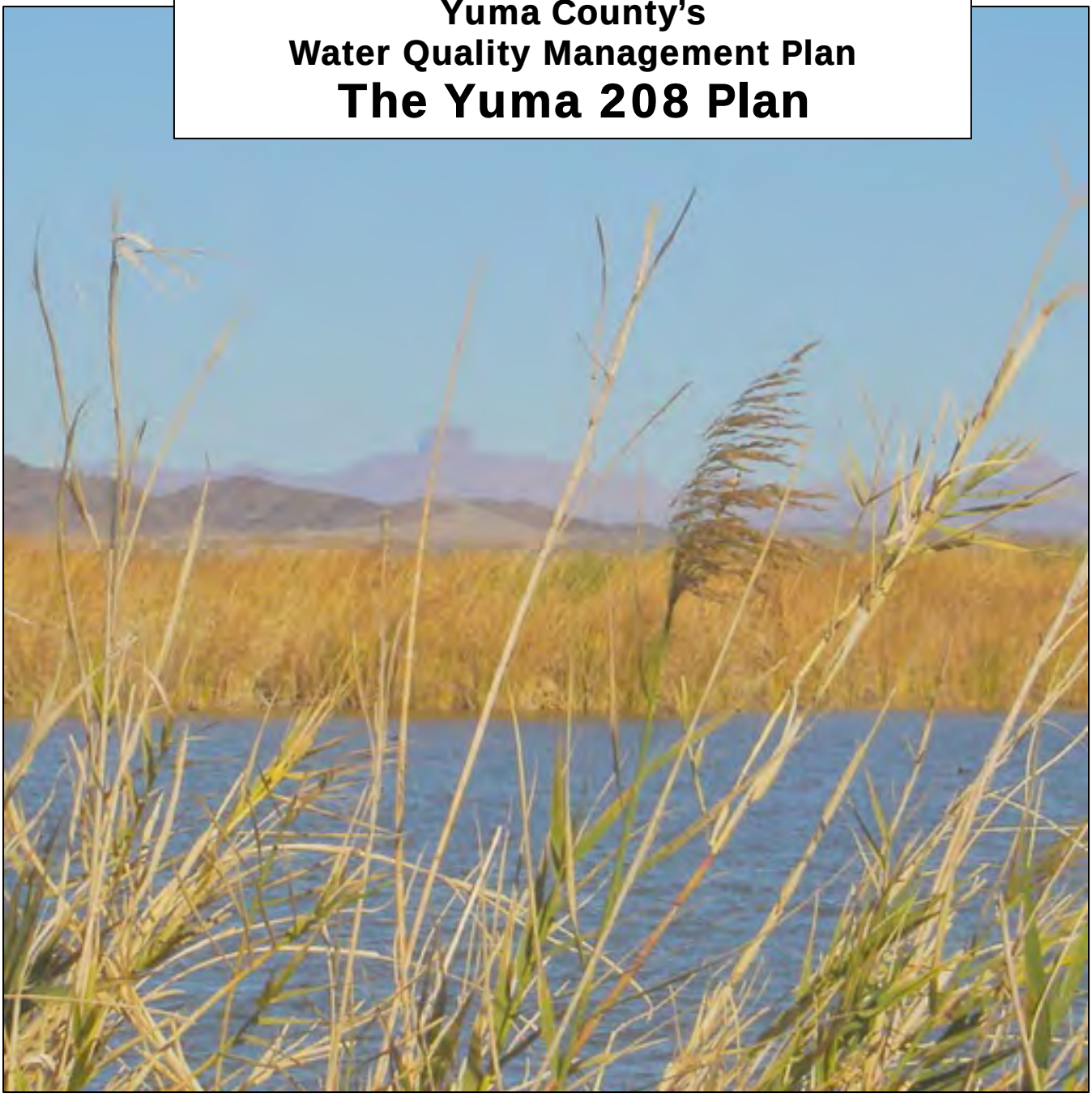
Yuma County's
Water Quality Management Plan
The Yuma 208 Plan



Prepared in fulfillment of Section 208 of the federal Clean Water Act

The Purpose of Planning

One term we use for far-reaching looks into the future is 'vision;' for visions give us more than simply a prediction of future events, they give us a target on which to aim, a path to follow. They do more than forecast the future: they influence it, giving hope, inspiration, and guidance to those who embrace it; they look past what we can reasonably infer from our knowledge of the past and of the present.

Tom Moody

Acknowledgements

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Glossary and List of Acronyms

Term	Definition
A.A.C.	Arizona Administrative Code – State rules
ADA	Arizona Department of Agriculture
ADEQ	Arizona Department of Environmental Quality
Alternative System	An alternative on-site wastewater technology to a conventional septic tanking and disposal system. Alternative technologies must fulfill requirements in A.A.C. R18-9-E375.
APP	Aquifer Protection Permit. A state permit required to discharge a pollutant to an aquifer or to the land surface if reasonable probability that the pollutant will reach an aquifer.
A.R.S.	Arizona Revised Statutes – State laws
AZPDES	Arizona Pollutant Discharge Elimination System. A state permit required to discharge pollutants to a surface water. ADEQ was delegated the federal NPDES permitting program in December 2002
BMP	Best Management Practices
Capacity	See constructed capacity, design capacity, APP approved capacity, & capacity assurance
Capacity Assurance	Assurance given in writing to a developer that a wastewater treatment plant has sufficient permitted capacity to take wastewater from a proposed development • Capacity assurance cannot exceed 100% of the APP approved capacity • Capacity assurance is required for subdivisions and other APP 4.01 General Permits if estimated design flow is greater than 3000 gpd
CFR	Code of Federal Regulations
Constructed Capacity	Flow capacity of a facility as currently constructed
Design Capacity	The engineering plan design flow capacity of a facility, considering peak flows and safety margin
Design Flow	Daily flow rate a facility is designed to accommodate on a sustained basis while satisfying all APP discharge limitations, treatment, and operational requirements. It incorporates peaking and safety factors to ensure sustained and reliable operation • Operationally, it is the estimated daily flow from discharges to the plant, based on number and types of connections
DMA	Designated Management Agency. A local government subdivision that is certified by ADEQ as having adequate resources and capabilities to design, operate, and maintain wastewater facilities and the desire to implement portions of the 208 Plan. Currently the DMAs in Yuma County include: City of Yuma, San Luis, Somerton, and Wellton. (See also Wastewater Management Utility)
DPA	Designated Planning Agency. The regional or state agency responsible for overseeing 208 planning. In Yuma County, the Yuma County Board of Supervisors is the DPA, and the Yuma County Department of Development Services has been authorized by the Board to implement planning responsibilities.
EPA	U.S. Environmental Protection Agency
Flow	See operational flow, design flow, AZPDES discharge limit
gpd	Gallons per day
Goal	Within a strategic plan, a goal is the desired outcome in broad and inclusive terms
Gray Water	Wastewater collected from clothes washer, bathtub, shower, and sink (excluding kitchen sink), and excludes sewage flow from other sources
Green Infrastructure	A set of techniques and technologies that can eliminate or reduce the amount of pollutants that run off a site in stormwater. Green infrastructure uses, enhances, or mimics the natural processes of infiltration, evapo-transpiration, and reuse (e.g., green roofs, rain gardens, vegetated swales, pocket wetlands, infiltration planters, porous and permeable pavements, vegetated median strips, revegetation, and enhancement of riparian buffers and floodplains)
IGA	Intergovernmental Agreement – A formal agreement between two government agencies
Impaired Water	A surface water that is listed by ADEQ or EPA as not meeting water quality standards or its designated uses
Master Watershed Stewards	A watershed education program sponsored by the Water Resources Research Center at the University of Arizona
Measures of Success	In a strategic plan, are quantifiable measures used to determine if the strategy has helped accomplish a goal or objective
MGD	Million gallons per day
Milestone	In a strategic plan, the steps or stages of implementing a strategy

Term	Definition
MOU	Memorandum of Understanding – A formal agreement between two government agencies
NEMO	Nonpoint Source Education for Municipal Officials. The goal of NEMO is to educate land use decision makers to make choices and take actions that will lessen nonpoint source pollution and protect natural resources
Nitrogen Management Area	An area designated by ADEQ with specific prescribed measures to control nitrogen sources that threaten to cause or have caused an exceedance of the Aquifer Water Quality Standard for nitrate (10 mg/L).
NRCD	Natural Resources Conservation District – A resource conservation district established in Arizona, with oversight from the Arizona State Land Department
NRCS	Natural Resources Conservation Service – A federal agency within the US Dept of Agriculture to conserve water and soil resources
Objective	In a strategic plan, the broad changes needed to achieve a goal
On-site Wastewater Treatment System	A conventional septic tank system or alternative system installed to treat and dispose of wastewater, predominantly of human origin, generated at the site.
Operational Flow	The maximum monthly average *measured* flow into a wastewater treatment plant, based on the last 12 months of flow
Reclaimed Water	Sewage that has been treated by wastewater treatment plant or on-site wastewater treatment facility
Septic System	A type of on-site wastewater treatment system usually composed of a septic tank and a leaching system. Also referred to as a conventional system. (See alternative system)
Sewage	Untreated wastes from toilets, baths, sinks, lavatories, laundries, and other plumbing fixtures, and waste pumped from septic tanks (see also gray water)
Sewage Collection System	A system of pipelines, pumping stations, and other structures and devices to collect and convey sewage to the sewage treatment facility or an on-site wastewater treatment facility serving more than a single family dwelling.
Sewage Treatment Facility	A wastewater treatment plant or system and its disposal works. This facility definition excludes an on-site wastewater treatment facility, a sewage collection system, or reclaimed water distribution system. (See also “treatment works”.)
Strategy	In a strategic plan, the specific actions needed to accomplish an objective or goal
Infrastructure Sustainability	Utilizing sustainable practices and policies that better manage water and wastewater utilities.
TMDL	Total Maximum Daily Load. The calculated maximum load of a water quality parameter which can be carried by a surface water on a daily basis without causing an exceedance of a surface water quality standard. Required if surface water is listed as “impaired.”
Treatment Works	A plant, device, unit process, or other works used for treating, stabilizing, or holding municipal or domestic sewage in a sewage treatment facility or on-site wastewater treatment facility. (Broad and inclusive term used for wastewater treatment facilities.)
Wastewater Management Utility	A privately-owned centralized wastewater treatment facility and a collection system that provides services to multiple properties and may expand these services or facilities in the future. To be a WMU, ADEQ must certify that the entity has the resources, capability, and desire to function as a DMA (see definition of DMA and discussion in Chapter 4)
WIFA	Arizona’s Water Infrastructure Finance Authority, a state program for grants and loans for construction of wastewater and drinking water facilities
WWTP	Wastewater treatment plant = sewage treatment facility
Yuma 208 Plan	This document. The Yuma County Arizona Water Quality Management Plan
Yuma 208 Review Council	Yuma County 208 Water Quality Review Council which is being established to implement strategies of the Yuma 208 Plan and facilitate public review

Many of these terms are defined AAC R18-9-101 or other state rules. Definitions here are intended to be consistent with rule language.

Executive Summary

The Yuma County Water Quality Management Plan (Yuma 208 Plan) establishes strategies and processes to provide regional coordination in developing wastewater treatment facilities and for efforts to protect water quality. The Yuma 208 Plan is essentially an agreement between Yuma County, entities operating wastewater utilities within the county, the Arizona Department of Environmental Quality (ADEQ), and the federal Environmental Protection Agency (EPA) about these strategies and processes. It is referred to as the Yuma 208 Plan because it fulfills water quality planning requirements established in Section 208 of the federal Clean Water Act. The purpose of this planning effort is to:

- Assure adequate wastewater facilities in Yuma County
- Take advantage of economies of scale, treatment efficiencies, new and better treatment technology, and conservation practices where possible
- Identify and address water quality and wastewater issues
- Improve effectiveness and efficiency of 208 Plan consistency reviews
- Establish a 208 Plan for Yuma County

The planning effort encourages and tries to assure the development and maintenance of sufficient, efficient, cost effective, reliable and sustainable wastewater treatment and disposal systems. The plan includes strategies that encourage the use of resource conservation practices and address water quality problems from sources other than wastewater treatment and disposal.

Consistency Reviews

Several federal and state regulations require that proposed wastewater facilities must be *consistent* with the Yuma 208 Plan. Wastewater facilities must be in *compliance* with these regulations, therefore; approval of proposed new or expanding wastewater facilities is contingent on ADEQ determining that the proposal is *consistent* with the plan.

According to state and federal regulations, the following actions can only be approved if ADEQ determines that the proposal would be *consistent* with the Yuma 208 Plan (a *consistency review*):

- Build or expand a wastewater facility that discharges to surface water
- Provide a grant or loan through the Water Infrastructure Finance Authority (WIFA)
- Build or expand a wastewater treatment facility or disposal system with combined flows over 24,000 gallons per day (gpd) or some facilities with flows between 3000-24,000 gpd.

