the condition of the sewer lines. As part of their maintenance program the City will

prioritize problem areas and detect and fix leaks, plugs, root balls, oil and grease buildup, and replace aging sewer lines.

- Development of public education programs. The City's Natural Resources Division conducts outreach for contractors, plumbers and engineers, other industrial and professional groups, and young people to teach them about the hazards of illicit discharges and illegal connections.

3.3 Measurable Goals

The following measurable goals for best management practices have been selected to ensure that illicit discharges are detected, eliminated and prevented. The effectiveness of the best management practices for this minimum control measure will be gauged by tracking and evaluating the following:

BMP: Storm Drain System Mapping

- Verify existing mapping of storm drain system.

BMP: Storm Water Ordinance

- Assessment of existing ordinances/policies.
- Develop amendments to storm water ordinance (if deemed necessary by July 2006).

BMP: Education & Outreach; expand program per Table 1-1 and monitor by:

- The number of brochures that are printed and delivered to target groups (See Section 1.0).
- The number of commercial business training events and the number of attendees that visit each event.
- The number of pet waste stations provided.
- Continue to promote the availability of the regional Household Hazardous Waste Collection Facility

BMP: Spill & Complaint Response

- Number of responses to complaints of illicit/illegal discharge within 24 hours of receiving the complaint, referral or notice.
- Number of complaints, notices and referrals received/responded to.
- Amount of trash removed from conveyance streams

BMP: Illicit Discharge Field Investigation & Abatement

- Inspection of targeted creeks within the City on a routine basis once per year, with follow-up inspections as appropriate to ensure abatement of violations.
- Response to inspection reports from septic system pumpers, which identify deficiencies to ensure that the deficiencies are repaired or eliminated. Corrections of reported septic system failures with surfacing sewage (failures that are repaired, modified, or replaced to meet minimum sanitary standards).
- Number of septic to sewer conversions.
- Number of Notices to Correct issued to septic system owners.

- Number of illegal connections identified by the City Wastewater Division
- Eliminate all illicit discharges by year 5.

3.4 Reporting

The data collected for each BMP will be compiled, reviewed, and reported in annual reports. Significant variance from targets will be assessed and discussed in annual reports. Measurable goals will be adjusted as appropriate; the basis for any changes will be included in the next annual report. Feedback from the Wetlands and Creeks Committee, community interest groups and other sources will be used to improve implementation of all six minimum control measures.

**Table 3-4
BMP Implementation: Illicit Connections**

Year	BMP	Current Status	Implementation Details	Measurable Goal Target	Responsible Party
1	Storm Sewer Mapping	The City's storm drain system has been mapped.	Review existing information to determine extent of additional work necessary to correct, update, and maintain the map. Utilize maps to track sources of illicit discharges.	Complete verification of Storm Drain System maps.	GIS/Public Works Dept.
1	Storm Water Ordinance	Reliant on existing City ordinances.	Evaluate scope of existing ordinances to determine need for revision.	If determined to be necessary, a storm water ordinance revision will be developed and adopted by the end of year 2.	Environmental Services Dept.
1	Education & Outreach	Ongoing	Continue to utilize web sites, hotline, brochures, public events, and media campaigns to educate the community.	See section 1.0 Public Education and Outreach measurable goals	Environmental Services Dept.
1	Spill & Complaint Response	Ongoing	Respond to complaints received through the water quality hotline, observations, and reports from field personnel and public.	Respond to complaints within 24 hours of receiving complaint, referral or notice. Document number of complaint responses.	Environmental Services/PW Dept.
1	Field Investigation & Abatement	Ongoing	Perform field investigations to identify and abate septic system problems	Inspect creeks annually to identify illicit discharges. Respond to septic inspection reports to ensure repair or elimination of deficiencies. Document number of septic to sewer conversions, Notices to Correct, and illegal connections.	Wastewater Division/PW Dept. Nat. Res. Division/Environmental Services Dept.

Year	BMP	Current Status	Implementation Details	Measurable Goal Target	Responsible Party
5	Field investigation & Abatement	Ongoing	Field Investigation based on Water Quality Monitoring data	Eliminate 100% of piped illicit discharges	Wastewater Division & Natural Resources Division/Environmental Services Dept.

4.0 CONSTRUCTION SITE RUNOFF CONTROL

The purpose of construction site runoff control is to prevent soil and construction waste from entering storm water. During a short period of time, sediment is usually the main pollutant of concern; construction sites can contribute more sediment to creeks than can be deposited naturally over several decades. The resulting siltation, and the contribution of other pollutants from construction sites, can cause physical, biological, and chemical harm to local waterways.

4.1 Minimum Requirements

EPA guidelines establish the following “Best Management Practices” for Construction Site Runoff Control Minimum Control Measure (*Fact Sheet 2.6 - Construction Site Runoff Control Minimum Control Measure, 01/00*):

- Ordinance or other regulatory mechanism as well as sanctions to ensure compliance
- Requirements for construction site operators to implement appropriate erosion and sediment control and spill prevention and response BMPs contained in approved City BMP Manual
- Requirements for construction site operators to control waste such as...
 - Procedures for site plan review which incorporate consideration of potential water quality impacts
 - Procedures for receipt and consideration of information submitted by the public
 - Procedures for site inspection and enforcement of control measures

The State General Permit for NPDES Phase II requires local jurisdictions to establish construction site controls for sites of one or more acres. In addition, the State General Permit for Construction Activities requires filing of an NOI (with the RWQCB) and development of a Storm Water Pollution Protection Plan pursuant to RWQCB regulation.

4.1.1 Program Development

The State has direct jurisdiction over construction sites of 1 acre or more. In addition, under state planning law and the California Environmental Quality Act (CEQA), the City is responsible for evaluating new development and redevelopment projects, and therefore has a key role in implementing the NPDES Phase II construction runoff control measures. The City will review its Excavation and Grading Code to determine whether it provides the necessary framework for fully implementing construction runoff control measures. The City will consider various other jurisdictions’ regulations in its review. In addition, one potential addition to the Excavation and

Grading Code could be reference to BMP manuals. The manuals dealing with relevant BMPs include:

- California Storm Water Quality Association (CASQA) (1997 or current. See www.cabmphandbooks.org for 2003 handbook updates). Construction Activity Best Management Practice Guidebook.
- Caltrans (2003). Construction Site Best Management Practices Handbook.
- San Francisco Regional Water Quality Control Board (1999 or current). Erosion and Sediment Control Field Manual.

The City has the authority to issue stop work orders and fines on all projects per Ordinance 1255 & Ordinance 1319.

4.2 Best Management Practices

Currently the City Grading, and Erosion and Sediment Control Code (Ord. 1255) regulates all excavations of 4 feet or more and projects disturbing 50 cubic yards of earth or more.

The City will review its current and Grading, and Erosion and Sediment Control Code and standard practices and may contract with a consultant to assist in the review and development of any changes to the ordinance or standard practice. One element of new requirements may be to require applicants to demonstrate compliance with state regulations and provide a copy of the required NOI for construction sites prior to issuance of any grading permit. Any recommended revisions such as clarifying the applicability of the grading ordinance, requiring implementation of erosion and sediment control BMPs, adoption of a BMP manual or manuals, prohibitions on non-storm water discharges, requirements to prepare and submit a storm water pollution prevention plan, and updates and enhancement to site inspection procedures would be considered by the City and reported as part of its implementation of this SWMP.

4.2.1 Construction Site Enforcement, Inspections

Section 3-0408 of the Grading, Erosion and Sediment Code specifies routine inspections shall occur. In addition the City Engineer or Building Official may require any work to ascertain compliance with the provisions of this Chapter and other laws and regulations as may be required. Non-compliance is subject to construction site activity suspension (“red-tagging”), fines or both. The need for additional inspections will be evaluated as part of review of the Grading, Erosion and Sediment Code.

4.2.2 Discretionary Projects –Conditions of Approval

In addition to the regulations under the Excavation and the Grading, Erosion and Sediment Code, the City may apply conditions of approval relating to construction site controls to new discretionary projects. For example, large projects may be required to develop erosion control

plans for construction (and post-construction) and may have specific requirements relating to fueling and maintenance of equipment and control of construction site debris. The City will be review its approach to conditioning discretionary projects as part of its review of its Grading, Erosion and Sediment Code. Staff will be trained in the appropriate selection and application of adopted conditions of approval that relate to storm water.

4.2.3 Staff Training

Construction inspection staff will be responsible for understanding and enforcing erosion and sediment control requirement of the Grading, Erosion and Sediment Code or Storm Water Pollution Prevention Plans, as appropriate. Staff will receive annual training in currently applicable regulations, compliance standards, and techniques. Staff will be required to review copies of the approved City BMP manual.

4.2.4 Construction Workshops

The construction community will be responsible for developing and implementing erosion and sediment control plans or Storm Water Pollution Prevention Plans, as appropriate. The City will partner with the County in providing free or low cost workshops to explain regulations and demonstrate appropriate BMPs.

4.2.5 Measurable Goals

The following goals will be used to check progress each year, as well as demonstrate the efforts made to reduce pollutants to the maximum extent practicable. The intent is to provide both an opportunity to assess and evaluate the program, and a feedback mechanism to measure and update the program as appropriate.

The following measurable goals will be applied to the construction program.

BMP: Update City Grading, Erosion and Sediment Code

- Review City Grading, Erosion and Sediment Code and make recommendations for revisions to conform to the State General Permit by July 2006.
- If necessary, adopt revised Grading, Erosion and Sediment Code to conform to the State General Permit by July 2006.

BMP: Construction Site Enforcement, Inspections

- Achieve 100% compliance with project-approved erosion and sediment control plan (or SWPPP, as appropriate).
- Conduct a minimum of two inspections per month during the rainy season (November 1 and April 15) on projects one acre or larger of land disturbance.
- Conduct a minimum of three inspections throughout project duration during non-rainy season.

- Achieve a City-implemented enforcement action at 100% of sites where BMPs failed, which may include verbal warnings, letters to correct, a “stop work” order, use of construction bonds, etc.
- Conduct inspections immediately following citizen complaints.

BMP: Plan Review

- Require Environmental Services and Public works staff to sign off on all projects that involve site grading or require a grading permit
- Provide a checklist to applicants for plan submitted
- Environmental Services and Public Works staff provide early input on complex projects at pre-application meetings
- Provide project applicants with option to present draft project plans to Wetlands and Creeks Committee

BMP: Discretionary Projects – Conditions of Approval

- Achieve 100% annual training of planning staff in the appropriate selection and application of appropriate conditions to discretionary projects.

BMP: Staff Training

- Achieve 100% annual training of City building officials and PublicWorks inspectors.

BMP: Construction Workshops

- Sponsor or cosponsor with other local, state and federal agencies training/workshops directed toward the construction community with brochures and guidance materials developed and distributed to development and construction community. Provide at least one public workshop on City/other agency construction site BMPs per year starting in 2006.

4.3 Reporting

Feedback from City inspectors, RWQCB staff, construction contractors, project owners, and the public will be evaluated and potential changes to the Grading Ordinance and its implementation will be evaluated. The extent these changes could change the level of protection to storm water quality will be discussed in the annual report.

**Table 4-1
BMP Implementation: Construction Site Runoff Control**

Year	BMP	Current Status	Implementation Details	Measurable Goal Target	Responsible Party
1-5	Development Project Review	Environmental Services and Public Works Staff review plans for stormwater compliance	Provide input on construction permits	Review and input on all grading/construction permits	Environmental Services/Public Works
2	Review City Grading and Sediment Control Code	Requirements for erosion control are often not in place.	Make recommendations for revisions to conform to the State General Permit.	Report recommending revisions.	Community Development Dept.
2	Adopt revised Excavation and Grading Code	Done in 2002.	Code appears to conform to the State General Permit. Adopt revisions if needed.	Adoption of revisions.	Community Development Dept.
1-5	Construction Site Enforcement & Inspections	Citizen/Agency Complaints are followed up as time allows	Hotline information will be routed to Resource Specialist and Building Inspector	Respond to all citizen and agency complaints re: failed BMP and construction site within one hour if during winter period	Environmental Services Department – Natural Resources Division Public Works – Building Division
1	Construction Site Enforcement & Inspections	Existing Excavation and Grading Code allows imposition of erosion control measures.	Make recommendations regarding existing Excavation and Grading Code. Inspections will be conducted according to adopted Excavation and Grading Code.	Minimum of two inspections per month during rainy season on 1+ acre sites. Minimum of four inspections during non-rainy season. Enforcement actions at 100% of sites where BMPs failed. 100% compliance with erosion and sediment control plans or SWPPP.	Building Division
1	Discretionary Projects – Conditions of Approval	Conditions of approval may include construction site controls.	Existing practice will be reviewed as part of recommendations for revisions to Excavation and Grading Code. Staff will be trained to implement any changes.	100% annual training of planning staff in selection and application of adopted standard conditions. Reduce impervious surfaces on new development by 10% by 2006.	All Depts.
1	Staff Training	No specific training on storm water BMPs.	Staff and the Design Review Commission will be trained in currently applicable regulations.	100% annual training of building officials.. Once per year training for Design Review Commission	ES and Com. Development

Year	BMP	Current Status	Implementation Details	Measurable Goal Target	Responsible Party
2	Construction Workshops/ Developer Assistance	None.	Develop BMP workshops for construction community.	Workshops developed by Jan. 2004. At least one public workshop on BMPs annually beginning in 2005. Conduct outreach to the development community to provide information and serve as a technical resource on policies, requirements, and new technology and practices. This may be accomplished through presentations at professional organizations, newsletters, or user-friendly fact sheets and Web sites.	Environmental Services

5.0 POST-CONSTRUCTION RUNOFF CONTROL

One opportunity to reduce the generation of non-point source pollution from urban runoff is through planning and design, before developments are built. Once built, it is complex and expensive to correct problems. This minimum control measure focuses on site planning and design considerations, which are most effective when addressed in the early stages of project development. Effective long-term management and maintenance are critical, so the best design opportunities are those with the least maintenance needs. The goal of the program is to integrate basic and practical storm water management techniques into new development to protect water quality.

The City will implement this minimum control measure through its land use regulatory process that will include site inspections.

5.1 Minimum Requirements

EPA regulations for post-construction runoff control require that the City must, at a minimum (*EPA Fact Sheet 2.7 – Post-Construction Runoff Control, 01/00*):

- Develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre
- Develop and implement strategies that include a combination of structural and/or non-structural best management practices (BMPs)
- Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment to the extent allowable under local law

- Ensure adequate long-term operation and maintenance of BMPs via maintenance agreements
- Utilize approved City BMP Manual to issue BMP's for developers.

Furthermore, the State General Permit requires “for those Small MS4s described in Supplemental Provision E below, the requirements must at least include the design standards contained in Attachment 4 of this General Permit.”

5.1.1 Background

Under state planning law and the California Environmental Quality Act (CEQA), the City is responsible for evaluating new development and redevelopment projects, therefore the City has a key role in implementing the NPDES Phase II post-construction runoff control measures. The City's existing land use policies and development review process provide a general framework for water quality protection and compliance. To assure compliance with NPDES Phase II objectives, the City intends to develop and apply land use policies, implementation tools, and enforcement of mitigation measures to protect urban runoff. This will include:

- Re-writing the Land Use Development Code to reflect the newly adopted General Plan policies for addressing water quality.
- Adoption of a CEQA initial study checklist with a section included to bring attention to storm water pollution as an issue in new development and redevelopment.
- Revising and creating new standard conditions of approval and mitigation measures to implement key policies and address identified CEQA impacts.

Separate from, but related to this work effort, the City Engineer will consider:

- Developing rules and/or guidelines for designing structural BMPs to provide water quality protection in new development and redevelopment, as a part of their standards conditions of approval.
- Developing Design guidelines for storm water treatment facilities.
- Require longterm maintenance agreements for BMP's.

5.2 Best Management Practices

The City will consider inclusion of a number of measures and land use policies to protect storm water quality. These include setback “buffers” from top of bank, limitations on grading steep slopes, and delineation and protection of sensitive habitat including wetlands. General protection of surface water quality occurs during evaluation of potential impacts in CEQA review and/or in establishing conditions for project approval. These protective policies and guidelines are discussed below.

5.2.1 Update Land Use Regulations

Water Quality Protection Policies:

The City has developed water quality protection policies that are being applied to all new development and redevelopment projects (including those of one acre or more in area) proposed in the City, that generate runoff that is directly or indirectly discharged to storm drains, creeks, streams, rivers, the ocean, or other receiving water bodies in the City. These policies provide City staff and the development community with a framework to identify appropriate water quality protection measures for proposed projects, including the development of reasonable and feasible best management practices. These measures are being implemented through recent modification of the City General Plan. Currently, the City's land use code and zoning regulations are being updated to reflect these policies.

As anticipated, these policies would direct growth away from sensitive areas, encourage environmentally sensitive site design, protect wetland and riparian resources, and minimize degradation of water quality.

CEQA Initial Study Checklist Revisions:

The CEQA Initial Study Checklist provides a preliminary analysis of the potentially significant environmental impacts of a proposed project to identify appropriate measures to mitigate the impact, and ultimately, to determine whether a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report is required. The City's initial study checklist was adapted from the recommended checklist contained in the State CEQA Guidelines. Presently, the City checklist combines water resources and flooding into one category and includes direct reference regarding water quality impacts resulting from project-related discharges. Potential revisions to the City checklist to further address storm water quality impacts will be developed and adopted.

Standard Conditions of Approval/Mitigation Measures:

The City may apply Standard Conditions of Approval and Mitigation Measures to address policy consistency and/or potentially significant impacts identified during the project review and CEQA processes. The Conditions/Measures are developed in conjunction with other City departments and also with the Arcata Volunteer Fire District. The new conditions would address both construction site pollution control and post-construction runoff control for new development and redevelopment. Some of the new measures would be considered during the initial design phase of a project if the measure requires significant land area to implement.

The goal is to protect local creeks and rivers by reducing the discharge of storm water pollutants that can result from new developments to the maximum extent practicable (MEP). Generally, new developments may result in: (1) an increase in the total urbanized area, with an attendant increase in the overall load of pollutants discharged into local creeks and rivers; and (2) an increased impervious area, with an attendant increase in the volume of storm water runoff flows. These effects of new development are mitigated with the installation and maintenance of source controls and structural control measures on both a regional scale, such as detention basins, and on individual properties (termed on-site controls), such as oil and water separators and vegetated swales. Control measures, referred to as treatment control measures in this report, are essentially pollutant removal Best Management Practices (BMPs).

Discretionary Permit Review Process, Preapplication Review:

In order to assure that water quality measures are addressed in the early design stages of any project development, City staff can participate in a pre-application consultation with applicants to discuss projects. Pre-application meetings are voluntary but may be useful for moderately complex or complex projects where there is the potential for significant environmental or policy concerns. During the meeting, staff advises the applicant on potential water quality policy and CEQA issues, and can suggest changes in the project to avoid policy conflicts and significant water quality impacts. A preliminary assessment of the project's consistency with General Plan policies may be made to follow up the conference. Staff may also describe supplemental material necessary for a complete application submittal. This early consultation would be offered to applicants and would emphasize water quality issues.

5.2.2 Flood Plain Administrator Project Plan Approval

The City has adopted engineering guidelines for new projects subject to review by the Flood Plain Administrator. The City will address engineering aspects of runoff control, particularly design of treatment detention and oil/water separator measures.

The draft Design Guidelines for Storm Water Quality Treatment Facilities (developed by County flood Control) provide guidance and examples of the treatment facilities required by the proposed new Flood Control standard conditions. The manual is designed to be educational by providing planning and technical guidance on the design, construction, and maintenance of water quality treatment facilities. The manual should be used in conjunction with other technical references, since it only includes basic design information and general guidance on structural treatment control BMPs. Additional guidance and examples of source control measures in new development are also included.

The City recognizes that storm water technologies are constantly being improved. Therefore, the Design Guidelines will be reviewed by the City and will be updated as appropriate to meet the City's needs.

5.2.3 Staff Training

Planning and engineering staff will need to be trained to recognize potential storm water impacts during design review, and to condition projects appropriately. Training can be used to initiate new staff, and to provide updates on innovative site design for existing staff. Staff have been provided with the City's BMP Manual as well as the following publications:

- Site Planning for Urban Stream Protection—Schueler;
- Impacts of Impervious Cover on Aquatic Systems—Schueler
- Design of Stormwater Filtering Systems—Claytor and Schuler
- Electronic version of CASQA BMP handbook

5.2.4 Incentive Program for Innovative Site Design

The design community can provide the best source of innovative and appropriate techniques for site design that minimizes runoff. Examples of innovations include 100% vegetation cover for bioswales, use of sand filter/infiltration areas for recreation (i.e. volleyball), turf-grass roofing material, etc. Incentives that the City may consider include reduction in permit/impact fees, or direct financial incentives. Innovative projects can also be tracked and used as case studies for the design/development community. The City will also consider annual awards by the Design Review Commission for innovative projects to provide additional incentive as well as educational value.

5.2.5 Monitor Discretionary Projects

Discretionary projects will be monitored for compliance with water quality measures, and non-compliance may include a correction notice, “stop work” order, collection of any bonds, and establishing a timeframe for the developer to take corrective steps in order to resume work.

5.3 Measurable Goals

The following goals will be used to check progress each year as well as demonstrate the efforts made to reduce pollutants to the maximum extent practicable. The intent is to provide an opportunity to assess and evaluate the program and a feedback mechanism to measure and update the program as appropriate. The following measurable goals would be applied toward the new development and redevelopment minimum control measure:

BMP: Update Land Use Regulations

- Adopt Zoning Ordinance, General Plan, and revised CEQA checklist to include water quality protection standards, conditions, and policies.

BMP: Staff Training

- Achieve 50% attendance by City permit and review staff at annual storm water trainings by June 2006.
- Achieve 75% attendance by City permit and review staff at annual storm water trainings by June 2007.
- Achieve 100% of all new planning staff in a City water quality training (in-house).

BMP: Monitor Discretionary and Engineering Projects

- Evaluate 100% of all discretionary projects including grading which are subject to storm-water regulation and that receive approval after March 2006 for construction, implementation, and as appropriate, proper functioning and maintenance of water quality measures.
- Where there is non-compliance on conditioned projects with approved water quality design, operation and/or maintenance procedures, the City will take enforcement actions on 100% of all projects. This may include a correction notice, “stop work” order, collection of any bonds, and establishing a time frame for the developer to take corrective steps to resume work.
- Reduce impervious surfaces associated with new development by 10% by 2006.

5.4 Reporting

Data collected for each measurable goal will be compiled, reviewed, and summarized in annual reports. Significant variance from targets will be assessed and discussed in annual reports to the RWQCB. Feedback from City staff, permittees, developers, the Community Interest Group, etc. will be used to modify BMPs or the measurable goals, as appropriate; the basis for any changes will be included in the next annual report.

**Table 5-1
BMP Implementation: Post Construction Runoff Control**

Year	BMP	Current Status	Implementation Details	Measurable Goal Target	Responsible Party
2	Update land use regulations	Review Existing policies and regulations initiate GP ZO changes.	City will develop zoning Regulations to address water quality.	Initiation of Zoning Ordinance, General Plan, and revised CEQA checklist changes.	Community Development Dept.
2	Update land use regulations	Existing policies and regulations provide some level of control.	City will adopt General Plan and Zoning Regulations to address water quality.	Adoption of Zoning Ordinance, General Plan, and revised CEQA checklist..	Community Development Dept.
1	FCD Standard Conditions of Approval	Storm water standards adopted by City in 2003.	Standards will be applied to all discretionary projects.	Standards applied to 100% of applicable projects.	City
2,3,4,5,	Staff training	Permitting and review staff will be responsible for conditioning projects to protect water quality.	Training can be used to initiate new staff, and to provide updates on innovative site design for existing staff.	Existing staff attend annual training, 50% in year one and 75% by year 2. New staff: 100 % attendance in annual training.	City
2,3,4,5	Monitor discretionary projects	Pending.	Implemented during construction and post-construction monitoring & site inspections.	Evaluate all discretionary projects for function of water quality protection measures implemented. Enforcement action on all non-compliant projects.	Public Works Department - Building Official / Environmental Services Department
1-5	Remove sediment from off-stream sediment basins	4 existing sediment basins are monitored and cleaned by the City	City will continue to remove sediment	Cubic yards removed. Effectiveness of overall erosion control BMPS throughout City	Public works

Year	BMP	Current Status	Implementation Details	Measurable Goal Target	Responsible Party
2-5	Parking lot BMPS-lots over 25 spaces in size.	Not yet implemented	Individual lots for industrial or commercial use are required to install on-site BMPs for each individual parking lot exceeding 25 spaces.. For these properties, the requirements for operation and maintenance of on-site BMPs will be the responsibility of the property owner. The property owner will be required to submit to the City every two years a letter indicating that the on-site BMP has been inspected and is working as designed.	Number of property owners in compliance. Hydrocarbon/trash reduction in creek monitoring sites below affected properties.	Property Owner-Monitored by Environmental Services Department

6.0 POLLUTION PREVENTION AND GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

The purpose of this minimum control measure for Municipal Operations/Good Housekeeping Practices is to assure that the City’s delivery of public services occurs in a manner protective of storm water quality. In this way the City may serve as a model to the community.

Pollution Prevention/Good Housekeeping for Municipal Operations Element

The City of Arcata conducts numerous municipal operational and maintenance activities, some of which have the potential to result in discharges of pollutants in runoff or be sources of non-storm water discharges. The goal of the Municipal Operations Element is to reduce these discharges of pollutants in runoff and control non-storm water discharges.

The Municipal Operations Element evaluates activities to identify those that could be significant sources of pollutants in runoff, develops appropriate measures to reduce the discharge of pollutants from these sources to the maximum extent practicable (MEP), and identifies and controls discharges of non-storm water from facilities owned or operated by the City. This Program Element also conducts operation and maintenance activities that remove pollutants. City operations and maintenance activities provide for the collection and removal of significant quantities of pollutants from storm water runoff. The City’s street sweeping program also will remove sediment and associated pollutants from roadways and gutters that would otherwise enter the storm drains. Furthermore, planning efforts provide the opportunity to incorporate water quality features in the design of regional detention basins to provide treatment and removal of pollutants as well as flood and drainage control.

