

Guidelines for the Preparation of Planning Documents for Developing Community Water System Projects

Prepared By:

The State of Oregon

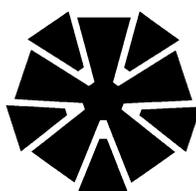
Oregon Economic and Community Development Department
Oregon Health Division
Oregon Water Resources Department
Department of Land Conservation and Development

The Federal Government

United States Department of Agriculture – Rural Utilities Service

Non-Profit Organizations

Rural Community Assistance Corporation
Oregon Association of Water Utilities



Authority

This funding guidance document was developed in a cooperative process by the Oregon Economic and Community Development Department, the Oregon United States Department of Agriculture – Rural Utilities Service management and staffs, and by the Rural Community Assistance Corporation staff. It is executed as a guidance document of each agency.

Also, the Department of Land Conservation and Development, the Oregon Health Division, and the Oregon Water Resources Department developed the sections of the document describing their respective regulatory requirements.

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Oregon Economic and Community Development Department

Date

Jerry Sheridan, Program Director
USDA - Rural Utilities Service

Date

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Rural Community Assistance Corporation

Date

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Guidelines for the Preparation of Planning Documents for Developing Community Water System Projects

Introduction

Communities in Oregon often require financial help in the form of loans and grants to establish, upgrade, and repair their water systems. Public funding sources for planning, design, and construction of these projects include the Oregon Economic and Community Development Department and the USDA Rural Utilities Service. Rural Community Assistance Corporation is a non-profit funding source. This document describes the initial engineering and other funding application materials required by these funding agencies. Required materials may include some that address regulatory agency requirements. Refer to **Appendix A** for a listing of funding and regulatory agency contacts.

Funding Agency Programs

The **Oregon Economic and Community Development Department** administers the Oregon Community Development Block Grant program, the Oregon Lottery's Water/Wastewater Financing Program and Special Public Work Fund, and the Environmental Protection Agency's Safe Drinking Water Revolving Loan Fund program. These programs can finance planning and environmental studies, design, and construction of public water system projects.

The **Rural Community Assistance Corporation** provides both short-term and long-term funds to public bodies and some private nonprofit corporations for similar purposes. Long-term funds must be guaranteed by an agency including, but not limited to the Rural Utilities Service.

The **United States Department of Agriculture – Rural Utilities Service** administers loan and grant programs providing long-term financing for either initial establishment or upgrade of community water systems owned by public bodies or by certain private nonprofit corporations.

Water System Master Plan

A Water System Master Plan is an overall guide prepared by a Professional Engineer registered in Oregon, which identifies water system needs and priorities. Oregon Health Division regulations require that water systems with over 300 service connections have a current Water System Master Plan. Also, any water system seeking financial assistance may need a current Water System Master Plan to serve as a basis for identifying priority needs and funding options.

The plan must evaluate the needs of the water system for at least a twenty-year period and include a review of water quality issues, service goals, status of compliance with Safe Drinking Water Act, alternatives for achieving water quality and service goals, recommended alternative, implementation schedule, and financial options for the proposed improvements.

Guidelines

A Master Plan also serves as a planning tool so that water suppliers can determine the necessary actions to be taken and funding agencies can determine the appropriateness of the proposed projects. Incorporating all required and project-specific information into the plan will probably minimize “total” expense to the community.

If the plan is out of date (more than five years old), does not include comprehensive alternative development, or does not have enough detail about the proposed construction, an updated plan may be required. In cases that the plan is current and only lacking project-specific information, a Preliminary Engineering Report may be acceptable as an alternative to an updated plan. For more information on Water System Master Plan submission and review requirements, refer to **Appendix B**.

Preliminary Engineering Report

A Preliminary Engineering Report (PER) is a detailed (project-specific) planning document prepared by a Professional Engineer registered in Oregon usually targeting projects that will be constructed in the next five years. A PER should clearly describe the owner’s present situation, identify present and future needs, and analyze potential alternatives. The potential alternatives shall be evaluated from an engineering, environmental, and economic perspective and a specific course of action recommended. An updated Water Master Plan may be acceptable as an alternative to a Preliminary Engineering Report.

The level of effort required to prepare the report and the depth of analysis within the report are proportional to the size and complexity of the proposed project. Agency-funded projects must be modest in design, size, and cost, and be constructed and operated in an environmentally responsible manner. A detailed outline of an acceptable PER is included in **Appendix C**.

Environmental Report

An Environmental Report (ER) is a detailed stand-alone environmental document prepared by a qualified individual or team for a specific project to be constructed in the next five years. It shall be developed in conjunction with a PER to support the environmental review process. It will enable the funding agencies to evaluate the environmental effects of the proposed project and to fulfill agencies’ requirements under National Environmental Policy Act (NEPA) and other environmental requirements. An ER must be sufficiently detailed to enable the funding agencies to: (1) Establish the purpose and assess the need for the proposed project; (2) Determine whether all reasonable alternatives to the proposed project have been appropriately considered; (3) Evaluate the environmental effects of the proposed project and the alternatives considered; (4) assess the significance of those effects; and (5) Specify mitigation measures where necessary.

The environmental review process is to be performed concurrently with an applicant's engineering planning and design activities. Since engineering planning and design activities and the environmental review process are so intricately linked, they require similar types of information. The ER must briefly describe the reasonable alternatives. This is because it must be a stand-alone document for public involvement requirements. A successful Environmental Review will have sufficient information to determine the type of NEPA action required (Categorical Exclusion, Environmental Assessment, or Environmental Impact Statement). There are slight differences in State and Federal environmental requirements. For jointly funded projects involving Drinking Water State Revolving Fund (DWSRF) see their ER requirements. It may be necessary to complete two ERs. The Oregon Economic and Community Development Department, the Rural Utilities Service, and the Oregon Health Division must concur in the environmental reports. Early joint consultation with all agencies is recommended. For more information, refer to **Appendix D**.

Water Management and Conservation Plans

Most new community water right permits contain conditions requiring water management and conservation plans. The Water Management and Conservation Plans (WMCP) program helps water suppliers examine their supply, demand, future needs, and water conservation tools. An approved management and conservation plan will be helpful to communities seeking new permits or seeking to transfer or extend existing permits. Master Plans or Oregon Health Division Capacity Development Plans must address water management and conservation plans when using agency funding or if agency financing is anticipated for design and construction.

The **WMCP** program emphasizes the critical role of planning in preparing communities for further growth and development or potential changes in their water supply. The **WMCP** program encourages water providers to use water "saved" through conservation practices as a viable source of water to meet growing demands-at a lower cost than other sources. The program also encourages use of storage and transfers as alternatives to additional water rights for natural stream flow or ground water. For a users guide on water management and conservation plans, refer to **Appendix E**.

Consistency with Comprehensive Land Use Plans

Comprehensive land use plans have been adopted by every city and county in the State of Oregon and have been acknowledged to comply with the Statewide Land Use Planning Goals. Statewide Goal 11 applies to public facilities and services, including water systems. In most cases, compliance with the acknowledged local comprehensive plan also ensures compliance with statewide land use policies.