These regulations do *not* require 208 consistency reviews for on-site wastewater systems (e.g., septic systems) under 3000 gpd, on-site systems if combined flows would be under 24,000 gpd, collections systems, and reclaimed water systems.

Although consistency reviews *not* required by regulations for developments such as subdivisions that rely on-site systems, ADEQ 208 staff routinely completes a preliminary 208 review these to determine whether the proposal is consistent with the 208 Plan strategies (e.g., Wastewater Treatment Options Table, wastewater master plans), if it is within an existing Service or Planning Area, and coordinate with county and municipal officials.

Similarly, *local 208 plan review* may be necessary when approving new or replacement on-site systems (e.g., septic systems), small satellite treatment plans, or communal systems to assure that strategies in the Yuma 208 Plan are implemented (e.g., high priority areas for sewer lines,

coordination with Designated Management Agencies, economies of scale, the Wastewater Options Table in Chapter 4, etc).

Issues and the Strategic Plan

The major water quality and wastewater issues were identified to initiate plan development by a stakeholder group representing Yuma County, municipalities in Yuma County, and other interested parties. This list of issues continued to expand and be clarified during the planning process. The strategic plan in Chapter 3 was developed to address these issues. The issues and strategies developed in this plan are summarized below.

Issue 1 – Assure adequate future wastewater treatment facilities

Strategies:

A. Wastewater Master Plans – Each municipality or private utility that has a wastewater collection system service area or planning area will develop a detailed Wastewater Master Plan that conforms to the minimum requirements in Appendix C. Yuma County will provide a Wastewater Master Plan for the rest of the county where there is existing or potential development. In some cases, a Wastewater Master Plan must be developed before a new or expanded wastewater facility can be approved (see Designated Management Agency discussion below). Plans must be updated yearly.

B. Designated Management Areas and Wastewater Management Utility – A wastewater treatment facility with service area or planning area needs to be able to demonstrate that it has the legal, financial, and managerial capabilities and resources to construct, operate, and maintain the wastewater facilities it is proposing or is already operating. If the facility is or will be operated by a government agency, the facility would need to be certified as Designated Management Agency (DMA). Entities that are not operated by a government agency (e.g., a private utility) cannot be approved as a DMA; however, they would still need to be able to demonstrate that they have the capabilities to function as a DMA, and would be approved as a Wastewater Management Utility (WMU).

Approval of some large developments or expansion of some wastewater facilities would be contingent on the wastewater facility developing an approved Wastewater Master Plan and be certified as a DMA or WMU.

C. Expansion triggers and capacity assurance – The expansion design phase for wastewater facilities will be triggered by the expected flow of wastewater coming into the plant compared to the facility's design capacity approved under its Aquifer Protection Permit (see equation below).

Design Phase Trigger Equation

Operational Flow (entering facility)	+	Expected New Flows (planned sewer extensions)	+	Capacity Assurance (promised to developers)	=	85% of Approved Design Capacity

New capacity assurance procedures and local ordinances are needed so that a wastewater treatment plant's capacity is not promised indefinitely to proposed developments that will no longer be built. The county will work closely with ADEQ to ensure that state rules and policies are also met.

Issue 2 – Determining best options for wastewater treatment

Strategies:

A. Wastewater Treatment Options Table – Criteria for determining options for a proposed development or replacement wastewater system is established in a Wastewater Treatment Options Table in Chapter 4. A second guidance table provides criteria for determining whether a development should connect to a sewer based on the distance from the sewer lines. Both tables will be used for 208 Consistency Reviews; however, additional local ordinances would be needed to make the criteria in these tables requirements beyond existing consistency requirements for wastewater facilities (e.g., on-site systems, dry sewer lines, connections to sewers when available).

B. Wastewater Master Plans – (See discussion in Issue 1)

C. Cost-effectiveness, economies of scale, treatment efficiencies, and resource conservation – Proposed wastewater treatment facilities should demonstrate the best cost-effective technologies. Facility design should consider resource conservation, economies of scale, and treatment efficiencies even though these are not required in regulations. For example, in some cases it may be less expensive and more effective in the long-term for the utility to expand an existing wastewater treatment system, rather than create new smaller facilities. Reuse of gray water, effluent, and biosolids should be included in the design, when appropriate. The facility should be designed to have a low impact on the surrounding community and to conserve resources (i.e., low impacts, low energy, "green" infrastructure). New technologies should be considered, such as the regional reuse of biosolids to create electricity.

D. High priority areas for sewer lines and sensitive areas – Some areas are not suitable for on-site wastewater septic systems according to *current* Aquifer Protection Permit regulations due to high groundwater, floodways, or other concerns. These could be considered "sensitive areas." There may be other areas in Yuma County where older wastewater systems have begun to fail. Also, some wells in the county exceed (or are nearing) the Aquifer Water Quality Standard for nitrate (10 mg/L), making these areas unsuitable for additional nitrogen loading from septic systems. Yuma County will be tracking these areas to encourage development of centralized wastewater treatment facilities rather than the use of conventional on-site septic systems.

E. 208 website development – (See discussion in Issue 3)

Issue 3 – Communication and coordination

Strategies:

A. Yuma 208 Review Council – The purpose of the Yuma County 208 Water Quality Review Council is to improve coordination and communication within the county and with ADEQ to assure that new and replacement wastewater facilities and systems are consistent with the Yuma 208 Plan. This council will help support the public review process portion of 208 Consistency Reviews and will also help implement other strategies in this plan. The council will include representatives from the Designated Management Agencies, Wastewater Management Utilities, and other interested stakeholders.

B. Memorandums of understanding and inter-governmental agreements – Additional MOUs and IGAs may be needed to implement this plan and minimize potential conflicts as collection systems, service areas, and planning areas are modified. For example, formal understandings may be needed to assure long-term wastewater services to an area. Formal understandings may also be needed to create an effective Yuma 208 review Council.

C. Designated Management Agency reviews – Although formal 208 consistency reviews may not always be required (e.g., subdivision using on-site septic systems), proposed developments or new wastewater facilities within a service area, planning area, or an area established as a "high priority area for sewers" need to be reviewed by the DMA or WMU responsible for that area to assure that the facility would be consistent with their Wastewater Master Plans and strategies within the Yuma 208 Plan.

D. Yuma 208 website – Yuma County is developing a website to help direct development of wastewater treatment facilities in Yuma County and to facilitate 208 Consistency Reviews. This website will incorporate and integrate information from the individual Wastewater Master Plans to make this information available to a broad audience – developers, community members, and other agencies. It is anticipated that this website will provide the following information:

- An inventory of wastewater treatment facilities
- High priority areas for sewer lines
- The Wastewater Treatment Options Table
- Surface waters assessed as 'impaired' by ADEQ
- Surface waters with established Total Maximum Daily Load requirements
- Wells exceeding 10 mg/L nitrate
- Land ownership by federal and state agency and other pertinent background information
- Other information that would support 208 consistency reviews

The website will replace the facility maps and information presently in Appendix B and other background maps currently in Chapter 2 because this information may rapidly become outdated. Information at this website will be updated annually based on updates of the Wastewater Master Plans and other information provided by ADEQ.

Issue 4 – Public support
Strategies:

A. Watershed partnerships – The development of a citizen-led Yuma Watershed Partnership would encourage citizen involvement and agency coordination to help address water quality and water quantity issues in Yuma County. Citizen members in the partnership would become educated about a wide range of water quality issues, including wastewater treatment issues. Local, state, and federal agency members can assist with their knowledge and resources. A watershed partnership may be able to help develop the citizen support needed to create or expand wastewater treatment facilities. Watershed partnerships can also help identify funding opportunities and key projects that would address agricultural or stormwater impacts on water quality.

B. Incentives to connect to sewer lines – Once sewer lines are available to an area, property owners need to connect to these centralized systems. Clear incentives and ordinances must be established to avoid disputes if individuals are expected to discontinue using existing wastewater treatment and pay to connect to sewer lines. These ordinances and incentives should be established when an area becomes a service area, a planning area, or a "high priority area for sewer lines."

Issue 5 – Impaired surface waters and wells not meeting aquifer water quality standards
Strategies:

A. Stormwater best management practices – Stormwater usually contains many toxic and pathogenic pollutants. Stormwater can cause extensive damage – flooding, soil erosion. The practices adopted in the Yuma County Stormwater Management Program need to be implemented to mitigate further pollutant loading to streams, canals, and estuaries. A watershed partnership (see discussion above) can help provide landowner education about stormwater Best Management Practices. Practices that retain rainwater on the property can both reduce stormwater impacts and provide water for landscaping.

B. Agricultural best management practices – Agricultural Best Management Practices for crop production and livestock need to be further encouraged to mitigate pollutant loading to surface water and groundwater. Streams in the Yuma area have been assesses as impaired by selenium, boron, and low dissolved oxygen. Several wells in Yuma County exceed 10 mg/L for nitrate, the aquifer water quality standard. These pollutants are likely due to historic agricultural practices in the Yuma area. A watershed partnership (as discussed under issue 4) can coordinate state and federal agency resources to implement projects that will reduce further pollutant loading.

C. Watershed improvement plans – ADEQ provides funding and technical assistance to communities in impaired watersheds (drainages containing an impaired surface water) with strong watershed partnerships to develop a Watershed Improvement Plan (WIP). This community-led planning identifies critical water quality improvement projects that need to be implemented so that the surface water will no longer be impaired by the pollutants of concern. Through extensive field work by volunteers, this planning process provides the opportunity for the community to understand why the streams have become impaired and decide what the best actions should be for correcting the problem, rather than a state or federal agency directing actions.

D. Consider impacts to impaired waters – The review of proposed developments and wastewater facilities needs to consider potential impacts to:

- A surface water assessed as “impaired” or “not attaining uses”
- Adopted Total Maximum Daily Load (TMDL) allocations to a surface water
- Ground water quality if near-by wells are at or near an Aquifer Water Quality Standard (e.g., nitrates near or above 10 mg/L)
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Issue 6 – 208 Process inefficiencies

Strategies:

A. 208 review process – The 208 review process was revised to avoid past inefficiencies and reduce costs. The new process, including the public review component, is described in Chapter 4. The process efficiency is supported by the development and use of the Wastewater Treatment Options Table, Wastewater Master Plans, the Yuma 208 Review Council, the Yuma 208 Website, and other strategies in this plan.

B. Annual report to ADEQ – Yuma County (the Designated Planning Agency) will report annually to ADEQ concerning progress on implementing the Yuma 208 Plan in terms of the milestones and measures of success established in the strategic plan. The report will include any barriers to accomplishing milestones, recommendations concerning strategy modifications, and highlights of any achievements.

C. Annual updates – The Wastewater Master Plans and the Yuma 208 Website need to be updated annually.

D. Yuma 208 Plan revisions process -- The Yuma 208 Plan must be reviewed and revised (if needed) every five years using the process described in Chapter 4. Revisions could also be done during interim years, if needed. Revisions would be required for changes in:

- Strategic plan goals, objectives, or strategies (Chapter 3)
- The processes described in Chapter 4 (if significant)
- The Wastewater Treatment Options Table (in Chapter 4)
- Requirements for Wastewater Master Plans, established in Appendix C.

Unlike requirements under other Arizona 208 Plans, the Yuma 208 Plan would not need to be revised to approve new or expansion of wastewater treatment facilities. Also existing Wastewater Master Plans would not need to be revised before approval of new or expanding facilities. Existing Wastewater Master Plans would simply need to be updated yearly.

However, in some cases, a new Wastewater Master Plan must be approved and a Designated Management Agency or Wastewater Management Utility certified by ADEQ *before* proposed plans can be approved.

Plan Implementation

The plan will be implemented by instituting the processes, criteria, and tools described in Chapter 4. Required 208 consistency reviews will follow the processes and criteria established in this chapter. Process diagrams illustrate how these activities will be coordinated.

To adequately implement several components of this plan, additional local ordinances are recommended to provide additional regulatory authority.

Chapter 1 – Purpose and Authority

Introduction

The Yuma County Water Quality Management Plan (Yuma 208 Plan) establishes strategies to provide regional coordination of wastewater treatment facilities and protection of water quality. It is referred to as the "Yuma 208 Plan" because it fulfills water quality planning requirements established in Section 208 of the federal Clean Water Act. This plan is essentially an agreement between Yuma County, entities operating wastewater utilities within the county, the Arizona Department of Environmental Quality (ADEQ), and the federal Environmental Protection Agency (EPA) about these strategies and processes that will:

- Assure adequate wastewater facilities in Yuma County
- Take advantage of economies of scale, treatment efficiencies, new and better treatment technology, and conservation practices where possible
- Identify and address water quality and wastewater issues
- Improve effectiveness and efficiency of 208 Plan consistency reviews
- Establish a 208 Plan for Yuma County

Section 208 planning is Arizona's primary mechanism for coordinating the development of wastewater facilities within a region to assure the development and maintenance of sufficient, efficient, cost effective, reliable and sustainable wastewater treatment and disposal systems in Yuma County.