Proposed activities include continued efforts to identify and improve municipal operations that are potentially significant sources of pollutants. Employee education, outreach and training are essential to ensure that municipal employees are aware of and able to implement the Municipal Operations Element. Areas of focus include: (1) equipment maintenance and washing; (2) pesticide and fertilizer application practices, (3) waste storage and disposal, (4) Contractor standards, i.e. paving operations on City streets. Development of fact sheets, performance standards, and procedure manuals for common municipal activities will help ensure that pollutant prevention practices are followed. Street sweeping and catch basin cleaning activities will be evaluated to determine effectiveness, and alternatives will be considered to improve pollutant removal. Proposed activities will help protect and improve the habitat of urban creeks. Drain inlet filters will be installed in areas of high potential for oils/greases such as the bus depot, City Hall parking lot, and downtown plaza.

6.1 Minimum Requirements

The State’s General Permit states that the City must develop and implement an operations and maintenance plan that will prevent or reduce pollutants in runoff from municipal operations (*EPA Fact Sheet 2.8 – Pollution Prevention/Good Housekeeping, 01/00*).

The minimum requirements are:

- To consider municipal activities and identify those that may contribute pollutants to storm water;
- To select and implement Best Management Practices (BMPs) that will reduce or eliminate pollutants in storm water runoff from these activities to the Maximum Extent Practicable; and
- To train new and existing employees on the potential impacts to storm water from municipal activities and the implementation of BMPs to prevent and reduce these impacts.

6.2 Best Management Practices

On August 20, 2003 the City Council adopted a BMP Manual that included a subsection on Municipal Operations.

6.2.1 Municipal Activities and Potential Pollutants

Tables 6-1 and 6-2 summarize the City facilities and services and identifies those that may contribute pollutants to storm water.

Table 6-1 City Facilities

Facility	Potential Pollutant Sources	Responsible Division
City Hall	Parking lot, janitorial wastes, landscaping.	Public Works Parks Division (Maintenance), all City staff

Facility	Potential Pollutant Sources	Responsible Division
Community Center	Public recycling bins, staff picnic area, parking lot, landscaping.	Public Works, Parks and Rec, all City staff
Water & Maintenance Shop, including storage areas	Equipment storage, parking, trash bins, public-recycling bins (all shop maintenance conducted indoors).	Public Works/Environmental Services
Wastewater Treatment Plant	No potential storm water pollutants. Runoff is captured and treated at facility permitted under separate NPDES Industrial permit. This includes the vehicle washing station.	Public Works, Wastewater Division of Environmental Services
Community Forest	Sediment, timber operations, recreational use.	Natural Resources Division of Environmental Services
Various areas, grading.	Sediment	Depending on lead Dept./Division
Parking lots (4)	Vehicle wastes, litter.	Parks/Public Works
Restrooms (3) at Public Parking lots.	Janitorial wastes, litter.	Maintenance, Parks Division of Public Works
Streets and storm drains, including inlet filters	Vehicle wastes, litter, unknown material including illegal dumping.	Public Works

Table 6-2 City Activities

Activity	Potential Pollutant Sources	Responsible Division
Park maintenance	Over application of pesticides, fertilizers, spills during mobilization and storage, improper green waste disposal	Parks Division of Public Works
Trash removal and temporary storage	Trash that misses the bins, trash bin liquid discharges	Parks Division of Public Works
Janitorial service (in-house and contractor)	Improper disposal of wash water and other waste products into storm drain system	Parks Division of Public Works
Construction (contractors)	Improperly managed construction wastes, sediment runoff, staging area runoff (equipment leaks or spills).	Engineering of Public Works
Water pressure testing	Pollutants which may be	Public Works

Activity	Potential Pollutant Sources	Responsible Division
discharged into storm drain	present in gutters and storm drains, i.e., trash, organics, etc.	
Reservoir maintenance	Sediment mobilized from. plugging of outlet	Public Works
Fire hose testing –discharged into storm drain	Any pollutants present in street, gutters, & storm drains.	Fire Department

Development of Citywide Best Management Practices (BMPs)

BMP guidance material will be developed for all City facilities and activities with identified pollutant sources, shown above in Tables 6-1 and 6-2 (The guidance material will be used by City staff to (1) assure that water quality is being protected at municipal operations through the use of BMPs, (2) track implementation of BMPs, (3) develop a plan for future implementation of BMPs, and (4) prepare annual reports for internal purposes and for the annual monitoring report required under the NPDES permit.

The guidance material will contain a menu of suggested BMPs that either are or will be implemented by the City. Those BMPs that are appropriate to the City’s municipal operations will be identified on a case-by-case basis. The menu approach for listing BMPs provides flexibility for similar activities at different locations, and allows the city to track implementation for reporting. For example, vehicle washing may be acceptable at the wastewater treatment plant where wash water is treated (eg., BMP# 1 Vehicle Washing), but another BMP such as using dry methods or containment may be appropriate at City Hall (eg., BMP #2 Vehicle Washing). The menu approach also allows flexibility when operations change. For example, a landscaped area of lawn (eg., BMP#1-4) could be replanted using a xeriscape design, in which little or no application of pesticides are necessary (eg., BMP#5). In this case, the activity remains the same (Landscaping) but the BMPs employed have changed.

The City’s guidance material will also make excellent reference tools for public education, applicable to residential and commercial users of the storm drain system.

6.2.2 Purchasing and Contracts

The City will review contractual language for vendors and contractors under service, and determine whether to include a requirement to employ the City’s storm water Best Management Practices. Such services and contracts may include roadwork, vehicle maintenance, housekeeping, painting, and construction.

Contracts may be reworded to include specific language requiring contractors to obtain approval from the City for project-oriented BMPs or an activity-related Water Quality Plan (similar to a Storm Water Pollution Prevention Plan as required for construction activities under the Federal NPDES program). The contractor’s approved BMPs or Water Quality Plan would describe how storm water conveyances would be protected from potential pollutants specific to the project

undertaken. If contractors violate the plan, it would be sufficient reason for termination of the contract without harm to the City.

6.2.3 Training by City Departments

All City employees will receive an appropriate level of training on storm water pollution prevention based on their work responsibilities. Most of the training programs will be integrated into existing training presented to staff, such as safety training. A program will be developed City-wide for distributing something similar to the BMP Fact Sheets listed in the City BMP Manual, as shown in Appendix B. This Fact Sheet provides general direction to all City employees through new employee orientation to protect water quality both at work and at home.

Depending on the personnel involved, storm water training will occur at least semi-annually. Department heads will develop guidance on their departmental responsibilities for storm water management and provide this information to all relevant personnel. Frequency and type of training will depend on the activities targeted, ranging from the general City BMP Manual to activity-specific BMPs such as “Vehicle Maintenance.” Coastal Commission Staff and Wetlands and Creek Committee members will assist the Deputy Director of Environmental Services and the Resource Specialist in conducting training.

6.2.4 Street Sweeping/Sidewalks

The City conducts street sweeping over 61 curb-miles of pavement plus five City-owned public parking lots. Sweeping is conducted approximately once per month throughout the city, and weekly within the downtown area. No water is discharged from the street sweeping with the exception of dust control spray. Wastes are removed and disposed of by the City.

Sidewalk cleaning is conducted as needed in the downtown area using a high pressure steam cleaner. No chemicals are used in the process. Solids are collected by hand prior to and subsequent to steam cleaning. Filter fabric is placed over the nearest drainage inlet.

6.2.5 Storm Drain Cleaning

Currently, there is no regular program for cleaning the storm drain system, including pipelines, catch basins, and drop inlets. Minor maintenance is conducted by hand, prior to the rainy season each year, to remove fallen leaves and other debris collected in the system. Where more serious blockages occur, the City utilizes a Vactor truck for cleaning the storm drain. For the most part, the storm drain system operates without blockages, and therefore maintenance is on an as-needed basis.

City staff will evaluate the cost-effectiveness of employing the Vactor truck on a regular basis for cleaning high problem sensitive areas of the storm drain system.

6.2.6 Trash, Green Waste and Recycling

In order to prevent solid wastes from entering the storm drain system, the City provides trash, green waste, and recycling services. There are 45 public trash containers maintained by the City. These are emptied three days a week, or more frequently if needed, often daily for some receptacles. Trash from the public receptacles is collected and stored temporarily within City bins. The trash is then removed by a private waste-haul contractor.

The City contracts with a green waste drop-off facility available to the public four days per week. The City also provides recycling bins to the public. There are five bins located near the City Hall and the Fire Station, four at Redwood Park, four at the Community Center, and five other single bin recycling sites located around town.

6.2.7 Landscaping, Parks, and Open Space Maintenance

The Parks Division of the Public Works Department maintains the following facilities in the City:

- City Hall (landscaping) building, parking lot
- Community Center and Park (landscaping, pet waste bins) parking lot
- D Street Community Center (landscaping), building parking lot
- Arcata Neighborhood Parks (landscaping, buildings, pet waste bins)
- Arcata Ballpark and Judo Hunt (landscaping, buildings)
- Tranist Center (parking lot, building, landscape)

The Natural Resources Division of the Environmental Services Department maintains the following facilities in the City:

- Arcata Marsh and Wildlife Sanctuary (landscaping, pet waste bins)
- Urban Creek Easements (landscaping and creek-cleanup)
- South I St. Boat Ramp (recycle bins, waste bins, pet waste bins)
- Arcata Community Forest (landscaping, road and trail drainage maintenance)
- Aldergrove Marsh (trash, landscaping)
- Shay Park (trash, landscaping, trails)

Maintenance activities include mowing, trimming, watering, and weed management. Occasionally, work is contracted to outside vendors for specialty services (i.e, tree trimming, large weed mowing jobs) or low-cost labor (Conservation Camp, Community Service). Most sidewalk planters are maintained under service agreements.

Most of the City's landscaping includes native species to minimize maintenance needs. Pesticides are not used except in rare cases and fertilizer use is kept at a minimum and applied only on an as-needed basis. City staff are trained in the proper use of pesticides, and supervised by a state-certified pesticide applicator. The City utilizes chipped yard waste as mulch for city landscaping and provides chipped yard waste to be used as mulch, free of charge, to local schools and service groups.

6.3 Measurable Goals

The City will use the following measurable goals to track the implementation and effectiveness of the BMPs:

BMP: Development of Citywide Best Management Practices (BMPs) for Municipal Operations

- BMPs already implemented will be reported during the first annual report to the RWQCB; timetables for implementation of additional BMPs will be defined by Year 1. Implementation will be ongoing throughout the five-year implementation period.

BMP: Purchasing and Contracts

- Identify and evaluate contractual language used in all City contracts by Year 1.
- Determine whether contractors have policies protective of water quality by Year 1.
- Revise contractual language to include provision to protect water quality by Year 2
- Report the number of Notice of Violations per project and the number of Corrective actions with their schedules – ongoing Years 2 through 5.

BMP: Training

- Distribute information on the City's NPDES permit and permit requirements to all staff by Year 1. Information will include the adopted City BMP Manual for Municipal Activities and outline various levels of responsibility by City staff.
- Prepare training material and conduct training appropriate for divisional practices by Year 2; content, frequency, method of presentation, and subsequent reporting will be developed by each divisional manager as appropriate for staff.

BMP: Street Sweeping

- Continue City street sweeping program and evaluate alternative equipment and sweeping schedules to optimize pollutant removal.
- Evaluate effectiveness of street sweeping and provide brief assessment in annual NPDES report for Year 1.

BMP: Storm Drain Inlet Cleaning

- Determine cost-effectiveness of scheduling clean out of the storm drain system as part of routine maintenance by Year 1. Make recommendation for future assessments. Goal by year 5 is to inspect and clean 20 % of inlets per year with city Vector truck.

BMP: Trash, Green Waste and Recycling

- Continue providing trash, composting, green waste, and recycling opportunities to public.
- Evaluate effectiveness of waste program and provide brief assessment in annual NPDES report.
- Evaluate additional BMPs as outlined in City BMP Manual (adopted 2003), see example Appendix B, for trash, green waste and recycling storage areas by Year 1.

BMP: Landscaping, Parks, and Open Space Maintenance

- Continue providing landscape maintenance to City facilities.

- Evaluate additional BMPs as outlined in City-wide BMPs (to be developed), see Appendix B, for minimizing water quality impacts from landscaping and open space management by Year 1.
- Implement a Pesticide Control Management Plan by year two.

6.4 Reporting

Data collected for each measurable goal will be compiled, reviewed, and summarized as part of the annual report to the RWQCB. Significant variance from targets will be reported. Input from City employees and the Community Interest Groups will be used to modify BMPs or the measurable goals, as appropriate; the basis for any changes will be included in the following annual report. The City will retain storm water records for five years. Each department will also keep their records for five years.

**Table 6-3
BMP Implementation: Pollution Prevention and Good Housekeeping
for Municipal Operations**

Year	BMP	Current Status	Implementation Details	Measurable Goal Target
2-5	Implementation of BMPs	A draft list of BMPs for various operations has been developed.	Staff will review draft BMPs and select those appropriate for facilities and operations. Staff will utilize reporting format to verify BMP implementation.	Tabulate number of BMPs implemented. Develop implementation schedule for future BMPs. Evaluate implemented BMPs. Final list of BMPS (menu).
2-5	Staff Training - BMPs	No current storm water training.	Staff will receive appropriate training on water pollution prevention BMPs.	Number of training sessions presented per year. 1/year Number of staff attending. Number of email or other mass-distributed messages on water quality / permit. Conduct spill response training in year 3 and year 5. Distribute posters to all departments by year 2.
2	Purchasing & Contracts	Municipal activities that could affect water quality are often performed by outside contractors; these need to be reviewed.	Contract language will be reviewed and contractors will be required to implement BMPs to protect water quality. Some contracts will be revised.	List Number of projects or city-contracted activities that affect water quality. Evaluate contractor compliance with BMPs. Report the number of Notice of Violations or Corrective actions taken.
1-5	Street Sweeping	Ongoing.	Continue sweeping. Evaluate program annually.	Area and lane miles swept. Frequency swept. Goal once/week Volume / weight of material removed.
1-5	Storm Drain Inlet Cleaning	Only performed as-needed (due to blockages).	Determine cost-effectiveness of scheduling clean-out of the storm drain system as part of routine maintenance.	Number of catch basins maintained. Goal 20% of City inlets per year until year 5. After year 5 100% of inlets will be inspected and cleaned.
1-5	Trash, Green Waste and Recycling	Ongoing.	Continue providing services. Evaluate program annually.	Document quantity of material removed. Accessibility of dump sites to public.

Year	BMP	Current Status	Implementation Details	Measurable Goal Target
1-5	Landscaping, Parks, and Open Space Maintenance	Ongoing minimal use of chemicals and reliance on drought-tolerant vegetation.	Continue services Evaluate program annually, especially through Fact Sheet examples (see Appendix B).	BMPs employed under this activity.
1	Staff Training – NPDES permit requirements	No current storm water training.	Distribute information on the City’s NPDES permit and permit requirements to all staff. Include timetable for developing BMPs.	Date of training or distribution of information. Once per year
1	Develop BMP guidance material	BMP Fact Sheets example will be reviewed.	Identify BMPs for sites and activities. Determine tracking and reporting mechanism.	BMPs employed.
2	Develop Pest Control Management Plan	Draft Plan.	Materials and Methods Of Control/Public Ed.	Reduction of use of pesticides for City facilities. Outreach contacts made. Goal 10 per year Educational material distributed. Goal = 10 plans/brochures/year
2-5	Rock Unsurfaced Trails.	Ongoing.	Application of rock surface to all-season use trails at Forest and Marsh.	Linear feet of trails surfaced with rock. Goal = All all-season trails within 5 years.
2-5	Install inlet filters at critical areas to primarily catch first flush material	One installed at transit Center	Commercially available inlet filters are easily dropped into place. They require maintenance and periodic replacement	Goal- Install new filters at 1-2 locations per year with the downtown parking areas as the focus area. Filters will be inspected and maintained one per year.
2-5	Emergency cleanup material staging	One station installed at Arcata High School	Cooperate with HSU in installing absorbent booms and cleanup material in lock boxes at strategic locations. Make lock combo known to all staff.	Goal= Install one box in lower portion of Jolly Giant, Janes and Campbell Creeks above tidal influence.

MONITORING PROGRESS AND REPORTING

7.0 MONITORING AND REPORTING REQUIREMENTS

The purpose of monitoring and reporting is to document successful implementation of the SWMP. The draft General Permit requires annual reports be submitted starting in August 2004. The City intends these annual reports to cover the fiscal year immediately prior to the reporting period.

The City will monitor the implementation of its program and the overall effectiveness by measuring and reporting the data discussed in the individual Minimum Control Measures sections discussed above.

In general, four types of data will be collected:

- Progress establishing BMPs that are developed during the SWMP implementation period, or establishing existing BMPs in newly identified permit areas.
- Training City staff (and contractors as appropriate).
- Objective measures of ongoing BMPs, such as public participation or education outreach.
- Response time and results of pollution cleanup.
- Water quality data will be gathered. This activity will be used as a stormwater indicator for the city as a whole.
- Fish and invertebrates will be monitored in order to provide an overall biological indicator of urban stream health.

The City will evaluate both current conditions and BMP effectiveness, and, as appropriate, update BMPs and measurable goals to achieve the objective of meeting water quality standards to the Maximum Extent Practicable. It may be necessary to expand or better tailor existing BMPs after implementing the minimum control measures described in this SWMP. Such changes would be based on the results of monitoring provided in the annual reports, and developed in consultation with the Community Interest Group and the North Coast Regional Water Quality Control Board (RWQCB).

Form and Content of Annual Report

The State has not yet provided specific guidance as to the specific form and content of the annual report. The City intends to provide summaries of data in tabular form. Data such as the number of employees trained, number of construction sites inspected, etc. will be presented in summary tables. Because the City is required to keep records for five years and due to the intent of the reporting requirement, the annual report will focus on a summary of progress and discuss any changes to the SWMP to be implemented in meeting the “maximum extent practicable” standard. Of necessity, the reporting format needs to be flexible and if changed, reasons will be given. Focus will be to clearly show progress, to discuss program adjustments, and to respond to challenges in implementing the SWMP.

Reporting and Compilation of data

The City is developing a central reporting system for reporting of BMPs. This City-wide program is intended to track BMP selection and implementation, identify schedules for all facilities, and provide opportunity for feedback and clarification on BMPs. Report results will be used directly in the annual report to the RWQCB to identify BMPs implemented by the City. The City will also include creek water quality monitoring data as collected by Humboldt State University under an MOU. Permanent sampling stations have been installed and data is currently being collected.

Pursuant to the state’s draft “General Permit,” the City will retain storm water records for five years. Each department responsible for implementing substantive elements of the SWMP will

also be directed to keep their records for five years. These records will be the source of the compiled data contained in the Annual Report.

APPENDICES

Appendix A – City of Arcata MS4 NPDES Storm Water Permit Application (N.O.I.)

Appendix B – City of Arcata Storm Water Ordinance No. 1319

Appendix C – Erosion and Sediment Control Ordinance No. 1255

Appendix D – Draft Pesticide Control Plan 2004

Appendix E - Creeks Management Plan 1991

Appendix F - City of Arcata BMP Manual Adopted August 20, 2003

Appendix G- General Plan Policies Chapter 4, Environment and Resources 2001

Appendix H – Measures to be Included in Review of City Land Use Policies and Design Guidelines

Appendix J – Map: Creek Sampling Locations City HSU MOU

APPENDIX A (NOT ATTACHED TO ONLINE VERSION)

CITY OF ARCATA MS4 NPDES STORM WATER PERMIT APPLICATION (N.O.I.)

APPENDIX B

CITY OF ARCATA STORM WATER ORDINANCES

ORDINANCE NO. 1319

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ARCATA PROHIBITING DISCHARGES INTO THE STORM DRAIN SYSTEM AND RESTRUCTURING CHAPTER 5 OF TITLE VII OF THE MUNICIPAL CODE TO CREATE SEPARATE DIVISIONS WITHIN THE CHAPTER

TITLE VII: PUBLIC WORKS

The City Council of the City of Arcata does ordain as follows:

Section 1: TITLE VII, PUBLIC WORKS, Chapter 5, “Storm Drain Service Fees,” is hereby renamed to Chapter 5, “Stormwater Management.”

Section 2: Division 1, entitled “Storm Drain Service Fees,” is hereby created in TITLE VII, PUBLIC WORKS, Chapter 5, “Stormwater Management,” and shall contain Articles 1 through 6, Sections 7993.01 – 7998.03, hereby recodified.

Section 3: **TITLE VII, PUBLIC WORKS, Chapter 5, “Stormwater Management,” Division 2, “Reduction of Stormwater Pollution,”** is hereby created and adopted as follows:

8.0 DIVISION 2 – REDUCTION OF STORMWATER POLLUTION

9.0 ARTICLE 1 – GENERAL PROVISIONS

SEC. 7999.01 Findings, purposes, and objectives.

A. *This ordinance sets forth standards for discharge into the stormwater drainage facilities for the City of Arcata, and establishes a stormwater pollution control program in compliance with the Clean Water Act (33 USC 1251 et seq.) and the United States Environmental Protection Agency (EPA) Phase II stormwater regulations (40 CFR Parts 9, 122-124). This ordinance is based on the following findings:*

- 1. Stormwater runoff may contain or mobilize high levels of contaminants, such as sediment, suspended solids, nutrients (phosphorus and nitrogen), heavy metals and other toxic pollutants, pathogens, toxins, oxygen-demanding substances (organic material), and floatables. These pollutants may be carried into streams, rivers, estuaries and wetlands within the City of Arcata, Humboldt Bay and other waters of the United States.*

2. *Stormwater discharges generated by construction activities can cause an array of physical, chemical and biological water quality impacts that significantly impair water quality.*
3. *On December 8, 1999, the United States Environmental Protection Agency (EPA) issued its Phase II stormwater regulation final rule pursuant to authority conveyed in the Clean Water Act Section 1342(p). This rule requires the City of Arcata to develop a stormwater pollution control plan that meets at a minimum the following six criteria: (1) public education and outreach, (2) public involvement, (3) illicit discharge detection and elimination, (4) construction site runoff control, (5) post-construction stormwater management in new development and redevelopment, (6) pollution prevention and good housekeeping.*
4. *The City has previously adopted programs and ordinances that satisfy some of the minimum criteria of the required stormwater pollution control plan. Specifically, the stormwater Drainage Master Plan, adopted by the City Council on May 21, 1997, and the Creeks and Wetlands Management Plan (Resolution No. 956-30), adopted by the City Council on January 3, 1996, provide for public education, outreach and involvement through the “adopt a creek” and “creek clean-up days” programs, and additionally through storm drain labeling and brochures. The construction and post-construction runoff control criteria are satisfied in part through the Grading and Erosion Control Ordinance, Ordinance 1255, adopted by the City Council on September 18, 1996, and through conditions imposed by City-approved permits.*

B. Based on these findings, the purpose of this ordinance is to develop a fully comprehensive stormwater pollution control program, as required by the EPA Storm Water Phase II regulations, and as deemed appropriate to minimize or eliminate the impairment of water quality.

C. The objectives of this ordinance are as follows:

1. *To eliminate non-stormwater discharges from public and private properties into the City’s stormwater drainage facilities.*
2. *To reduce to the maximum extent possible contamination of and pollutants entering into the City’s stormwater drainage facilities.*
3. *To initiate the adoption by the City of a Best Management Practices Manual to assist in the reduction or elimination of pollutants in stormwater, and to thereafter impose Best Management Practices on existing and new sources of contamination.*
4. *To protect and enhance the water quality of the water resources, water bodies, and wetlands of the City of Arcata in a manner consistent with the Clean Water Act.*
5. *To protect the health, safety, and general welfare of the residents of the City of Arcata by establishing monitoring, compliance and enforcement procedures.*

SEC. 7999.02 Definitions.

Unless a provision explicitly states otherwise, the following terms and phrases, as used in this chapter, are defined as follows:

- A. “Best Management Practices” or “BMPs” means a schedule of activities, prohibitions, management practices, or maintenance procedures that prevent or reduce the discharge of pollutants or discharges into the City’s stormwater drainage system.
- B. “Clean Water Act” means the federal Water Pollution Control Act, also known as the Clean Water Act, 33 USC Section 1251 *et seq.*
- C. “Director” means the Environmental Services Director, or his/her designee.
- D. “Discharge of pollutants” means the introduction of pollutants into the City’s stormwater drainage facilities or any waters of the United States.
- E. “Discharger” means the person directly causing or allowing the discharge.
- F. “Hazardous Substances” means, without limitation, any material that because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the work place or the environment. Hazardous substances include, but are not limited to, those substances included within the definitions of “hazardous substance,” “hazardous waste,” “hazardous material,” “toxic substance,” “solid waste,” or “pollutant or contaminant” in any local, state or Federal law or regulation.
- G. “Illicit discharge” means any discharge into the City’s stormwater drainage facilities that is not composed entirely of stormwater, with the exceptions as identified herein.
- H. “National Pollutant Discharge Elimination System permit” or “NPDES permit” means the permit issued pursuant to section 402 of the Clean Water Act, 33 U.S.C 1342, and administered by the state of California under the authority of the U.S. Environmental Protection Agency, permitting the discharge of pollutants into navigable waters of the United States.
- I. “Pollutant” means any dredged soil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, medical wastes, chemical wastes, cleaning products, industrial wastes, municipal wastes, agricultural wastes, animal wastes, biological materials, radioactive materials, anti-freeze, concrete rinsates, pesticides, fertilizers, herbicides, heat, wrecked or discarded equipment, rock, soil, sand, gasoline, benzene, fuel oil and other petroleum products, wax, phenols, wastewater (as defined in section 7400 of the Arcata Municipal Code), grease, fatty materials, offal or garbage, or other materials which are prohibited by the Clean Water Act and regulations adopted thereto. A pollutant shall also include any increment or increase in the total volume or rate of stormwater runoff resulting

from any activity or development occurring after the effective date of this chapter in which a stormwater limit had been set as a condition of approval.

- J. “Stormwater drainage facilities” means the storm and surface water drainage systems comprised of stormwater control facilities and any other natural facilities which store control, treat, and/or convey storm and surface water. Storm water facilities shall include all natural and constructed elements used to convey stormwater from the first point of impact with the surface of the earth to a suitable receiving body of water or location, internal or external, to the boundaries of the City. They shall include: pipes, appurtenant features, culverts, streets, curbs, gutters, pumping stations, channels, streams, ditches, wetlands, detention/retention basins, ponds, and other stormwater conveyance and treatment facilities whether public or private. Regardless of whether or not the City shall have recorded rights-of-way or easements, it is presumed that the City has a prescriptive right of access to all storm drainage facilities to inspect for proper operation and maintenance, and to require rehabilitation, or replacement as necessary.
- K. “Stormwater” means any flow occurring during or following any form of natural precipitation, and resulting therefrom, including snow melt, surface runoff and drainage.