One of the first steps in preparing a Water System Master Plan, Preliminary Engineering Report, or Water Management and Conservation Plan is to consult the comprehensive plan of the affected city or county. This initial step will help to ensure that the new planning work is consistent with state and local land use policies, planning assumptions, and water facility plans. If the existing comprehensive plan is out of date, it may be necessary to amend it to incorporate new information.

Guidelines

Comprehensive plans contain policies and plan map designations, which determine where and what kind of development is permitted. The plan is implemented by local zoning or other development regulations. For example, development is encouraged in urban areas, but is strictly limited in farm, forest, and other resource areas. In rural residential areas (that is, outside of city urban growth boundaries and some unincorporated communities) state policy allows no increase in the density of planned development when water facilities are established or extended. In projecting the need for future water facilities in these rural areas, no re-zoning of land to allow more development and no development beyond that which would be allowed without the water system may be assumed.

Cities over 2,500 in population and some unincorporated communities have a Public Facilities Plan which addresses the water service needs of the community. These plans contain a five-year capital improvement program and a list of projects needed up to twenty years. When more than one water provider exists, these plans designate the ultimate service area of each provider. Also, city plans have a forecast of population, housing, and employment, which is adopted and has been coordinated with county and state forecasts.

To ensure that new water facility plans and projects comply with local comprehensive plans and statewide planning policies, the following planning agencies should be contacted, as applicable:

- the city planning department
- the county planning department
- the local council of governments, if any
- the Oregon Department of Land Conservation and Development

A more detailed discussion of how Oregon's statewide land use planning program affects local water system planning is contained in **Appendix F**.

Funding Agency Requirements and Review Processes

It is important to contact potential funding agencies in the early stages of project development. This permits the requirements of the selected funding agencies to be considered and acted upon as the project is being developed. One good way to learn more about the available funding options is to attend a one-stop meeting. At that meeting, communities meet with representatives of several funding sources, describe their proposed project, and learn about programs available from the represented funding sources. The Oregon Economic and Community Development Department regional teams listed in **Appendix A** can assist with scheduling a one-stop meeting.

Each funding agency will require engineering information describing the proposed project; detailed cost estimates and other required information relating to the project and community. Environmental information will almost always be required when funding assistance is being requested. Since application requirements vary somewhat between agencies, it is important to understand the specific requirements of each funding source that may be utilized. For more information concerning the material which may be required, refer to the Appendices.

Oregon Economic and Community Development Department

Financing Programs

- Community Development Block Grant Program
- Water/Wastewater Financing Program
- Special Public Works Fund Program
- Oregon Bond Bank
- Safe Drinking Water Revolving Loan Fund

Northwest Regional Team

- (503) 229-5220** (503) 222-5050 (fax) serving these counties:
- Clatsop
 - Tillamook
 - Columbia
 - Washington
 - Multnomah
 - Clackamas
 - Hood River

Valley/Mid-Coast Regional Team

- (503) 986-0244** (503) 581-5115 (fax) serving these counties:
- Lincoln
 - Benton
 - Linn
 - Lane
 - Yamhill
 - Polk
 - Marion

Southwest Regional Team

- (503) 986-0122** (503) 581-5115 (fax) serving these counties:
- Coos
 - Curry
 - Douglas
 - Josephine
 - Jackson

Central Corridor Regional Team

- (503) 986-0077** (503) 581-5115 (fax) serving these counties:
- Wasco
 - Gilliam
 - Sherman
 - Wheeler
 - Jefferson
 - Deschutes
 - Crook
 - Klamath
 - Lake

Eastern Oregon Regional Team

- (503) 986-0200** (503) 581-5115 (fax) serving these counties:
- Morrow
 - Umatilla
 - Union
 - Wallowa
 - Baker
 - Grant
 - Harney
 - Malheur

Web Pages

- Agency Services www.econ.state.or.us/services.htm
- Community Development Block Grants www.econ.state.or.us/cdbg.htm
- Water/Wastewater Financing Program www.econ.state.or.us/wtrww.htm
- Special Public Works Fund www.econ.state.or.us/spwf.htm
- Safe Drinking Water Revolving Loan Fund www.econ.state.or.us/safe_wtr.htm

Appendix A – Agency and Organizational Resources

Rural Community Assistance Corporation

	Rural Development Specialist:		
Environmental	Chris Marko	(503) 228-1780	(503) 975-7618 (Cell)
Loan Officer	Lucy Shelby	(503) 228-1672	(503) 975-7621 (Cell)
Web Page	www.RCAC.org		

United States Department of Agriculture – Rural Utilities Service

Portland Office	David Force Suzanne Fitzgerald	(503) 414-3327 (503) 414-3330	serving these counties:
	<ul style="list-style-type: none">● Clatsop● Tillamook	<ul style="list-style-type: none">● Columbia● Washington	<ul style="list-style-type: none">● Hood River● Wasco● Sherman
Pendleton Office	Paul Kershnik Colleen Hewes	(541) 278-8049	serving these counties:
	<ul style="list-style-type: none">● Gilliam● Grant	<ul style="list-style-type: none">● Morrow● Baker	<ul style="list-style-type: none">● Umatilla● Union● Wallowa● Harney● Malheur
Salem Office	Forrest Peck	(503) 399-5751	serving these counties:
	<ul style="list-style-type: none">● Lincoln● Polk	<ul style="list-style-type: none">● Yamhill● Marion	<ul style="list-style-type: none">● Multnomah● Clackamas
Eugene Office	Ken Durrell Pamela Swires Rosanne Volker-Bronson	(541) 465-6850	serving these counties:
	<ul style="list-style-type: none">● Benton● Lane	<ul style="list-style-type: none">● Linn● Deschutes	<ul style="list-style-type: none">● Jefferson● Crook● Klamath● Lake
Roseburg Office	Clem Singer	(541) 673-0136	serving these counties:
	<ul style="list-style-type: none">● Coos● Curry	<ul style="list-style-type: none">● Douglas● Josephine	<ul style="list-style-type: none">● Jackson
Web Pages	National	www.rurdev.usda.gov/rus	
	Oregon	www.rurdev.usda.gov/or	

Oregon Water Resources Department

	Region Managers:	
Northwest Region	Dave Jarrett	(503) 986-0892
Southwest Region	Al Cook	(541) 471-2886
South Central Region	Kyle Gorman	(541) 388-6669
North Central Region	Michael Ladd	(541) 278-5456
Eastern Region	Jerry Rodgers	(541) 523-8224
Web Pages	Oregon	www.wrd.state.or.us
	Water Management and Conservation Plans	
		http://arcweb.sos.state.or.us/rules/OARS_600/OAR_690/690_086.html

Oregon Health Division

	Regulatory Staff:	
Central and Eastern Oregon	Gary Burnett	(541) 276-8006 Extension 352
Western Oregon	Tom Charbonneau	(503) 731-4317
Oregon (Statewide)	Chris Hughes	(503) 731-4317
Web Pages	Main	www.ohd.hr.state.or.us
	Rules and Regulations	www.ohd.hr.state.or.us/dwp/rules.htm