This plan replaces all prior 208 regional water quality improvement plans that have governed Yuma County and provides new strategies for the future. It does not include Indian Trust Lands in Yuma County; however, coordination with tribal nations in implementing this plan is anticipated and tribal participation will be encouraged.

The Strategic Plan – Planning provides "map" for achieving defined goals. A plan needs to establish where we are, what we have to work with, what we intend to do, and how we intend to do it. The planning process does not stop with development of a document because planning must include implementation, maintenance of improvements, effectiveness evaluation, and (possibly) plan revisions revision phases.

This Yuma 208 Plan is subdivided into four Chapters:

- Purpose and authority (What we have to work with) – Chapter 1
- Local conditions and concerns (Where we are and issues involved) – Chapter 2
- The strategic plan (What we intend to do) – Chapter 3
- Plan implementation (How we intend to do it) – Chapter 4

The strategic plan in Chapter 3 is the central nucleus of this plan with defined goals, objectives, strategies, milestones, measures of success, and responsible parties. The strategic plan was developed to address water quality and wastewater issues specific to Yuma County.

Federal and state wastewater regulations require ADEQ to assure that proposed wastewater facilities are *consistent* with the regional 208 plan (see Regional Planning Authority discussion). During a consistency review, ADEQ staff will consider the goals and strategies in the strategic plan, including the Wastewater Treatment Works Option Table, approved Wastewater Master Plans, information available at the Yuma 208 Website, public comments, and recommendations from the Yuma 208 Review Council.

Many new strategies are incorporated into the strategic plan, compared to previous 208 plans in Arizona. It may become a new model for 208 Plans in Arizona.

Regional Planning Authority

Development of this county-wide water quality management plan is required by the federal Clean Water Act Section 208 and Arizona statutes. Further, state and federal regulations require that proposed wastewater treatment facilities in Yuma must be *consistent* with this Yuma 208 Plan. Regulations that support regional water quality planning and use of 208 plans are highlighted below. A copy of the key regulations and additional information about water quality regulations are provided in **Appendix A**.

Federal and State Planning Mandates – The federal Clean Water Act Section 208 requires the development of a regional water quality management plan – a 208 Plan. These plans need to identify future wastewater treatment facilities necessary to meet the anticipated municipal and industrial waste treatment needs of the area over a *twenty-year* period. Although 208 plans focus on wastewater treatment facilities, the plans also address broader water quality concerns, including the components shown in the text box below. These 208 Plans are to be reviewed annually and updated as needed.

Clean Water Act Section 208 Plan Components

- Identified needs and construction priorities for:
  - Treatment works, including land acquisition
  - Wastewater collection systems (sewer lines)
  - Storm water management systems
- Industrial and commercial waste pretreatment strategies
- Financial support for development of treatment works
- Regulatory support for plan implementation
- Agency support for plan implementation
- Potential benefits to recreation and the economy
- Mitigation strategies to reduce pollutant loading to water from:
  - Agricultural activities such as crop return flows and livestock waste management
  - Mining-related activities, both past and present
  - Construction activities
  - Waste
  - Salt water intrusion into surface waters

Water quality planning is also governed by state rules and policies. Water Quality Management Planning Rules (Arizona Administrative Code [A.A.C.] R18-5-301 through 303) and the Continuing Planning Process establish the administrative structure for 208 planning in Arizona.

Wastewater Permits – Two wastewater permit programs protect water quality in Arizona: AZPDES and APP permits. All wastewater disposal is governed by rules for one or both of these permits. In 2003, the state AZPDES Permit replaced the federal National Pollutant Discharge Elimination System (NPDES) permit. The Aquifer Protection Permit Program to protect ground water quality, was instituted in 1989.

AZPDES and APP Permits

An Arizona Pollutant Discharge Elimination System (AZPDES) Permit rules govern actions, including wastewater treatment, which would result in a point source discharge to a surface water.

Aquifer Protection Permit (APP) rules govern actions, including wastewater treatment, which might result in a pollutant discharge to soil or groundwater (A.A.C. R18-9-101 through 720).

Consistency with 208 Plans – Federal regulations and state rules require ADEQ to conduct a *consistency review* before the following actions can be taken:

- New or significant modification of a wastewater facility with an AZPDES permit

    - Code of Federal Regulations [CFR] § 130.12(a)
    - Arizona Administrative Code [A.A.C.] § R18-9-A903
- New or significant modification of wastewater treatment plant and disposal system, *excluding* the collection system, reclaimed water distribution system, or on-site wastewater systems (e.g., septic systems)
    - Arizona's Water Quality Management Planning Rules in A.A.C § R18-5-303.
- New or significant modification of a sewage treatment facility requiring an *Individual* Aquifer Protection Permit
    - Individual APP rules A.A.C. § R18-9-201(B)(6)(a)
- Construction grants or loans from the Arizona Water Infrastructure Finance Authority (WIFA)
    - CFR § 130.12(b)

Individual and General Aquifer Protection Permits

An Individual Permit addresses discharges from an individual point source or a number of related discharges, as compared to a General Permit for a category of discharges. The more complex the point source discharge, the more likely an Individual Permit will be required. APP Individual Permits are required for all wastewater treatment works that are larger than 24,000 gallons per day (gpd), and for some facilities that are smaller. All AZPDES *wastewater* permits (regulating discharges to surface waters) are Individual Permits.

A General Permit is issued to a class or category of discharges. General permits govern activities such as mining, cattle grazing, fertilizer application, and many on-site wastewater facilities up to 24,000 gpd. In the state APP Program, these permits to operate are governed by rules established for the permit. If the permitee fails to comply with the terms of a general permit, the permit can be revoked by ADEQ and the permitee would be required to obtain an Individual Permit.

Federal and state regulatory requirements for 208 consistency reviews for on-site wastewater treatment facilities under a General APP (including septic systems) are limited. The APP rules A.A.C. § R18-9-A309(A)(5):

- New or replacement on-site wastewater treatment or disposal works (e.g., a septic or alternative system) would *not* be allowed and the facility must connect to a sewage collection system if (both):
    1. The lot is within one of the following:
        a. An area identified for connection to a sewage collection system in a *208 Plan or an adopted Master Plan (e.g., Wastewater Master Plan)*
        b. A Nitrogen Management Area as established under A.A.C. R18-9-A317(C)
        c. A county, municipal, or sanitary district ordinance requires connection.
    2. A sewer service line extension is available at the property line and connection fees are at or below the limits set in the rules.

At least an initial 208 consistency review is needed for proposed on-site treatment facilities to determine:

- Whether the cumulative design flow from multiple treatment wastewater facilities or expansion of a system on a property would equal or exceed 24,000 gpd, thus requiring an *Individual* APP, and therefore, full 208 review. (See discussion above and Individual APP rules A.A.C. § R18-9-201(B)(6)(a)).
- Whether a proposed subdivision or other development using on-site systems (e.g., septic systems) would be consistent with the 208 plan strategies and existing wastewater master plans.

Subdivision Certification

Prior to a Public Report with the Arizona Department of Real Estate, developers must obtain a "Certificate of Sanitary Facilities" from ADEQ. If there will be adequate sewage disposal, drinking water, and garbage disposal, ADEQ

provides the certification.

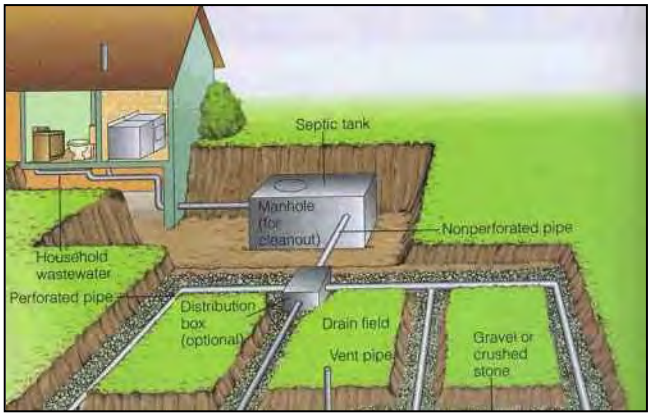
Communications between 208 Program staff and the county or municipality that will approve the proposed subdivision is critical during subdivision certification review – if proposing centralized wastewater disposal or on-site systems. The 208 Program must consider whether the wastewater treatment and effluent disposal proposed is consistent with the Yuma 208 Plan strategies and Wastewater Treatment Options Table, such as:

- The property is within an area scheduled for sewers (a service area, planning area, or high priority areas for sewer lines) and might need to connect to sewers – now or in the near future
- Whether a different wastewater treatment option would be preferable, such as expansion of a treatment plant, rather than development of a small satellite plant
- Local ordinances concerning development of wastewater facilities
- Whether the entity proposing the facilities needs to be certified as a Designated Management Agency or Wastewater Management Utility and provide a Wastewater Master Plan prior to approval.
- Public concerns and recommendations

Although this 208 review may bring concerns to light, the 208 Program does not have or take enforcement authority over subdivision approvals or certification. It simply draws attention to any inconsistency with rules, policies, or ordinances to head off future problems and to help develop the most appropriate regional wastewater infrastructure.

County and Other Local Regulations – Yuma County must approve a subdivision based on the Yuma County Subdivision Regulations. Under this ordinance, when a proposed subdivision is located within an area identified in the Yuma 208 Plan or a master plan to be sewered (e.g., a service area, a planning area, or high priority area for sewer lines), a sanitary sewer connection must be provided to each lot within the subdivision (Section 4.29). Therefore, the County may require subdivisions to install "dry sewers" to lots when the sewer lines are planned but not yet available.

The Yuma County 2010 Comprehensive Plan (updated March 2009) Section 7A indicates that proposed change in density that is "inconsistent" with the 208 Plan would be considered a substantial alteration of the county's land use balance and would trigger the "major amendment process" to the Yuma County 2010 Comprehensive Plan.



Additional Ordinances Needed – Although federal regulations mandate that the 208 Plan must address a broad range of water quality concerns, existing regulations do not provide authority to enforce all aspects of this plan. A list of potential local ordinances needed to implement the plan is included in the implementation section of this plan (see Chapter 4).

As exposed in the above discussion about 208 Consistency Reviews, existing rules and regulations *do not require all* wastewater treatment systems to be consistent with the 208 Plan. For example, local ordinances would be needed to require 208 Plan consistency on all on-site wastewater treatment facilities that require a General APP (e.g., septic systems and alternative systems with combined flows less than 24,000 gpd).

Responsible Parties – The following table outlines how local and state agencies share responsibilities developing and implementing this plan.

Table 1 – 208 Planning Responsibilities

- The Arizona Department of Environmental Quality (ADEQ) is the lead agency for 208 Planning state-wide. 208 related responsibilities
  - Approve Designate Planning Agencies
  - Certify Designated Management Agencies and Wastewater Management Utilities
  - Certify 208 plans and plan revisions
  - Approve Wastewater Master Plans
  - Make 208 Consistency Review determinations

- Designated Planning Agency (DPA) – The local agency selected to develop and implement 208 plans. Yuma County was designated the DPA on August 2002 by ADEQ and EPA. 208-related responsibilities:
  - Develop ordinances, policies, and processes to implement the strategic plan
  - Develop Wastewater Master Plans outside of DMAs and WMUs
  - Maintain a regional 208 website
  - Participate in the state-wide Water Quality Management Working Group
  - Support the Yuma 208 Review Council
  - Report 208 Plan implementation progress annually to ADEQ
  - Propose revisions to the Yuma 208 Plan

- Designated Management Agency (DMA) – A government entity that can successfully demonstrate to ADEQ and EPA the legal, financial, and managerial capability to design, build, operate, and maintain a wastewater treatment facility and collection system and implement portions of the Yuma 208 Plan. A non-governmental equivalent is a Wastewater Management Utility (WMU). 208 Plan related responsibilities:
  - Document adequate resources and commitment
  - Develop an approved Wastewater Master Plan and yearly updates
  - Develop ordinances, policies and processes to implement the strategic plan
  - Participate in the Yuma 208 Review Council