**ARTICLE 2 – PROHIBITION OF DISCHARGES
INTO STORMWATER DRAINAGE FACILITIES
SEC. 7999.03 Stormwater pollution prohibited.**

Except as expressly exempted herein, no person shall allow or cause the discharge of pollutants into stormwater drainage facilities. Without limiting the foregoing, the following activities are expressly prohibited:

- A. No person shall throw, deposit, leave, maintain, keep, or permit to be thrown, deposited, placed, left or maintained, any refuse, rubbish, garbage, or other discarded or abandoned objects, articles, or accumulations, in or upon any street, alley, sidewalk, storm drain, inlet, catch basin, gutter, creek, or other drainage structures, business place, or upon any public or private plot of land in the City, so that the same might be or might become a pollutant that enters the stormwater drainage facilities; provided however, that nothing in this section shall be construed to prohibit the disposal of garbage, rubbish or other waste in a lawful manner.
- B. No person shall deposit leaves, dirt, wood chips or other landscape debris or material in such a manner as to obstruct, impound or cause siltation any part of the stormwater drainage facilities except as allowed by valid federal, state or local permits.
- C. No person shall dispose of any pesticide, fungicide or herbicide banned or otherwise regulated by the United States Environmental Protection Agency or the California Department of Pesticide Regulation, or its successor, into any part of the stormwater drainage facilities.
- D. No person shall allow or cause discharges from wastewater systems, industrial processes, cooling systems, boilers, fabric cleansing, equipment cleansing, vehicle engines, leaking

vehicles, construction activities such as painting, sandblasting, paving, concrete placement, sawcutting, grading, swimming pools and spas into the stormwater drainage facilities.

- E. No person shall allow, permit or cause the discharge of hazardous substances into the stormwater drainage facilities.

SEC. 7999.04 Illicit connections conveying pollutants into stormwater drainage facilities prohibited.

- A. No person shall install, use or maintain a drain, conveyance, pipe, channel or other connection to the stormwater drainage facilities, whether on the surface or subsurface, that may result in the discharge of a pollutant or pollutants into the stormwater drainage facilities. For example, such illicit connections include but are not limited to those that could allow sewage, wastewater, and wash water to enter the stormwater drainage facilities and connections from indoor drains and sinks, regardless of whether the connection had been previously allowed, permitted, or approved by the City.
- B. No person shall install, use or maintain a drain or conveyance connected from a commercial or industrial premise to the stormwater drainage facilities where such connection or drain is not approved by the City and documented in City records.

SEC. 7999.05 Exemptions.

Notwithstanding any provisions to the contrary, the following types of discharges into the stormwater drainage facilities are exempt from the prohibitions set forth above:

- A. Discharges from the following activities when the discharger conducts the activity such that the least amount of non-stormwater as practicable enters the stormwater drainage facilities:
1. Watering of lawns, landscaping, and gardens;
 2. Exterior washing of personal motorized vehicles by residents;
 3. Draining of water from swimming pools or spas, after the chlorine or other disinfectant concentrate of such water shows a reading of zero concentration on a test kit;
 4. Flushing of water lines and hydrants, or other discharges from potable water sources if the chlorine concentration is less than 1.0 milligrams per liter measured at the point of entry into the stormwater drainage system;
 5. Flows from firefighting;
 6. Residential crawl space and basement sump pumps;
 7. Condensation from air conditioning units;

8. Gravity drainage from groundwater piping systems, including foundation and footing drains, and roof drainage downspouts;
- B. Discharges from naturally occurring rising ground waters, floodwaters, springs and flows from riparian habitats and wetlands.

9.1.1 ARTICLE 3 -- BEST MANAGEMENT PRACTICES

SEC. 7999.06 Adoption of Best Management Practices.

- A. *The Director shall, as soon as practicable, formulate and develop a Best Management Practices Manual for activities, operations, or facilities that may cause or contribute to pollution or contamination of the stormwater drainage facilities or waters of the United States. The Best Management Practices Manual shall include appropriate Best Management Practices for controlling the volume, rate, and potential pollutant load of stormwater runoff from existing and new projects as may be appropriate to minimize the generation, transport and discharge of pollutants. Best Management Practices requirements promulgated by any federal, State, or regional agency shall be incorporated into the Manual as appropriate.*
- B. *The Best Management Practices Manual shall be revised and updated on a regular basis as needed by new development, new regulations, or changing circumstances.*
- C. *The Best Management Practices Manual and all revisions thereto shall be adopted by the City Council after public hearing.*

SEC. 7999.07 Duty to comply with Best Management Practices Manual

- A. *Every person undertaking an activity or operation, or owning or operating a facility that may cause or contribute to stormwater pollution or contamination shall comply with the BMP Manual.*
- B. *Not limiting the foregoing, the owner or operator of a commercial or industrial establishment shall, at the owner or operator's sole cost, use BMPs from the BMP Manual to protect against the accidental discharge of pollutants into stormwater drainage facilities.*
- C. *The owner, occupant or other person in charge of the day-to-day operation of premises containing parking lots with more than 25 parking spaces, where such lots are associated with industrial or commercial activities, shall use BMPs as identified in the BMP Manual to reduce the discharge of pollutants. Such measures may include regular sweeping, litter pick-up, oil absorption or other measures as may be appropriate. Storm drain inlets shall be clearly marked by the owner with the words "No Dumping/ Flows to Bay," or the equivalent.*
- D. *The owner or occupant of premises where equipment is repaired or maintained at facilities associated with industrial or commercial activities shall use BMPs as identified*

in the BMP Manual to prevent the discharge of maintenance or repair related pollutants to the stormwater drainage facilities.

SEC. 7999.08 Building, Development and Construction Requirements.

- A. *Any applicant for a building and/or grading permit shall, as a condition of receiving such permit, read and sign a certificate stating that the applicant has read the BMP Manual and shall use approved BMPs for all construction activity. The applicant shall submit for approval a Best Management Practices Plan specifying those methods which will prevent the entry of pollutants into the stormwater drainage facilities, including but not limited to the use of filter materials at drain inlets to retain debris, dirt or other pollutants generated by such work. Property owners and developers shall comply with all terms, provisions, and conditions of City approved Best Management Practices Plans.*

SEC. 7999.09 NPDES permit requirements.

As a condition of receiving a building and/or grading permit from the City, an applicant that is subject to any NPDES permit shall provide evidence to the City that the applicant has submitted a Notice of Intent to the State Water Resources Control Board.

ARTICLE 4 – COMPLIANCE MONITORING, VIOLATIONS AND ADMINISTRATIVE AND OTHER REMEDIES

SEC. 7999.10 Authority to inspect and sample for enforcement purposes.

- A. The City may conduct inspections and sampling as necessary to carry out the purposes of this chapter, including but not limited to random sampling or sampling in areas with evidence of stormwater contamination or discharges of pollutants into storm drainage facilities.
- B. The City shall have the right to set up on any property, or require the installation of, any devices as are reasonably necessary to conduct sampling or metering operations.
- C. The City shall have the right to conduct inspections to ascertain whether the purpose of this ordinance is being met, or whether BMP requirements contained in any permit or order issued by the City are being complied with.
- D. In order to fulfill the purposes and objectives of this ordinance, the City may require any person engaged in any activity or owning or operating any facility that may cause or contribute to illegal discharges, to install monitoring equipment as may be necessary.
- E. Unreasonable delays in allowing City personnel access to the premises shall be a violation of this ordinance.

SEC. 7999.11 Notice of discharges; clean-up

Any person who causes or permits the discharge of pollutants shall take all necessary steps to notify the appropriate regulatory authority or authorities, contain and clean up such discharge as soon as possible and come into compliance with all applicable rules and regulations. In addition to other agencies as may be required by federal, state or local law, such person shall immediately notify the City of the discharge and inform it of the location of the discharge, type of material, concentration and volume discharged and of corrective actions taken.

SEC. 7999.12 Notification of Violation, Compliance Orders, Cease and Desist.

- A. Whenever the City finds that any person has violated or is violating this Ordinance, an order issued hereunder or a City permit, the Director may serve upon said person a written Notice of Violation. Within ten days of the receipt of this Notice, the person shall submit to the Director an explanation of the violation and a plan for the satisfactory correction and prevention thereof. Submission of said plan in no way relieves the person of liability for any violations occurring before or after receipt of the Notice of Violation. Nothing in this section shall limit the authority of the City to take any action, including emergency or enforcement action, without first issuing a Notice of Violation.
- B. Whenever the City finds that any person has violated or is violating this Ordinance, an order issued hereunder or a City permit, the Director may issue a Compliance Order to the discharger directing the discharger to come into compliance within a time period determined reasonable by the Director. Compliance Orders may contain requirements to address the non-compliance, including the installation of adequate treatment facilities, devices, or other related appurtenances, self-monitoring, and BMPs. A Compliance Order does not release the user of liability for any violation, including any continuing violation. Issuance of a Compliance Order shall not be a prerequisite to taking any other action against the discharger.
- C. If the City finds that a discharge or activity has taken place in violation of this chapter, the Director may issue an order to cease and desist such discharge or activity and direct the discharger or other responsible party to immediately comply with the requirements herein and take appropriate remedial or preventive action as necessary including halting operations and/or terminating the discharge. Issuance of a cease-and-desist order shall not be a prerequisite to taking any other action against the discharger.

SEC. 7999.13 Administrative fines.

- A. Notwithstanding any other provision of this ordinance, the Director may issue an administrative complaint to any user who violates any provision of this ordinance. The administrative complaint shall allege the act or failure to act that constitutes the violation of the ordinance, shall provide a period deemed reasonable by the Director in

which to come into compliance, shall specify the provisions of the law that authorize civil liability to be imposed, and shall state the proposed civil penalty.

- B. The administrative complaint shall be served by personal delivery or certified mail on the person alleged to be in violation, and shall inform said person that a hearing shall be conducted within ten (10) days after the person has been served. The hearing shall be before the Public Works Director, who shall act as Hearing Officer, unless conflicted or otherwise unavailable, in which case the hearing shall be before the Community Development Director, who shall act as Hearing Officer. The person who has been issued an administrative complaint may waive the right to a hearing, in which case no hearing shall be conducted. A person dissatisfied with the decision of the Hearing Officer may appeal to the City Council within thirty days of notice of the Hearing Officer's decision.
- C. If after the hearing or appeal, if any, it is found that the person has violated provisions of this ordinance, the Hearing Officer or City Council may assess a civil penalty against that person. In determining the amount of the civil penalty, the Hearing Officer or City Council may take into consideration all relevant circumstances, including, but not limited to, the extent of harm caused by the violation, the economic benefit derived through non-compliance, the nature and persistence of the violation, the length of time over which the violation occurs and corrective action, if any, attempted or taken by the discharger.
- D. Civil penalties may be imposed in accordance with Government Code Section 53069.04 and shall not exceed \$500.00 for each day of violation.
- E. The amount of any civil penalty imposed under this section that has remained delinquent for a period of sixty days shall constitute a lien against the real property of the discharger from which the discharge originated resulting in the imposition of a civil penalty. The lien provided herein shall have no force or effect until recorded with the County Recorder and when recorded, shall have the force and effect and priority of a judgment lien and continue for ten years from the time of recording unless sooner released, and shall be renewable in accordance with the provisions of California Civil Code of Procedure Sections 683.110-683.220.
- F. Administrative actions provided herein are do not preclude the City from taking any other additional legal or administrative action.

SEC. 7999.14 Violations deemed a public nuisance.

Any condition caused or permitted to exist in violation of any of the provisions of this chapter is a threat to the public health, safety and welfare, and is hereby declared to be a nuisance.

SEC. 7999.15 Acts constituting violation.

Causing, permitting, aiding, abetting or concealing a violation of any provision of this chapter shall constitute a violation of such provision.

SEC. 7999.16 Civil actions.

The City Attorney may seek legal, injunctive, or equitable relief to enforce the provisions of this chapter, including but not limited to any or all of the following remedies:

- A. A temporary restraining order or preliminary or permanent injunction.
- B. Assessment of the violator for the costs of any investigation, inspection, or monitoring survey which led to the establishment of the violation, and for the reasonable costs of preparing and bringing legal action under this subsection.
- C. Costs incurred in removing, correcting, or terminating the adverse effects resulting from the violation.
- D. Compensatory damages for loss or destruction to water quality, wildlife, fish or aquatic life. Assessments under this subsection shall be paid to the City to be used exclusively for the costs associated with monitoring and establishing stormwater discharge pollution control systems, or implementing or enforcing the provisions of this chapter.

SEC. 7999.17 Remedies not exclusive.

The remedies and penalties provided for under this chapter are in addition to and do not supersede or limit any and all other remedies, administrative, civil or criminal. The remedies and penalties provided for in this chapter shall be cumulative and not exclusive.

ARTICLE 5 – MISCELLANEOUS PROVISIONS

SEC. 7999.18 Liability.

Liability for any discharge in violation of the provisions of this chapter shall be the responsibility of the person or persons causing or responsible for the discharge, and such persons shall defend, indemnify and hold harmless the City and it's employees in any administrative or judicial enforcement action relating to such discharge.

SEC. 7999.19 Violation of federal or state law.

Any person who violates any provision of this chapter, who discharges non-stormwater which causes pollution, or who violates any cease and desist order, prohibition, or effluent limitation, may also be in violation of the Clean Water Act and/or other federal and state laws.

SEC. 7999.20 Construction and application.

This chapter shall be construed to ensure consistency with the requirements of the federal Clean Water Act and acts amendatory thereof and supplementary thereto, applicable implementing regulations, and NPDES Permit No. CA0029831 and any amendment, revision or reissuance thereof.

SEC. 7999.21 Severability.

If any provision of this ordinance is invalidated by any court of competent jurisdiction, the remaining provisions shall not be affected and shall continue in full force and effect.

SEC. 7999.22 Conflicts.

All other ordinances and parts of other ordinances inconsistent or conflicting with any part of this ordinance, are hereby repealed to the extent of the inconsistency or conflict.

Section 4: *This ordinance shall take effect 30 days after its adoption.*

Dated: March 7, 2001

ATTEST:

s/ Dan Hauser
City Clerk, City of Arcata

APPROVED:

s/ Constance E. Stewart
Mayor, City of Arcata

Clerk's Certificate

I hereby certify that the foregoing is a true and correct copy of Ordinance No. 1319, passed and adopted at a regular meeting of the City Council of the City of Arcata, Humboldt County, California, on the 7th day of March, 2001, by the following vote:

AYES: Machi, Noble, Ornelas, Stewart, Test

NOES: None

ABSENT: None

ABSTAIN: None

s/ Dan Hauser
City Clerk, City of Arcata

Appendix C – Grading Ordinance

ORDINANCE NO. 1255

**AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ARCATA
AMENDING TITLE IX OF THE MUNICIPAL CODE, LAND USE AND
DEVELOPMENT GUIDE, CHAPTER III, ARTICLE 4: GRADING,
RESCINDING SAID ARTICLE AND ADOPTING A NEW ARTICLE 4:
GRADING, AND EROSION AND SEDIMENT CONTROL.**

The City Council of the City of Arcata does hereby ordain as follows:

SECTION 1. Rescission of existing Article 4: Grading

The existing Article 4, titled "Grading," of Chapter III of Title IX of the Arcata Municipal Code, said Title being the Arcata Land Use And Development Guide (LUDG), is hereby rescinded.

SECTION 2. Adoption of new Article 4: Grading, and Erosion and Sediment Control

A new Article 4 of Chapter III of Title IX of the Arcata Municipal Code, titled "Grading, and Erosion and Sediment Control" is hereby adopted and shall read as follows:

"ARTICLE 4: GRADING, AND EROSION AND SEDIMENT CONTROL

SECTION 3-0401	General Purpose and Scope
SECTION 3-0402	Incorporation of Uniform Building Code (UBC)
SECTION 3-0403	Definitions
SECTION 3-0404	Permits Required
SECTION 3-0405	Application Submittal Requirements
SECTION 3-0406	Application Review and Approval
SECTION 3-0407	Standards
SECTION 3-0408	Enforcement and Penalties

SECTION 3-0401 GENERAL PURPOSE AND SCOPE

The purpose of this Article is to establish minimum standards and regulations for grading activities. The intent is to promote the public safety and general welfare by preventing

unreasonable or unnecessary erosion and sediment production and related degradation of natural resources and the City's stormwater drainage systems.

SECTION 3-0402 INCORPORATION OF UNIFORM BUILDING CODE (UBC)

The provisions of this Article supplement and are in addition to the requirements of the latest edition of the Uniform Building Code's Chapter on Excavation and Grading (Chapter 70). Projects which include grading shall also comply with the provisions of that Chapter.

SECTION 3-0403 DEFINITIONS

The following definitions shall govern the interpretation and enforcement of this Article:

- a. Bench A relatively level step excavated into earth material on which fill is to be place.
- b. BMP Best Management Practices, as defined by the State Water Resources Control Board's *Best Management Practices Construction Handbook*.
- c. Channel, or drainage way A natural or artificial open watercourse with definite bed and banks which periodically or continuously contains moving water or forms a connecting link between two bodies of water.
- d. Discharge The outflow rate of surface water.
- e. Drainage improvement Any element in a drainage system which is made or improved by a human.
- f. Erosion The weathering away of the ground surface as a result of the movement of wind or water.
- g. Erosion and Sediment Control Plan A plan which fully indicates necessary land treatment and structural measures, including a schedule of timing for their installation, which will effectively minimize soil erosion and sediment yield. Such measures shall be in accordance with standards shown in the *City of Arcata Erosion and Sediment Control Handbook*.
- h. Excavation The physical removal of earth material.
- i. Fill The deposit of earth material caused or placed by artificial means.
- j. Grading Any excavating, filling, or any combination thereof.
- k. Land disturbing activity Any land change which may result in soil erosion from water, wind and the movement of sediments onto adjacent properties. Such activities include but are not limited to clearing, grading, excavating, transporting and filling of land.
- l. Mulch A natural or artificial layer of material placed on exposed earth to provide more desirable moisture and temperature relationships for plant growth. It is also used to control the occurrence of unwanted vegetation.
- m. Sediment Solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, or gravity.
- n. Sediment Detention Basin A sediment detention basin is a reservoir which retains flows sufficiently to cause deposition of transported sediment.
- o. Short Form [Erosion and Sediment Control Plan] A simplified form, issued by the Building Official, for erosion and sediment control plans for certain qualifying minor grading projects.

- p. Storm water runoff The waters which result from rainfall within a tributary drainage basin; flowing over the surface of the ground; or collected in channels or conduits.
- q. Swale A low lying stretch of land which gathers or carries surface water runoff.
- r. Terrace A relatively level step constructed in the face of a graded slope surface for drainage and maintenance purposes.

SECTION 3-0404 PERMITS REQUIRED

A. General Requirement

Except as provided in this Article, no person shall commence or perform any grading, clearing of vegetation, or other land-disturbing activity without having first obtained a grading permit from the Building Official. In the following areas of special consideration, no grading or clearing of vegetation shall commence without also obtaining approval by the Director of Community Development, Director of Environmental Services, and City Engineer:

1. Geologic/Seismic Safety hazard areas: The Falor-Korbel Fault Hazard Management *Zone*, areas identified as "medium risk" and "high risk" landslide hazard areas, and areas identified as having a high liquefaction potential, as shown on the Arcata Public Safety and Seismic Safety Element Maps.
2. Areas within the Forest/Hillside or F-H zoning *district*.

B. Exceptions

Except in areas of special consideration as noted above, a grading permit shall not be required if the work meets any of the following conditions:

1. clearing of vegetation does not exceed 1,000 square feet in area, or does not expose or disturb soil surface;
2. cultivation of land for agricultural purposes, provided that normal and customary agricultural practices are followed which minimize potential erosion;
3. grading associated with timber harvesting which has been authorized pursuant to regulations of the California Department of Forestry and Fire Protection;
4. refuse disposal sites controlled by regulations of other agencies;
5. excavations for wells or tunnels or utilities;
6. the excavation does not exceed four (4) feet in vertical depth at its deepest point, measured from the original surface, and does not exceed 200 square feet in area;
7. the fill does not exceed three (3) feet in vertical height at its highest point, measured from the natural ground surface, and does not cover more than 200 square feet;
8. exploratory excavations under the direct supervision of soils engineers or engineering geologists which do not exceed an aggregate area of 200 square feet; or
9. an excavation below finished grade for basements and footings of a building if authorized by a valid building permit. This exception does not affect the requirement of a grading permit for any fill made with the material from such excavation.
10. excavations for cemetery graves.

C. Grading in Geologic Hazard Areas.

All grading located in geologic hazard areas, as shown on the Arcata Public Safety and Seismic Safety Element Maps, shall be subject to the Geologic Hazard Review Procedures described in Article 3 of Chapter IV of this Title. Reports or waivers required pursuant to said procedures shall be included with any grading permit application. Final Soil Grading and Geologic Grading Reports shall also be required for all grading activities in these areas, except that borings and related analyses will be sufficient in liquefaction hazard areas.

D. Grading and Clearing in the Coastal Zone.

When any proposed development or grading in the Coastal Zone requires a grading permit, a Coastal Development Permit pursuant to Section 1-0408 *Coastal Development Permits* shall be required, except as specifically excluded in section 1-0408.2(b) of this Title.

E. Compliance with CEQA.

All grading activities shall comply with the California Environmental Quality Act (CEQA) and Article 1 of Chapter IV of this Title.

SECTION 3-0405 APPLICATION SUBMITTAL REQUIREMENTS

A. General

An application for a grading permit shall include a completed City application form and the following materials, each of which is described in the subsequent parts of this section:

1. A site map and report.
2. A grading plan.
3. An erosion and sediment control plan, except that a short form may be submitted if all of the following conditions are met:
 - a. the existing or natural slope is less than 15%;
 - b. the total area of grading is less than one-quarter acre; and
 - c. the proposed grading is not within a creek zone or wetland and springs are not present.
4. Applicable City fees for processing the permit application.

B. Site Map and Report

The site map shall be derived from base maps available from the City or other base maps of equal quality. It shall be of a scale large enough to distinguish existing and proposed features of the site but not smaller than one inch equals 50 feet (1"=50'). The site map and report shall include the following:

1. The exterior boundaries of the property on which the grading is to be performed.

2. Existing site conditions, including any structures, and contour lines which shall conform to minimum intervals as follows:
 - a. two-foot contours for slopes equal to or less than 15%.
 - b. five-foot contours for slopes over 15%.
3. A soil description, including type and erodability.
4. Evaluation of subsurface information where the stability will be lessened by proposed grading or filling, or where any of the following conditions are discovered or proposed:
 - a. where a fill slope is to be placed above a cut slope.
 - b. where proposed cuts exceed twenty feet in height unless in competent rock as determined by an engineering geologist.
 - c. Where side hill fills are to be placed on existing slopes steeper than 15%.
 - d. Wherever groundwater from either the grading project or adjoining properties is likely to reduce the stability.
 - e. Where the topography is indicative of landslides, as determined by an engineering geologist or City liquefaction map.
 - f. Location where drainage leaves/will leave the property.
5. Where any of the particular conditions listed above or other weaknesses are found, subsurface investigations shall consist of drilling, excavations, or observations of naturally exposed soil and bedrock exposures at sufficient intervals and depths to indicate the type of material or condition to be encountered at final grading. The person or firm making the investigation shall submit a written report of their findings and recommendations.

C. Grading Plan

Grading plans shall include the following information which may be shown on the site map:

1. Elevations, dimensions, including quantity, location, and extent of proposed cut and fill.
2. A report showing extent and manner of tree cutting and vegetation clearing, including a plan for disposing of cut trees and vegetation.
3. Provision for stockpiling topsoil.

D. Erosion and Sediment Control Plans

The following requirements apply to erosion and sediment control plans, except when a Short Form is permitted pursuant to paragraph A of this section:

1. Preparation: The plan shall be prepared by a person or firm qualified by training and experience to have expert knowledge of erosion and sediment control methods.
2. Implementation measures: The proposed measures may be based on recommendations contained in the latest editions of the *State of California Erosion and Sediment Control Handbook* or *State Water Resources Control Board Best Management Practice Construction Handbook*.

3. Standards: The plan shall conform to the requirements in the sections on "Standards" and "Implementation" of Articles IV and V, respectively.
4. Construction Schedule: A construction schedule for the contractor shall be included in the plan. The schedule shall provide for prompt establishment of protective vegetation.
5. Sediment Detention Measures: The following information shall be required only when work is to be undertaken in the winter period from October 15 to April 15:
 - a. The location and dimensions of sediment basins.
 - b. The hydrologic and sediment transport data used to determine the proper capacity of the needed basins.
 - c. The construction procedure and schedule.
 - d. The source of borrow material.
 - e. The maintenance schedule.
 - f. The type and manner of vegetating the erodible slopes.
 - g. Location of natural drainageways, curbs, and drop inlets.
 - h. Methods to prevent vehicle tracking of mud onto public roadways.
6. Fill Slopes: Where fill slopes are to be constructed, the following information shall be included:
 - a. Location of fill area.
 - b. Slope and height of fill.
 - c. Slope and condition of original ground.
 - d. The number and dimensions of benches.
 - e. Source of fill material.
 - f. Ability of fill to support vegetation.
 - g. Percent organic content of fill.
 - h. Maximum thickness of layers of fill to be compacted.
 - i. Percent Compaction.
 - j. Methods of protecting the slope surface of the fill.
7. Cut Slopes: Where slopes are to be formed from cuts, the following information shall be included:
 - a. Location of cuts.
 - b. Slope and height of cuts.
 - c. Identification of cuts to be vegetated or not subject to erosion.
 - d. Number and width of drainage terraces provided.
 - e. The ability of the ground to support vegetation.
8. Disposal of Spoil Material: Information concerning the disposal of spoil materials shall include the following:
 - a. Type of spoil material.
 - b. Location of disposal area.
 - c. Method of processing and disposing of spoil material.
 - d. Procedures to prevent soil loss to adjacent watercourses.
9. Stockpile: Stockpiled material shall be identified according to:
 - a. Source of material.
 - b. Location, slope, and height of stockpile.
 - c. Duration that the material is to be stockpiled.