Appendix A – Agency and Organizational Resources

Department of Land Conservation and Development

	Regional Representatives:			
Portland	Meg Fernekees		(503) 731-4065	Extension 34
	Darci Rudzinski		(503) 731-4065	Extension 25
Bend	Laren Woolley	Urban Areas	(541)-388-6424	
	Jon Jinings	Rural Areas		
Salem	Dale Jordan	North Coast	(503)-373-0050	Extension 262
	Dave Perry	South Coast	(503)-373-0050	Extension 267
	Mel Lucas	Willamette Valley	(503)-373-0050	Extension 256
	Rob Hallyburton	Rural Areas		Extension 239
	Mark Radbaugh	Willamette Valley Urban Areas	(503)-373-0050	Extension 224
Central Point	Nancy Kincaid	Southern Oregon	(541)-858-3152	
Web Page	www.lcd.state.or.us			

Oregon Association of Water Utilities

	Silverton Office Regional Representatives:		(503) 873-8353
Executive Director	Jason Green		(503) 873-8538 (Fax)
Water Circuit Rider	Doug Osburn		
Water Circuit Rider	Jeff Swanson		
Program Specialist	Cheris Lane		
Groundwater Technician	Mike Hayes		
Wastewater Technician	David Branham		
Solid Waste Circuit Rider	Tim Tice		
SRF Circuit Rider	[vacant]		
Web Page	www.orednet.org/~oawu		

Appendix B – Oregon Health Division Plan Submission and Review Requirements

Oregon Administrative Rules

OAR 333-061-0060

Plan Submission and Review Requirements

- (5) Water System Master Plans:
- (a) Community water systems with 300 or more service connections shall maintain a current Water System Master Plan. Water System Master Plans shall be prepared by a professional engineer registered in Oregon and submitted to the Division for review and approval.
 - (b) Each Water System Master Plan shall evaluate the needs of the water system for at least a twenty year period and shall include but is not limited to the following elements:
 - (A) A summary of the overall plan that includes the water quality and service goals, identified present and future water system deficiencies, the engineer's recommended alternative for achieving the goals and correcting the deficiencies, and the recommended implementation schedule and financing program for constructing improvements.
 - (B) A description of the existing water system which includes the service area, source(s) of supply, status of water rights, current status of drinking water quality and compliance with regulatory standards, maps or schematics of the water system showing size and location of facilities, estimates of water use, and operation and maintenance requirements.
 - (C) A description of water quality and level of service goals for the water system, considering, as appropriate, existing and future regulatory requirements, non-regulatory water quality needs of water users, flow and pressure requirements, and capacity needs related to water use and fire flow needs.
 - (D) An estimate of the projected growth of the water system during the Water System Master Plan period and the impacts on the service area boundaries, water supply source(s) and availability, and customer water use.
 - (E) An engineering evaluation of the ability of the existing water system facilities to meet the water quality and level of service goals, identification of any existing water system deficiencies, and deficiencies likely to develop within the Water System Master Plan period. The evaluation shall include the water supply source, water treatment, storage, distribution facilities, and operation and maintenance requirements. The evaluation shall also include a description of the water rights with a determination of additional water availability, and the impacts of present and probable future drinking water quality regulations.

Appendix B – Oregon Health Division Plan Submission and Review Requirements

- (F) Identification of alternative engineering solutions, and associated capital and operation and maintenance costs, to correct water system deficiencies and achieve system expansion to meet anticipated growth, including identification of available options for cooperative or coordinated water system improvements with other local water suppliers.
 - (G) A description of alternatives to finance water system improvements including local financing (such as user rates and system development charges) and financing assistance programs.
 - (H) A recommended water system improvement program including the recommended engineering alternative and associated costs, maps or schematics showing size and location of proposed facilities, the recommended financing alternative, and a recommended schedule for water system design and construction.
 - (I) If required as a condition of a water use permit issued by the Water Resources Department, the Water System Master Plan shall address the requirements of OAR 690-086-0120 (Water Management and Conservation Plans).
- (c) The implementation of any portion of a water system Water System Master Plan must be consistent with OAR 333-061 (Public Drinking Water Systems, OHD), OAR 660-011 (Public Facilities Planning, DLCD) and OAR 690-086 (Water Management and Conservation Plans, WRD).

Appendix C – Preliminary Engineering Report Outline

Outline for Water Facilities Plan/Preliminary Engineering Report

A Water Facilities Plan/Preliminary Engineering Report should clearly describe the owner's present situation, analyze alternatives, and propose a specific course of action from an engineering perspective. The level of effort required to prepare the report and the depth of analysis within the report are proportional to the size and complexity of the proposed project. Agency funded projects must be modest in design, size and cost, and be constructed and operated in an environmentally responsible manner. The following should be used as a guide for the preparation of Water Facilities Plan/Preliminary Engineering Report for Agency-financed water systems:

Executive Summary

1. **Executive Summary.** Describe the conclusions of this Plan/Report.

Introduction

2. **Introduction.** Describe in general terms the circumstances that initiated this Plan/Report and the processes used to develop it.

Project Planning Area

3. **Project Planning Area.** Describe the area under consideration. The project planning area may be larger than the service area determined to be economically feasible. The description should include information on the following:

3.1 **Study Area Location.** Maps, photographs, and sketches. These materials should identify legal and natural boundaries, major obstacles, elevations, roads, streams, etc.

3.2 **Physical Environment.** Maps, photographs, studies, and narrative. These materials should provide information on the location and significance of important land resources (farmland, rangeland, forest land, wetlands, and 100-year/500-year flood plains, including stream crossings), historic sites, endangered species/critical habitats, etc., that must be considered in project planning.

3.2.1 Land Use.

- a. General Land Use. Zoning, Land Use Classifications
- b. Prime and Important Farmland, Prime Rangeland and Prime Forest land
- c. Formally Classified Lands. (Wild and Scenic Rivers, Recreation Areas, State or National Parks, etc.)

3.2.2 Flood Plains (100/500)

3.2.3 Wetlands

3.2.4 Cultural Resources

3.2.5 Biological Resources

- a. Flora and Fauna
- b. Threatened and Endangered Species

3.2.6 Water Quality

3.2.7 Water Quantity

3.2.8 Coastal Resources

Appendix C – Preliminary Engineering Report Outline

Existing Water System Facilities

3.2.9 Miscellaneous Issues

- a. Air Quality
- b. Transportation
- c. Noise

3.2.10 Environmental Justice

3.3 Socio-Economic Environment. Growth Areas and Population Trends. Specific areas of concentrated growth should be identified. Population projections for the project planning area and concentrated growth areas should be provided for the project design period. These projections should be based on historical records with justification from recognized sources (Oregon State Office of Economic Analysis).

3.3.1 Economic Conditions and Trends

3.3.2 Population Trends and Growth Projections

4. Existing Water System Facilities. Describe the existing source(s), collection system, treatment facilities, and storage & distribution system including at least the following information:

4.1 Location Map. Provide a schematic layout and general service area map (may be identified on project planning area maps).