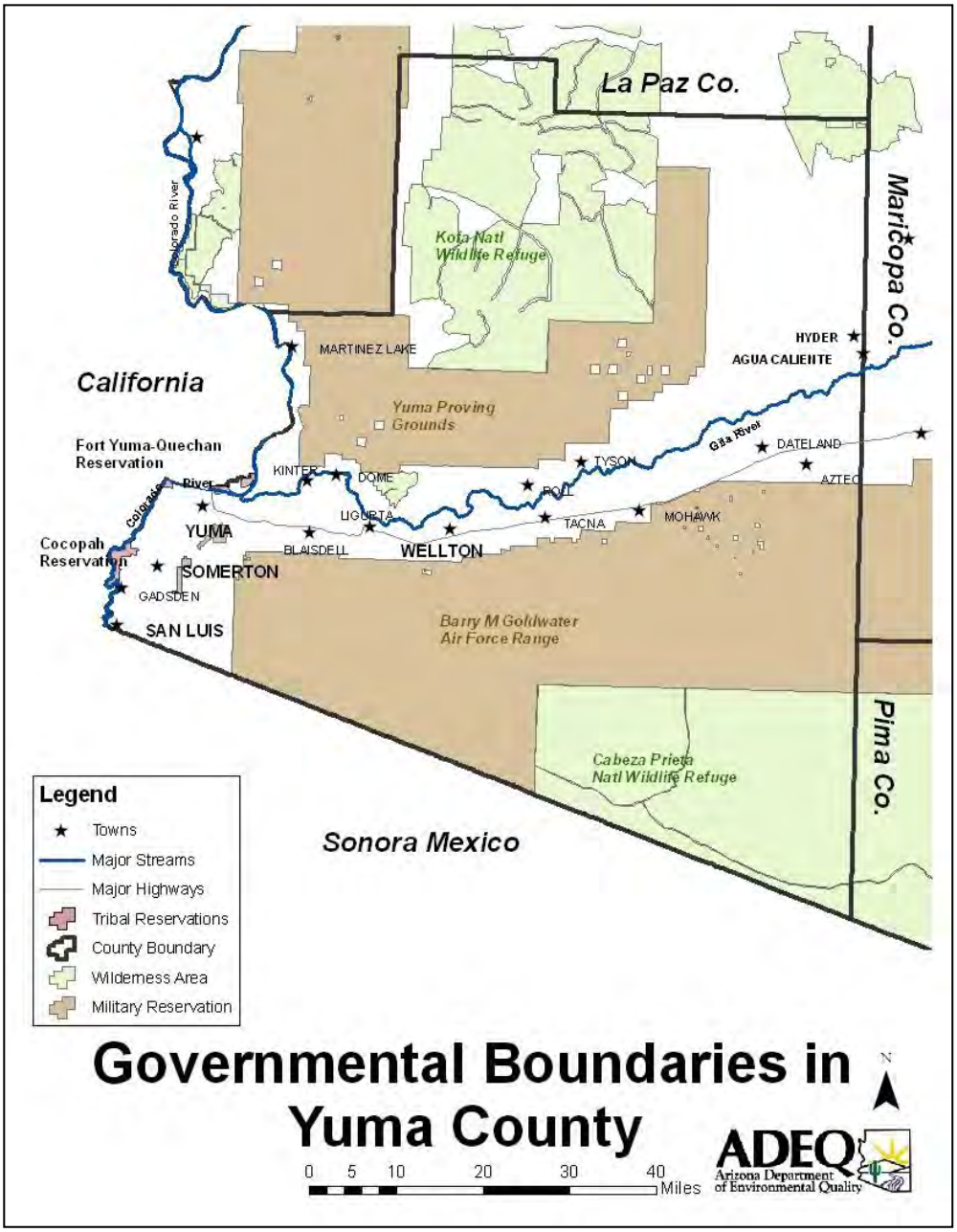
  Yuma County 208 Water Quality Review Council (Yuma 208 Review Council) – A local stakeholder group appointed by the DPA, with members representing the DMAs, WMUs, and other parties interested in implementing the Yuma 208 Plan. The Yuma County 208 Review Council is being established to provide resources to implement the plan and promote cooperation and coordination among the DMAs, DPA, tribes, WMUs, and ADEQ. Responsibilities:
  - Coordinate efforts to implement the strategic plan
  - Review and comment on:
    - Wastewater Master Plans
    - The 208 support website and GIS covers used on the website
    - 208 plan revisions
  - Coordinate additional public review

- Water Quality Management Working Group – This state-wide advisory group meets bimonthly to consider 208 planning issues and make recommendations to ADEQ concerning proposed 208 plan revisions. Currently members include representatives of the Designated Planning Areas (including Yuma County), Arizona Game and Fish Department, State Land Department, Department of Commerce, Department of Water Resources, and the Corporation Commission.

Chapter 2 – Local Conditions and Concerns

Yuma County boundaries define the extent of this planning area. The county is a little larger than the state of Connecticut, covering about 5,522 square miles (3,534,080 acres) in the southwest corner of Arizona. As shown in **Figure 1**, Yuma County's southern border is the state of Sonora Mexico and the Colorado River creates its western boundary with California. The county includes two Tribal reservations (Cocopah and Fort Yuma-Quechan) and two large military bases (U.S. Army Yuma Proving Grounds, and U.S. Marine Corps Air Station with the Barry M Goldwater Air Force Range). Four urban areas are highlighted: San Luis, Somerton, Wellton, and Yuma.

Figure 1 – Yuma County Map

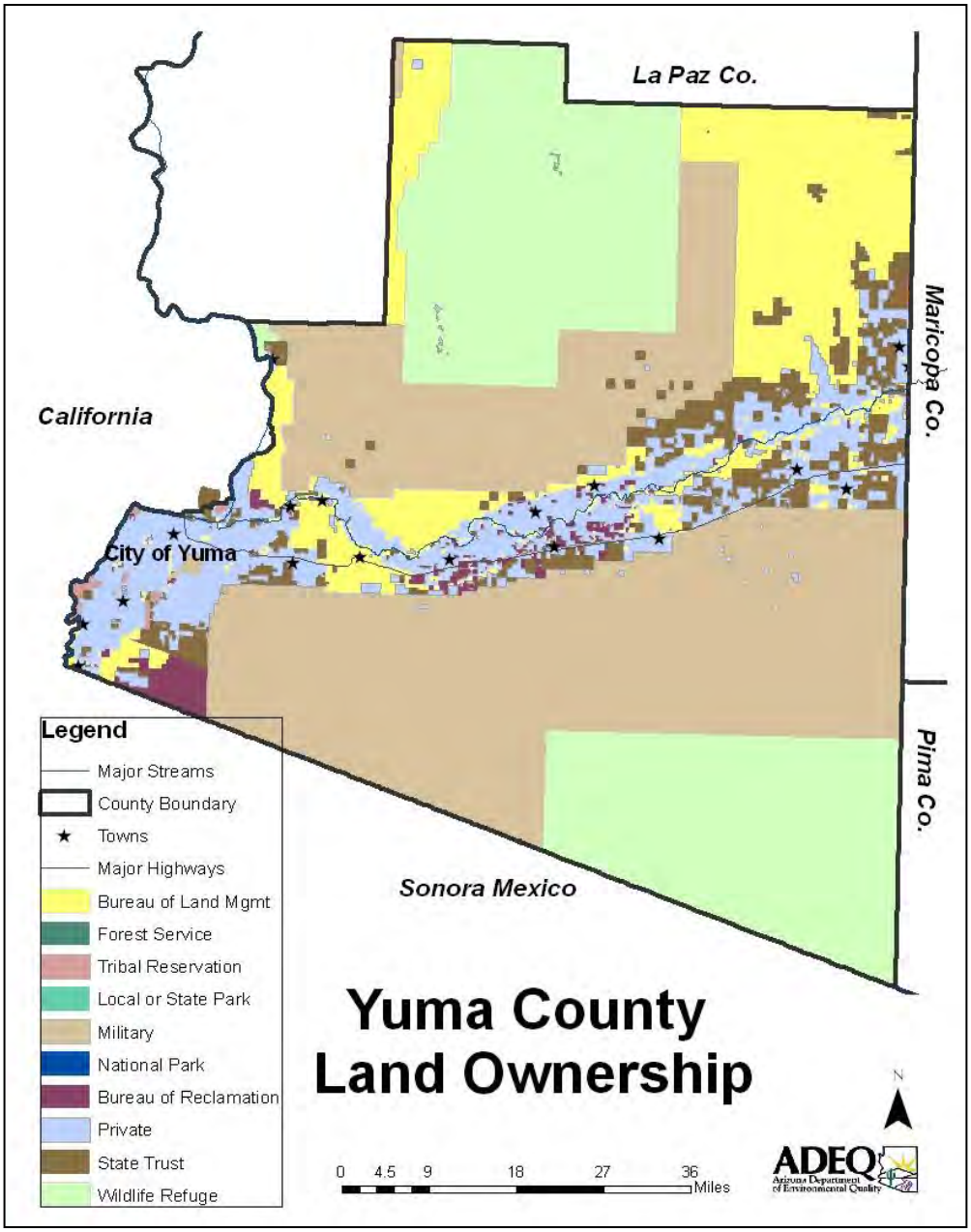


Two tribal governments are located in Yuma County – Fort Yuma-Quechan and Cocopah. These are sovereign nations and may create their own water quality management plans; however, it is anticipated that local tribes will participate in future 208 regional planning.

Land Ownership and Land Uses

As illustrated in **Figure 2**, the majority of the land in Yuma County is owned by the federal government: 42% managed by the U.S. Bureau of Land Management (BLM), 40% other federal lands (military bases, Bureau of Reclamation, wildlife refuges), 13% individual or corporate, 5% State Trust Land, and less than 0.5% Native American reservations. Because 82% of the land is owned by the federal government, cooperation by federal agencies in 208 planning is necessary to develop and implement any water quality management plan in Yuma County.

Figure 2 – Yuma County Land Ownership



(The Yuma

County 208 website will provide a more detailed map of land ownership, once the website is established.)

According to the Arizona Department of Commerce, farming, cattle operations, tourism, and the two military bases (US Marine Corp Air Station and US Army Yuma Proving Ground) are Yuma County's principal industries. Manufacturing and retail trade contribute to the local economy. Agriculture is the mainstay of the economy, grossing almost one billion dollars annually, with lettuce as the principal vegetable crop. Citrus, grain, hay, cotton, seed crops, and livestock also contribute to a booming agriculture industry.

A large number of winter visitors are attracted to Yuma's mild climate with recreational opportunities along the river and exploring the desert. The Yuma Chamber of Commerce estimates that 85,000 people winter in Yuma County.

Population Projections and Distribution

Yuma County's population estimate is about 190,600, an increase of 30,500 people since 2000 census. (US Census Bureau, http://www.census.gov/popest/counties/). The population is concentrated in the City of Yuma area and eastward along the Gila River.

Development of effective wastewater treatment works and improving water quality must consider an increasing population, the transient nature of its population (winter visitors), and dispersed small rural communities.

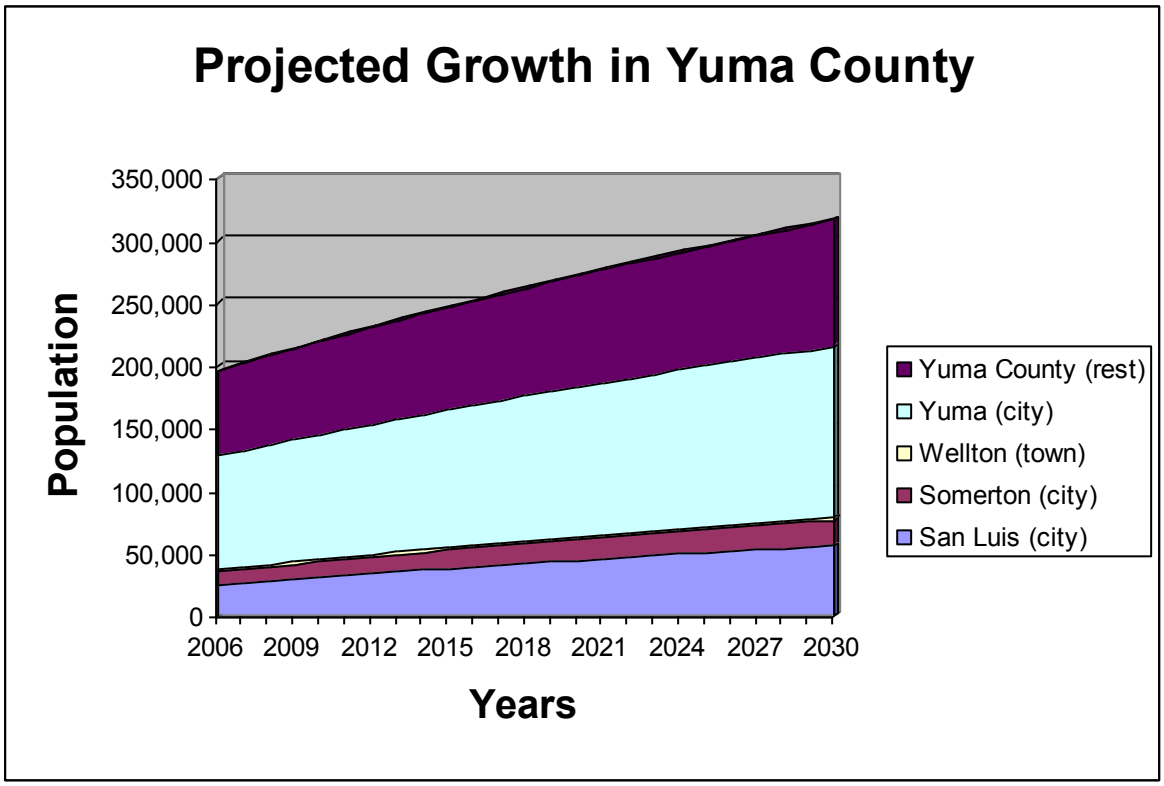
The Arizona Department of Commerce predicts that Yuma County will grow from approximately 206,000 in 2009 to more than 316,000 in 2030 (in 20 years). The Department of Commerce population projections are shown in Table 2 and Figure 3 below. (Percent change has been added to the statistics.)