- d. Provisions to prevent erosion and sediment loss from rain and wind action.
- 10. Dust Control: The following provisions for dust control shall be included:
 - a. Measures to keep dust to a minimum during equipment operation.
 - b. Measures to prevent wind erosion of exposed soil.
- 11. Slope Surface Stabilization: The following shall be included:
 - a. Temporary mulching, seeding, or other stabilization measures to be used to protect exposed critical areas during construction or other land disturbance.
 - b. Earth and paved interceptors and diversions to be installed at the top of cut or fill slopes where there is a potential for surface runoff.
- 12. Removal of Vegetation and Revegetation Plan. When vegetation is to be removed, the following information shall be provided:
 - a. A description and list of vegetation to be removed and the criteria used to determine removal.
 - b. The methods of removing and disposing of vegetation.
 - c. Measures to protect existing vegetation, particularly trees.
 - d. A revegetation plan, including temporary and permanent revegetation measures; areas to be revegetated; type and quantity of seeds or plants; type and quantity of mulch; and method and schedule of seeding, mulching, planting and fertilizing.
- 13. Additional Information: The Building Official may require the submittal of additional information when necessary to judge the adequacy of the planned erosion and sediment control measures.

E. City Processing Fees

Applicable City fees shall be submitted at the time of making application. The City fee schedule for plan checking and grading permits shall be as set forth in the UBC and is based upon the extent (cubic yards) of the grading operation. An additional fee may be established to compensate the City for its costs in review and approval of applications which include an erosion and sediment control plan, except where a short form has been determined to be adequate. The amount of the additional fee shall be as established by resolution of the City Council.

SECTION 3-0406 APPLICATION REVIEW AND APPROVAL

A. Submittal of Applications

All required information and materials shall be submitted at the time of making application. All application materials, including a completed City application form, shall be submitted to the Building Official.

B. Review and Approval of Applications

Upon receipt of a complete application, the application shall be reviewed by the Building Official or his or her designee. In considering an application, the Building Official shall refer the application materials to the Environmental Services and Public Works Departments and to other agencies for their review and recommendations. The final determination as to the adequacy of the application materials and conformance of the proposed grading with the requirements of this Article shall be made by the Building Official with the consent of the City Engineer.

C. Approval Criteria

Approval of a grading permit and/or erosion and sediment control plan shall not be granted by the Building Official unless or until a determination is made that the project is in substantial compliance with the provisions of this Article and any other applicable provisions of City law and policy.

D. Terms and Conditions of Grading Permits

In approving an application, the Building Official may require any revisions or conditions as are necessary to achieve compliance with the requirements of this Article. The following terms and conditions shall be attached to all grading permits.

1. All soil erosion and sediment control measures shall be implemented in strict compliance with this Article and in accordance with approved erosion and sediment control plans.
2. All erosion and sediment control measures shall be adequately maintained by the permittee for a period of three years or until the site is stabilized as determined by the City of Arcata.
3. If the City determines that the work does not comply with the provisions of the approved erosion and sediment control plan or with the provisions of this Article, the Building Official may issue a Stop Work Order stopping all work until such time as compliance is assured.
4. The costs of any remedial work determined by the Building Official to be necessary to protect completed work or to prevent damage shall be the responsibility of the permittee.

E. Appeals

Appeals from decisions under this Article may be made by any aggrieved person to the City of Arcata in writing within ten days from the date of such decision. The appellant shall be entitled to a hearing before the Planning Commission within thirty days from the date of appeal. The appeal request shall be noticed and conducted in the manner specified in Section 1-0405 of this Title, *Hearings And Appeals*.

SECTION 3-0407 STANDARDS

All grading or other land-disturbing activities, grading plans and erosion and sediment control plans shall conform to the standards set forth in this Section and to any additional applicable standards in sections 1-0228, *Wetland And Creek Protection Combining (:WCP) Zone*, and 1-0312, *Diking, Filling, Or Dredging*, of this Title.

A. General Standards

All grading or other land-disturbing activities and erosion and sediment control plans shall conform to the following general principles:

1. The design, scope, and location of the proposed *grading* shall be compatible with adjacent areas and should result in minimal disturbance of the terrain and natural land features.
2. The *grading* shall preserve, match, or blend with the natural contours and undulations of the land.
3. Whenever practicable, trees and native vegetation should be retained to stabilize hillsides, retain moisture, reduce erosion, siltation and nutrient run-off, and to preserve the natural scenic beauty of the area.
4. Scars from cuts and fills should be minimized; the amount of cuts and fills should be reduced and sharp angles at the top and sides of all necessary cut and fill slopes should be rounded off. Where a cut or fill slope occurs between two *lots*, the slope should normally be made a part of the downhill *lot*.
5. Geologic hazards and adverse soil conditions shall be mitigated.
6. All cleared slopes in cuts and fills and other areas vulnerable to erosion shall be stabilized.
7. Construction, clearing of vegetation, or disturbance of the soil shall be limited to areas of proven stability.
8. Sediment or other material deposited off the site shall not exceed that which would have been deposited if the land had been left in its natural state.
9. The natural geologic erosion of hillsides, slopes, graded areas, cleared areas, filled areas, or stream banks should not be exceeded.
10. New or modified erosion and sediment control techniques may be used provided there is mutual agreement between the City and permittee that the technique meets the intent of the erosion and sediment control plan and this Article.

B. Sediment Control Standards

1. Sediment being transported by runoff water shall be retained on-site through the use of sediment basins, silt traps, or similar measures.
2. On-site surface runoff shall be collected and disposed of at non-erosive velocities to the point of discharge into the common natural watercourse of the drainage area.
3. Concentration of surface water runoff shall only be permitted in swales or watercourses.

4. In order to prevent polluting discharges from occurring, approved erosion and sediment control devices shall be required for all grading and filling. Control devices and measures which may be required include, but are not limited to, the following:
 - a. Energy absorbing devices to reduce the velocity of runoff water.
 - b. Sediment controls such as sediment debris basins and sediment traps. Any trapped sediment shall be removed to a disposal site approved by the permit-issuing authority.
5. Temporary seeding and mulching shall be required once an area is denuded for fourteen days after October 15. Oil treatment is unacceptable.
6. Mud shall be prevented from being tracked onto the public roadway by either:
 - a. Travel over a temporary gravel construction entrance.
 - b. Washing off vehicle tires before entering a public road.
7. All existing or newly-installed storm drainage structures shall be protected from sediment clogging by providing inlet protection for area drains and curb drains.
8. A vegetative barrier shall be retained around property boundaries.

C. Standards for Revegetation

1. A permanent vegetative cover shall be established on denuded areas not otherwise stabilized.
2. Permanent vegetation shall not be considered established until a ground cover is achieved which is mature enough to control soil erosion satisfactorily and to survive severe weather conditions.
3. The type of plants used shall: be self-sustaining, require little or no maintenance, and not increase the fire hazard.
4. Native plant species are encouraged.

D. Slope Construction Standards

1. Slopes, both cut and fill, shall not be steeper than two-to-one (2:1) unless a thorough geological and engineering analysis indicates that steeper slopes are safe and erosion and sediment control measures are specified.
2. Long or steep slopes should be terraced at regular intervals to slow runoff and provide a place for sediment to settle out.

E. Standards for Protection of Watercourses and Drainage Inlets

1. Fills shall not encroach on natural watercourse or constructed channels except as specified in Chapter 1, Article 3, Section 1-0312 *Diking, Filling, or Dredging*.
2. Grading equipment shall not cross or disturb creek zones.
3. Excavated materials shall not be deposited or stored in or alongside watercourses where the materials can be washed away by high water or storm runoff.

4. Any storm drain inlet protection measure which completely blocks the drain entrance shall not be used. Straw bales or filter fabric wraps are to be used in a manner which does not cause erosion, or flooding into roadway.

F. Standards for Disposal of Excavated Materials

1. Some or all of the topsoil on the site shall be stockpiled for use on areas to be revegetated.
2. Stockpiled soil shall be located so that if erosion occurs, it would not become a source for off-site sediment damage.
3. Stockpiled soil shall be located sufficient distance from streams or drainageways so that surface runoff cannot carry sediment downstream.
4. Stockpiled soil shall be promptly backfilled and compacted into trenches and pits to reduce the risk of erosion and sediment.
5. Mulch or other protective coverings shall be applied on stockpiled material which will be exposed through the winter season or which faces a high risk of intensive summer rains.
6. Excavated material not used at the site shall be disposed of at a location approved by the City of Arcata.

SECTION 3-0408 ENFORCEMENT AND PENALTIES

A. Inspection and Enforcement

The provisions of this Article shall be enforced by the Building Official and City Engineer. The engineer for a project may be required to inspect work and certify compliance with the approved grading plan, erosion and sediment control plan, and the provisions of this Article.

B. Completion Reports

Upon completion of the rough grading work and at the final completion of the work, the Building Official or City Engineer may require the following reports:

1. An As-graded Plan prepared by the civil engineer including a certification that the work was done in accordance with the final approved grading plan.
2. A Soil Grading Report prepared by the soil engineering geologist including a certification as to the adequacy of the site for the intended use and as affected by geological features.

C. Penalties for Violations

Violations of the provisions of this Article shall be enforced pursuant to Chapter 3 of Title I of the Arcata Municipal Code. Violations may also be subject to stop work orders, corrective action orders, and suspension of issuance of occupancy permits."

SECTION 3. Amendments of various Code sections to achieve consistency with the new Article 4: Grading, and Erosion and Sediment Control

The following sections of Title IX are hereby amended as follows:

A. Deletion of paragraph 4 of Section 0-0103

Paragraph 4 of Section 0-0103 is hereby deleted.

B. Amendment of a portion of Section 0-0104, subsection titled "City-wide Ordinances"

The portion of Section 0-0104 titled "City-wide Ordinances" is hereby amended to read as follows:

- * Grading, and Erosion and Sediment Control. Applies when the topography is to be altered, vegetation removed, or soil disturbed, for construction or other purposes.

C. Amendment of Section 1-0408.2 (b) 5. (Categorical Exclusions from Coastal Development Permits)

Section 1-0408.2(b)5. is hereby amended to read as follows:

- 5. Grading as provided in Section 3-0404 A. 4., 6., 7., 8., 9., except in a wetland, riparian corridor, or buffer area as defined in Section 1-0228 :WCP COMBINING ZONE.

D. Amendment of Section 3-0504 (c)

Section 3-0504(c) is hereby amended to read as follows:

SECTION 3-0504 OTHER REGULATIONS

- (c) No development in the Forest/Hillside District or in any other residential district when these standards apply shall be approved unless it is consistent with the purposes of this Article, the purposes of the Forest/Hillside District regulations, the provisions of Article 4 (GRADING, AND EROSION AND SEDIMENT CONTROL) of this Chapter, the Hillside Development principles at Section 3-0502 HILLSIDE DEVELOPMENT PRINCIPLES, and the relevant standards

contained in the Arcata Basic Subdivision Design Standards Handbook, if the development entails a subdivision.

E. Amendment of Section 4-0505, definition of "Floodplain Management Regulations"

Section 4-0505 is hereby amended to read as follows:

SECTION 4-0505 DEFINITIONS

Floodplain Management Regulations means zoning Articles, subdivision regulations, building codes, health regulations, special purpose ordinances (such as floodplain ordinance, and grading, and erosion and sediment control ordinance) and other applications of the police power. The term describes such state or local regulations in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

SECTION 4. Categorical Exemption from CEQA

The amendments herein are hereby declared categorically exempt from the California Environmental Quality Act (CEQA) per Section 15308 of the CEQA Guidelines. Per said exemption, CEQA exempts "... actions taken by regulatory agencies to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment." This amendment enhances protective measures of the grading regulations and does not permit construction activities beyond, or relaxation of standards, provided in Title IX prior to adoption of this amendment.

SECTION 5. Severability

If any part of this ordinance is invalidated by any court of competent jurisdiction, the remaining provisions shall not be affected and shall continue in full force and effect.

SECTION 6. Limitation of Actions

Any action to challenge the validity or legality of any provision of this ordinance on any grounds shall be brought by court action commenced within ninety (90) days of the date of adoption of this ordinance.

SECTION 7. Effective Date

This Ordinance amends the Local Coastal Program of the City of Arcata and shall not be effective until the amendment is certified by the California Coastal Commission. The Community Development Department is hereby directed to transmit the ordinance to the California Coastal Commission for certification. This amendment is submitted as a program that shall take effect immediately upon Council adoption of a Resolution accepting California Coastal Commission certification, but shall not be effective until such local review and adoption has taken place.

SECTION 8. Implementation of Local Coastal Program

The Arcata Local Coastal Program is intended to be carried out in a manner fully in conformance with the provisions of the Public Resources Code Section 30000 et seq.

DATED:

ATTEST:

City Clerk, City of Arcata

Mayor, City of Arcata

CLERK'S CERTIFICATE

I hereby certify that the foregoing is a true and correct copy of Ordinance No._____, passed and adopted at a regular meeting of the City Council of the City of Arcata, County of Humboldt, State of California, on the ___th day of _____, 1996, by the following vote:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

City Clerk, City of Arcata

Appendix D – Draft Pesticide Reduction Program and Ordinance

ORDINANCE NO. 1300

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ARCATA BANNING THE USE OF PESTICIDES ON CITY PROPERTY AND DIRECTING THE CREATION OF PEST CONTROL MANAGEMENT PLAN

TITLE V: Sanitation and Health, CHAPTER 4.5: Pest Control

The City Council of the City of Arcata does ordain as follows:

Section 1: Title V, Sanitation and Health, Chapter 4.5, Pest Control, of the Arcata Municipal Code, is hereby added to the Municipal Code as follows:

SEC. 5490. Findings and Purposes.

- A. Scientific research indicates that no pesticide is completely safe to human health and the environment, and various pesticides are hazardous to human health.
- B. The migration of pesticides into the City's watercourses, water bodies and wetlands poses a severe threat to the health of the environment.
- C. On May 7, 1986, the City Council declared a moratorium on the use of all pesticides in the City. The Council subsequently amended such declaration upon the recommendation of a specially created task force to allow the use of dolomark, dolomite, gypsum and fertilizers for making ball fields and preparing soils.
- D. Based on these findings, the purpose of this ordinance is to protect the public health, safety and welfare of the City of Arcata residents and environment through the adoption of regulations that prohibit the use of pesticides by the City on City property.

SEC. 5491. Definitions.

Pesticide: For purposes herein, pesticide shall mean any spray adjuvant, substance or mixture of substances, which is intended to be used for defoliating plants, regulating plant growth or for preventing, destroying, repelling, or mitigating any pest which may infest or be detrimental to vegetation, man, animals or households, or be present in any agricultural or non-agricultural environment, including fungicides, herbicides, insecticides, nematicides, rodenticides, dessicants, defoliant, and plant growth regulators.

SEC. 5492. Pesticide Use Prohibited.

The city shall not use any pesticides on or in any city owned, operated or maintained property, building or facility except in accordance with the city's pest control management plan.

SEC. 5493. Pest Control Management Plan.

- A. The Director of Environmental Services shall, as soon as practicable, formulate and develop a Pest Control Plan for the City. The Pest Control Plan shall contain the following elements:
 - 1. A description of all materials and methods of permissible pest control for use on or in City owned, operated or maintained property, buildings or facilities, including sidewalk areas in the City's right-of-way;
 - 2. A methodology for educating the public about pest control management on or in private property using permissible pest control techniques; and
 - 3. Guidance on preventative pest control measures, including but not limited to pest exclusion techniques for new and remodel building construction and for household and commercial sanitation.
- B. The Pest Control Management Plan shall be revised and updated on a regular basis as needed by new and/or changing conditions.
- C. The Pest Control Management Plan and all revisions thereto shall be adopted by the City Council after public hearing.

SEC. 5494. Implementation.

Until such time as the Pest Control Management Plan is approved, the City shall endeavor to implement the policy of the City to avoid the use of pesticides as reasonably practicable.

Section 2: This ordinance shall take effect thirty (30) days after the date of its adoption.

Dated: March 1, 2000

Pesticide Reduction Plan

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PESTICIDE REDUCTION PLAN

10.0 INTRODUCTION

This plan has been written in accordance with the City of Arcata Municipal Code, Title V. Sanitation & Health, Chapter 4 - Removal of Weeds and Refuse, Sections 5480 – 5494, Amended by Ordinance No. 1201, (full text attached as Appendix 1). This ordinance states that the Director of Environmental Services shall formulate and develop a Pest Control Plan for the City.

The Pest Control Plan shall contain the following elements:

1. A description of all materials and methods of permissible pest control for use on or in City owned, operated or maintained property, buildings or facilities, including sidewalk areas in the City's right-of-way;
2. A methodology for educating the public about pest control management on or in private property using permissible pest control techniques; and
3. Guidance on preventive pest control measures, including but not limited to pest exclusion techniques for new and remodel building construction, and for household and commercial sanitation.

This document, entitled Pesticide Reduction Plan, fulfills the requirements of the Arcata Municipal Code.

In the interest of protecting the health and safety of the community and environment, the City of Arcata will not use pesticides, as defined below, on or in any city owned, operated or maintained property. Pesticides are potentially harmful to people, pets, and garden ecosystems. These chemicals have also been found to contribute to toxicity in water and aquatic environments. Prevention of water pollution is an essential element of pesticide reduction. Therefore, some water pollution prevention techniques have been integrated into parts of this plan.

The public has a right to know about the toxic and hazardous nature of chemical products used in their homes and surrounding environments. The users of toxic and hazardous products have both an obligation and a right to be informed about the costs and consequences of such use.

Retailers who sell, and commercial operators who apply, toxic and hazardous products have an obligation to inform consumers about product contents and about appropriate precautions and disposal methods.

When the City enters into a new contract, or extends the term of an existing contract, the contract shall obligate the contractor to comply with this plan. Designs for new or renovated landscapes, buildings, facilities and rights-of-way shall conform to the requirements of this plan, and include maintenance plans.

Within this plan, the term “pesticide” shall mean:

- Any spray adjuvant, substance or mixture of substances, which is intended to be used for defoliating plants, regulating plant growth or for preventing, destroying, repelling, or mitigating any pest which may infest or be detrimental to vegetation, man, animals or households, or be present in any agricultural or non-agricultural environment, including fungicides, herbicides, insecticides, nematocides, rodenticides, desiccants, defoliant, and plant growth regulators.
- Any product that meets the US EPA criteria for Toxicity Category I or Toxicity Category II of Title 40, Section 152 of the Code of Federal Regulations. Toxicity Categories are defined in Appendix 2.
- Any product containing a chemical identified by the State of California as a chemical known to the State to cause cancer or reproductive toxicity.
- Any pesticide classified as a human carcinogen, probable human carcinogen or possible human carcinogen by the US EPA, Office of Prevention, Pesticides and Toxic Substances.

11.0

City departments may obtain written authorization from the Director of Environmental Services to apply a pesticide without providing advance notification for a specific and limited purpose and for a defined period of time, in the event of a public health emergency or to comply with worker safety requirements, provided all other options have been investigated and a compelling need to use the pesticide exists.

Exclusion: This plan shall not apply to the use of any pesticide for the purpose of improving or maintaining water quality for drinking water treatment, waste water treatment, and related water collection, distribution and treatment facilities.

<p>1</p>	<p>12.0 MATERIALS AND METHODS OF PERMISSIBLE PEST CONTROL FOR USE ON OR IN CITY OWNED, OPERATED OR MAINTAINED PROPERTY, BUILDINGS OR FACILITIES, INCLUDING SIDEWALK AREAS IN THE CITY'S RIGHT-OF-WAY</p>
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PROHIBITED SUBSTANCES

Use of any pesticide, the manufacture of which has been either voluntarily discontinued or prohibited by the EPA, is prohibited within the City of Arcata. A list of prohibited substances, current as of July 2002, is attached as Appendix 3. Future updated lists can be obtained from the Federal Register.

PERMISSIBLE SUBSTANCES

Minimum risk pesticide products, which are exempt from the requirements of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), may be used for city pest

control efforts within the City of Arcata. Minimum risk active ingredients are generally considered innocuous materials and include:

1. Castor Oil (U.S.P. or equivalent)
2. Cedar Oil
3. Cinnamon and Cinnamon Oil
4. Citric Acid
5. Citronella and Citronella Oil
6. Cloves and Clove Oil
7. Corn Gluten Meal
8. Corn Oil
9. Cottonseed Oil
10. Dried Blood
11. Eugenol
12. Garlic and Garlic Oil
13. Geraniol
14. Geranium Oil
15. Lauryl Sulfate
16. Lemon Grass Oil
17. Linseed Oil
18. Malic Acid
19. Mint and Mint Oil
20. Peppermint and Peppermint Oil
21. 2-Phenethyl Propionate (2-phenylethyl propionate)
22. Potassium Sorbate
23. Putrescent Whole Egg Solids
24. Rosemary and Rosemary Oil
25. Sesame (includes ground Sesame plant) and Sesame Oil
26. Sodium Chloride (common salt)
27. Sodium Lauryl Sulfate
28. Soybean Oil
29. Thyme and Thyme Oil
30. White Pepper
31. Zinc Metal Strips (consisting solely of zinc metal and impurities)

Important information on minimum risk *inert* ingredients can be found in Appendix 4.

TRAINING

Department Directors shall ensure current and new city employees, for whom grounds or building management and/or maintenance is within the scope of their duties, will be trained using this plan and any other information on alternatives to toxins deemed appropriate by their supervisor. New integrated pest management strategies will be incorporated into this plan and into employee training, as they become known. This document is to be kept in a location accessible to employees.

12.1 INTEGRATED PEST MANAGEMENT APPROACH

Pest control treatments will be employed when and where monitoring has indicated that a pest will cause unacceptable economic, biological or aesthetic damage. Treatments will be chosen and timed to be most effective and least hazardous to non-target organisms and the general environment. The most appropriate method and/or material will be selected based on integrated pest management principles for a given situation.

The following principles of integrated pest management (IPM) will be employed by the City of Arcata for pest control.

1. Integration of pest prevention in the planning and design of landscapes, roadways, facilities, and rights-of-way.
2. Landscape designs which:
 - a. Consider the needs of a specific site, including microclimates, solar access, wind patterns, topography, rainfall and drainage patterns, and other unique features of the site.

- b. Identify existing plants for retention or salvage, as appropriate.
 - c. Emphasize native plants selected for soil type, sun and moisture tolerances, and natural pest resistance.
 - d. Give consideration to variety and diversity in planting selections.
3. Roadside and right-of-way vegetation management activities are intended to encourage protection of water quality, provide positive outcomes to essential functions of the roadways, and ensure the safety of the traveling public.
- a. Vegetation management activities will improve drainage, reduce fire hazard, reduce spread of undesirable vegetation, limit erosion, and increase infiltration.
 - b. Essential functions and safety factors include:
 - i. Improved visibility of signs and structures.
 - ii. Facilitation of the inspection and maintenance of other features and structures.
 - iii. Improved visibility of shoulder for emergencies and obstacles.
 - iv. Increased sight distance.
 - c. Consideration will be given to the following guidelines when planning roadside vegetation management activities.
 - i. Hydroseeding products should not enter flowing water, wetlands, ponds, or lakes.
 - ii. Woody debris resulting from pruning or thinning should be removed from sensitive areas as required, except in the case of large woody debris specifically required to be left in a stream or other waterway as part of fish habitat enhancement plans.
 - iii. Avoid cutting material on the backslope over running water.
 - iv. Pick up litter and woody debris from water, ditches, and slopes.
 - v. Recycle wood products when feasible.
 - vi. Mow grass and brush at heights that avoid “scalping” of soil.
 - vii. Mow native vegetation at heights that promote its growth.
 - viii. Carry spill kits appropriate for equipment used.
 - ix. Incorporate biological controls into roadside management practices wherever appropriate.
4. Employ appropriate maintenance by employees with up-to-date training. Continually acquaint staff with pest biologies, the IPM approach, new pest management strategies, as they become known, and toxicology of pesticides proposed for use.

5. Routine monitoring of each pest ecosystem to determine pest population, size, occurrence, and natural enemy population, if present. Identify decisions and practices that could affect pest populations. Keep monitoring records.
 - a. Monitoring records should include as appropriate:
 - i. Identified pests
 - ii. Date
 - iii. Specific location
 - iv. Stage of life cycle
 - v. Extent of pest presence
 - vi. Any other pertinent information
6. Set for each pest at each site an injury tolerance level based on how much biological, aesthetic or economic damage the site can tolerate. When monitoring shows the predetermined tolerance threshold has been crossed, implement interventions to avoid reaching the damage threshold.
7. Consider a range of potential treatments, including no action, for pest problems. Employ non-pesticidal management tactics first.
 - a. Management tactics may be physical, mechanical, cultural, and/or biological.
 - i. Physical or mechanical activities include hand removal and use of mechanical equipment.
 - ii. Cultural activities enhance desirable vegetation to out-compete or otherwise resist pests, such as irrigation, seeding, fertilizing, mulching, pruning and thinning.
 - iii. Biological activities use insects, animals, birds, diseases or competing vegetation to control pests.
 - b. Treatments should avoid disrupting natural pest controls and other non-target organisms, and should take place when natural enemies are least vulnerable.
 - c. Treatments should be timed for the pest's most vulnerable life stage and should aim to suppress, rather than eliminate, the pest population.
 - d. The use of chemicals will be considered only as a last resort. Only chemicals permitted within this plan will be used. Resorting to chemicals on a regular basis indicates a need for redesign of the site.
8. Keep treatment records. Monitor treatment to evaluate effectiveness and keep monitoring records.
 - a. Record keeping should include:
 - i. Maintenance performed to minimize pest populations and enhance healthy plant growth.

- ii. Control methods employed including dates, specific location and any other pertinent information.
 - iii. Site or pest-specific observations that result from IPM methods used.
- b. Any revisions to strategies used should also be documented.
- c. If chemicals are used, record keeping should include application records required by the County and/or State, as well as:
 - i. Name of the licensed applicator.
 - ii. Specific location and area of application
 - iii. Chemical name and brand name.
 - iv. Concentration, amount and rate of application.
 - v. Dates and times of applications and weather conditions at those times.

The following principles will also be given consideration as they relate to pest management practices, and are consistent with the intent of this plan.

1. Minimize impervious surfaces, manage runoff, and maximize infiltration.
 - a. Minimize alteration of natural drainage patterns around existing vegetation.
 - b. Conform to natural drainage patterns.
 - c. Provide opportunities for surface runoff to replenish groundwater tables.
 - d. Minimize soil erosion by dispersing water flow across the ground surface.
 - e. Reduce water velocity and increase soil permeability with plantings and mulch.
 - f. Avoid plantings that require supplemental irrigation on steep slopes.
 - g. Implement soil erosion controls as preventive maintenance.
2. Reduce and/or reuse landscape waste materials through practices such as mulch mowing, mulching and composting.
 - a. City generated compost and wood chips may be used.
 - b. Do not apply mulches where they may migrate or leach nutrients into waterways.
3. Select and use fertilizers that minimize negative impacts on soil organisms and aquatic environments.
 - a. Natural organic and slow-release fertilizers should be considered before soluble fertilizers.
 - b. Phosphorus products should be avoided unless soil tests indicate they are necessary.