4.2 History

4.3 Condition of Facilities. Describe present condition; suitability for continued use; adequacy of water supply; and, if any existing central facilities, the treatment, storage, and distribution capabilities. Also, describe compliance with Safe Drinking Water Act and applicable State requirements.

4.4 Financial Status of any Operating Central Facilities. Provide information regarding rate schedules, annual operating and maintenance (O&M) cost, tabulation of users by monthly usage categories and revenue received for last three fiscal years. Give status of existing debts and required reserve accounts.

Basis of Planning

5. Basis of Planning

5.1 Need for Project. Describe the needs in the following order of priority:

5.1.1 Health and Safety. Describe concerns and include relevant regulations and correspondence from/to Federal, and State regulatory agencies.

5.1.2 System Operation, Maintenance, and Replacement. Describe the concerns and indicate those with the greatest impact. Investigate water loss, management adequacy, inefficient designs, and problem elimination prior to adding additional capacity.

Appendix C – Preliminary Engineering Report Outline

Development and Evaluation of Alternatives

- 5.1.3 **Growth.** Describe the reasonable growth capacity that is necessary to meet needs during the planning period. Facilities proposed to be constructed to meet future growth needs should generally be supported by additional revenues. Consideration should be given to designing for planned capacity increases. Provide number of new customers committed to this project.
- 5.2 **Basis for Design**
 - 5.2.1 **Regulatory Requirements**
 - 5.2.2 **Design Criteria.** State the design parameters used for evaluation purposes. These parameters must meet the requirements established in Rural Utilities Service Instruction 1780.57.
- 5.3 **Basis for Cost Estimate**
 - 5.3.1 **Construction**
 - 5.3.2 **Engineering**
 - 5.3.3 **Legal and Administrative**
 - 5.3.4 **Contingencies**
- 5.4 **Water System Design Capacity**
 - 5.4.1 **Water Source & Supply Systems**
 - 5.4.2 **Water Treatment Facilities**
 - 5.4.3 **Storage**
 - 5.4.4 **Distribution System**
- 6. **Development and Evaluation of Alternatives.** This section should describe the reasonable alternatives considered in planning a solution to meet the identified need. Alternatives should include a “no project action” alternative for comparison purposes and at least two other alternatives. Include the following information on each alternative.
 - 6.1 **Description.** Describe the facilities associated with the alternative. Describe all feasible water supply sources and provide comparison of such sources. Also, describe treatment, storage, and distribution facilities.
 - 6.2 **Map.** Schematic layout.
 - 6.3 **Environmental Impacts.** Do not duplicate the information in the applicant’s submittal of environmental information. Describe unique direct and indirect impacts on flood plains, wetlands, other important land resources, endangered species, historical and archaeological properties, etc., as they relate to a specific alternative. Funding agencies must conduct an environmental assessment prior to project approval.

Appendix C – Preliminary Engineering Report Outline

Recommended Alternative

- 6.4 **Land Requirements.** Identify sites and easements required. Further specify whether these properties are currently owned, or to be acquired or leased.
- 6.5 **Construction Problems.** Discuss concerns such as subsurface rock, high water table, limited access, or other conditions that may affect cost of construction or operation of facility.
- 6.6 **Cost Estimates**
 - 6.6.1 **Construction**
 - 6.6.2 **Non-Construction and Other Project Costs**
 - 6.6.3 **Annual Operation, Maintenance, and Replacement**
 - 6.6.4 **Present Worth**, based on Federal discount rates
- 6.7 **Advantages/Disadvantages of Alternatives.** Describe the specific alternative's ability to meet the owner's needs within its financial and operational resources, comply with regulatory requirements, compatibility with existing comprehensive area-wide development plans, and satisfy public and environmental concerns. A matrix rating system should be used in comparing alternatives to each other and displaying the appropriate information.
- 7. **Recommended Alternative.** This section should contain a fully developed description of the proposed project based on the preliminary description under the evaluation of alternatives. At least the following information should be included:
 - 7.1 **Project Design**
 - 7.1.1 **Water Supply.** Include requirements for quality and quantity. Describe recommended source, including site.
 - 7.1.2 **Treatment.** Describe process in detail and identify location of plant and site of any process discharges.
 - 7.1.3 **Storage.** Identify size, type and site location.
 - 7.1.4 **Pumping Stations.** Identify size, type, site location and any special power requirements.
 - 7.1.5 **Distribution Layout.** Identify general location of line improvements: lengths, sizes and key components.
 - 7.1.6 **Hydraulic Calculations.** This information should provide sufficient detail in a tabular format to determine compliance with Rural Utilities Service design requirements. Automation tools may be used. The submittal should include a map with a list of nodes and pipes and the associated characteristics, such as elevation of node, pipe diameter, pipe segment length, reservoir elevation, domestic and industrial water demands, fire flow, etc.

Appendix C – Preliminary Engineering Report Outline

- 7.2 **Cost Estimate.** Provide an itemized estimate of the project cost based on the anticipated period of construction. Include development and construction, land and rights, legal, engineering, interest, equipment, contingencies, refinancing, and other costs associated with the proposed project. (For projects containing both water and waste disposal systems, provide a separate cost estimate for each system.)
- 7.3 **Annual Operating Budget**
- 7.3.1 **Income.** Provide a rate schedule. Project income realistically, based on user billings, water treatment contracts, and other sources of incomes. In the absence of other reliable information, for budget purposes, base water use on 100 gallons per capita per day, or 250 gallons per residential-sized connection per day, or 7,500 gallons per residential-sized connection per month. When large agricultural or commercial users are projected, the report should include facts to substantiate such projections and evaluate the impact of such users on the economic viability of the project. The number of users should be based on equivalent dwelling units, which is the level of service provided to a typical rural residential dwelling.
- 7.3.2 **Operations and Maintenance Costs.** Project costs realistically. In the absence of other reliable data, base on actual costs of other existing facilities of similar size and complexity. Include facts in the report to substantiate operation and maintenance cost estimates. Include salaries, wages, taxes, accounting and auditing fees, legal fees, interest, utilities, gasoline, oil and fuel, insurance, repairs and maintenance, supplies chemicals, office supplies and printing, and miscellaneous. If purchasing water or if water is being treated by others, these costs should be included in operating and maintenance costs. Replacement or repair of individual water meters, short segments of pipeline, or minor parts of water treatment facilities should also be included with operating and maintenance costs.
- 7.3.3 **Capital Improvements.** Estimate the cost of future construction of major improvements such as a new reservoir or new treatment plant. Plan for the expiration of the useful life of existing major facilities. Major renovation or replacement of existing facilities is considered a capital improvement. Include such things as replacement of all water meters or total rehabilitation of an existing treatment plant or reservoir. A fund should be created to pay for such improvements in the future.
- 7.3.4 **Debt Repayments.** Describe existing and proposed project financing from all sources. All estimates of Rural Utilities Service funding should be based on loans, not grants. The Rural Utilities Service will evaluate the proposed project for the possible inclusion of Rural Utilities Service grant funds.