For planning future wastewater facilities, it is important to consider where this projected growth may occur. As indicated in Table 2, almost one-third of the growth is projected outside of the existing Designated Management Areas. Growth is not likely on the federally held lands, such as military bases, wildlife refuges, or lands held by the Bureau of Reclamation. County and city planning also directs growth away from prime farmland near the rivers and to areas where residential development would not impair the operation of military installations.

Table 2 – Yuma County Population and Predicted Growth

	2009	2015	% Change 2009-2015	2030	% Change 2015-2030	% Change 2009-2030
San Luis	27,629	37,596	**36%**	55,651	**48%**	**101%**
Somerton	11,713	14,539	**24%**	20,433	**41%**	**74%**
Wellton	2,363	2,237	**5%**	2,565	**15%**	**9%**
Yuma (city)	94,361	110,079	**17%**	136,305	**24%**	**44%**
Yuma County (outside the DMAs)	69,874	81,809	**17%**	101,203	**24%**	**45%**
Total Population	205,940	246,260	**15%**	316,158	**27%**	**54%**

Figure 3 – Projected Growth in Yuma County



(Further information about these statistics can be obtained at: http://www.azcommerce.com/econinfo/demographics/Population%20Projections.html)

Climate and Hydrology

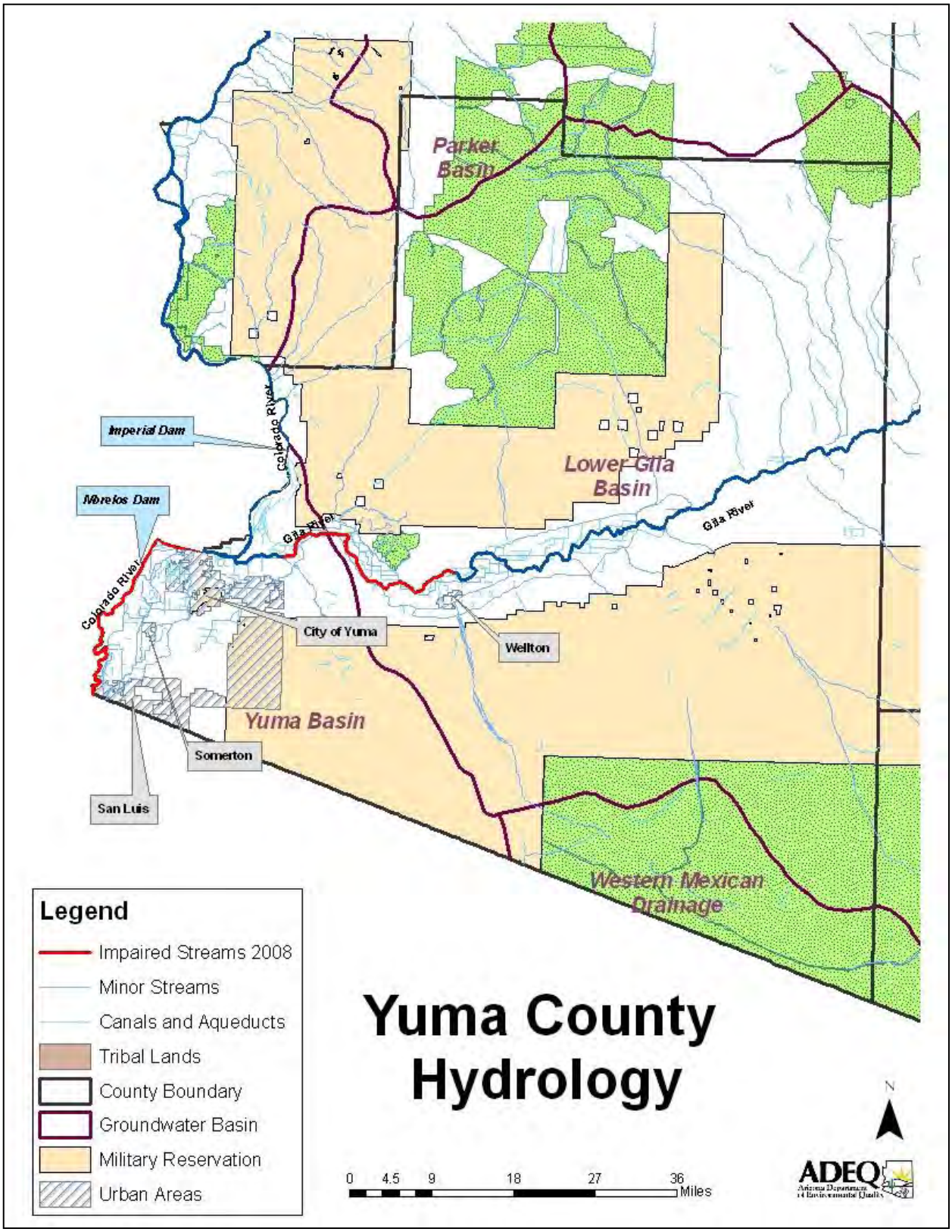
Yuma County is in the Sonoran Desert. It is hot and dry. Normal rainfall is 3.14 inches per year, which is dry even for the Sonoran Desert. Two distinct periods of precipitation occur. From December to March, frontal storms from the North Pacific Ocean occasionally bring widespread, gentle rains. From July to mid-September, summer monsoon winds brings surges of wet tropical air and frequent but localized violent thunderstorms.

Winter average low temperatures are a relatively mild 44°F, while the summer high temperatures average 105°F (Western Regional Climate Center, http://www.wrcc.dri.edu/).

High temperatures and little rainfall results in very limited surface water. Most streams are ephemeral, flowing only in response to rain events.

As shown in **Figure 4**, two major rivers occur in Yuma County – the Colorado River and the Gila River. The Colorado River is the main source of water for agriculture and drinking purposes. An extensive canal system has been developed to supply Colorado River water to agricultural areas and towns in the area and drain return flows from fields. The Gila River perennial flow stops and is ephemeral below Painted Rocks Dam in Maricopa County. Perennial flow returns near Dome, Arizona due to irrigation return flows. This is approximately 100 miles downstream of Painted Rocks Dam.

Figure 4 – Yuma County Hydrology



Portions of four groundwater basins recognized by the Arizona Department of Water Resources in Yuma County – Lower Gila, Parker, Western Mexican, and Yuma – are also shown Figure 4.

The US Bureau of Reclamation indicates that with so little rainfall in the Yuma area, groundwater is primarily downward percolating irrigation water, seepage from the Colorado River, and seepage from one of the many unlined irrigation canals. Compared to river flow, groundwater moves very slowly – one (1) foot per month or slower are common. Generally groundwater flows towards a major river; however, in this area, some groundwater flows west from Yuma Valley, under the Colorado River and into Baja California, Mexico. Other groundwater flows south into Sonora, Mexico.

Farms outside of water irrigation districts rely on groundwater for crop irrigation and homes located outside water utility service areas use groundwater for domestic purposes. (Obtain additional information about groundwater in Yuma from Bureau of Reclamation www.usbr.gov/lc/yuma/programs_YAWMS/GROUNDWATER.html.)

Surface Water Quality Concerns

Impaired Surface Waters – When surface water quality is not meeting water quality standards, ADEQ officially assesses the stream reach or lake in one of two categories:

- Impaired and a Total Maximum Daily Load (TMDL) analyses needs to be developed; or
- Not attaining designated uses, but a TMDL does not need to be developed, if
    - A TMDL has already been adopted and strategies to reduce pollutant loadings are being implemented
    - Other actions are being taken so that standards will be met in the future
    - The source of impairment is solely due to naturally occurring conditions.

Two surface waters were identified as impaired in Yuma County due to exceedances of water quality standards in the *2006-2008 Status of Ambient Surface Water Quality in Arizona, Arizona's Integrated 305(b) Assessment and 303(d) Listing Report*. (The assessment report and information about this assessment program can be obtained at ADEQ's website: http://www.azdeq.gov/environ/water/assessment/assess.html.) In Yuma County, the following stream reaches are listed as impaired in this report:

- Colorado River – ADEQ listed the Colorado River as impaired by selenium and low dissolved oxygen from the Main Canal to the southern international boundary with Mexico near San Luis. California has also listed the Colorado River from Imperial Dam to Mexico as impaired by selenium.
    - Selenium bioaccumulates and may pose a risk to aquatic life and wildlife that prey on aquatic life. "Bioaccumulation" means that the selenium is accumulating in the tissues of an organism and that otherwise harmless concentrations of selenium reach toxic levels in species higher in the food chain. For example, both fish and birds will store selenium from their diet in their eggs. This selenium is then metabolized by the developing fish when it hatches. If concentrations in eggs are great enough (above 10 μg/g) biochemical functions may be disrupted, causing developmental deformity and even death. An adult fish can survive and appear healthy despite the fact that extensive reproductive failure is occurring. Birds that prey on these fish can have even higher levels of selenium. (*Symptoms and Implications of Selenium Toxicity in Fish*, Aquatic Toxicology, Vol 57, Issues 1-2, pages 39-49, April 2002.)
    - Although selenium is naturally occurring, concentrations in surface water can become elevated by some human activities and are a pollutant of concern in return flows from irrigated fields.
    - Low dissolved oxygen is frequently associated with elevated nutrients or other pollutant discharges which use up the oxygen in the surface water. Dissolved oxygen is necessary to support aquatic life in the river.

- Gila River – The Gila River from Coyote Wash to Fortuna Wash is listed as impaired by boron and selenium based on exceedances of standards at a site near Dome, Arizona.
    - Selenium toxicity (see discussion above).
    - Boron concentrations in the Gila River were recorded as high as 1.7 mg/L. Boron is an essential plant nutrient, required primarily for maintaining the integrity of cell walls; however, high concentrations (> 1.0 mg/L) can cause marginal and tip necrosis in leaves as well as poor overall growth performance. Boron levels are as low as 0.8 mg/L can cause these symptoms to appear in plants particularly sensitive to boron in the soil. Nearly all plants, even those somewhat tolerant of boron in the soil, will show at least some symptoms of boron toxicity when boron content in the soil is greater than 1.8 mg/L and when this content exceeds 2.0 mg/L, few plants will perform well and some may not survive. Boron toxicity occurs in arid and semi-arid environments and is associated with crop irrigation

practices. Continued irrigation with boron laden water will eventually exceed the adsorption capacity of the soil and cause a reduction in crop yield.

- Although boron and selenium are commonly present at low levels in nature, they are among trace elements of concern in drainage water from irrigated lands. Similar to the dissolved mineral salts (salinity), trace elements such as boron and selenium evapo-concentrate during the irrigation process when water is lost into the atmosphere and the trace elements remain in the soil solution.

Figure 5 – Gila River near Yuma

Total Maximum Daily Loads (TMDLs) –When a lake or stream is listed as impaired, ADEQ must determine what the maximum amount of pollutant the surface water can carry (the maximum load) without an exceedance. The calculation considers likely sources (human activities and natural conditions) in the watershed that may introduce pollutants into the water.

TMDL Calculation

A TMDL is the maximum amount (load) of a pollutant which can be carried by surface water on a daily basis, without causing an exceedance of surface water quality standards. TMDL allocations are determined based on sampling data and models of how the pollutant behaves in the drainage area and ecosystem. Loads are allocated to likely source categories in the watershed. The calculation also includes a margin of safety. The TMDL can be represented as:

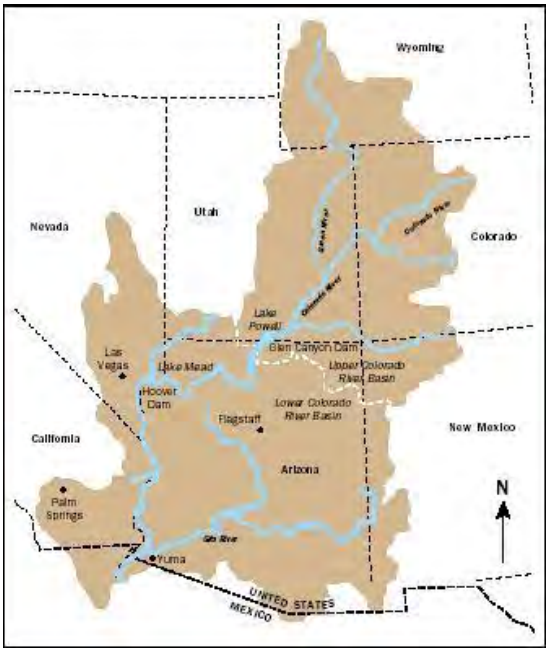
$$TMDL = \sum LA + \sum WLA + MOS$$

∑LA = the sum of the load allocations from nonpoint source pollutant categories (e.g., crop land runoff, mining site runoff, on-site septic systems);
∑WLA = the sum of the wasteload allocations from point sources (e.g., sewage treatment plants, storm drains, or a mining adit)
MOS = that margin of safety to assure that standards will be met.