12.2 METHODS AND MATERIALS

The following portion of this plan may be amended at any time at the discretion of the Director of Environmental Services. IPM strategies are intended to be modified as monitoring and treatment evaluations indicate efficacy and appropriateness of each tactic.

12.3 Animal Pest Control

Specific modifications and treatments may include, but are not limited to, any of the following.

- Planting selections that emphasize native species and cultivars with higher resistance to pest problems.
- Resistant species such as bulbs, shrubs and perennials where slugs are a problem.
- Plants that shed a minimum of seeds and fruits may be appropriate at some sites.
- Introduction or enhancement of a pest's natural enemies.
- Modification or elimination of pest ecosystems to reduce food and living space, including, but not limited to:
 - Caulking cracks and plugging holes that provide hiding places.
 - Eliminating water sources by keeping sinks, faucets, and pipes in good repair.
 - Keeping screens on windows in good repair.
 - Practicing good housekeeping.
 - Pruning branches that are in contact with buildings to reduce rodent access.
- Maintain a plant-free zone of up to 12 inches around buildings.]
- Do not plant climbing plants against buildings.
- Nontoxic traps.
- Vacuuming.
- Sticky barriers around the trunks of trees and shrubs.
- Copper wire or vertical copper borders can be used around flowerbeds to deter slugs and snails.

NOTE: Polypropylene mesh fabrics used for weed control may also be effective in controlling some insect pests, but are not a preferred material. Mesh fabrics are difficult to remove, typically cannot be reused, and contribute to the waste stream.

12.4 Plant Pest Control

Specific modifications and treatments may include, but are not limited to, any of the following.

- Covering soil with mulch to eliminate habitat for weedy plants.
 - City generated wood chips or compost may be utilized.
 - Weed-seed-free materials are preferable.

- Mulch should be very shallow (~ 1/2 inch) at the base of trees to discourage root-rotting fungus.
- Low-growing ground-covering species may be planted under trees and shrubs to crowd out unwanted vegetation.
- Unless disease problems are present, allow leaf litter to accumulate in planted areas that are not intended to have a manicured appearance.
- Removal of dirt and debris from gutters and sidewalks to eliminate growing medium.
- Fertilizer: Compost, decomposed manures, encapsulated materials, and other weed-free organic fertilizers.
- Manual Weeding: Removing weeds by hand, mowing, or with various weeding tools.
- Flame Weeding: Hand-held flamers can be used on plants until the sap in their cells expands enough to break the cell walls and cause death. The plants need not be burned for this to happen; holding the flamer over the plant just long enough for the plant to change color or wilt is sufficient. This technique works best on young, broad-leaf annual weeds.
- Steam and/or boiling water have been shown to reduce some species of unwanted vegetation for up to four weeks.
- Correct pruning to maintain plant vigor. All pruning of live tissue involves wounding the plant, therefore, it will be done carefully and conservatively.
 - Cuts should be made just outside the branch bark collar and ridge tissue where the branch meets the trunk or another branch.
 - Dead wood can be removed in any season.
 - Live branches can be minimally pruned in any season.
 - Minimal pruning will stimulate the least amount of new growth, attracting fewer insect species.
- *(Specific to the Ball Park)* A reusable, permeable material may be used for protection of, and weed control in, the ball park during winter, and will be removed in spring.

NOTE: Polypropylene mesh fabrics used for weed control are not a preferred material. Mesh fabrics are difficult to remove, typically cannot be reused, and contribute to the waste stream.

2 13.0 METHODOLOGY FOR EDUCATING THE PUBLIC about pest control management on or in private property

13.1 CONSUMERS

The public has a right to know about the toxic and hazardous nature of chemical products used in their homes and surrounding environments. The users of toxic and hazardous products have both an obligation and a right to be informed about the costs and consequences of such use.

Information on alternatives to pesticides, this plan, Internet resources and book recommendations will be provided to the residents of Arcata in the following ways:

1. City staff will prepare a brochure summarizing the alternatives to toxins for the most common regional pest problems. The value of non-toxic and least-toxic approaches to pest control will be emphasized.

Information will be drawn largely from the work of organizations such as Northwest Coalition for Alternatives to Pesticides (NCAP), and Pesticide Action Network of North America. Brochures will be distributed at the locations listed in Appendix 5.

2. The above referenced brochure will be provided to the Finance Department for distribution to new business license applicants and new water/sewer account applicants.
3. This plan, and expanded information for consumers and residents, will be distributed at the locations listed in Appendix 5. Expanded information will be prepared separately for the consumer audience and is not included in this document.
4. Portions of this plan will be linked to the City web site.

13.2 RETAILERS

Retailers who sell, and commercial operators who apply, toxic and hazardous products have an obligation to inform consumers about product contents and about appropriate precautions and disposal methods. City staff will contact Arcata-based retailers and commercial operators to disseminate information about pesticide related problems. Relevant businesses are listed in Appendix 6.

1. Educational information on alternatives to pesticides will be offered to retailers for current and new employee training.
2. City staff will consult with commercial pest control operators to encourage less toxic alternatives.
3. Listings of least toxic pest-specific methods and products will be made available as point-of-sale materials.
4. Shelf-talkers and fact sheets will be made available to retailers.

13.3 SCHOOLS

Model integrated pest management school policies based on the Safe Schools Act of 2000 will be made available to public and private schools in the City of Arcata.

Age-appropriate model educational programs for students will be made available to public and private schools in the City of Arcata.

School janitors are addresses in the next section.

13.4 JANITORS AND CLEANING SERVICES

The brochure summarizing alternatives to toxins for the most common regional pest problems and emphasizing the value of non-toxic and least-toxic approaches to pest control will be distributed to school janitors and to cleaning services.

Information on the value of personal protective equipment, such as gloves and eye protection, will be provided as well as recommendations for cleaning products formulated without:

- Alkylphenol Ethoxylate Surfactants (due to poor biodegradability)
- Carcinogens, Mutagens and Teratogens
- Chlorine Bleach and other Ozone-Depleting Compounds
- Combination Cleaner-Disinfectants
- Persistent, Bioaccumulative and Toxic Chemicals
- Phosphates
- Volatile Organic Compound concentrations exceeding 10% of the weight of the product

13.5 FARMS AND RANCHES

City staff will research County records for the most commonly used pesticides on agricultural land within the City of Arcata. Organic pest management alternatives will be recommended to the landowners and operators of all relevant properties.

Future grazing permits or leases on City-owned property shall stipulate the ban of toxic chemicals on such property and shall refer the lessee to this policy.

13.6 UTILITIES

Utility companies will be provided with the City of Arcata's policy regarding the use of pesticides, as well as the brochure summarizing alternatives to toxins for the most common regional pest problems.

3 14.0 GUIDANCE ON PEST EXCLUSION TECHNIQUES

14.1 PEST EXCLUSION TECHNIQUES APPLICABLE TO NEW AND REMODEL BUILDING CONSTRUCTION

Minimizing pesticide use in buildings is the most effective way to reduce toxic releases from this source. Pesticides used over the life of a building can be a major source of toxic release. They also increase the risk of water pollution via runoff into storm drains. Runoff can be reduced by on-site water retention and minimizing impermeable surfaces.

Pest exclusion techniques for new and remodel building construction may include, but are not limited to, any of the following.

- Design windows to prevent harborage and access spaces.

- Avoid structural and lighting features that provide opportunity for roosting or nesting.
- Mechanical insect controls such as concrete or sand barriers, and sheet metal foundation shields, used prior to pouring a concrete foundation slab.
- A three inch layer of 1-3mm sand or crushed volcanic cinders provides a permanent barrier to western subterranean and Formosan termites. These materials are preferable to toxic wood treatments, fumigation and residual pesticides in perimeter soils.
- Sand can be used in the crawl spaces inside joist-type foundations.
- Naturally weather and rot resistant wood is preferred when available.
- Wood treated with inorganic arsenic (also known as chromated copper arsenate and CCA) should be used only where such protection is important. Effective January 2004, CCA-treated wood for residential uses will be prohibited by the EPA.
- Water-repellant or sealer is preferred to CCA-treated wood.
- Termite-resistant outdoor lumber substitutes, such as recycled plastic lumber and fiber-cement products, should be used wherever practicable.
- Eliminate soil to wood contact.
- Keep lumber in well-ventilated areas and raised away from soil.
- Fit eave rook tiles with bird stops, which are also effective for bats, bees and wasps.
- Install screen mesh behind ventilation louvers.
- Use coving at floor-to-wall junctures to minimize build-up of debris and facilitate cleaning.
- Insure pipe insulation has a smooth surface and no gaps between pieces.
- Seal electrical and plumbing entry points.
- Build inspection openings into all concealed foundation spaces.
- Dehydrating powders, such as diatomaceous earth or silica aerogel, can be shot into walls during construction (or after termite treatment) to prevent infestations.
- Construct curbs and gutters with a rounded junction.
- Application of slurry seal should not extend beyond the concrete apron of the gutter.
- Walkways and parkings around trees or shrubs should be permeable and slope toward landscaped areas.
- Maintain a plant free zone of up to 12 inches around buildings.
 - Use low-toxicity and low, or zero, volatile organic compound (VOC) materials whenever possible.
 - Specify acceptable materials in contracts.

Refer to the METHODS AND MATERIALS section for control of pests on City property for pesticide free landscaping practices.

14.2 PEST EXCLUSION TECHNIQUES APPLICABLE TO HOUSEHOLD AND COMMERCIAL SANITATION

Good housekeeping practices reduce the incidence of pest problems. The City of Arcata will give preference to non-toxic and least-toxic products that are safe both for the user and for the environment for sanitation purposes on City owned, operated or maintained property.

Kitchen, laundry, and bath disinfectants and sanitizers, as well as products that kill mold and mildew (fungicides), are considered pesticides, and can be toxic. The most dangerous cleaning pesticides are drain cleaners, oven cleaners and acid-based toilet cleaners. These products are corrosive, poisonous, and contribute to hazardous waste. Safer alternatives are available for these purposes.

Preferred products are formulated without:

- Alkylphenol Ethoxylate Surfactants (due to poor biodegradability)
- Carcinogens, Mutagens and Teratogens
- Chlorine Bleach and other Ozone-Depleting Compounds
- Combination Cleaner-Disinfectants
- Persistent, Bioaccumulative and Toxic Chemicals
- Phosphates
- Volatile Organic Compound concentrations exceeding 10% of the weight of the product

Store paper products in dry areas not in direct contact with floors and walls.

Avoid placing discarded equipment or materials against walls.

Place outdoor garbage containers on hard cleanable surfaces away from building entrances.

Screen drains, close off unused drains or drain pipe openings, seal around plumbing entry points.

Place screens behind any heating or cooling vents and caulk around the edges of the screen.

Weatherstrip around doors and windows

Repair holes in screens.

Seal around electrical sockets and areas adjacent to pipe entry points.

Keep indoor garbage in lined, covered containers and empty daily.

Properly dry and store mops and buckets (e.g. mops hung upside down, buckets emptied).

Thoroughly clean around and under appliances and furnishings that are rarely moved, such as refrigerators, freezers, shelf units) to remove accumulated grease and dust, etc.

Promptly remove contaminated or infested items. Quickly dispose of all items spoiled by damage, insects, rodents or other causes.

Vacuum thoroughly and frequently. Vacuum bags should be replaced immediately.

Eliminate sources of food and water.

Organic waste should be kept in containers with tight fitting lids and emptied frequently.

Seal cracks and crevices:

Vacuum to remove food, fecal material, and eggs.

Wash the area.

Seal with clear caulk.

For households with animals:

Frequently remove waste from pet areas and either flush down the toilet or put in a sealed bag before discarding.

Pet food dishes can be kept in trays of soapy water to create a moat.

Store pet food in sealed containers made of plastic, glass or metal.

Clean up spills immediately.

Alternative cleaning products meeting the recommendations listed above will be included in the public education brochure.

4

15.0 SAFE USE AND STORAGE

1. Workers will **read the label** before using any pesticide product, and follow the directions as serious injury to workers, others and the environment can result from misuse of pesticides.
2. Areas and objects that should not be sprayed or dusted, will be removed or covered before using pesticides.
3. **Do not** smoke, eat, chew gum or drink when handling pesticides.
4. **Follow label directions** for wearing **protective gear** when mixing and applying pesticides. Depending on the product, this might include: plastic or rubber gloves, safety glasses or goggles, a respirator rated for pesticides, long-sleeved shirt, long pants or coveralls, and closed shoes (no sandals or bare feet).
5. Do not use chemical applications in wet or windy conditions.
6. 'Ready-to-use' chemicals minimize opportunities for spills and contamination.
7. When diluting concentrates, mix the **smallest quantity** that will do the job, and use it up.
8. Use **dedicated** measuring utensils and containers for mixing or measuring pesticides. Mark the utensils permanently and store them with the pesticides.
9. Pesticides will be stored in their **original containers** in a safe, cool, dark, dry place. Store liquids below bagged materials.
10. **Never remove labels or transfer** pesticides to unmarked containers.

11. Containers will be rinsed three times prior to discarding. Contaminated containers should be crushed or punctured to prevent further use.
12. Water used to rinse out a sprayer or applicator should be applied like the pesticide.
13. Carry a spill kit appropriate for the equipment and product used.

5

16.0 PROPER DISPOSAL

Proper disposal is very important because:

- Treatment processes for household wastewater are not designed to remove 100% of toxic chemicals or metals from water. It is possible for toxins to pass through treatment processes and enter the bay.
- Stormwater washes off driveways, sidewalks, and streets and drains into creeks and the bay untreated. Toxins on impervious surfaces are thereby carried into aquatic environments.
- Many synthetic chemical formulations have not yet been reviewed by the EPA for their effect on children's health or on water quality. Future bans are likely.

Unwanted products belonging to the City of Arcata will be properly disposed of at the Humboldt County Spruce Point Household Hazardous Waste Collection Facility.

17.0

18.0 POTENTIAL FUNDING SOURCES

Both state and federal grants are available for pesticide related programs.

Grant applications will be completed and submitted by City staff. See Appendix 7 for detailed grant information.

19.0 PERSONNEL

Directors and Supervisors in charge of property maintenance may make use of community service workers and volunteers when appropriate, e.g. SWAP and JAWS programs.

Implementation of the retail and consumer education portion of this plan would be appropriate for a part-time employee, an Americorp employee, or a student intern.

The in-school public education portion of the program would be appropriate for a part-time employee, an Americorp employee, a student intern, or a student seeking practicum credits.

Environmental Services Department staff and/or Parks and Facilities Division staff will complete Grant applications.

20.0 RESOURCES

The following resources are provided to enable City staff, employees and the public to find specific information, to answer questions, and to solve pest related problems.

Important Phone Numbers

Californians for Alternatives to Toxics (707) 822-8497

City of Arcata Environmental Services (707) 822-8184

City of Arcata Parks & Facilities Division (707) 822-5957

Emergency – if dumping is occurring right now – 911

FDA Food Information & Seafood Hotline (800) FDA-4010

Humboldt County Public Health Department,
Division of Environmental Health (707) 445-6215

National Pesticide Telecommunications Network,
(general pesticide information) (800) 858-7378

Northcoast Environmental Center (707) 822-6918

Northwest Coalition for Alternatives to Pesticides (NCAP) (541) 344-5044

Poison Control Center, Nurse on duty 24 hrs. 1-800-876-4766

Spruce Point Household Hazardous Waste Collection Facility (707) 441-2005

US Department of Agriculture, Meat and Poultry Hotline (800) 535-4555

US Department of Agriculture, National Organic Program (202) 720-3252

Waste Alert, CAL EPA 1-800-69-TOXIC

Websites and Databases

Bio-Integral Resource Center (BIRC)

P.O. Box 7414, Berkeley, CA 94707 (510) 524-2567

<http://www.igc.apc.org/birc/>

Current, thoroughly researched, pest-specific information on least-toxic pest management, available in publications and over the phone.

California EPA Department of Pesticide Regulation

<http://www.cdpr.ca.gov/dprdatabase.htm>

Links to U.S. EPA Office of Pesticide Programs databases including:

- Registered and Cancelled Pesticide Product Database
- Chemical Ingredients Database
- Company Information Database

Chemical Pesticide Cross-Reference Table

<http://www.wsn.org/pesticides/crossref.shtml>

Less-Toxic Home Gardening

<http://www.centalsan.org/education/ipm/hgonlineguide.html>

Central Contra Costa Sanitary District

Northwest Coalition for Alternatives to Pesticides (NCAP)

<http://www.pesticide.org/default.htm>

Access to over 150 detailed fact sheets, reports, and other educational materials free-of-charge.

Office of Pesticide Programs

<http://www.epa.gov/opprd001/factsheets/>

Fact sheets on new active ingredients registered by the under the Federal Insecticide, Fungicide, and Rodenticide Act.

Pesticide Action Network North America (PANNA)

<http://www.panna.org/>

Searchable database for chemicals, products, and alternatives, as well as links to other resources.

Pest Identification and Management Resources

<http://www.ipm.ucdavis.edu/PMG/selectnewpest.home.html>

US EPA Agency for Toxic Substances and Disease Registry

www.atsdr.cdc.gov/toxfaq.html

Frequently Asked Questions on Top 20 Hazardous Substances listed with the agency.

US EPA Office of Pollution Prevention and Toxics, Persistent, Bioaccumulative and Toxic (PBT) Chemical Program

www.epa.gov/pbt/cheminfo.htm

University of California Cooperative Extension

<http://www.mastergardeners.org/scc.html>

21.0 SOURCES CITED

Memorandum to City Council on 01/19/87 from Pesticide Task Force Committee, "Alternatives to Pesticides," delineates pesticide-free recommendations for managing city properties (includes City streets, sidewalks, parks, plaza, and ball park.)

Memorandum to City Council on 07/17/90 from City Attorney, "Herbicide Spraying on Sidewalks," supports City ability, as a means of protecting city property and public health and welfare, to oppose application of economic poisons to city property by citizens.

Arcata Community Recycling Center, 1380 9th St, Arcata CA 95521

Agency for Toxic Substances and Disease Registry <http://www.atsdr.cdc.gov/cxcx3.html>

California School IPM http://www.cdpr.ca.gov/cfdocs/apps/schoolipm/managing_pests/71_pest_prevention.cfm?crumbs_list=1,5,34

City and County of San Francisco Integrated Pest Management Ordinance, <http://police.sfgov.org/ipm/ordinance.htm>

City of Santa Monica, Environmental Programs Division, Sustainable Cities Program, 200 Santa Monica Pier, Santa Monica, CA 90401-3126 (310) 458-2213 <http://pen.ci.santa-monica.ca.us/environment/policy/hazardous/policies.htm#Toxic and Hazardous Household Products Labeling> or http://pen2.ci.santa-monica.ca.us/city/municode/codemaster/Article_5/36/index.html

City of Santa Monica, Green Building Design & Construction Guidelines (DRAFT), April 1999.

City of Seattle, Office of Environmental Management

© Environmental Health Coalition, 1717 Kettner Blvd., Suite 100, San Diego, CA, 92101 (619) 235-0281 Home Safe Home Factsheet <http://www.environmentalhealth.org/fs-homeclean.html>

Local Hazardous Waste Management Program in King County, Tri-County Integrated Pest and Vegetation Management Guidelines, 130 Nickerson St, Suite 100, Seattle, WA 98109

Northwest Coalition for Alternatives to Pesticides

PO Box 1393, Eugene OR 97440-1393 (541) 344-5044 Fax 541-344-6923 info@pesticide.org

Pesticide Action Network of North America <http://www.panna.org/>

Terrene Institute, Alexandria, VA.

United States Environmental Protection Agency

www.epa.gov/pesticides/biopesticides/what_are_biopesticides.htm

United States Environmental Protection Agency, Office of Pesticide Programs,

www.epa.gov/opp00001/whatis/htm

United States Environmental Protection Agency, Office of Pesticide Programs, Pesticide Registration Notice 2000-6.

University of Minnesota, cfls.state.mn.us/pesticide

University of Ohio, ohioline.osu.edu/b745/b745_2.html

Washington Toxics Coalition, [Safer Cleaning Products](#), Dickey, Philip.

22.0

23.0 APPENDIX 1 - TITLE V - SANITATION & HEALTH

CHAPTER 4 - REMOVAL OF WEEDS AND REFUSE

(Amended by Ordinance No. 1201)

SEC.5480. Duty to remove - From private premises.

- (a) It shall be the duty of the owner and of the owner's agent, and of the lessee, occupant or person in possession of any property, in the City to keep such property free from all weeds, refuse, and rubbish, object or condition, which may endanger or injure neighboring property or the health, safety or welfare of the residents in the vicinity of such property.
- (b) Failure to maintain premises in accordance with Section 5480(a) shall constitute a public nuisance. Such condition shall be subject to abatement as provided for in Title V, Chapter 5 of this Code.

SEC.5481. Same: From sidewalks, rights of way and alleys.

- (a) It shall be the duty of the owner and of the owner's agent, and of the lessee, occupant or person in possession of any property in the City to at once remove from the sidewalk, right of way or alley abutting or adjoining such property all weeds, refuse, and rubbish, object or condition, which may endanger or injure neighboring property, or the health, safety or welfare of the residents in the vicinity of such property, or which may obstruct such sidewalks, right of way, or alleys, and thereby endanger or injure persons traveling thereon.
- (b) Failure to maintain sidewalks, rights of way and alleys in accordance with Sections 5481(a) shall constitute a public nuisance. Such condition shall be subject to abatement as provided for in Title V, Chapter 5 of this Code.

SEC.5482. Definitions.

The following terms whenever used in this Chapter shall have the meanings as defined herein.

- (a) "Property" includes, but is not limited to, such areas as lots, parcels, tracts or pieces of land, improved or unimproved.
- (b) "Refuse and Rubbish" includes, but is not limited to, such items or conditions as waste material of every kind whether recyclable or not, material which may create a fire hazard, dead trees and yard waste, abandoned asphalt, concrete or other building materials, or other unsanitary or unsafe materials.
- (c) "Weeds" includes, but is not limited to, plants having the following characteristics or qualities:
 - 1. Plants which bear seeds of a downy or wingy nature;
 - 2. Dry grass, stubble, brush or any other plants which may become a fire menace;
 - 3. Plants which may constitute a menace to public health, such as poison oak or poison ivy;
 - 4. Plants which may constitute a public hazard.

SEC. 5490. Findings and Purposes.

- A. Scientific research indicates that no pesticide is completely safe to human health and the environment, and various pesticides are hazardous to human health.
- B. The migration of pesticides into the City's watercourses, water bodies and wetlands poses a severe threat to the health of the environment.
- C. On May 7, 1986, the City Council declared a moratorium on the use of all pesticides in the City. The Council subsequently amended such declaration upon the recommendation of a specially created task force to allow the use of dolomark, dolomite, gypsum and fertilizers for making ball fields and preparing soils.
- D. Based on these findings, the purpose of this ordinance is to protect the public health, safety and welfare of the City of Arcata residents and environment through the adoption of regulations that prohibit the use of pesticides by the City on City property.

SEC. 5491. Definitions.

Pesticide: For purposes herein, pesticide shall mean any spray adjuvant, substance or mixture of substances, which is intended to be used for defoliating plants, regulating plant growth or for preventing, destroying, repelling, or mitigating any pest which may infest or be detrimental to vegetation, man, animals or households, or be present in any agricultural or non-agricultural environment, including fungicides, herbicides, insecticides, nematicides, rodenticides, desiccants, defoliant, and plant growth regulators.

SEC. 5492. Pesticide Use Prohibited.

The city shall not use any pesticides on or in any city owned, operated or maintained property, building or facility except in accordance with the city's pest control management plan.

SEC. 5493. Pest Control Management Plan.

- A. The Director of Environmental Services shall, as soon as practicable, formulate and develop a Pest Control Plan for the City. The Pest Control Plan shall contain the following elements:
 - 1. A description of all materials and methods of permissible pest control for use on or in City owned, operated or maintained property, buildings or facilities, including sidewalk areas in the City's right-of-way;
 - 2. A methodology for educating the public about pest control management on or in private property using permissible pest control techniques; and
 - 3. Guidance on preventative pest control measures, including but not limited to pest exclusion techniques for new and remodel building construction and for household and commercial sanitation.
- B. The Pest Control Management Plan shall be revised and updated on a regular basis as needed by new and/or changing conditions.
- C. The Pest Control Management Plan and all revisions thereto shall be adopted by the City Council after public hearing.

SEC. 5494. Implementation.

Until such time as the Pest Control Management Plan is approved, the City shall endeavor to implement the policy of the City to avoid the use of pesticides as reasonably practicable.

24.0 APPENDIX 2 – TOXICITY CATEGORIES

The US Environmental Protection Agency classifies pesticides into categories according to their acute (short-term) toxicity. The toxicity categories are based upon the LD50's (lethal dose required to kill 50 percent of the test population within 14 days after an exposure to the concentration of chemical) of the pesticide formulation related to oral, inhalation, and dermal exposure. Pesticide labels are required to carry a prominent “signal word” which reflects the toxicity category of the pesticide product.

Required Signal Words and Precautionary Statements			
Toxicity Category	Signal Word	Oral, Inhalation or Dermal Toxicity	Skin and Eye Irritation
I	DANGER POISON (In red) and Skull & Crossbones	Poisonous if swallowed (inhaled or absorbed through skin). Do not get in eyes, on skin, or on clothing. (Front panel statement of practical treatment required.)	Corrosive, causes eye and skin damage (or skin irritation). Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful or fatal if swallowed. (Appropriate first aid statement required.)
II	WARNING	May be fatal if swallowed (inhaled or absorbed through the skin). Do not breathe vapors (dust or spray mist). Do not get in eyes, on skin, or on clothing. (Appropriate first aid statement required.)	Causes eye (and skin) irritation. Do not get in eyes, on skin, or on clothing. Harmful if swallowed. (Appropriate first aid statement required.)
III	CAUTION	Harmful if swallowed (inhaled or absorbed through the skin). Avoid breathing vapors (dust or spray mist). Avoid contact with skin (eyes or clothing). (Appropriate first aid statement required.)	Avoid contact with skin, eyes, or clothing. In case of contact immediately flush eyes or skin with plenty of water. Get medical attention if irritation persists.
IV	CAUTION	(No caution statement required.)	(No caution statement required.)
Child hazard warning “KEEP OUT OF REACH OF CHILDREN” is required on the front panel of every pesticide label unless circumstances warrant waiver by EPA Administrator.			