Appendix C – Preliminary Engineering Report Outline

Conclusions and Recommendations

- 7.3.5 **Reserve.** Unless otherwise required by State statute establish at one tenth (1/10) of annual debt repayment requirement.
- 8. **Conclusions and Recommendations.** Provide any additional findings and recommendations that should be considered in development of the project. This may include recommendations for special studies; highlight the need for special coordination, recommended plan of action to expedite project development, etc.

Appendix D – Environmental Report Information

Environmental Report Outline / Format

Projects seeking federal financial assistance are required to complete an environmental report. The United States Department of Agriculture – Rural Utilities Service, has developed a comprehensive environmental report guidance document (RUS Bulletin 1974A-602, Guide for Preparing the Environmental Report for Water and Waste Projects). This guide must be used in preparing the Environmental Report required for a proposed project. The guide can be obtained by calling your agency contact or it can be downloaded from the United States Department of Agriculture – Rural Utilities Service web page at: www.usda.gov/rus/water/ees/bulletin.htm

An environmental report should include:

1) a “summary of findings” of the environmental conditions, 2) an analysis of a “no action” alternative, in addition to other alternatives considered, 3) a description of any additional studies that were performed, and 4) any mitigation measures needed to minimize the impact of the proposed project or the natural and human environments.

D.1

The following is an example of the Table of Contents for an Environmental Report.

(For a more detailed description of the Table of Contents of an Environmental Report, see paragraph D.2)

Executive Summary

0.0 Executive Summary

Purpose and Need of Project

1.0 Purpose and Need of Project

1.1 Project Description (Proposed Action or Proposed Project)

1.2 Purpose and Need of Project

Alternatives

2.0 Alternatives to the Proposed Action

Affected Environment / Environmental Consequences

3.0 Affected Environment / Environmental Consequences

3.1 Land Use / Important Farmland / Formally Classified Lands

3.1.1 Affected Environment

3.1.2 Environmental Consequences

3.1.3 Mitigation

3.2 Flood Plains

3.2.1 Affected Environment

3.2.2 Environmental Consequences

3.2.3 Mitigation

Appendix D – Environmental Report Information

	3.3	Wetlands
	3.3.1	Affected Environment
	3.3.2	Environmental Consequences
	3.3.3	Mitigation
	3.4	Cultural Resources
	3.4.1	Affected Environment
	3.4.2	Environmental Consequences
	3.4.3	Mitigation
	3.5	Biological Resources
	3.5.1	Affected Environment
	3.5.2	Environmental Consequences
	3.5.3	Mitigation
	3.6	Water Quality Issues
	3.6.1	Affected Environment
	3.6.2	Environmental Consequences
	3.6.3	Mitigation
	3.7	Coastal Resources
	3.7.1	Affected Environment
	3.7.2	Environmental Consequences
	3.7.3	Mitigation
	3.8	Socio-Economic / Environmental Justice Issues
	3.8.1	Affected Environment
	3.8.2	Environmental Consequences
	3.8.3	Mitigation
	3.9	Miscellaneous Issues
	3.9.1	Affected Environment
	3.9.2	Environmental Consequences
	3.9.3	Mitigation
Summary	4.0	Summary of Mitigation
Correspondence	5.0	Correspondence
Exhibits / Maps	6.0	Exhibits / Maps

D.2

Executive Summary

Purpose and Need for Project

Alternatives

The following is a detailed format of an Environmental Report.

0.0 Executive Summary

1.0 Purpose and Need for Project

This section will succinctly describe the proposed project and establish the underlying purpose and need. This section has two subsections.

1.1 Project Description (Proposed Action or Proposed Project)

Provide a description of the proposed project summarizing all proposed facility improvements and construction activities. These are commonly referred to in NEPA and the federal Council for Environmental Quality (CEQ) regulations as the proposed action.

1.2 Purpose and Need of Project

This subsection shall establish the underlying purpose of the proposed project and the need. Therefore it is necessary to clearly and definitively demonstrate the purpose and establish a need for the project. The information will also be used to determine what reasonable or practicable alternatives need to be evaluated in the Environmental Report. In addition this section should state what would be the consequences of not implementing the proposed project, which is referred to in NEPA as the No Action alternative.

2.0 Alternatives to the Proposed Action

In planning and developing a proposed project, applicants shall explore all reasonable alternatives that could satisfy and are consistent with the purpose and need of the project Alternatives may include:

- Engineering design alternatives,
- Siting locations of facilities,
- System capacities, etc.

As the engineering planning and design and environmental review is developed, various alternatives may be evaluated and ultimately determined to be unreasonable for various technical or financial reasons. In this section of the Environmental Report, outline the reasonable alternatives considered and present the evaluation factors considered in judging each alternative’s ability to met the described purpose and need of the proposed project.

All relevant factors that contribute to the decision making process shall be included, for example, technical and economic feasibility issues, environmental considerations, or mitigation measures. The evaluation and weighting criteria assigned in analyzing the proposed project and the alternatives considered should be summarized and presented in a comparative table.

Appendix D – Environmental Report Information

Affected Environment / Environmental Consequences

3.0 Affected Environment / Environmental Consequences

This section of the Environmental Report will:

Describe and document the environmental resources of the area to be affected by the proposed project and each alternative considered.

Discuss the environmental consequences of each affected resource.

Establish and discuss any mitigation measure(s) necessary to avoid or minimize any adverse impacts to a specific environmental resource.

Only alternatives determined to be reasonable need to be analyzed in this section.

The typical process to document and consider effects to be environmental resources is:

Describe the area(s) to be affected by the proposed project and each alternative considered. Affected areas may correspond to the service area of the proposed project. Alternatives may have different affected areas. Include maps outlining the affected area(s) showing the location of all proposed construction.

Identify the environmental resources in the described affected area(s). Applicants, as necessary, will be required to consult with appropriate environmental regulatory agencies to identify the environmental resources in the affected areas and, in addition, to review any conclusions drawn from an analysis of the proposed project's potential effect to these resources. Agency contacts or web sites where preliminary information can be found is discussed in Section 4.0 of RUS Bulletin 1794A-602.

Discuss the environmental effects or consequences of the proposed project and each alternative considered. All direct, indirect and, if applicable, cumulative effects need to be identified and discussed. Some of the impacts may be viewed as adverse, while others may be viewed as beneficial. For some actions, data may be unavailable or insufficient to make a determination of an effect to an environmental resource. If so, clearly state the situation. Otherwise clearly describe all effects or consequences to all environmental resources whatever they may be. For specific guidance of the extent to which effects (direct, indirect and cumulative) need to be discussed, applicants should contact the Rural Development State Environmental Coordinator or Processing Office.

Identify potential mitigation measures that may be necessary to avoid or minimize any adverse effects caused by the proposed project and each alternative considered. Any and all mitigation measures need to be developed with an applicable environmental regulatory agency and be developed so as to be enforceable.