A TMDL must be prepared for each surface water listed as impaired unless other actions are being taken that will result in the surface water meeting standards.

Colorado River Nutrient Standards and TMDL – Near Yuma, the Colorado River has a 246,000 square mile drainage area, covering parts of seven states **(Figure 6)**. Due to the extensive size of this drainage area, population growth along the Colorado River, and agricultural return flows in Yuma area, potential impacts of accumulated pollutants in the water, including nutrients, has been a long-standing concern.

Figure 6 – Colorado River Drainage



Arizona has established both site-specific nutrient standards and a Total Maximum Daily Load for total nitrogen and phosphorus. Both the standards and the TMDL load allocations must be considered when planning wastewater disposal systems, especially direct discharges to the river.

The following nutrient standards apply to the Colorado River at the northern international border with Mexico near Morales Dam:

- Total phosphorus – 0.33 mg/L as a 90th Percentile
- Total nitrogen – 2.50 mg/L as a 90th Percentile

To determine whether the standard is being met, a minimum of 10 samples must be collected at least 10 days apart and no more than 10% of the samples can exceed the 90th Percentile standard.

A TMDL for nutrients (nitrogen and phosphorus) was established in 1992 for the Colorado River between Imperial Dam and Morelos Dam. It was based on nutrient standards established by EPA, although these nutrient standards were subsequently rescinded by EPA. The 1992 nutrient TMDL for the lower Colorado River contains the following maximum daily load for nitrogen and phosphorus at the Northern International Boundary:

Total Nitrogen = 8,738 pounds per day
Total Phosphorus = 1,153 pounds per day

These standards and TMDL are applied to determine whether additional discharges to surface waters may be approved. Revising the TMDL should be considered because of newer nutrient standards and to use newer modeling approaches that may provide more accurate load estimates.

Watershed Improvement Plans – Along with estimating loading limits, water quality improvement projects need to be implemented to reduce pollutant loading to an impaired surface water. A TMDL Implementation Plan or Watershed Improvement Plan is developed to select critical projects and coordinate activities to improved water quality in the impaired watershed.

ADEQ encourages locally-driven development of Watershed Improvement Plans by providing grant funds to a watershed partnership or Watershed Improvement Council, rather than agency-led development of a TMDL Implementation Plan. The plan would identify:

- Priority water quality improvement projects
- Best strategies and BMPs to mitigate impairments
- Education, outreach, and training needs
- Effectiveness monitoring sites and methods
- Resources and funding opportunities for implementation
- A schedule and milestones for implementation

Creation of a viable locally developed plan would require a strong watershed partnership that is well educated about water quality issues in Yuma County. The Yuma 208 Plan also encourages the development of a strong watershed partnership and education of stakeholders.

Groundwater Water Quality Concerns

High Groundwater – Seasonal high groundwater is a problem in portions of Yuma County. It is associated with irrigation practices, not rain. Crop irrigation is the primary source.

In Yuma County, high groundwater damages sewer lines and affects septic systems. Where it is a concern, it is an important limiting site condition in designing on-site wastewater systems (septic systems).

Shallow or perched groundwater is easier to contaminate for many reasons such as less soil percolation time to filter out pollutants and more chances to create direct conduits for pollutants to reach groundwater.

Figure 7 – Crop Irrigation

Maps showing groundwater elevations are maintained by the US Bureau of Reclamation and can be downloaded from their website at:
http://www.usbr.gov/lc/yuma/programs/YAWMS/GROUNDWATER_maps.cfm.

The Arizona Department of Water Resource's basin plans indicate the following groundwater levels:

- In the Yuma Basin, water levels range from 2-3 to over 300 feet below ground surface, but generally range between six to 20 feet in the valleys
- In the larger, but unpopulated Lower Gila Basin, water levels range from just below the ground surface near the Gila River to 600 feet deep several miles south of the river
- In the Parker Basin, the average depth-to-water is 300 to 500 feet in the valley
- In the Western Mexican Basin, depth-to-water in the developed areas of the Sonoyta Valley is generally less than 100 feet below, and the mountains are generally devoid of groundwater

In several areas, irrigation practices have raised the water table so high that drainage wells have been constructed by US Bureau of Reclamation to manage the water-logging effects and excessive salinity associated with irrigation practices in the area (US Bureau of Reclamation website: http://www.usbr.gov/lc/yuma/programs/YAWMS/SCADA.html).

Pollutants of Concern – According to a groundwater quality study by ADEQ nitrate, total dissolved solids (TDS/salinity), arsenic, fluoride, and manganese are common problems in Yuma County's groundwater (*Ambient Groundwater Quality of Yuma Basin*, ADEQ, 1998). The quality of groundwater is influenced by local geology, effects of the Colorado River, and irrigation practices. Recycling of irrigation water in the floodplain gradually increased the concentration of pollutants in the groundwater. Strategies in this Yuma 208 Plan try to address activities in the watershed that may lead to contamination of surface and groundwater.

- Fluoride occurs naturally in Yuma's soils and groundwater. Fluoride in drinking water at low concentrations is beneficial to teeth; however, prolonged exposure to elevated concentrations can be harmful to bones and teeth. Fluoride concentrations in Yuma County range between 0.3 to 9.1 mg/L (Source: ADEQ water quality database).When a well public drinking water system exceeds to 4.0 mg/L, the water must be treated to reduce the fluoride concentration or an alternative source of drinking water must be found.

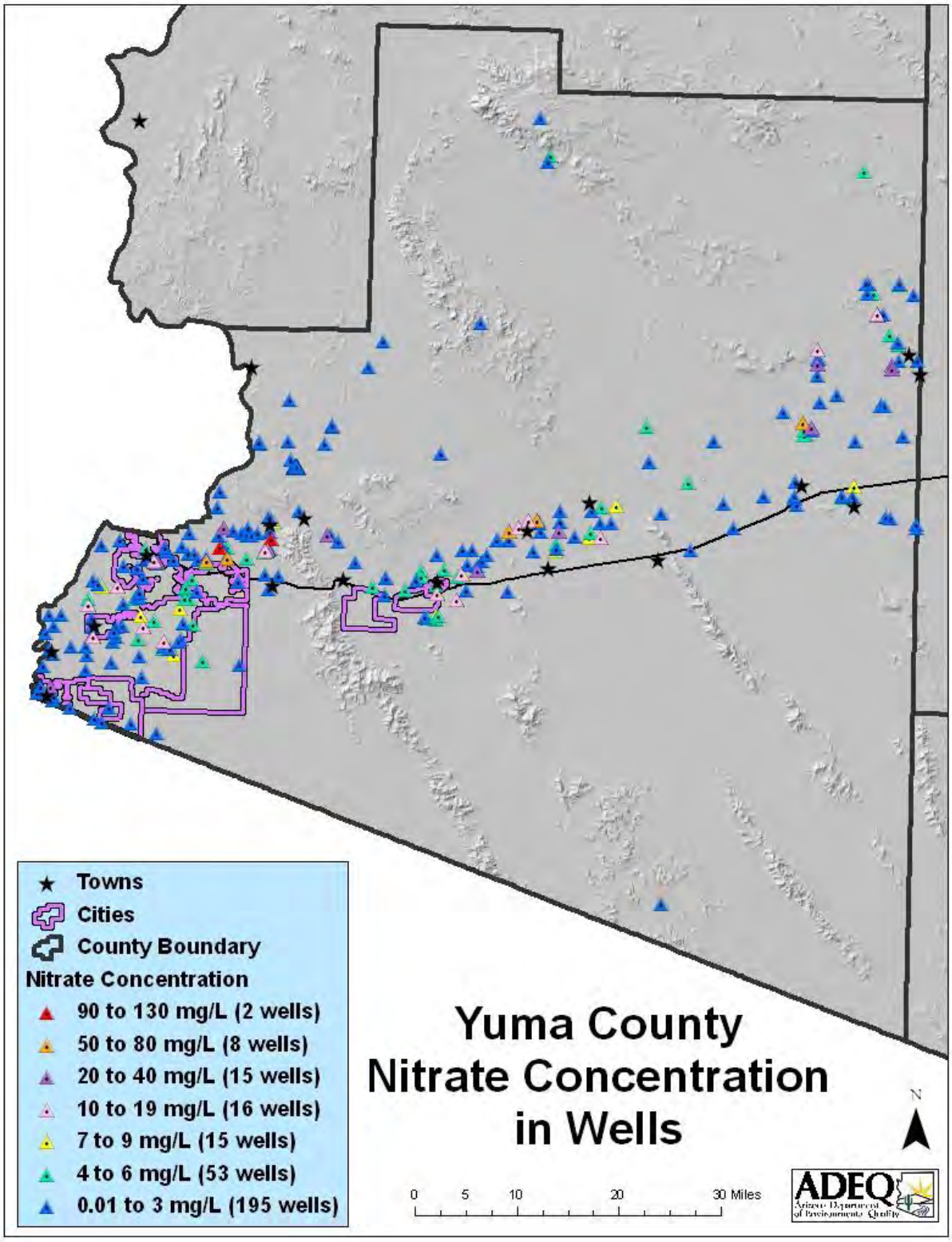
- Arsenic is another naturally occurring contaminant in wells in Yuma County that can be toxic. According to a 1999 study by the National Academy of Sciences, arsenic in drinking water causes bladder, lung and skin cancer, and may cause kidney and liver cancer. The study also found that arsenic harms the central and peripheral nervous systems, as well as heart and blood vessels, and causes serious skin problems. It also may cause birth defects and reproductive problems. When a public drinking water system exceeds 0.010 mg/L, the water must be treated to reduce the arsenic concentration or an alternative source of drinking water must be found.

- Nitrate concentrations above 10 mg/L can cause methemoglobinemia in infants, that can lead to death. Also, nitrites can convert to nitrosamines, a known carcinogen to humans of all ages. In Arizona, nitrate concentrations are generally below 3.0 mg/L in groundwater based on natural sources. However, nitrate concentrations above 10 mg/L are wide-spread in Yuma County (**Figure 8**). Areas with elevated nitrate concentrations appear to be associated with irrigated agricultural practices and concentrated animal feeding operations. Conventional on-site septic systems can also be a source of nitrogen that becomes nitrate in groundwater. Septic systems remove only about 10-30% of the nitrogen and allow the rest to seep into the ground (Nitrates in Groundwater – Septic Systems, presentation by Pima County Department of Environmental Quality, 2008). Therefore, the higher the density of septic systems in an area, the more likely nitrogen contamination in groundwater may become a problem.

- Total Dissolved Solids (TDS) causes an off-flavor in drinking water. EPA recommends that drinking water should be below 500 mg/L due to taste. As the TDS concentration elevates, it becomes less suitable for crop irrigation or industrial uses. The highest TDS concentrations in Arizona are found in the Gila River floodplain in Yuma County – in some wells over 7,000 mg/L (US Bureau of Reclamation website: http://www.usbr.gov/lc/yuma/programs/YAWMS/SCADA.html)

- Manganese is a common element found in Yuma's soils and found naturally in groundwater. Manganese may become noticeable in water at levels greater than 0.050 mg/L. Even at this low level, the water may have a brown color and leave black deposits on bathroom fixtures and discolor laundry.

Figure 8 – Nitrate Concentrations in Wells



More detailed maps, showing well locations will be available on the Yuma 208 website once it is constructed.

Additional information about water quality and water quantity in these basins can be found at ADEQ's website (http://www.azdeq.gov/environ/water/assessment/ambient.html) and at Arizona Department of Water Resources website (http://www.azwater.gov/azdwr/ Statewide Planning/Rural Programs).

Wastewater Treatment Facilities and Permit Authority

Existing Wastewater Treatment Plants – A list of existing wastewater treatment plants in Yuma County and maps showing their locations and service areas are provided in **Appendix B**.

The size of the facilities, treatment methods, and service areas will continue to change over time. The Yuma 208 Plan is institutionalizing the following new mechanisms for tracking this type of information, rather than incorporating the information into the plan:

- Wastewater Master Plans (see Chapter 3 Strategy 1.A.1, and Appendix C)
- Annual updates of this information
- A website with maps and tables of existing facilities

Delegation Agreement – ADEQ has delegated authority to review and approve Type 4 General Aquifer Protection Permits to Yuma County for wastewater treatment systems and collection systems, except for state and federal facilities. (Type 4 General APPs are for on-site facilities that do not require an Individual Permit and discharge less than 24,000 gpd.) Further information concerning this delegation agreement can be found at: http://www.azdeq.gov/function/permits/delegated.html.