Restricted Use Pesticides: The EPA classifies some pesticides as “Restricted Use.” Under federal law, restricted use pesticides may be applied only by certified and licensed applicators.

25.0 APPENDIX 3 - PROHIBITED SUBSTANCES

The following substances have been prohibited by the U.S. EPA for domestic use. This list is current as of July 2002. Future amended lists can be obtained from the Federal Register.

Aldrin	DDD (TDE)	PCB's
BHC	DDT	PCT's
Biothional	Dieldrin	Safrole
Captafol	Dinoseb	Silvex/ 2, 4, 5T
Carbon Tetrachloride	EDBC's	Sodium Monofluoroacetate
Chloranil	Zineb, Wabam	Strobane
Chlordane	Endrin	2, 4, 5TCP and its salts
Chlordimeform	EPN	Thallium Sulfate
Copper Arsenate (Basic)	Fluoroacetamide Heptachlor	TOK
Creosote	Monocrotophos	Toxaphene
Cyhexatin	OMPA	TBT
DBCP	Phenarazine Chloride	Lead Arsenate
		Calcium Arsenate
		Pentachlorophenal

Also:

Clopyralid – an herbicide proposed for purchase by licensed applicators only.

26.0

27.0 APPENDIX 4 - MINIMUM RISK INERT INGREDIENTS (EPA LIST 4A)

A pesticidal inert is any intentionally added substance that is not the active ingredient. The term 'inert' is not synonymous with benign in this context. It only distinguishes the active ingredient from everything else in the product.

Parentheses following a substance indicate exemption from tolerance as inerts if all the conditions set forth in the text and tables shown for the particular substance at 40 CFR 180.1001(c), (d) and/or (e) are met. In other words, these substances are sometimes active, specifically in the uses designated by paragraphs (c), (d), and (e) of the Code:

- §180.1001 (c) = exempt for both growing crops & crops after harvest
- (d) = exempt for growing crops only
- (e) = exempt for animal applications only

According to *North Coast Alternatives to Pesticides*, at least 394 inert ingredients have been or are also registered for use as active ingredients in pesticides. Ingredients in bold have also been used as active ingredients. Inert ingredients listed on pesticide products may also be toxic.

U.S. EPA List (4A) of Minimum Risk Inert Ingredients

<p>Acetic acid (c, d, e) Agar Alfalfa Alfalfa meal Almond hulls Almond shells (c) Alpha cellulose (c) Apple pomace (c) Attapulgitite-type clay (c, e) Beef fat Beeswax (c) Beet powder Bentonite (c) Bone Meal Bran Bread crumbs Calcareous shale (c) Calcite (c) Calcium carbonate (c,e) Canary seed Cane syrup Carbon dioxide Cardboard Carrageenan (c, d, e) Carrots Casein (c) Cheese Chlorophyll Cinnamon (d) Citric acid (c, e) Citrus meal (c) Citrus pectin Citrus pulp Clam shells Cloves (d) Cocoa Cocoa shells (c) Cocoa shell flour Cod liver oil (c) Coffee grounds (c) Cookies Cork Corn (d) Corn cobs (c) Corn flour Corn meal (c) Corn oil (c)</p>	<p>Dextrin (c, e) Dextrose (c, e) Dolomite (c) Douglas-fir bark, ground(d) Eggs Egg Shells Edible fish meal (c) Edible fish oil (c) Flour (wheat, d) Fuller's earth Gelatin Glycerin (glycerol; c, d, e) Granite (c) Grape pomace (c) Graphite (c, d, e) Ground oats Guar gum (c) Gum arabic (c) Gum tragacanth Gypsum (c) Hearts of corn flour Hydrogenated vegetable oils Honey Invert sugar (c) Invert syrup (c) Kaolinite-type clay (c, e) Lactose (c) Lanolin (d) Lard (c) Latex Lecithin (c) Lime Limestone Linseed oil Malt flavor Meat meal Meal scraps Medicated feed Mica (c) Milk Millet seed Mineral oil, U.S.P. (c, e) Molasses (c) Montmorillonite-type clay (c, e)</p>	<p>Oyster shells Paper (fiber; d) Paprika Paraffin wax Peanut butter Peanut oil Peanuts Peanut shells (c) Peat moss Pecan shell flour Pectin Polyethylene film (c) <i>Polyethylene pellets</i> Potatoes Pumice Raisins Red cedar chips Red dog flour Rice Rice hulls Rubber Rye Flour Safflower oil Sawdust Seaweed, edible Shale Soapstone (c, e) Sodium bicarbonate (c) Sodium chloride (c) Sorbitol (c, e) Soybean hulls Soybean meal Soybean oil (c, e) Soy flour (c) Soy protein (c, e) Sucrose (c, e) Sugarbeet meal Sunflower seeds Tallow Vanillin (d) Vermiculite (c) Vitamin C Vitamin E Walnut flour Walnut shells (c) Water</p>
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Cornstarch(c) Corn syrup (c, e) Cotton Cottonseed meal Cottonseed oil (c) Cracked oats Cracked wheat	Nitrogen Nutria meat Nylon Oatmeal (c) Oats (c) Olive oil Onions Orange pulp (as pomace c)	Wheat (d) Wheat germ oil Whey Wintergreen oil (c) Wool Xanthan gum (c, e) Yeast
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In the event that List 4A is amended, it can be obtained from: Registration Support Branch (4A Inerts List), Registration Division (7505C), Office of Pesticide Programs, Environmental Protection Agency, 1200 Pennsylvania Ave., NW, Washington DC 20460.

28.0 APPENDIX 5 – DISTRIBUTION LOCATIONS

	Consumer Education Brochures	Consumer Education Brochures, this plan, and expanded information.
Arcata Chamber of Commerce	✓	
Arcata Library	✓	✓
Arcata Garbage	✓	✓
ACRC	✓	
City Hall, ES Dept	✓	✓
City Hall, Finance Dept	✓	
Cleaning Services	✓	
HSU Library	✓	
Hazardous Waste Collection Center	✓	
Realtor/Property Managers	✓	
Schools	✓	
School Janitors	✓	
Cleaning Services	✓	

29.0 APPENDIX 6 – RETAILER INFORMATION

Retailers who sell, and commercial operators who apply, toxic and hazardous products have an obligation to inform consumers about product contents and about appropriate precautions and disposal methods. City staff will contact Arcata-based retailers and businesses to disseminate information about pesticide related problems.

1. Educational information on alternatives to pesticides will be offered to retailers for current and new employee training.
2. City staff will consult with commercial pest control operators to encourage less toxic alternatives.
3. Listings of least toxic pest-specific methods and products will be made available as point-of-sale materials.
4. Shelf-talkers and fact sheets will be made available to retailers.

Relevant businesses include:

- Construction Companies
- Contractors
- Cleaning Services
- Groundskeepers
- Home & Gardening Retailers
- Landscape Installation
- Landscape Maintenance
- [Nurseries](#)
- Pest Control (Exterminators)
- Tree Trimming Services

30.0 APPENDIX 7 – POTENTIAL FUNDING SOURCES

The California Environmental Protection Agency, Department of Pesticide Regulation, Pest Management Grants Program offers Applied Research and Demonstration Grants. Government entities are eligible to apply for either category.

The United States Environmental Protection Agency, Office of Pesticide Programs offers Pesticide Environmental Stewardship Program (PESP) Grants and Regional Initiative Grants. PESP Grants are available to organizations working to reduce the risk and use of pesticides in agricultural and non-agricultural settings. Regional Initiative Grants support pollution prevention projects that complement ongoing EPA projects.

California Environmental Protection Agency, Department of Pesticide Regulation Pest Management Grants Program

The Department of Pesticide Regulation's Pest Management Grants program was established in 1995. The program provides funding support for demonstration and applied research projects that address local or regional pest management challenges and offers promising reduced-risk alternatives to conventional pest management practices. Funding is for one year. Additional funding is available for up to three years based upon performance and in response to a new Request For Proposals issued annually. For more information regarding the Pest Management Grants program, contact Bob Elliott at belliot@cdpr.ca.gov or call (916) 324-4100.

- **Applied Research Grants** help university researchers, private groups, and government entities develop new reduced-risk practices or refine existing practices. Groups can receive up to \$30,000 per year. Funding is available for approximately seven to eight projects. *Applied Research grants are best suited for projects that are not ready for Demonstration Grants.*
- **Demonstration Grants** help university researchers, private groups, non-profit organizations, government entities, and others address local or regional pest management challenges. Projects typically involve practical demonstration of reduced-risk practices on private or public property (e.g., farms, nurseries, schools, parklands). Groups can receive up to \$50,000 per year. Matching funds or in-kind services are required. Funding is available for approximately eight to ten projects. *Demonstration grants are best suited for projects with sufficient applied research data to support full-scale demonstration activities.*
- [Information on the Grant Application Process](#)
- [Request for Proposals \(RFPs\)](#) - Complete bid packages for 2001-02 are available on the State Contracts Register.
 - [Priority Areas for funding 2001-02 Pest Management Grant Proposals](#)
 - [Project Summary form](#)
- [Grant Summaries](#) (1995 to present, most recent awards - February 2001)
- [Final Reports](#) (1998)

(<http://www.cdpr.ca.gov/docs/empm/grants/pmgrants.htm> Last modified: July 14, 2001)

United States Environmental Protection Agency, Office of Pesticide Programs

Pesticide Environmental Stewardship Program (PESP) Grants and Regional Initiative Grants

PESP Project grants are administered by the National Foundation for IPM Education (NFIPME) using funding from U.S. EPA's Office of Pesticide Programs. These grants support the overall goal of PESP, which is to reduce the risks from the use of pesticides in agricultural and non-agricultural settings in the U.S.

Follow these links to view:

- [background and selection information](#)
- [previously funded grants](#)

EPA also funds [Regional Initiative Grants](#) for pesticide risk reduction activities. These grants are not related to membership in PESP and are administered through EPA's Regional Offices.

(www.epa.gov/opp/bppd1/PESP/grants.htm updated April 18, 2001)

APPENDIX G

RESOURCE CONSERVATION & MANAGEMENT ELEMENT

4.4 INTRODUCTION

Overview of Arcata's Natural Resources. Collectively, Arcata's natural resources constitute a significant component of the community. The forested hillsides, including the community forest, the Arcata Bottom, baylands, tidelands, creeks and wetlands are features of the natural ecosystem, which is as much a part of the community as homes, businesses, and schools. Goals and policies for conserving, enhancing, and managing the City's natural systems and features are critical ingredients of the General Plan.

Biodiversity - "The variety of organisms considered at all levels, from genetic variants belonging to the same species through arrays of species to arrays of genera, families, and still higher taxonomic levels; includes the variety of ecosystems, which comprise both the communities of organisms within particular habitats, and the physical conditions under which they live."

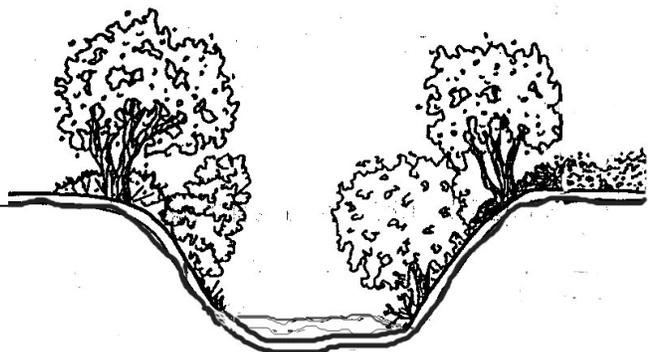
Edward O. Wilson
The Diversity of Life, 1992

Arcatans have demonstrated that natural resource conservation and management are civic responsibilities, which can be met by emphasizing resource enhancement rather than resource depletion. By taking an ecosystem management approach, the City can evaluate natural resource interrelationships, and plan to maintain regional biodiversity when making resource conservation and management decisions.

Overview of Arcata's watercourses, wetlands, baylands and tidelands.

Arcata's nine named creeks and associated sloughs provide: flood control, freshwater habitat, riparian habitat, scenic enjoyment, water quality, educational opportunities, public safety, fish and wildlife habitat (e.g., fish spawning and migration, wildlife nesting and foraging areas), open space, recreation, marine habitat, and groundwater recharge. These creeks also have tributaries with similar feature and functions.

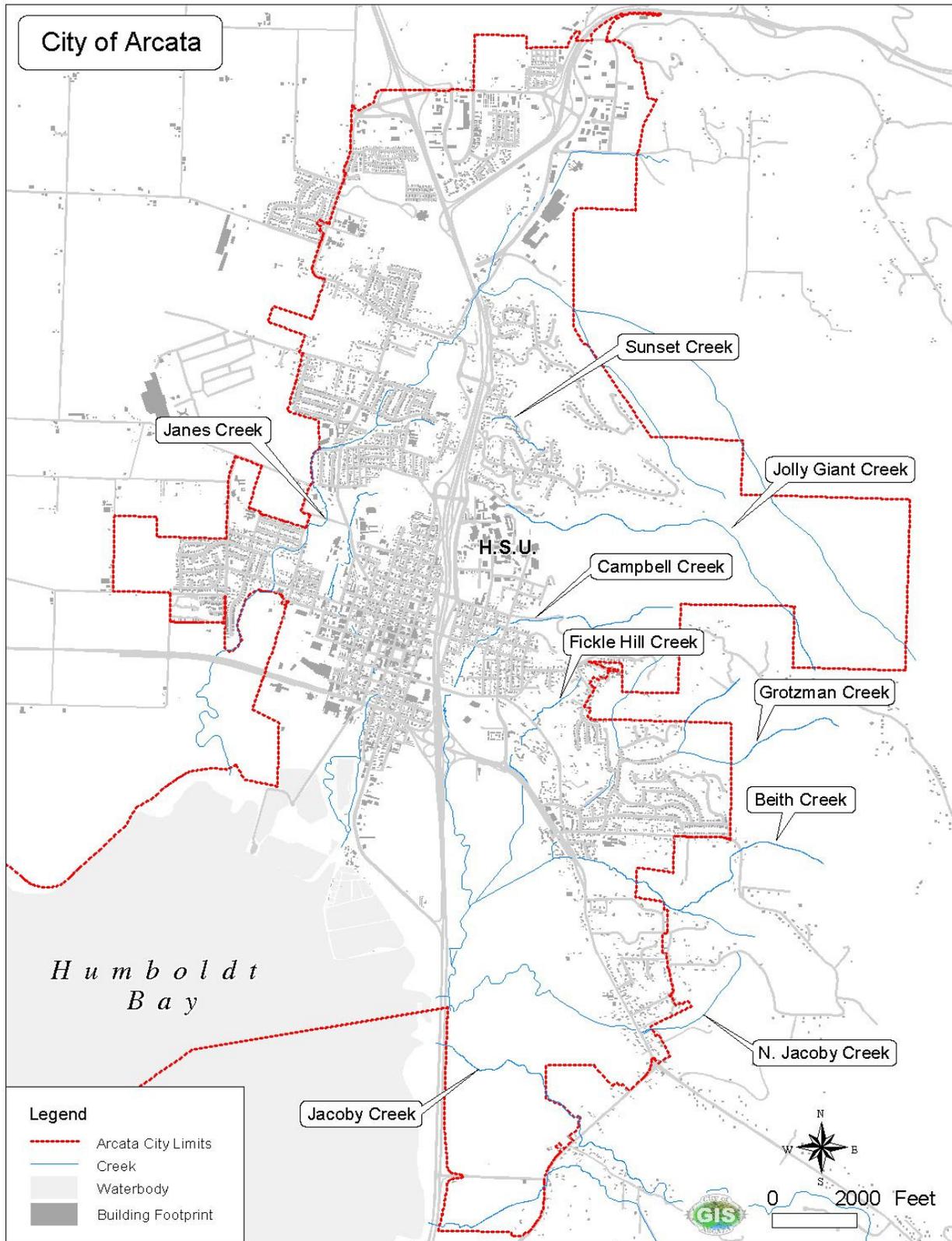
Arcata General Plan: 2020
Management



Arcata's creeks and sloughs, including areas with tidal action, are illustrated in Figure RC-a, on the following page.

The City has adopted a Creeks Management Plan (CMP) which contains policies for: creek zone and flood hazard management; erosion and sedimentation, vegetation and wildlife; water quality; recreation; and public awareness. The CMP was adopted to address land uses that have significantly altered Arcata's creeks from their original condition.

FIGURE RC-a - PROTECTED WATERCOURSES

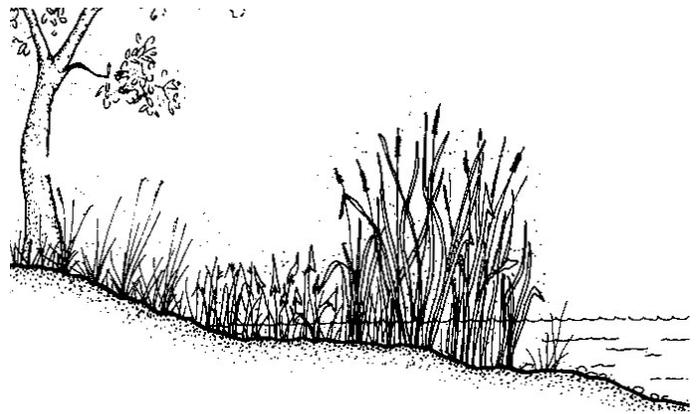


These alterations have resulted from the present use of stream courses as storm drains, and past land use practices which produced large amounts of sediment, contributing to creek degradation. Alterations also included structures such as tidegates, which prevent or severely limit access for anadromous fish to all but Jacoby and Jolly Giant creeks. Except for Jacoby Creek, the riparian forests have been completely removed from at least half of each stream channel. Pollutants from a variety of sources (including petroleum products from urban run-off and suspended sediments from soil erosion) degrade the appearance and the biological integrity of the creeks.

The Resource Conservation and Management Element contains overall goals and policies for creek management, which are supported by CMP policies and implementation measures. The CMP provides policy direction for new and modified development along creeks, and for existing activities in creek zones, in order to fully realize the creek's beneficial uses.

The westernmost reach of the Mad River forms the northern boundary of Arcata's Planning Area. The river originates at the northern edge of the Yolla-Bolly wilderness area, in Trinity County, approximately 100 miles southeast of its outlet to the Pacific Ocean. Its associated riparian corridor forms the northern portion of the City's perimeter greenbelt and a natural buffer between Arcata and the community of McKinleyville, to the north.

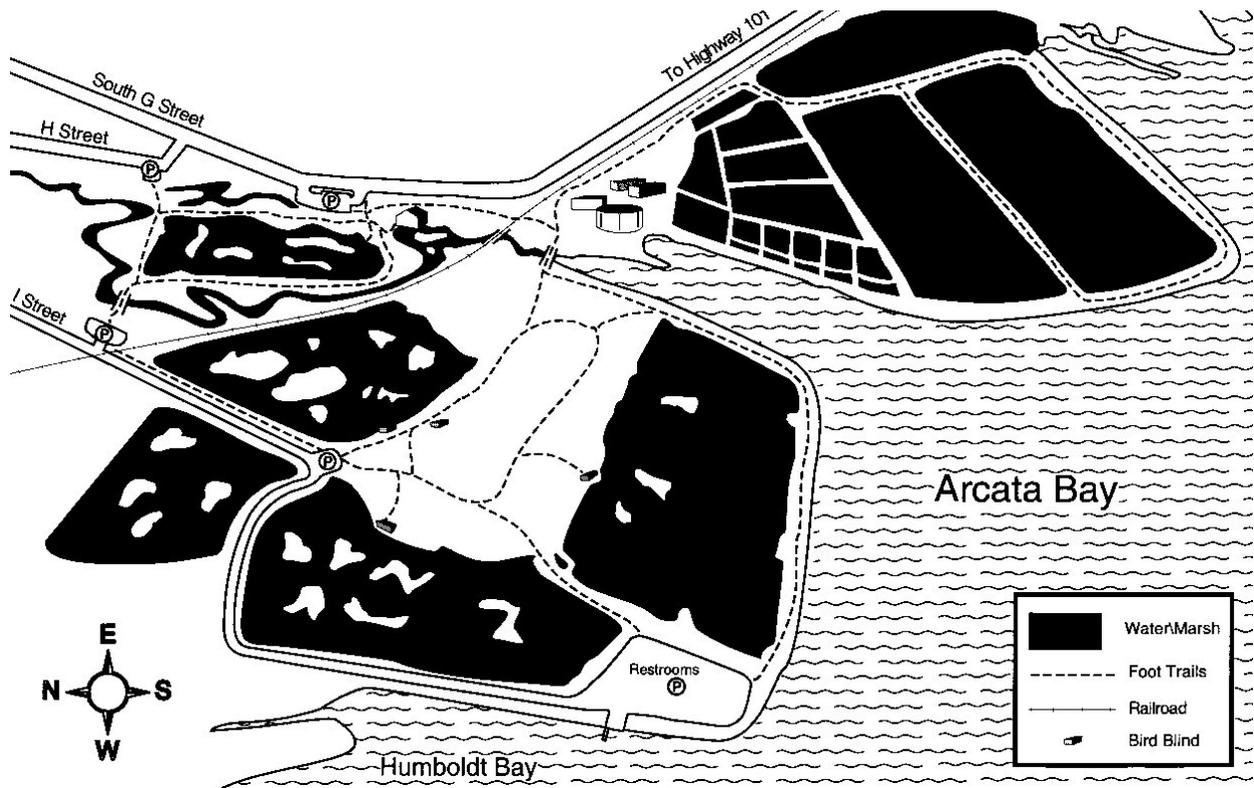
Wetlands provide flood protection, groundwater recharge, water quality treatment, food production and wildlife habitat, which are valued by the community. Wetlands are highly productive, complex ecosystems, seasonally or permanently saturated, and support specially adapted vegetation. Wetlands are often found in transitional zones, or ecotones, between uplands and open water



habitats. Arcata's marshes may be among the best examples of local wetlands. The Aldergrove marsh was a log pond that has now been reconstructed and significantly enhanced as a ten acre freshwater marsh, as part of the Aldergrove Industrial Park development. A plan view of the 170 acre Arcata Marsh and Wildlife Sanctuary is shown on the following page.

Arcata Bay is part of Humboldt Bay, which is fourteen miles in length, from north to south; covers more than 17,000 acres; and is the second largest coastal

estuary in California. A significant portion of the northerly waters of Arcata Bay are owned by the City, are within its City limit, and represent a significant natural, visual, aquacultural, and recreational resource for the community. The tidelands adjacent to the Bay include salt marshes and sloughs, excepted where diked/reclaimed and used as pastureland.



Overview of agricultural resources. Agricultural lands represent an important natural resource within the City. Arcata’s agricultural lands are currently used primarily for flowers, silage and hay production, food production, and livestock grazing. The Ferndale, Russ, and Loleta series are Arcata’s most productive agricultural soils.

The agricultural lands in and around Arcata produce crops of raspberries, strawberries, lilies, daffodils, potatoes, corn, artichokes, hay (forage for cattle), and a number of other shallow rooted crops. There is community support for the continuation of dairy, beef, vegetable, fodder, and flower production in the City and the Planning Area, and recognition that protection of agricultural values, as well as open space and recreational values, is important.

Arcata's agricultural lands include farmed wetlands. Most of the



farmed wetland areas around Humboldt Bay are former tidelands, once owned by the State, which private parties acquired from the State under the Swamp and Overflowed Lands Act. These lands were diked/reclaimed around the turn of the century.

These areas are below ten feet in elevation, have relatively impermeable soils, and retain run-off for long periods of time. While the State conveyed the fee title interest in these former tidelands, they are still subject to an easement under the Public Trust Doctrine, for the benefit and enjoyment of the people of this state. Much of this Public Trust land bordering Arcata bay can provide important wildlife habitat and recreational opportunities.

These farmed wetlands are no longer salt and brackish wetlands, but now function as freshwater wetlands, with meandering year-round creek and slough channels. Arcata's diked former tideland areas typically include the less productive types of Loleta and Bayside soils and are generally used for pasture.

Soil classifications are based on the most recent surveys. In the event that an updated soil survey is completed in the future, the classifications and associated mapping shall be changed accordingly.

Overview of forest resources. The eastern portion of Arcata is located on forested slopes of Fickle Hill Ridge. The slopes contain mostly second growth conifer stands. These forested lands are both publicly and privately held. The City of Arcata owns two separate tracts of forest land that comprise approximately 1,125 acres. Together, the publicly owned Arcata Community and Jacoby Creek Forests constitute a significant ecological, recreational, economic and educational resource for the citizens of Arcata and the surrounding region.

The City adopted the *1994 Arcata Community Forest & Jacoby Creek Forest Management Plan* to provide guidance for integrated multi-resource management activities and to establish standards and guidelines for the Arcata Community Forest and Jacoby Creek Forest. The Resource Conservation and Management Elements contain overall goals and policies for forest management. The Forest Management Plan includes goals, policies, detailed management direction, monitoring and evaluation techniques for the City-owned forests. The forest management plan goals are listed below.