Appendix D – Environmental Report Information

Section 3.0 of RUS Bulletin 1794A-602 provides more detail on the following environmental resources to be evaluated:

3.1 Land Use / Important Farmland / Formally Classified Lands

- 3.1.1 Affected Environment
- 3.1.2 Environmental Consequences
- 3.1.3 Mitigation

3.2 Land Use / Important Farmland / Formally Classified Land

- 3.2.1 Affected Environment
- 3.2.2 Environmental Consequences
- 3.2.3 Mitigation

3.3 Flood Plains

- 3.1.1 Affected Environment
- 3.3.2 Environmental Consequences
- 3.3.3 Mitigation

3.4 Wetlands

- 3.4.1 Affected Environment
- 3.4.2 Environmental Consequences
- 3.4.3 Mitigation

3.5 Cultural Resources

- 3.5.1 Affected Environment
- 3.5.2 Environmental Consequences
- 3.5.3 Mitigation

3.6 Biological Resources

- 3.6.1 Affected Environment
- 3.6.2 Environmental Consequences
- 3.6.3 Mitigation

3.7 Water Quality Issues

- 3.7.1 Affected Environment
- 3.7.2 Environmental Consequences
- 3.7.3 Mitigation

Appendix D – Environmental Report Information

3.8 Coastal Resources

3.8.1 Affected Environment

3.8.2 Environmental Consequences

3.8.3 Mitigation

3.9 Socio-Economic / Environmental Justice Issues

3.9.1 Affected Environment

3.9.2 Environmental Consequences

3.9.3 Mitigation

3.10 Miscellaneous Issues

3.10.1 Affected Environment

3.10.2 Environmental Consequences

3.10.3 Mitigation

Summary of Mitigation

4.0 Summary of Mitigation

This section of the Environmental Report shall summarize proposed mitigation measures described in Section 3.0 of RUS Bulletin 1794A-602. Describe implementing criteria of mitigation measures and how each measure will be enforced. A table format is useful in presenting the evaluation.

Correspondence and Coordination

5.0 Correspondence and Coordination

As specified in Section 3.0 of RUS Bulletin 1794A-602, many of the environmental issues evaluated require coordination with State or Federal environmental regulatory agencies. All correspondence that is related to this coordination should be included in this section of the Environmental Report.

Exhibits

6.0 Exhibits

Attach supporting documents, maps, photographs, etc.

Appendix E – Water Management Plan (OAR 690-086-0140)

Guide to the Oregon Water Resources Department's Water Management & Conservation Plan Elements and Standards

http://arcweb.sos.state.or.us/rules/OARS_600/OAR_690/690_086.html

The purpose of this guide is to assist in the preparation of a Water Management & Conservation Plan. The following plain text comes directly from the Administrative Rules OAR 690 Div 86 and the **bold text** consists of helpful hints for preparation of the plan.

Plan Elements and Standards

690-086-0140

Plan Elements and Standards

A water management and conservation plan submitted by a municipal water supplier shall consist of the following elements:

A Description of the Water System

(1) A description of the water system that includes at least the following information:

(a) Source(s) of water, water rights, storage and regulation facilities, transfers and exchange agreements, and intergovernmental cooperation agreements;

See the analysis below (Source Analysis OAR 690-086-0140 (1) (a))

This section is very useful and the foundation of any water management activities. Make sure that you list all sources of water.

Water Rights Suggestion:

Make a copy of any water rights (permits of certificates), transfers, assignments and extensions. Read all conditions and make note of any deadlines that are included in the conditions.

Storage and regulation facility descriptions from Health Division Water System Master Plans are acceptable.

Exchange and intergovernmental cooperation agreements are especially important to list. Examples of sources typically listed by agreements are:

- **Conservation**
- **Surface Water**
- **Ground Water**
- **Stored Water**
- **Municipal Reservoirs**
- **Aquifer Storage & Recovery**
- **Contract for Federal or other Project water**

(b) System capacity, limitations and opportunities for expansion under existing water rights;

See the analysis below (Source Analysis OAR 690-086-0140 (1) (a))

Suggestion: Pay special attention to the actual amount of water which you can develop rather than the face value of the maximum diversion rate.

Appendix E – Water Management Plan (OAR 690-086-0140)

(c) A description of other conservation measures, if any, currently implemented by the water supplier;

Take credit for all efforts. Some examples include:

Web sites, mailings, leak repair, curtailment, elimination of dead-end systems, alternative water uses, cooling towers, price incentives, monthly billing, television, and radio.

(d) For each of the following conservation measures not currently being implemented, an evaluation of whether implementation of the measure is feasible and appropriate for ensuring the efficient use of water and the prevention of waste:

This section is very important, explain your situation well especially if conservation methods are not appropriate for your community. Statements such as “We can’t afford to do it” must be justified.

(A) A system-wide leak repair program or line replacement to reduce system leakage to 15 percent, and if the reduction of system leakage to 15 percent is found to be feasible and appropriate, to reduce system leakage to 10 percent;

AWWA standards are 10%.

Do not confuse this with unaccounted for water. If you don’t keep track of certain water uses such as Parks irrigation, back washing at the treatment plant, or hydrant testing, you will not be able to meet this standard.

If you have new pipes and have pressure tested them, this would be a justification to defer this item.

(B) Programs to encourage low water use landscaping;

Demonstration gardens, cooperative training with clubs, extension service, seasonal rates, ordinances, mailings, xeric landscape incentives for new construction are examples of these programs.

An example of a program which was excused from this item is a water district that does not allow outside irrigation.

(C) Incentive programs that encourage conservation;

A great example of this kind of program is a cooperative effort between the Office of Energy and the cities of Wilsonville and Lafayette. The program offers education and low-interest financing of resource-efficient appliances, irrigation equipment, and fixtures. Contact Lisa Schwartz at (503) 378-4040 or toll free 1 (800) 221-8035. The Office of Energy also offers tax credits for resource-efficient clothes washers and dishwashers. Information is also available at www.energy.state.or.us.

Appendix E – Water Management Plan (OAR 690-086-0140)

(D) Retrofitting or replacement of existing inefficient water using fixtures;

Often, the first places to look for this aspect of the plan are public facilities. This is especially true if you are working on replacement of water or sewer treatment plants. Some cities require by ordinance any remodeling of bath and kitchens to retrofit with water efficient fixtures. Institutional and industrial cooling can be another option to analyze.

Do not miss the looping of your delivery system as an example of retrofitting. By not having to flush dead ends, the system can save thousands of gallons per year.

Determine the number of homes in your service area built before 1996. It is likely that the majority of these homes do not have a low-flow toilet. Retrofitting from five gallons per flush to 1.6 gallons per flush is a 68% water savings.

(E) Adoption of rate structures that support and encourage water conservation;

Items as simple as monthly billing instead of annual bills can be very helpful. Obviously flat rates and declining block rates are questionable items. Certainly community values and economics must be considered when dealing with this aspect of the plan. Contractual obligations with major industries, public interest uses of water (such as parks, swimming pools, school facilities) must be identified. The Rural Community Assistance Corporation has a rate setting training available.

(F) Water reuse opportunities; and

The first reuse opportunity may actually be at the end of your operation. An example of these kinds of opportunity is the “Oregon Gardens” in Silverton and the municipal golf course in Prineville. Operators should take every credit possible; for example, back washing filters with treated water instead of finished water at the sewage treatment plant. Irrigation with treated water in non-contact areas.