ADEQ maintains authority over other Aquifer Protection Permits (e.g., Individual, Type 2, and Type 3), for AZPDES permits, and for subdivision certification of sanitary facilities. The state delegation agreement also does not apply to federal facilities.

Coordination and communication between agencies during the permit review process is frequently needed because of this mixture of permit responsibilities and legal authorities (see discussed in Chapter 1). This coordination is frequently facilitated by ADEQ's 208 Program.

Water Quality and Wastewater Treatment Concerns

Wastewater treatment facility and water quality concerns in Yuma County were raised at stakeholder meetings and by ADEQ staff throughout the plan development process. The issues are summarized below:

Best options for wastewater:

- Replacing failing on-site systems may be cost prohibitive due to site-limiting conditions that would require expensive alternative on-site systems or lift stations.
- Desire to find new cost-effective and safe uses for grey water, effluent, processed industrial water, and biosolids.
- Need to identify high priority areas for sewer line expansion in the future.
- Inconsistencies in determining whether a new development should connect to centralized sewer system or rely on on-site septic wastewater treatment.

Facility capacity:

- New developments must obtain "capacity assurance" from a wastewater treatment plant during the plan review process; however, land speculators may not build, or development may be delayed for years. Municipalities wish to avoid unnecessary and costly expansion of the treatment facilities before additional capacity is really needed.

- Some wastewater treatment plants lack the capacity to take on added flows from areas within their service area and need to initiate planning to expand facilities.
- Seasonal populations cause operational issues at wastewater treatment plants during low flows (e.g., need to add puppy food so system will operate).

Water quality concerns:

- Some agricultural practices are likely contaminating surface water and groundwater and are causing elevated depth to ground water which is affecting the life of sewer lines and on-site septic systems.
- Difficulties discovering failing on-site wastewater treatment systems that could contaminate ground water or surface water. Reports of failing septic systems by neighbors are less likely on larger lots; however, those lots are more likely have drinking water wells that could become contaminated by failing septic systems.
- Yuma County would like to receive information about septic tank condition reported to ADEQ when a property is sold.

Coordination and communication:

- Conservation practices must consider water storage or banking commitments to the Arizona Water Banking Authority for returning runoff to the Colorado River.
- Maintaining and improving cooperation across local jurisdictional lines and with ADEQ programs.

Costs and public support:

- Funding difficulties for design and construction of green infrastructure or optimal treatment facilities. Funds for conventional systems have been easier to obtain.
- High costs of connecting a property to a sewer line and lack of incentives. Potential incentives must be balanced between economic need and property responsibilities.
- Lack of public support for developing centralized sewer systems in some communities (voters not approving needed bonds).
- Lack of local-level resources to discover failing systems or monitor water quality

208 process costs, inefficiencies, and gaps:

- Excessive time and costs to amend the 208 plan before approval of proposed new or expanding wastewater treatment plants.

Most of these concerns and other issues raised by ADEQ staff are addressed in the strategic plan (Chapter 3 of this plan). Further discussion of wastewater concerns is provided below and in the following sub-section of this chapter.

Infrastructure Planning Agreements – Cooperation across government jurisdictional lines is critical to developing regional wastewater infrastructure. Multiple layers of government must be involved in regional wastewater infrastructure development in Yuma County – tribes, military bases, ADEQ, cities, even neighboring counties.

When wastewater services cross jurisdictional lines, cooperative agreements are necessary to ensure *long-term provision of services*. An Intergovernmental Agreement (IGA) and a Memorandum of Understanding (MOU) are two methods that entities should use to formalize relationships and determine the responsibilities and authorities for provision of wastewater service to an area. For example, the City of Yuma is currently providing wastewater service to the Marine Corps Air Station, the Quechan Indian community, and the community of Winterhaven in California. Formal agreements are needed to assure that services will continue and fees will be paid through changes in government administration. Other examples of when a formal agreement may be needed include, but are not limited to:

- Overlapping wastewater facility "planning areas"

- A private utility is inside a service area or planning area
- A satellite wastewater treatment plant, constructed inside a service area or planning area, will be decommissioned and become a collection system when the sewer lines become available in the future
- A property is partially in an adjacent 208 planning region (an adjacent county)
- Provide authority and inter-agency agreements concerning the Yuma 208 Review Council

Conventional and Alternative On-site Wastewater Treatment – On-site wastewater systems treat and dispose of effluent on the same property that produces the wastewater. These include conventional on-site septic systems composed of a septic tank and a disposal system.

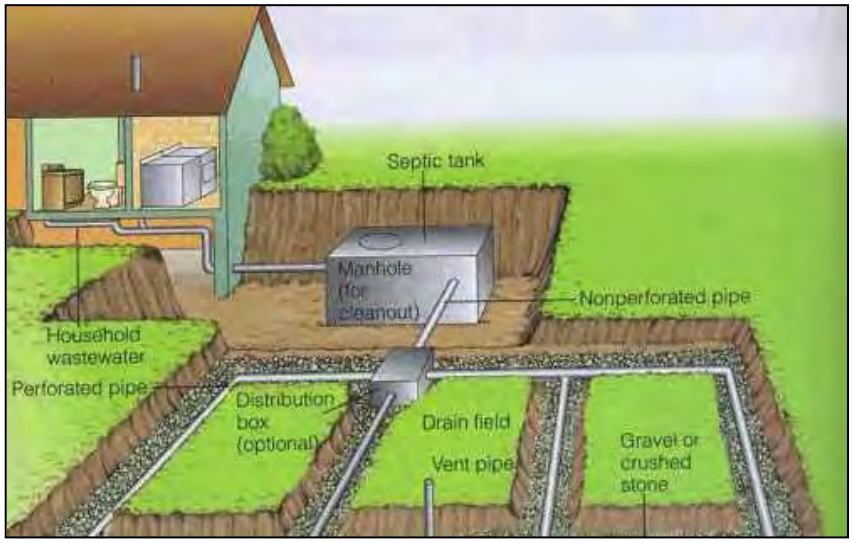
On-site wastewater systems are a *good option* in areas with proper site conditions and adequate lot size, and when the system is properly installed and maintained. APP rules mandate minimum lot sizes, setbacks from wells and property lines, and other requirements to ensure that septic systems will not cause of contribute to contamination of the aquifer.

Although a good option, even a properly functioning conventional septic system removes only 10-30% of nitrogen in the effluent (*Nitrates in Groundwater – Septic System* presentation by Pima County Department of Environmental Quality, 2008). Therefore, conventional septic systems have the potential to add significant amounts of nitrogen to soil that will become nitrate as it percolates through the soil to groundwater. High nitrate concentration in groundwater is already a concern in parts of Yuma County, likely due to agricultural practices

Fortunately, many alternative technologies (e.g., aerobic systems and denitrifying systems) have been developed for situations where conventional systems are not appropriate and sewer lines are not available. The new technologies are more effective at removing nitrogen contaminants. However, alternative on-site wastewater treatment technologies are significantly more expensive and require more maintenance than conventional systems.

The Wastewater Treatment Options Table in Chapter 4 provides criteria for determining whether on-site wastewater treatment should be considered, beyond permit requirements established in Aquifer Protection Permit rules.

Figure 9 – Typical On-site Septic System



Future for Wastewater Treatment

Twenty-year regional wastewater treatment planning must consider emerging contaminants in water and new technologies that can improve wastewater treatment efficiency and reduce energy use. Although newer technologies to save energy and water resources have higher up-front costs, cost recovery can be rapid, and in the long-run they can be a benefit to the local economy. As wastewater treatment plants expand and new facilities are developed, new green technologies and better treatment technologies need to be incorporated where practical.

Reuse of Biosolids – Biosolids created at wastewater treatment plants and concentrated animal feeding operations in Yuma County have potential economic value as either soil enhancement/fertilizer or as a source of energy. Currently much of the biosolid wastes from wastewater treatment plants are disposed of in landfills – a cost to the public.

Biosolids

Biosolids or sludge is the byproduct of wastewater treatment. During treatment, bacteria and other microorganisms break down components in wastewater into simpler and more stable forms of organic matter. Non-organic matter also settles into sludge, such as heavy metals and other potentially toxic materials commonly found in sewage sludge (in parts per million levels). What does not settle into sludge leaves the treatment facility as a treated wastewater effluent.

These residuals can be dewatered and further treated to reduce pathogens and vector attraction. Depending on method of treatment, unwanted contaminants may remain in treated sludge.

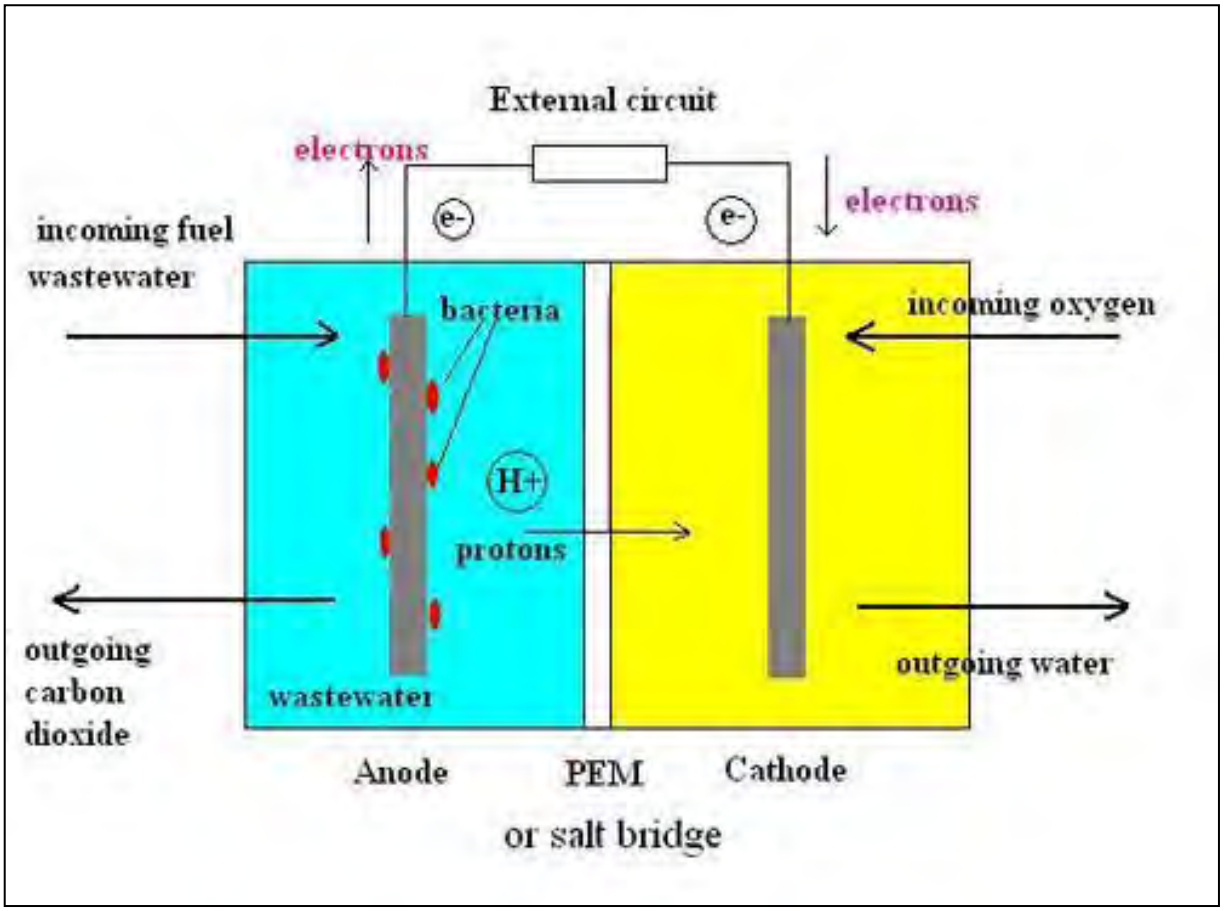
Biosolid Use as Soil Enhancement – The reuse of biosolids can return natural resources back to the environment. Biosolids are rich in nutrients and trace minerals needed to grow crops. Because the nutrients are in an organic form, biosolids can slowly release the nutrients. Biosolids can also improve the soil condition, thereby reducing soil erosion from wind and runoff.

However, the use of biosolids also have the potential to create environmental problems such as odor and pollutant contamination of soil and water if not properly managed. Therefore, the reuse of biosolids is regulated by ADEQ. Further information concerning the use and management of biosolids in Arizona can be obtained at ADEQ's website: www.azdeq.gov/environ/water/permits/download/bioprog.pdf.

Biosolid Use as Alternative Energy Source – New technologies being developed to use biosolids as an alternative energy source. Anaerobic "microbial fuel cell" technology can be used to simultaneously treat organic wastewater and generate electricity. EPA indicates that wastewater treatment processes consume an estimated two percent (2%) of energy nationwide (*Final Report: Electricity Generation from Anaerobic Wastewater in Microbial Fuel Cells*, EPA's National Center for Environmental Research, 2009). These microbial fuel cells harvest the chemical energy stored in contaminants and convert it to electricity using the bacteria commonly found in biological wastewater treatment processes used by larger treatment plants.