THE 1994 ARCATA COMMUNITY FOREST & JACOBY CREEK FOREST MANAGEMENT PLAN GOALS ARE TO

:

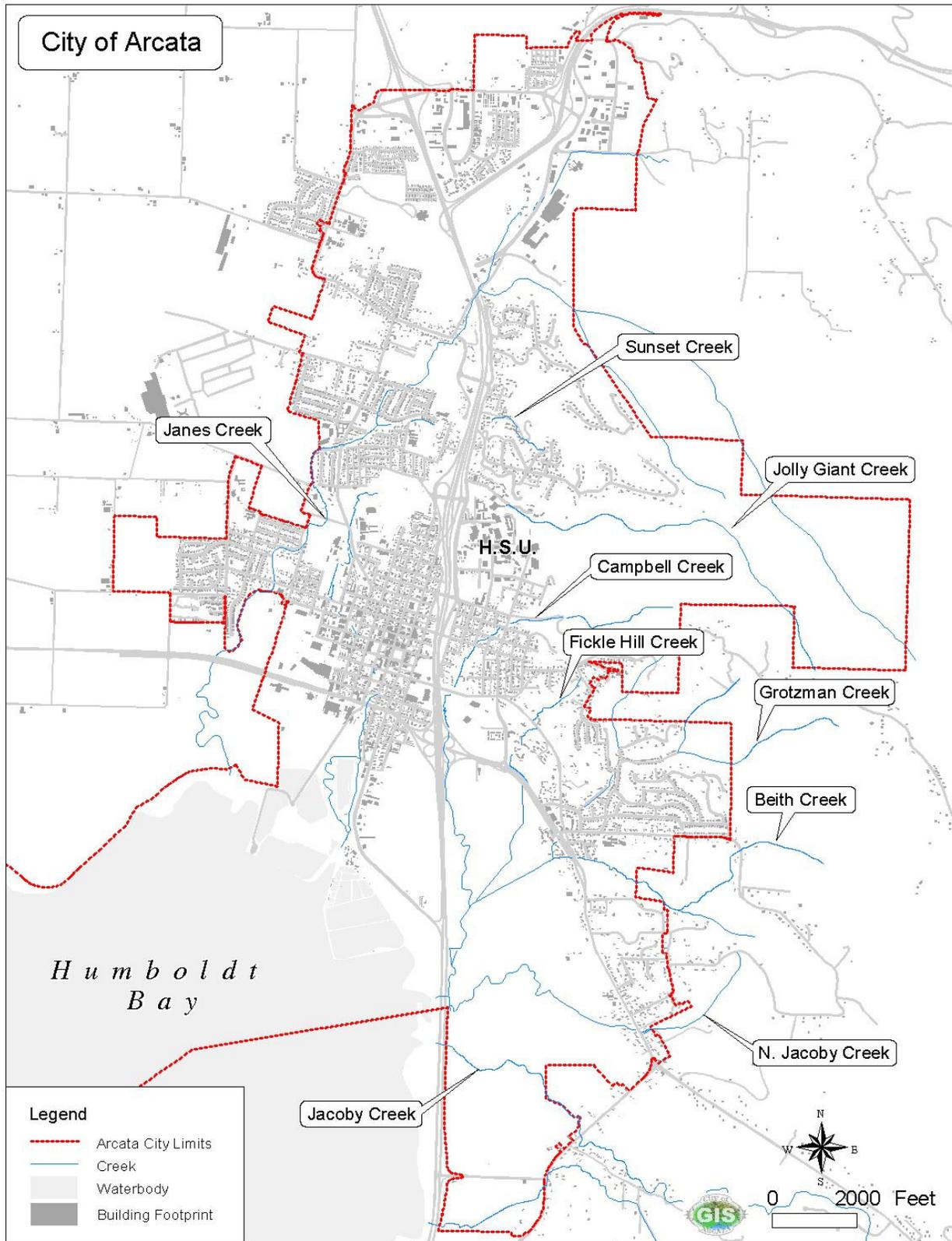
- Maintain the health of the forest system, specifically, maintain the integrity of the watershed, wildlife, fisheries and plant resources, their relationships, and the process through which they interact with their environment.
- Produce marketable forest products and income to the City in perpetuity, balancing timber harvest and growth.
- The Community Forest shall also be managed to provide forest recreational opportunities for the Community.
- The City's forests shall serve as models of managed redwood forests for demonstration and educational purposes.

Guiding Principles and Goals.

- A. Protect, maintain and enhance natural ecosystem processes and functions in the region, in order to maintain their natural ecological diversity.
- B. Restore and maintain the physical and biological integrity of Arcata's streams.
- C. To protect, restore, enhance, and maintain riparian habitat on those lands subject to wetlands and streamside protection zone.
- D. Recognize and protect wetlands as highly productive complex ecosystems that provide vital habitat and cleansing systems.
- E. Restore and maintain the physical and biological integrity of publicly owned former tidelands (farmed wetlands) subject to the Public Trust easement, to a diversity of tidal, freshwater, and riparian habitats.
- F. Protect and enhance prime agricultural lands for their food production, resource, and aesthetic values.
- G. Manage a sustainable production of forest products on both public and private timberlands.
- H. Manage water resources at the watershed level, to maintain high ground and surface water quality.
- I. Manage surface and groundwater resources to provide water quality and quantity adequate to support natural ecosystem processes and functions.
- J. Conserve soil resources as the foundation of resource production, and minimize erosion and other soil depleting processes.
- K. Promote energy conservation, and development and use of alternative, non-polluting, renewable energy sources for community power in both the public and private sectors.
- L. Maintain an active relationship with adjacent communities and government agencies to encourage cooperative management of natural resources and ecosystems in Arcata's Planning Area.
- M. Conserve natural resources through reduced materials consumption and recycling (see integrated waste management policies in the Public Facilities & Infrastructure Element).



- N. Establish an Agricultural Advisory Committee to help maintain a compatible relationship between agricultural and non-agricultural activities and uses.



4.5 POLICIES

The following policies are included in the Resource Conservation and Management Element:

- RC-1 Natural Biological Diversity/Ecosystem Function
- RC-2 Streams Conservation & Management
- RC-3 Wetlands Management
- RC-4 Open Waters of Arcata Bay and Tidelands
- RC-5 Agricultural Resources Management
- RC-6 Forest Resources Management
- RC-7 Water resources Management
- RC-8 Energy Resources Management
- RC-9 Soils and Mineral Resources

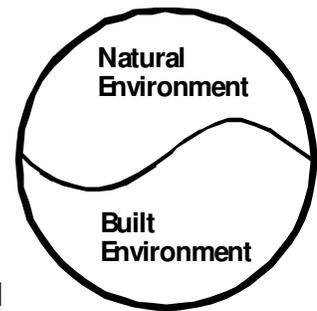
POLICY RC-1 NATURAL BIOLOGICAL DIVERSITY/ ECOSYSTEM FUNCTION

Objective. Set an overarching policy that emphasizes the overall value of biological diversity and the fact that all natural resources are optimized when they function as part of a healthy ecosystem.



RC-1a **Maintain Biological and ecological integrity.**

Maintaining ecological balance, system function, biological integrity, and natural diversity is the primary focus of the Resource Conservation and Management Element. Protecting ecological functions of natural habitats, and natural drainage and infiltration processes, will enhance natural ecosystems in the Planning Area. Ecological system functions elements and processes are maintained through the following measures:



1. The structure and composition of ecological systems within the City shall contain the same native plant and animal species, in the same relative abundances and proportions, which are found in the least-disturbed natural ecosystems in the Planning Area.
2. The ecological functions performed by ecological systems in the City shall resemble the functions of the least-disturbed natural ecosystems in the Planning Area.

3. Ecological systems and natural processes are not disrupted by exotic organisms to a significant degree.
4. Ecological systems and natural processes are not to be disrupted by land use activities to a significant degree (e.g., a culvert or other drainage device that blocks fish passage).

An "adaptive management" approach shall be utilized to maintain ecological and biological integrity, including monitoring the status of ecological systems in the City and adjusting City implementation of this Plan, in order to more closely approximate the conditions provided in the Planning Area's least-disturbed natural ecosystems.

RC-1b Non-native plant and animal species. Some non-native species, such as pampas grass (*Cortaderia jubata*), Himalaya berry (*Rubus discolor*), Scotch broom (*Cytisus scoparius*), blue gum eucalyptus (*Eucalyptus globulus*), English ivy (*Hedera helix*), English holly (*Ilex aquifolium*), and cotoneaster (*Cotoneaster franchetii*), are invasive exotics that can and do displace native species. The presence of these non-native species reduces the area's natural diversity, biological integrity and aesthetics. Only native species, or species demonstrated to be non-invasive, shall be used in public landscapes and are to be strongly encouraged in private landscapes. The City shall provide public information that explains why invasive species are a problem. The City shall also maintain a program that recommends effective but non-toxic eradication measures, and eradicates non-native species on public lands where they are displacing native species.

RC-1c Habitat value protection. Environmentally sensitive habitat areas (ESHA) shall be protected against any significant disruption of their habitat values, and only uses dependent on and compatible with maintaining those resources shall be allowed within ESHAs. Proposed development in areas adjacent to ESHAs shall be sited and designed to prevent impacts which would significantly degrade such areas, and must be compatible with the continuance of such habitat areas.

RC-1d Sensitive habitat definition. The City declares the following to be ESHAs within the Planning Area:

1. Rivers, creeks, sloughs, and associated



- riparian habitats: Mad River; Jacoby Creek; Beith Creek; Grotzman Creek; Campbell Creek; Jolly Giant Creek; Janes Creek; Gannon Slough; Butcher Slough; and McDaniel Slough.
2. Wetlands, estuaries, and associated riparian habitats: Arcata Bay; Mad River Slough; Liscom Slough; Butcher Slough; the Aldergrove marshes and ponds; and the Arcata Marsh and Wildlife Sanctuary.
 3. Other unique habitat areas: waterbird rookeries; shorebird concentration sites; habitat for all rare, threatened, or endangered species on federal or state lists; and vegetated dunes.
 4. Public Trust lands such as grazed or farmed wetlands (i.e., diked/reclaimed former tidelands).

RC-1e  **Threshold of City review for sensitive habitat effects.** Development on parcels designated Natural Resource (NR) on the Land Use Plan Map, or within 250 feet of such a designation, or development potentially affecting a sensitive habitat area, shall be required to be in conformance with applicable habitat protection policies of this Element. All proposed development plans, including grading and drainage plans, submitted as part of a planning entitlement application for these areas, shall show the precise locations of all sensitive habitat areas on the site plan.

RC-1f  **Sensitive habitat buffer requirements.** A setback separating all permitted development from adjacent sensitive habitat areas shall be required. The purpose of such setbacks shall be to prevent any degradation of the ecological functions provided by the habitat area as a result of the development. The following shall apply to such setbacks:

1. The minimum width of setbacks for streams and wetlands shall be as provided in policies RC-2 and RC-3, respectively.
2. The minimum width of all other habitat setbacks shall be 100 feet, unless the designated setback would eliminate all reasonable use of the property.
3. A definition and map of sensitive habitat will be maintained by the City.

RC-1g  **Sensitive habitat information required in development application review.** Where there is a question regarding the boundary, buffer requirements, location, or current status of an ESHA identified pursuant to General Plan policies, the public or private applicant shall provide the City with the following:

1. Base map delineating topographic lines, adjacent roads, and location of dikes, levees, flood control channels, and tide gates, as applicable.
2. Vegetation map, including identification of species that may indicate the existence or nonexistence of a sensitive environmental habitat area.
3. Soils map delineating hydric and non-hydric soils.
4. Census of animal species indicating the existence, or non-existence, of an environmentally sensitive habitat area.

This information shall be provided to the Department of Fish and Game, US Fish and Wildlife Service, National Marine Fisheries Service, and other affected agencies for review and comment. Any comments and recommendations provided by the Department shall be immediately sent to the applicant for his or her response. The decision concerning the boundary, location, or current status of the environmentally sensitive habitat area in question shall be based on the substantial evidence in the record and supported by written findings.



RC-1h Habitat integration for ecological integrity and development of a protected habitat corridor system. An ecological connection network plan for linking native habitats in the Planning Area, and all of the environmentally sensitive habitat areas identified in this Plan, shall be prepared. The network shall incorporate all existing large areas (or "nodes") of habitat for fish and wildlife species (such as marshes and forests) and "linkages" or "corridors" of natural habitat (such as stream zones and sloughs) for migration and species movement. The plan will link large "nodes" of natural habitat together with the "linkage" connections as a functioning ecological network. Nodes and linkages shall include a "core" of natural ecosystem elements and shall provide a protected "buffer" along the outer margins of the core habitat which shall function to protect the ecological values in the "core" habitat.

RC-1i Use of biocides and other compounds with biological consequences. Pesticides, herbicides and insecticides (biocides); hormones and antibiotics (growth promoters); and hydrocarbon based compounds,

used both commercially and individually, can accumulate to toxic levels in biological organisms, including humans. Certain of these substances, even at low levels, can affect reproductive health.

The City shall maintain and make available a current list of alternative, environmentally-safe products for controlling unwanted vegetation and pests, growing crops and enhancing production of animal products. The use of substances and compounds which can accumulate to toxic levels is restricted by the City (Pesticide Ordinance), and a program for fostering the reduction in private use shall be developed and implemented.

POLICY RC-2 STREAMS CONSERVATION & MANAGEMENT

Objective. Enhance, maintain, and restore the biological integrity of entire steamcourses (headwaters to mouth), and their associated riparian habitats, as natural features in the City's landscape.

RC-2a **Designation of protected streams.** The provisions of this policy shall apply to those streams shown on the Protected Watercourse Map (Figure RC-a). These watercourses and their associated riparian areas serve as habitat for fish and wildlife, provide space for the flow of stormwater runoff and flood waters, and furnish open space and recreational areas for city residents.

RC-2b **Streamside Protection Areas (SPA).** A streamside protection area is hereby established along both sides of the streams identified on the City Watercourse Map. The purpose of the SPA is to remain in a natural state in order to protect streams' ecosystems and their associated riparian habitat areas. The SPA shall include:

1. In areas where existing development, as defined in the Land Use Code, is adjacent to the stream, the SPA shall be not less than 25 feet outward on both sides of the stream, measured from the top of bank.
2. In all other locations within the City, the SPA shall be not less than 100 feet outward on both sides of the stream, measured from the top of bank.
3. In locations within the City having significant areas of riparian vegetation exceeding 100 feet in width measured from the top of bank, the SPA shall be expanded to encompass all of the riparian vegetation, except in no case shall the SPA exceed 250 feet in width from the top of bank on either side of the stream.

SPAs outside of the City shall follow the policies in the Humboldt County Framework Plan, regarding Streamside Management Areas.

RC-2c **Allowable uses and activities in streamside protection areas.** The following compatible land uses and activities may be permitted in SPAs, subject to all other policies in this Element, including those requiring avoidance of impacts and other mitigation requirements:

1. Outside the Coastal Zone:
 - a. agricultural operations compatible with maintenance of riparian resources;
 - b. fencing along property boundaries and along SPA setback boundaries to prevent bank erosion and degradation of natural riparian vegetation by livestock;
 - c. maintenance of existing roads, driveways, and structures;
 - d. construction of public road crossings;
 - e. forest management practices as permitted by the State of California or Arcata's Forest Management Plan;
 - f. construction and maintenance of foot trails for public access;
 - g. construction and maintenance of utility lines;
 - h. resource restoration projects;
 - i. emergency or preventive removal of sediment and vegetation for flood control purposes (only when authorized by the City of Arcata).



2. In the Coastal Zone:
 - a. all uses and activities listed in (1) above;
 - b. public coastal access improvements;
 - c. boat launching facilities.
3. If the provisions herein would result in any legal parcel, not on Public Trust lands, created prior to the date of this plan, being made unusable in its entirety for any purpose allowed by the land-use plan, exceptions to the foregoing may be made to allow a reasonable economic use of the parcel, subject to approval of a conditional use permit. Any land use, construction, grading, or removal of vegetation which is not listed above shall be prohibited.

RC-2d **The Wetland and Stream Protection Combining (:WSP) Zone.** The :WSP zone of the Land Use and Development Code shall be applied to all streamside protection areas. (The WSP zone should be a land use designation under the NR district, e.g., NR-WSP, NR-AG, NR-TPZ.)

- RC-2e Review and approval of projects affecting streamside protection areas.** Applications for development on any parcel which is located partially or wholly within an SPA shall be subject to the requirements of Policy RC-1 and RC-2.
- RC-2f Conservation easement.** Dedication of a conservation easement, or equivalent deed restriction, encompassing the area within the SPA shall be required as a condition of approval of any discretionary planning permit, including design review, when any portion of the project site falls within an SPA. Such easements may be conveyed to the City of Arcata, to another governmental agency which shall manage the easement to protect the SPA's functions, or to an appropriate non-profit entity.
- RC-2g Maintenance of streams as natural drainage systems.** Arcata's creeks carry a significant amount of the City's stormwater. Drainage controls shall be enforced through implementation of the Drainage Master Plan, to protect water quality, and minimize erosion, sedimentation and flood impacts to City creeks. A comprehensive stream maintenance program shall be prepared to augment stormwater utility rehabilitation projects designed to improve flow capacity, minimize channel erosion, and enhance riparian habitat.
- RC-2h Restoration of degraded creek resources.** Portions of Janes, Jolly Giant, Campbell, and Grotzman Creeks are culverted or covered, causing degradation of creek resources. Streams such as Janes Creek have tide gates which are barriers that prevent anadromous salmonids from accessing critical habitat. Furthermore, recreational use has degraded riparian vegetation along upland reaches of certain creeks (e.g., Jolly Giant, Campbell, and Jacoby Creeks) within Redwood Park and the Community Forest. Lack of vegetation along creek courses can cause erosion, resulting in water and airborne impacts. Restoration activities for improving degraded stream resources shall include:
1. Uncovering of creek courses in public rights-of-way, as part of public works improvement projects.
 2. Encouraging landowners to restore degraded SPA and stream resources, including native riparian vegetation establishment and exotic species removal, as part of a new development or renovation.
 3. Controlling uses that are damaging to upland reaches of creeks in the Community Forest and Redwood Park.
 4. Removing or modifying barriers such as tide gates that prevent migrating anadromous salmonids which are federally listed endangered species from reaching their critical habitat.

5. Exclusionary fencing to keep livestock out of the SPA.

The Streams Management Plan shall be implemented to provide guidance for rehabilitation and management of creeks that flow through Arcata. The SMP addresses new and modified development along creeks, and existing activities in creek zones. Stream rehabilitation projects shall be designed to maintain or improve flow capacity, trap sediments and other pollutants which decrease water quality, minimize channel erosion, prevent new sources of pollutants from entering the stream, and enhance instream and riparian habitat.

POLICY RC-3 WETLANDS MANAGEMENT

Objective. To protect existing wetlands areas and their functional capacities and values, maintain a standard of “no net loss” in area and value, restore degraded wetland areas, enhance wetlands functions, and create additional wetland areas to replace historical losses.

RC-3a **Requirement for wetland delineation and study.** All proposed development applications shall include a site plan that shows the precise location of any wetlands that exist on the subject property. Any application for development on a parcel where wetlands may be present shall include a wetland reconnaissance or delineation report as follows:

1. The reconnaissance or wetlands delineation and report shall be based upon field investigations and shall be prepared by a professional or technical expert qualified in wetlands biology or plant ecology.
2. For purposes of this plan, wetlands shall include those lands where one or more of the following three characteristics are present:
 - a. source of water (surface or subsurface) which is present for sufficient periods to promote hydric soils formation or growth of hydrophytic plant species;
 - b. hydric soils; or
 - c. hydrophytic plants.
3. Where a reconnaissance indicates the probable existence of wetlands, marsh reeds detailed wetland delineation shall be required, including a



map with the best available contour information showing where each of the three factors are present and the precise boundaries of any areas which are determined to be wetlands.

4. If wetlands of any size are found to exist on the property, an analysis of the potential functional or habitat value of the wetlands shall be provided.

RC-3b **Filling of wetlands.** The following shall apply:



1. Filling of wetlands shall be prohibited in the Coastal Zone, unless it can be demonstrated that:
 - a. the wetland restrictions, if imposed, would render a parcel, not subject to the Public Trust, unusable for any use permitted by the land use plan;
 - b. there is no feasible, environmentally superior alternative to wetland fill for development of a permitted use; and
 - c. the fill is the least amount necessary to allow development of permitted uses.
2. Filling of wetlands outside the Coastal Zone may be permitted only when the following has been demonstrated by the project proponent:
 - a. the fill is the least amount necessary to allow a reasonable and harmonious configuration of development on the parcel;
 - b. the wetlands proposed to be filled are small and isolated, and have limited functional value when compared to larger, contiguous wetland areas.
3. Filling of wetlands shall only be authorized if appropriate mitigation, resulting in "no net loss" in area and value of wetlands, is provided. Mitigation may consist of creating and maintaining a new wetland of equal or greater functional capacity and value than the wetland proposed to be filled, restoration of previously degraded wetlands, or enhancement of existing wetland areas.

RC-3c **Designation of Wetland Protection Areas (WPA).** A WPA shall be established to separate all permitted development from adjacent existing wetlands which are to be preserved in a natural state and new wetland areas which are created as a mitigation. The WPA's purpose is to remain in a natural state in order to protect wetland ecosystems and their associated habitat areas from destruction or degradation. The extent of the WPA shall be established based upon analyses and recommendations contained in a site-specific wetland delineation study, but shall include the wetland area and a setback area which shall generally range from a 50 foot minimum to a 100 foot maximum.

Specific findings, based on evidence provided for City review, shall be required for setbacks less than 100 feet.

RC-3d **Allowable uses and activities in Wetland Protection Areas.** The following compatible land uses and activities may be permitted in WPAs, subject to all other policies in this Element, including those requiring avoidance of impacts and other mitigation requirements:



1. Resource restoration or enhancement projects.
2. Farming, consistent with policy RC-3I.
3. Outdoor recreation activities, such as bird watching, hiking, boating, horseback riding, and similar activities.
4. Education, scientific research, and use of nature trails.
5. Drainage ditches when compatible with wetland function.
6. Minor modification of existing, serviceable structures.
7. Fencing to prevent livestock from degrading wetlands and riparian vegetation.

Any use, construction, grading, or removal of vegetation which is not listed above shall be prohibited.

RC-3e **Wetland and Stream Protection Combining (:WSP) Zone.** The :WSP zone of the City's Land Use Code shall be applied to all Wetland Protection Areas.

RC-3f **Review and approval of projects affecting Wetland Protection Areas.** Applications for development on any parcel which is located partially or wholly within a WPA shall be subject to the requirements of Policy RC-1 and RC-3.

RC-3g **Conservation easements.** Dedication of a conservation easement, or equivalent deed restriction, encompassing the area within the WPA shall be required as a condition of approval of any discretionary action, including design review, when any portion of the project site falls within

an WPA. Such easements may be conveyed to the City of Arcata, another governmental agency, or City-approved non-profit entity which shall manage the easement to protect the WPA's functions.

RC-3h Designation of wetland protection zones. The :WSP Zone shall be applied to wetlands, wetland setbacks, wetland buffer areas and modified wetland buffer areas, as defined in the City's Land Use Code, at the time of development review and approval.

A wetlands map, maintained by the City, will show the general location of wetlands, riparian corridors, and uplands within the City limits and urban services zone. All development within or adjacent to the areas identified on the map as wetlands or riparian corridors shall comply with City Wetlands Development Standards and shall include the following:

1. A wetland delineation.
2. A mitigation plan for impacted areas.
3. Setback areas from delineated wetlands.
4. Easements for onsite delineated wetlands.
5. Permitted and protected uses/activities within delineated wetland areas.
6. Fencing to prevent livestock from degrading wetlands and riparian vegetation.

A Wetlands Buffer Area shall be required to protect the areas shown as wetlands on the Wetlands Map. All development within the buffer areas shall comply with the Wetlands Buffer Area Development Standards of the Coastal Land Use and Development Guide.

RC-3i Management of Arcata Marsh for wetlands values as well as wastewater treatment. The marsh and wildlife sanctuary serves a variety of purposes and functions, including providing wetland habitat for a variety of species, wastewater treatment, and recreational use. These purposes shall be balanced for the benefit of all users.



RC-3j Minimum mitigation requirements for wetland impacts. Diking or filling of a wetland that is otherwise in accordance with the policies of this General



Plan, shall, at a minimum, require the following mitigation measures, monitoring program, and funding.

1. A detailed restoration plan, monitoring program, and funding source for each site shall be required as part of the project application. The restoration plan shall include provisions for restoration to equal or greater wetland biological productivity. The monitoring program shall include reporting requirements that document mitigation success. Dedication of the land to a public agency, purchase, or other stewardship method which permanently restricts the use of the site to habitat and open space purposes, shall be required. The site shall be dedicated, purchased, or other stewardship agreed upon, and mitigation funding shall be provided, prior to any permitted diking or filling.
2. Areas adequate to maintain functional capacity shall be opened to tidal action, or other sources of surface water shall be provided. This provision shall apply to diked or filled areas which themselves are not environmentally sensitive habitat areas, but would become so if, as part of a restoration program, they are opened to tidal action or provided with other sources of surface water. All of the provisions for restoration, purchase (if necessary), and dedication described under part 1 shall apply to any program or activity performed pursuant to this policy.
3. Mitigation shall, to the maximum extent feasible, be of the same type as the wetland to be filled (e.g., freshwater marsh for freshwater marsh, saltwater marsh for saltwater marsh, etc.).
4. Where no suitable private or public restoration or enhancement sites are available, or where a wetlands mitigation bank in Arcata's Planning Area has been established that provides suitable replacement area, an in-lieu fee may be required to be paid. The fees shall be paid to an appropriate public agency for use in the restoration or enhancement of an area of equivalent productive value or surface area, or to the entity managing the wetlands mitigation bank.

RC-3k  **Wetland functional capacity maintenance requirement.** Diking, filling, or dredging of a wetland or estuary shall maintain or enhance the functional capacity of these resources. Functional capacity means the ability of the wetland or estuary to be physically and biologically self-sustaining and to maintain natural species diversity. In order to establish that the functional capacity is being maintained, all of the following must be demonstrated:

1. Presently-occurring plant and animal populations in the ecosystem will not be altered in a manner that would impair the long-term stability of the ecosystem (i.e., natural species diversity, abundance and composition are essentially unchanged as the result of the project).
2. A species that is rare or endangered will not be significantly adversely affected.
3. Consumptive (e.g., fishing, aquaculture and hunting) or non-consumptive (e.g., water quality and research opportunity) values of the wetland or estuary ecosystem will not be significantly reduced.

RC-3I  **Uses allowed in diked/reclaimed former tidelands.** Allowable uses and development in grazed or farmed wetlands are limited to uses compatible with the Public Trust. These uses are specified in Land Use Element Policy LU-6 and are summarized below.

1. Agricultural operations limited to accessory structures, apiaries, field and truck crops, livestock raising, greenhouses (provided they are not located on slab foundations and crops are grown in the existing soil on site), and orchards.
2. Farm-related structures, including barns, sheds, and farmer-occupied housing, necessary for the performance of agricultural operations. Such structures may be located on an existing grazed or farmed wetland parcel only if no alternative upland location is available for such purpose and the structures are sited and designed to minimize adverse environmental effects on Public Trust resources and uses. No more than one primary and one secondary residential unit shall be allowed per parcel.
3. Restoration projects.
4. Nature study, aquaculture, and similar resource-dependent activities compatible with Public Trust resources and uses.
5. Incidental public service purposes which may temporarily impact the resources of the area (such as burying cables or pipes).