(G) Any other conservation measures identified by the water supplier that would improve water use efficiency; and

A great example of this would be participation in the Environmental Protection Agency Wave program.

(e) A description and estimated schedule for implementation of each of the following conservation measures:

Full metering is a must for this aspect of the plan. Some smaller systems can even do monthly meter reading by the customer. A small decrease in their rate can be an incentive for this data collection.

Appendix E – Water Management Plan (OAR 690-086-0140)

(A) An annual audit of all water supplied;

(B) If the system is not fully metered, a program to install meters on all un-metered water service connections. The program shall start immediately after the plan is approved and shall identify the number of meters to be installed each year with full metering completed within five years of approval of the plan;

Full metering is a must for this aspect of the plan. Some smaller systems can even do monthly meter reading by the customer. A small decrease in their rate can be an incentive for this data collection.

DO NOT WAIT UNTIL THE FIFTH YEAR TO BEGIN YOUR PROGRAM.

(C) A regularly scheduled program for leak detection for the transmission and distribution system;

All mainlines and secondaries should be tested at least once per five-year period. Feeder lines should be tested for leaks on a regular basis. Describe how you will prioritize your testing.

Lines with histories of leaking should be a priority. Lines over 15 years old should also be suspect. Lines which are comprised of different materials should also be of a higher priority. Lines which have been damaged by mechanical or chemical problems should also be on the priority list. Lines on steep slopes, high pressure lines, and lines under high traffic areas are also areas to consider more frequent testing.

(D) A meter testing and maintenance program;

Actually, if you do not have a meter testing program, you are losing revenue and eventually you will never be able to deal with the data from your water audit. Errors from poorly maintained meters can make an efficient system look bad.

If your system has meters over ten years old that are not at least sampled by zone, it is very likely that your water audit is not accurate.

(E) A public education program on efficient water use; and

Billing mailers are only the beginning of the opportunities for this aspect of the plan. One of the best aspects of education is to compare the previous year's use. And in some residential applications, the comparison of the system average against the individual can be an incentive. Refer back to (B) and (C) above.

(F) Any other conservation measures identified as feasible and appropriate under paragraph (d).

Appendix E – Water Management Plan (OAR 690-086-0140)

Water Curtailment

(3) A water curtailment element which includes at least the following:

(a) A description of the frequency and magnitude of supply deficiencies within the past 10 years and current capacity limitation. The description shall include an assessment of the ability of the water supplier to maintain delivery during long-term drought or other source shortages;

If you haven't kept track, start now. This is an aspect of operation and maintenance that will make your job easier when it is crunch time. It is hard to justify curtailment if you do not have any history.

(b) A list of three or more stages of alert for potential shortage or water service difficulties. The stages shall range from a potential or mild alert, increasing through a serious situation to a critical emergency;

The Department has an example ordinance if needed. You might want to modernize this by including a description of the media alert, web page features, signs, and/or even messages on cable access TV.

Do not take this part of the plan lightly. During a shortage, it may limit employment opportunities, damage landscaping or even cause employers to relocate.

(c) A description of pre-determined levels of severity of shortage or water service difficulties which will trigger the curtailment actions under each stage of alert to provide the greatest assurance of maintaining potable supplies for human consumption; and

This aspect of the plan will be very beneficial if the policy makers understand that these are policy determined to be in the communities' best interest. If this aspect of the plan is not discussed well, usually the plant operator is blamed for a shortage which is not his fault.

(d) A list of specific stand-by water use curtailment actions for each stage of alert ranging from notice to the public of a potential alert, increasing through limiting nonessential water use, to rationing and/or loss of service at the critical alert stage.

Water Supply

(4) A long-range water supply element which includes at least the following:

(a) A description of the water supplier's expected future service area and an estimate of the water supplier's long-range water demand projections for 10 and 20 years which are supported by a methodology which demonstrates consistency with acknowledged comprehensive land use plans of affected local governments and any relevant urban service agreements;

It is very important for the plan to be consistent with the Health Division Water Master Plan and the Department of Land Conservation and Development's comprehensive land use plan in this case. If these plans are not consistent, there should be an effort to identify the problem area and correct it.

Appendix E – Water Management Plan (OAR 690-086-0140)

(b) A comparison of the projected water needs and the system capacity and size and reliability of water rights, permits or other current water supply contracts held by the water supplier; and

See the analysis reflected in section (1)(a)

(c) If future demand projections indicate that additional water will be required within the next 20 years, the plan shall include:

Remember that conservation is often the cheapest and easiest alternative.

(A) A comparison between the potential sources of additional water, including conservation, reuse and interconnection with other municipal supply systems, which considers costs, availability, reliability, and likely environmental impacts; and

Cost comparisons for development of new surface water sources should be very realistic. These also should have a timetable associated with them. If you do not allow YEARS for the process to build new in-stream or ASR (Aquifer Storage and Recovery) storage, this may not be a realistic view of the world.

(B) An estimated schedule for development of any new sources of water identified in paragraph (A) as needed to meet the demand projections and a description of the criteria used in the selection of the sources.

Plan Updates

(5) (a) A proposed date for submittal of an updated water management and conservation plan based on the proposed schedule for implementation of conservation measures, any relevant schedules for other community planning activities, and the rate of growth of or other changes expected by the water supplier; or

Remember that making an update parallel with the Water System Master Plan and Periodic Review is allowable.

(b) An explanation of why submittal of an updated plan is unnecessary and should not be required by the Department.

This is often appropriate in systems that are very small (less than 300 connections) and are static (no new connections).

Appendix E – Water Management Plan (OAR 690-086-0140)

Source Analysis OAR 690-086-0140 (1) (a)

Water Right Number	If you don't know the number, then it is likely that the source is not legal.
Use Specified in Water Right	Municipal, industrial, irrigation. Which is it? Do you use the water for the allowed use?
Maximum Rate Allowed	This should be in cfs or gpm.
Level of Development (On/Off Line)	Your water use reporting form is a great source of information.
Expansion Allowed	Is there any difference between what is on the permit and what you use?
Reliability	How reliable is the source?
Environmental Impacts	Are there environmental impacts from the use of this source? Remember that this is your own risk analysis. If you don't analyze your risks, then you jeopardize your system.
Water Quality	Are there water quality limitations?

Comprehensive Land Use Plans

A water system master plan must be consistent with locally adopted comprehensive land use plans and development regulations which have been acknowledged to comply with the Statewide Planning Goals. These “Goals” are adopted by the state Land Conservation and Development Commission. Goal 11 “Public Facilities and Services” and its implementing rule, OAR 660 – Division 11, set forth state policies “to plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.” One of these policies is to require cities and counties to adopt urban growth boundaries (UGBs) to provide a 20-year supply of land for future urban growth and to separate urban and rural levels of development and services.

**Planning Within
Urban Growth
Boundaries**

For areas within urban growth boundaries or unincorporated community boundaries with a population greater than 2,500, comprehensive plans include a list of significant public facility projects. For a large project, such as a water treatment plant expansion or a major distribution line which is not on the adopted list, the comprehensive plan may need to be amended before the new project can be approved (see OAR 660-011-0045).