Expanding farming operations into non-farmed wetlands, by diking or otherwise altering the functional capacity of the wetland is not permitted. Farm-related structures (including barns, sheds, and farm-owner occupied housing) necessary for the continuance of the existing operation of the farmed wetlands may be located on an existing farmed wetland parcel, only if no alternative upland location is viable for such purpose and the structures are sited and designed to minimize the adverse environmental effects on the farmed wetland. Clustering and other construction

techniques to minimize both the land area covered by such structures and the amount of fill necessary to protect such structures will be required.

POLICY RC-4 OPEN WATERS OF ARCATA BAY & TIDELANDS

Objective. Maintain existing Bay wetlands and tide lands, protect them from urban and agricultural encroachments, or degradation, and manage the open waters of Arcata Bay for their wildlife, fisheries, navigation and ecological values and recreation and tourism uses.



RC-4a Protection of open waters /tideland areas of Arcata Bay.



The tidal and water areas of Arcata Bay constitute a fragile Public Trust resource and access shall be controlled to avoid resource degradation, while maintaining the public's right to navigation. Tidal marshes shall be enhanced and maintained, especially in the areas of McDaniel, Gannon, and Butcher's Sloughs, to protect wetland values.

RC-4b Access to Arcata Bay. The following routes are designated as Public



Access Corridors and are to be properly signed and identified as approved Bay access points.

1. "I" Street from Samoa Boulevard, south through the Arcata Marsh and Wildlife Sanctuary to the boat launching facility on Arcata Bay.
2. South "G" Street south of "H" Street, to Highway 101.
3. Highway 101 from Samoa Boulevard (Highway 255), south to Bayside Cutoff.
4. Samoa Boulevard from Highway 101 west to Mad River Slough.

A system of foot trails and interpretive sites shall be established along the Arcata Bay shore westward to the City limit, subject to the following guidelines.

5. All planning and development in the area that is both South of Samoa Boulevard and west of State Route 101 and which is identified as tidelands, former tidelands, wetlands or riparian corridor on the adopted Wetlands Map shall be reviewed by the Creeks & Wetlands Committee, and coordinated with California Department of Fish and Game.

6. Development in the area bounded by Butcher's Slough and Gannon Slough should occur in conjunction with management of the National Wildlife Refuge and the Arcata Marsh and Wildlife Sanctuary.
7. Motorized vehicles shall be restricted to paved roads and parking lots.
8. Pedestrians shall be restricted to designated trails and facilities.
9. Valid scientific and educational studies of wetlands and tidelands are encouraged.

RC-4c Coastal-dependent and public trust uses of Arcata's tidelands. Tidelands of Arcata Bay support a variety of wildlife as well as human activities. The following provisions shall be made for managing tideland areas.



1. New development shall not restrict access to the shoreline. Access to coastal areas shall be required for new development.
2. Tidelands and water areas of Arcata Bay shall be designated Natural Resource-Public Trust Lands (NR-PTL), and identified as passive use recreational areas.
3. The Arcata Marsh and Wildlife Sanctuary shall be designated as Natural Resource (NR) and the recreational component of the project identified as a passive use recreational area.
4. The continued use of the tideland for scientific and educational studies is encouraged.
5. The Arcata Marsh and Wildlife Sanctuary (AMWS) shall be maintained and new facilities shall be consistent with the AMWS plan adopted by the City Council.
6. The South "I" Street boat launch shall be enhanced and maintained to accommodate small watercraft and windsurfing.
7. The placement of interpretative sites along the Arcata Bay shore, including Nature and Wildlife Centers, shall be coordinated with other agencies, and serve as an educational focal point for Arcata's natural resource areas.
8. Access on the levee from the AMWS westward to the City limit will be provided for passive recreation and nature observation.



RC-4d Diking, dredging, filling, and shoreline structures. Diking, filling, or dredging of Bay waters, wetlands, and estuaries shall be permitted where it has been demonstrated that the Public Trust resources and

values are being protected, and mitigation measures have been provided, which minimize adverse environmental effects, for the following limited uses.

1. Incidental public service purposes including, but not limited to, burying cables and pipes, and maintaining existing dikes and public facilities.
2. Maintaining a channel adequate to serve the boat ramp at current levels of use.
3. Resource restoration purposes.
4. Nature study, aquaculture, or similar Public Trust resource dependent activities.
5. Agriculture as currently practiced within existing farmed wetlands but not including the expansion thereof.

In order to protect existing development, shoreline structures (such as dikes or tidegates) that may alter the natural shoreline, may be permitted only when they do not effect any federally listed species and no other feasible, less environmentally-damaging alternative is available, and only when not located within a wetland, unless the wetland will be the primary beneficiary of the structure.

The disposal of dredge spoils on existing wetlands shall not be permitted unless such disposal is necessary for either a Public Trust resource restoration project or for the maintenance of existing agricultural operations in farmed wetlands. Fill will be allowed for aquaculture projects if it can be shown that it is necessary for the project, is required to be located within the wetland, and there is no other feasible, less environmentally damaging, alternative.

RC-4e  **Aquaculture use of coastal wetlands/tidelands.** To protect aquaculture activities in Arcata Bay, the City shall:

1. Ensure that its wastewater discharge does not aggravate existing coliform loading problems in Arcata Bay.
2. Take measures to reduce coliform loading of perennial streams within its jurisdiction, as part of a stream maintenance program. These measures shall include controlling identified sources of coliform loading such as septic tank leachate and runoff from agricultural operations.

Aquaculture shall not adversely impact natural ecological processes nor native wildlife or fisheries or their habitat in the Bay. No new aquaculture

uses shall be permitted unless it can be demonstrated that adequate precautions will be taken to prevent new adverse impacts to natural ecological processes. The City shall continue its management of:

1. Integrated wetland enhancement and wastewater treatment.
2. The tidelands, for commercial and native oyster harvesting.



Management of bayfront and marsh areas for coastal access, recreation, and tourism. Tidelands and water areas of Arcata Bay shall be designated Natural Resource-Public Trust Land (NR-PTL) and protected from uncontrolled access. The following guidelines shall be used when permitting access to these areas:

1. Motorized vehicles shall be restricted to paved roads and parking lots.
2. Pedestrians shall be restricted to designated trails and facilities.
3. Valid scientific and educational studies of the wetlands and tidelands shall be encouraged.

New development shall not restrict public access to the shoreline. Public access to the shoreline shall be required of new development. Where consistent with the Humboldt Bay National Wildlife Refuge's Management Plan, controlled public access to the Refuge's Jacoby Creek Unit shall be developed along Arcata Bay from the AMWS to the City's westward limit.

31.0 POLICY RC-5 AGRICULTURAL RESOURCES MANAGEMENT

Objective. Protect and enhance agricultural uses on prime agricultural lands within the City, and encourage more productive agricultural use of agriculturally suitable lands.

RC-5a **Promotion of and participation in agricultural production within the City.** Diverse and intensive agricultural production and increased participation shall be promoted, in order to maintain the value of agricultural lands, improve the economic base, and increase employment and food production. The



City does not, however, advocate more intensive agricultural uses and practices that would have adverse environmental impacts. Agricultural operations, such as Community Supported Agriculture (CSA) are strongly encouraged.

- RC-5b **Agricultural Advisory Committee.** The City shall appoint an Agricultural Advisory Committee to advise on agricultural issues and programs. The responsibilities of the committee shall include, but are not limited to:
1. Development of a Community and Farm Protection Ordinance, as well as conflict resolution protocol.
 2. Development of programs (educational, leasing, and purchase) that will encourage responsible productive uses of agricultural lands.
 3. Identification of lands for preservation and/or acquisition programs.
 4. Maintain a database of resources available to farmers, such as Williamson Act advantages, conservation easements, organic farming practices, and marketing strategies.
- RC-5c **Community and farm protection.** Maintaining a compatible relationship between agricultural and residential uses will be based on:
1. Recognizing the rights of owners of productive agricultural land to make agricultural use of their land.
 2. Identifying and minimizing potential conflicts between agricultural operations and adjacent residential, commercial, and community facility uses.
 3. A Community and Farm Protection Ordinance shall provide a foundation for minimizing conflicts, educating the community, and a protocol for mediating unresolved disputes. Once adopted, the ordinance shall be mailed to all owners of agricultural and adjacent lands and disclosed to affected property owners at the time of parcel transfer.
- RC-5d **Permanent protection for agricultural lands.** Protection of agricultural resources shall be secured through the purchase of conservation easements, development rights, and outright acquisition. The City shall work in conjunction with other entities such as land trusts, whenever possible, to preserve agricultural buffers and maintain and enhance agricultural uses on prime agricultural soils.

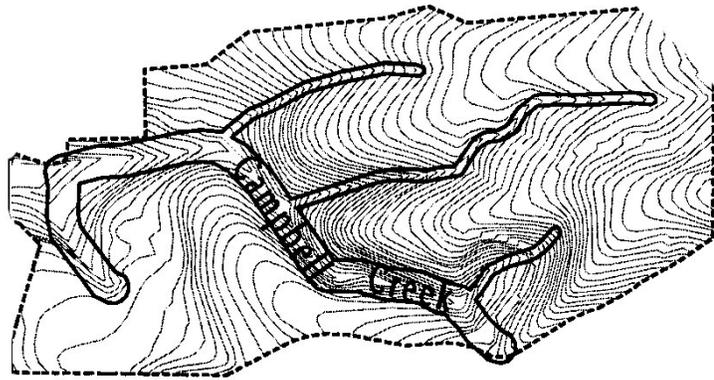
POLICY RC-6 FOREST RESOURCES MANAGEMENT

Objective. Protect and enhance private and public forest lands (Community and Jacoby Creek) to maintain the integrity of the ecosystem while providing timber production, recreation, and habitat values.

RC-6a **Management of Arcata Community Forest.** The City's forest management plan includes the following policies:

1. **Recreation and aesthetics resource management** - The community forest will emphasize dispersed, day-use opportunities. Recreational use shall not be allowed to impact other resources such as fish, wildlife, or watershed.

2. **Timber resource management** - To ensure the sustainable and long-term production of forest products, the rate of harvesting must not exceed the rate of production. Long-term productivity refers to the continuing ability of the forest to produce timber while retaining the associated values of watershed, wildlife, soils, recreation and aesthetics. This is



dependent upon the use of management practices that do not allow for the deterioration or impairment of soil productivity or the alteration of the natural landscape beyond its ability to recover. For planning purposes, long term means that exceeding fifty years.

3. **Watershed resource management** - Water quality, soil, riparian, and aquatic biological productivity shall be maintained and enhanced through the application of City forest management standards and the implementation of watershed improvement projects.

4. **Wildlife resource management** - Wildlife habitat is managed to promote species diversity and to ensure that populations of indigenous species are maintained. This can best be achieved through the maintenance and enhancement of habitat values. Habitat values which lead to species diversity include the following elements: breeding, foraging, watering, rearing, hiding and thermal cover.
5. **Vegetation and botanical resources** - Maintain the native component of species found in the redwood forest, both by controlling exotics and managing for a species mix that would be found naturally in the redwood forest.

RC-6b **Management of Jacoby Creek Forest.** The management policies for the Jacoby Creek Forest are the same as those for the Arcata Community Forest, listed above, except that the Jacoby Creek Forest is not open to recreational use.

RC-6c **Allocation of forest fund revenues.** At least twenty percent of net forest fund revenues, derived from timber cutting, shall be directed towards park acquisition, maintenance, and development. This can include acquisition of stream corridors, and riparian and greenbelt areas. These areas contribute to the diversity of parks and, in the case of linear parks along stream corridors, provide passive recreation areas compatible with the environment. The acquisition of open space shall be emphasized as an appropriate use for the remaining revenues.

RC-6d **Management practices for private timberlands.** The management of private timberlands shall be encouraged to use current principles of sustainable forestry for all aspects of forest use and function: recreation; timber production; biodiversity; air and water quality; and carbon storage. Timber owners are encouraged to apply for conservation easements, certified forestry, or compensation for carbon storage.

RC-6e **Timber harvest plans.** The City, in cooperation with California Department of Forestry, shall request review of all Timber Harvest Plans (THP) within the Planning Area. The City shall review THPs for measures that protect water quality, control erosion and flooding, and preserve the City viewshed. The city shall recommend that THPs which do not include these measures not be approved.

RC-6f **Urban conversions.** The sustainable management of timber resources, and related uses, shall be encouraged, so that the long term economic return from productive timber production will provide sufficient incentives

to prevent urban conversions. Urban conversions are discouraged within the Urban Services Boundary.

RC-6g **Setbacks.** Development adjacent to the Community Forest boundary shall be setback at least 150 feet, unless this would make the use of the parcel infeasible for its designated purpose. However, larger setbacks may be required to prevent exposure to potential hazards and to maintain forest integrity.

RC-6h **Monitoring.** Monitoring of forest practices, to ensure consistency with adopted management and harvest plans, shall be carried out as an implementation measure of this Element. The general objectives of the monitoring will be to:

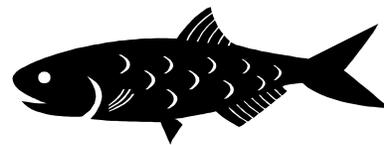
1. Determine the effectiveness of management practices at multiple scales (i.e., individual sites to watersheds).
2. Validate ecosystem functions and processes have been maintained as predicted.

POLICY RC-7 WATER RESOURCES MANAGEMENT

Objective. Manage Arcata's water resources from a watershed perspective, to maintain surface and subsurface water quality and quantity. Runoff will be managed for the benefit of aquatic habitats.

C-7a **Protection of surface waters from point and nonpoint pollution sources.** The use of natural stormwater drainage systems, which preserve and enhance natural features, shall include the following:

1. Efforts to acquire land or obtain easements for drainage and other public uses of floodplains, where desirable to maintain stream courses in a natural state, shall be supported.
2. Recreational opportunities and aesthetics shall be considered in the design of stormwater detention/retention and conveyance facilities.
3. Sound soil conservation practices shall be required, and impacts of proposed developments, with regard to water quality and effects on watersheds, wetlands and drainage courses, shall be carefully examined.
4. The quality of runoff from urban and suburban development shall be improved through use of appropriate and feasible mitigation measures including, but not limited to, artificial wetlands, grassy swales, infiltration/sedimentation basins, riparian setbacks, oil/grit separators, and other best management practices (BMPs).



5. New development shall be required to mitigate to the maximum extent feasible increases in stormwater peak flows and/or volume. Mitigation measures should take into consideration impacts on the Mad River, Arcata Bay, and adjoining lands in the City and Planning Area.
6. New project designs shall minimize drainage concentrations, maximize permeable surfaces (such as unpaved parking areas) and maintain, to the extent feasible, natural site drainage conditions.
7. New projects that affect the quantity and quality of surface water runoff shall be required to allocate land necessary for detaining post-project flows and/or for incorporating measures to mitigate water quality impacts related to urban runoff. To the maximum extent feasible, new development shall not produce a net increase in peak stormwater runoff.

RC-7b **Protection of groundwater sources.** Septic systems and onsite disposal of toxic substances are the leading causes of groundwater contamination. Septic systems within the Urban Services Boundary shall not be permitted, and incidents of onsite toxics disposal shall be referred to the appropriate county and state agencies.

RC-7c **Watershed and urban runoff management.** To protect structures, critical facilities, existing habitat values and water quality, flooding shall be managed on a watershed basis, using a combination of biotechnical solutions, flood protection practices, and Drainage Master Plan's management practices.

RC-7d **Water quality monitoring.** Water quality and quantity shall be monitored on a regular basis to ensure that City policies are being adhered to.

POLICY RC-8 ENERGY RESOURCES MANAGEMENT

Objective. Reduce the net emissions of greenhouse gases from Arcata; reduce other negative impacts of energy production and use, including risks from nuclear power, air emissions, fuel spills, and wildlife and habitat destruction; reduce energy costs to the city and its residents, and increase the percent of energy purchases from sources within our region; increase the city's and nation's energy security and reduce our vulnerability to changes in energy availability and price; increase public awareness of energy issues and encourage an energy conservation ethic; monitor the cost and effectiveness of Arcata's actions so we and others can learn from them; and implement Arcata's Advisory Proposition B.

Advisory Proposition B
Approved by Arcata Voters April 8, 1980

"In accordance with America's renewed determination to be energy self reliant, be it resolved that the citizens of Arcata and their City government are committed to the enactment of conscientious energy conservation measures and the accelerated development and active promotion of safe and economical alternative renewable energy sources for our community.

Be it further resolved that the City government of Arcata support complete independence from nuclear power including the permanent closure of the Humboldt Bay nuclear power plant and its replacement by safe, clean and efficient generating sources more compatible with the resources and health and safety of the Northcoast, such as conservation, solar power and generation from wood waste."

RC-8a **Encouragement of appropriate energy alternatives.** In making energy purchases, the City shall consider how suppliers meet the objectives of this policy. The City shall choose suppliers that provide good tradeoffs among these objectives, giving due consideration to investment in energy conservation as an alternative use of energy funds.

In addition, the City shall attempt to purchase at least 10% of its electrical energy (in energy units, not cost) from renewable sources within Humboldt County by the year 2020.

The City shall take measures to encourage the availability to, and use by, residents of energy suppliers that best meet the objectives of this policy. The City shall convert City vehicle fleets to a mix of fuels that best meets the objectives of this policy.

- RC-8b **Encouragement of energy efficiency and conservation.** The City shall coordinate with energy suppliers and agencies to educate residents, property owners, and business operators about the need for and benefits of conserving energy. The City shall maintain and distribute current information about building insulation; energy efficient appliances, lighting, and heating; other conservation measures and materials; and home power alternatives.



The City shall continuously seek and implement cost-effective steps to reduce City energy use. The City shall attempt to reduce the City's total consumption of purchased energy by at least 20% (in energy units, not cost) by the year 2010.

The City shall adopt the goals of the national "Energy Star Program" (or its successor programs) for all City construction projects and all construction projects assisted by grants for which the City is an applicant. These goals include using 30% less energy than would a building designed with existing Title 24 standards.

- RC-8c **Promotion of energy efficiency in transportation.** The City shall give strong consideration to energy conservation and the goals of this policy in all transportation and traffic management decisions. It is City policy to reduce the need for motor vehicle trips within the city and between the city and other destinations, and to reduce per-trip energy consumption; this policy applies to trips by residents, non-residents, and city staff. Such measures as bike and pedestrian paths, public transportation, parking and traffic management, and encouraging use of alternative-fueled vehicles shall be used to make these reductions.

POLICY RC-9 SOILS AND MINERAL RESOURCES

Objective. Conserve and manage soil and mineral resources.

- RC-9a **Erosion control measures on slopes and other areas of instability.** Policy PS-3 - Other Geologic Hazards in the General Plan Public Safety Element includes provisions for protecting steep and unstable slopes, and

minimizing erosion and sedimentation. This policy shall be followed as a safety precaution and also to conserve soil resources.

- RC-9b **Protection of productive soils and soils with limitations.** Local soils range from productive soil types capable of supporting agriculture and forestry, to those susceptible to shrink-swell and erosion. Clay soils are the most susceptible to shrink-swell, caused by fluctuations in moisture content. According to available soils information, the Bayside series is the only soil type in the Arcata area with identified clay content. Building construction on this soil type shall include measures to avoid damage from shrink-swell.

Certain areas of the City have high liquefaction potential during seismic events.

Policy PS-2 - Seismic Hazards, in the General Plan Public Safety Element, addresses mitigation of liquefaction hazards. This policy shall be followed as a safety precaution, and also to manage related soil limitations. Policy RC-5, relating to agricultural soils, shall also be followed to conserve productive soils. The continued research, identification, and protection of productive soils by the Natural Resource Conservation Service and educational institutions shall be encouraged.

- RC-9c **Management of mineral resource extraction, processing and transport (gravel).** Areas along the Mad River, within and upstream of the City's Sphere of Influence, are currently used for aggregate resource extraction. The City shall encourage Humboldt County to limit the quantity of aggregate extracted to an amount that is mean annual recruitment; and request that Policy RC-1 and RC-2 be applied to protect natural biological diversity and ecosystem functions along the river. The City shall also request that the County not approve or renew permits for commercial mineral resource extraction in A-E designated lands of the City's Planning Area. Mineral resource operations shall not result in additional soil runoff and shall be consistent with the City's seismic safety policies (see Policy PS-2 in Public Safety Element).

4.6 IMPLEMENTATION MEASURES

#	IMPLEMENTATION MEASURE DESCRIPTION	RESPONSIBLE PARTY	TIME FRAME
RC -1	Creeks Management Plan Regularly update the City Creeks Management Plan, at least every five years, to implement current provisions for maintaining biological integrity of entire watercourses. The Creeks Management Plan will also include updated provisions for education and restoration programs for degraded creeks.	Environmental Services Dept./Creek Advisory Committee	Year 1 then every 5 years
RC -2	Community Forest Management Plan Update the Community Forest Management Plan, at least every ten years, to implement current provisions for managing recreation, aesthetic, timber, watershed, wildlife, and vegetation resources. The Management Plan will also include updated provisions for allocation of forest fund revenues and urban conversions, as well as setbacks from the Community Forest boundary and a monitoring program for forest practices.	Environmental Services Dept./Forest Management Committee	Year 5 then every 10 years
RC -3	Energy Efficiency and Conservation Program Conduct a continuous program to identify and purchase appropriate energy supplies, implement and evaluate energy conservation measures, provide energy education and public information, and promote energy efficiency in transportation. Establish a funding mechanism to assure that a significant portion of the savings are used to fund energy programs and as a reward for savings.	Environmental Services Dept./ Energy Task Force	Year 1 then every 5 years
RC -4	Non-native Plant and Animal Species Removal Program The City shall provide public information that explains why invasive species are a problem. The City shall maintain a program that recommends effective but non-toxic eradication measures, and eradicates non-native species on public lands where they are displacing native species.	Environmental Services Dept./ Agricultural Advisory Committee	Year 1 then every 5 years
RC -5	SPAs, :WSP Combining Zone, Resource Setbacks and Energy Conservation Measures (PLUC Amendment) Revise the PLUC (formerly LUDG) regulations to be consistent with the General Plan policies for SPAs, the :WSP combining Zone, natural resource (forest) area setbacks and energy conservation techniques.	Environmental Services Dept./ Planning Commission	Year 1 then every 5 years
RC -6	Surface Water Quality Ordinance Prepare and adopt a water quality ordinance using water quality standards established in the Drainage Master Plan. The ordinance shall address the physical, biological, and chemical parameters of water quality, include monitoring provided through the MOU with HSU, and shall be updated at least every five years.	Environmental Services Department	Year 1 then every 5 years

#	IMPLEMENTATION MEASURE DESCRIPTION	RESPONSIBLE PARTY	TIME FRAME
RC -7	Wetlands Management Plan Prepare a Wetlands Management Plan that includes mapping of all known wetland areas, guidelines for wetlands management, setbacks, restoration goals and objectives, and review and approval requirements for wetland alterations.	Environmental Services Dept./Creek Advisory Committee	Year 2
RC -8	Sensitive Habitat Mapping Using the sensitive habitat definition from Policy RC-1d, prepare and regularly update a map of sensitive habitat in the City.	Environmental Services Dept.	Year 1
RC -9	Pesticide Ordinance Regularly update the City's Pesticide Ordinance.	Environmental Services Dept.	Every 5 years
RC -10	Create Agricultural Advisory Committee This City shall appoint a committee to be an impartial forum for addressing agricultural issues between property owners and agricultural operators. The committee will also be responsible for preparing the agricultural operations ordinance, researching incentives for continued agricultural operations, and advising the Planning Commission on any proposed development that would affect agricultural productivity.	City Council	Year 1
RC -11	Participate in Humboldt Bay Management Plan The City shall designate a representative to attend meetings, review documents, and represent the City's interest during the preparation of the Humboldt Bay Management Plan.	City Council appoints a representative	Year 1
RC -12	Community and Farm Protection Ordinance The Agricultural Advisory Committee shall develop and maintain a Community and Farm Protection Ordinance, which shall provide a foundation for minimizing conflicts, educating the community, and a protocol for mediating unresolved disputes.	Agricultural Advisory Committee	Year 1
RC -13	Biocides and Other Compounds Alternatives The City shall implement a program to foster the reduction in private use of pesticides. This shall include maintaining and making available a current list of alternative, environmentally safe products for controlling unwanted vegetation and pests, growing crops and enhancing production of animal products. The use of substances and compounds which can accumulate to toxic levels is restricted by the City (Pesticide Ordinance).	Environmental Services Dept.	Year 1

APPENDIX H

Measures to be Included in Review of City Land Use Policies and Design Guidelines

Site Planning Measures (these minimize impervious surface and maximize infiltration):

- Cluster development
- Preserve natural drainages
- Avoid curb and gutter along driveways and streets where appropriate
- Use alternate paving materials/porous/permeable materials, where appropriate
- Reduce the length of driveways or infiltrate driveway runoff
- Reduce street width by eliminating on-street parking
- Reduce alley width or use alternate materials for paving alleys
- Set aside open space

Source Control Measures (these avoid pollution in the long run by eliminating sources):

- Provide green areas where pets can be exercised
- Install landscaping or other ground cover
- Incorporate low-maintenance landscaping that does not require frequent fertilizer or water
- Require labeling of storm drains to discourage dumping
- Where possible, eliminate gutters/roof drains draining to paved areas or direct runoff to landscaped areas
- Construct designated vehicle wash area in new residential developments
- Encourage underground parking and the construction of multi-storied parking structures
- Encourage cooperative or shared parking
- Encourage use of alternate paving materials for parking lots
- Reduce building footprint and increase use of taller structures (where appropriate)
- Use berms around waste storage areas
- Install valves on storm drain inlets in loading dock areas
- Require regular sweeping of all parking lots that contain more than 25 spaces

Treatment Control Measures (these capture and treat the polluted runoff before it enters the city's storm drain system or other receiving waters):

- Rooftop Catchment Systems
- Vegetated Filter Strips
- Vegetated Swales
- Infiltration Basins
- Infiltration Trenches
- Dry Detention Ponds/Basins
- Retention Ponds/Wet Basins
- Constructed/Restored Wetlands
- Filtration Systems
- Oil/Grit Separators

APPENDIX C

AGREEMENTS

APPENDIX D

PROGRAM ELEMENT ACCOMPLISHMENTS, ANNUAL REPORTS

Appendix J Creek Sampling Locations City HSU MOU