When more than one provider exists in an area, plans will include a policy or an intergovernmental agreement which designates the service area of each provider.

In addition, local plans include 20-year forecasts of population, housing and employment. These forecasts are the fundamental assumptions for projecting future development and the need for public facilities. Updates to the 20-year forecasts must be coordinated with neighboring cities, the county, and state agencies.

**Planning Outside
Urban Growth
Boundaries**

Goal 11 prevents the establishment or the extension of water facilities to serve new residential developments located outside urban growth boundaries where the proposed density is dependent upon receiving water from a community water system. This limitation essentially prevents the establishment of most new water systems planned to serve new development outside urban growth boundaries. Exceptions to this statement are described below.

Under Oregon’s statewide planning program, there are specific situations where it is permissible to provide water from a city or community system. Those situations are as follows:

- (1) A city with an existing water system may serve development outside its urban growth boundary. Before it does, it must first determine that it can: (a) serve lands within the city; (b) also serve lands within its urban growth boundary; and then, (c) serve only **existing** development outside its urban growth boundary, provided excess water is available beyond the 20-year time frame of the land use plan.
- (2) Likewise, a water district that serves a city or has a special agreement to serve urbanizable lands, may extend service outside an urban growth boundary to serve existing development, provided it has the capacity to meet its obligations as outlined in (1) above.

Appendix F – Comprehensive Land Use Plans

- (3) A **new** water system may be established to serve an unincorporated community (UC) that has been acknowledged as meeting the requirements of Oregon Administrative Rule (OAR) 660, Division 22. This designation is an option available to counties for certain existing residential, commercial, and industrial developed areas located outside urban growth boundaries. Counties that pursue this designation for qualifying areas need not take an exception to Goal 11 to allow establishment of a new water system serving only the area within the unincorporated community boundary.
- (4) A **new** water system may be established to serve lands **outside** an urban growth boundary or unincorporated community provided an “exception¹” to Goal 11 and the other statewide planning goals can be justified. An exception to Goal 11 to establish a new water system to serve a new residential or commercial development would be extremely difficult to obtain under Oregon’s land use planning system.

Oregon’s land use planning system has been in place for over 26 years. As a result, the opportunities to create **new** water systems have declined. Because of the difficulty in obtaining permission to develop lands outside of urban growth or unincorporated community boundaries, it is unlikely that there will be many requests to establish new water systems in locations other than those permitted under the state’s land use planning system.

A Control Point for New Water Systems

Because a proposed new water system in Oregon could only serve development authorized by the local comprehensive plan, Oregon’s Land Use Planning Program serves as a defacto control point in the process for establishing **new** water systems. Goal 11 does not prohibit new water systems; however, Oregon’s planning system, as implemented by local comprehensive plans, designates very few areas for development at densities that could financially support new water systems. Goal 11 does regulate the establishment and extension of water systems to prevent urban development outside urban growth boundaries.

¹ OAR 660-004-0020 contains criteria for taking an exception to the statewide planning goals. An abbreviated version of those criteria are as follows:

- (a) Reasons justify why the state policy embodied in the applicable goals should not apply;
- (b) Areas which do not require a new exception cannot reasonably accommodate the use;
- (c) The long-term environmental, economic, social and energy consequences resulting from the use . . . are not significantly more adverse than would typically result from the same proposal occurring in other areas requiring an exception; and
- (d) The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts.

Appendix F – Comprehensive Land Use Plans

The procedure for obtaining land use approval to establish a new water system in Oregon would generally follow one of these scenarios:

- (1) **To develop a new water system to serve lands within a city**, the Oregon Health Division would require a land use compatibility statement (lucs) from a city government. Most cities in Oregon have existing water systems; however, in the few instances where this scenario could occur, the city would likely be the applicant. Because the land is inside the urban growth boundary, permission to construct a new water system would be easy to obtain.
- (2) **To develop a new water system to serve lands within an urban growth boundary, but outside city limits**, the Oregon Health Division would require a land use compatibility statement from the reviewing authority (either the city or the county depending upon their urban growth management agreement). The frequency of constructing a new water system under this scenario is slightly greater than under scenario (1) because there is a greater concentration of undeveloped land between city limits and urban growth boundaries. However, expansion of existing water systems will be the preferred choice in most of these situations. Permission to construct a new water system under this scenario would not be too difficult, provided the city and county agree a new water system should be created.
- (3) **To develop a new water system to serve lands outside an urban growth boundary**, the Oregon Health Division would require a land use compatibility statement from the county, which would base its decision on its comprehensive plan for the area.
 - (a) If the plan indicates that the area to be served is inside an unincorporated community boundary and the density of the proposed development is consistent with the acknowledged zoning for the area in question, then permission to construct a new water system should be relatively easy to obtain. The construction of a new water system to serve an unincorporated community has the highest probability of occurring of all of these scenarios. A majority of unincorporated communities do not have water systems. However, the frequency of this occurring is still small, given the costs involved in constructing new water systems, and the fact that most citizens living within these communities obtain their water from existing wells. Most citizens will be reluctant to spend additional money for a new water system unless a health hazard exists.
 - (b) If the plan indicates that the area to be served is outside an unincorporated boundary, then it is unlikely permission to construct a new water system would be granted unless an exception to the statewide planning goals were justified (a very difficult test) or the new water system is essentially a “rural water system” (*e.g.*, serving parcels five acres in size or greater)².

² Because of the costs involved, requests for new rural water systems are infrequent and are usually based on an area: (1) having a severe water shortage; and (2) requiring federal or state financial assistance.

Appendix G – Financial Information Guideline

Financial Information Guideline

1. Calculate the total number of Equivalent Dwelling Units in the system and identify the number of which are residential, commercial, and industrial.
2. Identify the number of residential, commercial, and industrial connections in the system.
3. Prepare an annual budget for the Operation and Maintenance (OM) costs, and the capital long-term system Replacement (R) funds for all the preferred alternatives (OMR). Also calculate what the user rate needs to be per Equivalent Dwelling Unit to adequately cover the proposed annual OMR.
4. Prepare a table that compares the monthly OMR costs per Equivalent Dwelling Unit for each alternative.
5. Show the current monthly residential user rate structure.
6. Identify any existing debt service that is being paid for the system whether through property taxes or user rates and when it will be paid off.
7. Calculate the monthly rate per Equivalent Dwelling Unit for the chosen alternative using the estimated OMR budget, assuming the project is funded entirely with a loan.
8. Propose a rate structure for the community.
9. Proposed a rate implementation schedule and identify what steps the community must undertake to adopt and implement a new rate structure.

All of the plans should estimate the costs of the improvements, assuming project financing is all loan(s). Plans should include a statement such as:

“Communities in Oregon often require financial help in the form of loans and grants to establish, upgrade, and repair its public infrastructure. State and federal public funding sources for these activities include: the Oregon Economic and Community Development Department, the USDA Rural Utilities Service, Rural Community Assistance Corporation, Economic Development Administration, and the Department of Environmental Quality.”

When the community is ready to move ahead with a project, it is recommended that the community contact the regional coordinator for the area to set up a One Stop Meeting to discuss possible funding assistance.