Two methods are currently being investigated to convert biosolids into energy sources: biological and thermo-chemical. Biological conversion involves using algae or bacteria to break down the biosolids. For example, under anaerobic conditions some bacteria can convert the biosolids into hydrogen gas and carbon dioxide gas which can then be converted into methane, a natural gas that can power heaters and stoves. Thermo-chemical conversion uses high temperatures to break down the elements in biosolids into gas or hydrocarbon fuels. In London biosolids create more than 11 megawatts of electricity a year.
Further information can be obtained at: http://cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction/display.abstractDetail/abstract/8957/report/F

Figure 10 – Energy Production from Biosolids



Reuse of Effluent – Regional wastewater plans also must consider potential reuse of effluent (reclaimed water). Effluent is a valuable resource in an area that receives less than six (6) inches of rain a year. It has become increasingly important due to growing populations and ongoing drought.

A reclaimed water permit is required for a facility that generates or uses treated effluent or gray water. All wastewater treatment facilities providing reclaimed water for reuse must have an individual APP, certification for a particular "class" of reclaimed water (A+, A, B+, B, C), and monitoring to ensure that effluent limitations for reclaimed water quality classes are met. (See further discussion in Appendix A.)

Reuse and recharge efforts and plans for the future must be tempered by residual contaminants found in treated effluent (see emerging contaminants discussion below). Nutrient accumulation in surface waters receiving reclaimed water may also become a problem. Lakes that receive effluent may develop significant issues with excess weeds and algae that can lead to fish kills and other negative impacts on the lakes designated uses.

Emerging Contaminants – An emerging concern in environmental contaminants is the introduction of pharmaceuticals and personal care products into the environment. These pollutants enter surface water and groundwater in many ways, but primarily through effluent from municipal wastewater treatment plants. Although found in trace amounts (parts per billion or parts per trillion) these compounds can have adverse effects on aquatic life due to their continual introduction to the environment. The risk to humans is largely unknown.

Removal efficiencies vary by treatment and the chemical properties of the pollutant. Both treated effluent and biosolid application to soils may contribute these pollutants to surface or groundwater. In biosolids, research indicates that these contaminants can persist for 100s of days, but their persistence will depend on soil temperature, oxygen content, and moisture. (Further information can be obtained at:

www.epa.gov/unix0008/water/pretreatment/pdf/T4_BobBrobst_BiosolidsPPCPs.pdf).

Energy Management – Energy costs are a major component of a wastewater utility's operating budget; therefore, energy management should be a priority. However, incorporating energy efficient technologies into treatment processes usually is not a priority.

Energy costs are controllable. As with other business expenses, utility directors need to assess energy use within their facilities and find new technologies that will reduce energy use and associated costs. They should consider comprehensive utility audits, desk audits, benchmarking, and the use of alternative technologies for their wastewater facility or in collaboration with other facilities. Not only will these ideas save money, they will improve the environment and move the community towards a more sustainable future.

New technologies that are more energy efficient need to be incorporated into plans for new facilities or for modifications of existing wastewater facilities.

Chapter 3 – Yuma 208 Strategic Plan

Plan Development

This strategic plan is the heart of the Yuma County 208 Water Quality Management Plan. It directs how regional water quality protection will be achieved. Once this plan is adopted, proposed development and associated wastewater treatment facilities must be *consistent* with the goals, objectives, and strategies established in this Chapter. Further details of how this will be accomplished are in the next Chapter – Chapter 4.

The components of a strategic plan:

- **Goals** – Goals are like Generals. They look at the big picture. Goals show us what the world will look like after we achieve our objectives. Goals are broad and inclusive, yet attainable and realistic.
- **Objectives** – Objectives are like Sergeants, taking directions from the Generals (goals). They describe the broad changes needed to achieve a goal.
- **Strategies** – Strategies are the foot soldiers. Strategies are specific actions needed to accomplish an objective.
- **Milestones** – Milestones are steps, stages, or phases of implementing the strategy. They allow us to determine progress in accomplishing the strategies. They may include tactics – the tools that must be developed.
- **Responsible Parties** – These are the major players who are committed to implementing the strategy.
- **Measures of success** – Indicators of success must be chosen for each strategy. These need to be quantifiable and directed at achieving the objective or goal.

Strategic planning starts with the end in mind. Broad goals and objectives are established and then strategies are selected to achieve each objective. Strategies are selected to address recognized water quality and wastewater issues in a timely manner. They are crafted to consider current opportunities, such as community support and funding. The plan is further broken into definable milestones, responsible parties, and measures of success for each strategy.

Indicators of success must be monitored and results analyzed to document whether and how well desired outcomes were achieved. Analyses provide the information needed to direct strategic plan changes.

The goals of this strategic plan were selected to achieve the following vision for the Yuma County 208 Program:

Yuma County 208 Vision

Achieve regionally coordinated management of wastewater to protect and improve surface and groundwater quality while encouraging wastewater treatment methods and resource conservation activities that will enhance the long-term environmental, social, and economic health of the region.

Goal 1: Wastewater treatment facilities and on-site systems use treatment methods that are superior at removing pollutants and conserving resources, are economically feasible, and meet regulatory requirements.

Objective 1.A: Effective 20-year wastewater master plans are established for all actively developing areas of Yuma County and updated yearly. Development of these plans must consider growth projections, better treatment technologies, resource conservation, high priority areas for centralized sewer lines, economies of scale, cost-effectiveness, and needs for expansion.

Strategy 1.A.1: An approved **Wastewater Master Plan** must be developed by public wastewater utilities (publicly or privately owned) that have a designated *service area*. An approved Wastewater Master Plan will also be developed by the Designated Planning Agency (Yuma County) for all areas with development not covered by the other Wastewater Master Plans.

- Required elements of a Wastewater Master Plan are provided **Appendix C**.
- The initial Wastewater Master Plans, except for the plan being written by the DPA, will be submitted to ADEQ for review and approval by xxx, 2010
- The Designated Planning Agency's Wastewater Master Plan will be submitted by xxx, 2011
- Information in these plans must be updated annually by submitting revisions of required elements (Appendix C) to ADEQ and the DPA
- Every 10 years, these plans must be reviewed and revised. Revised plans must be submitted to ADEQ for review and approval (see discussion in Chapter 4)
- A new Designated Management Agency or Wastewater Management Utility must have an approved Wastewater Master Plan before wastewater treatment facility permits can be approved (see Strategy 1.A.2)
- The Yuma County 208 Review Council will review draft plans to encourage coordination and avoid overlaps and gaps in service (see Strategy 3.A.2)
- ADEQ will approve these plans to assure that they are consistent with the Yuma 208 Plan. Review will include public review and comment (see Strategy 3.A.1)
- The Designated Planning Agency (Yuma County) will adopt the Wastewater Master Plans after ADEQ has approved the plans

Milestones:

1.A.1.a – Local ordinances needed to implement this strategy are adopted (see discussion in Chapter 4)
1.A.1.b – Required Wastewater Master Plans are submitted to ADEQ and the DPA
1.A.1.c – The DPA submits draft Wastewater Master Plans to ADEQ for all areas with development outside of the DMA or WMU service and planning areas
1.A.1.d – ADEQ reviews and approves all Wastewater Master Plans that are consistent with requirements in Appendix C of this plan
1.A.1.e –The DPA adopts Wastewater Master Plans approved by ADEQ
1.A.1.f – Components of the Wastewater Master Plans are incorporated into the County's Comprehensive Plan and other planning documents
1.A.1.f – Yearly updates of the Wastewater Master Plans are submitted to ADEQ and DPA for review by November 1st of subsequent years after approval
1.A.1.g – Wastewater Master Plans are reviewed and revised in a 10-year cycle

Measures of Success:

1.A.1.a – Majority of new developments occur within a service area, where centralized sewers can be provided easily
1.A.1.b – High priority areas for sewer lines are being sewered as planned; thereby reducing nitrate loadings to groundwater
1.A.1.c – Most Wastewater Master Plans include reuse of treated effluent, biosolids, gray water, and other better technologies

Responsible Parties:

DPA or its authorized agent
DMAs and Wastewater Management Utilities
Yuma 208 Review Council
ADEQ 208 Program

Strategy 1.A.2:

A public wastewater utility needs to demonstrate that it has the legal, financial, and managerial capabilities and resources to construct, operate, and maintain the wastewater facilities if it has a designated Service Area or Planning Area and has the potential to expand its facilities or collection system in the future.

- If the public wastewater utility is a government entity (a municipality, sanitary district, wastewater improvement district), then the entity needs to be certified as a **Designated Management Agency (DMA)** by ADEQ and EPA *before proposed* wastewater treatment facilities can be built or expanded further.
- If the public wastewater utility is privately owned (non-governmental entity), then the entity needs to be approved as a **Wastewater Management Utility (WMU)** by ADEQ and the Yuma DPA as having the capabilities to function as a DMA, *before proposed* wastewater treatment facilities can be built or expanded further.
- To be certified as a DMA or WMU, the entity also needs commit to implementation of the Yuma 208 Plan, provide an approved Wastewater Master Plan (Strategy 1.A.1), and be willing to participate in the Yuma 208 Review Council (Strategy 3.A.2)

(See further discussion about DMAs in Chapter 4.)

Milestones:

1.A.2.a – Entities in Yuma County that need to be certified as a DMA or WMU are identified and notified by the DPA
1.A.2.b – Local ordinances needed to implement this strategy are adopted
1.A.2.c – All entities that need to be approved as a DMA or WMU submit adequate information to the DPA and ADEQ to be approved.

Measures of Success:

1.A.2.a – All DMAs and WMUs in Yuma County have the financial, legal, and managerial capabilities needed to provide wastewater services in perpetuity.

Responsible Parties:

Designated Management Agencies & Wastewater Management Utilities
The DPA or its authorized agent
ADEQ's 208 Program
US Environmental Protection Agency

Strategy 1.A.3: Identify and track **High Priority Areas** for sewer lines and **Sensitive Areas** on the Yuma 208 website (see Strategy 3.A.3). "Sensitive areas" are properties where conventional on-site wastewater septic systems should not be built or replaced due to site limiting conditions and current APP rules. Schedules for providing sewer lines or centralized wastewater facilities for all "high priority areas for sewer lines" will be included in the Wastewater Master Plans (see Strategy 1.A.1). To determine "high priority areas" consider:

- Areas where on-site wastewater septic systems have begun to fail
- High density areas – lot size averages less than one (1) acre
- Water table likely within six (6) feet of ground surface seasonally
- Lots are within the 100-year floodway
- Nitrate concentration in wells exceeds or is nearing the Aquifer Water Quality Protection Standard of 10 mg/L
- Areas where on-site systems may not be built under current APP rules

Milestones:

1.A.3.a – High Priority Areas for Sewer Lines are being tracked
1.A.3.b – Information about these areas is provided on the Yuma 208 Website
1.A.3.c – These priority areas are incorporated in Wastewater Master Plans

Measures of Success:

1.A.3.a – High priority areas are sewered; thereby reducing nitrate and bacteria loading to groundwater

Responsible Parties:

The DPA or its authorized agent
DMAs and Wastewater Management Utilities
Yuma 208 Review Council

Strategy 1.A.4**:** The DPA or its agent (Yuma County Department of Development Services) and the Yuma 208 Review Council assist in bringing parties together to develop wastewater treatment facilities (new, expansions, or changes in treatment) and developments that provide improvements in wastewater **cost-effectiveness, economies of scale, treatment efficiencies, and resource conservation**, such as:

- Expansion of existing wastewater treatment facilities, rather than adding less efficient and smaller facilities
- Reuse of gray water, effluent, or biosolids, or use of biosolids to create energy
- Use of low impact, low energy designs, and other green infrastructure design techniques to protect water quality and conserve resources

Milestones:

1.A.4.a – Local ordinances, policies, and procedures needed to implement this strategy are adopted
1.A.4.b – Education and outreach opportunities concerning environmentally friendly technologies are provided for interested parties
1.A.4.c – A regional biosolids treatment facility or development of alternative energy from biosolids is studied and implemented, if feasible

Measures of Success:

1.A.4.a – Proposed developments implement these elements; thereby, conserving resources, reducing negative impacts to water quality, and encouraging economies of scale
1.A.4.b – Biosolids from all major wastewater treatment plants are no longer sent to the landfill for disposal and have become a new resource for Yuma County

Responsible Parties:

DMAs and Wastewater Management Utilities
Yuma 208 Review Council
The DPA or its authorized agent

Strategy 1.A.5: Planning for **expansion of wastewater treatment** facilities will be triggered by operational flow and design capacity, when (any of the following):

- Plant operational flow (peak maximum monthly average flow) is greater than 85% of design capacity
- Expected operational flows from areas scheduled for sewers would exceed 85% of design capacity
- 85% of APP approved capacity has been promised as "capacity assurance" by the sewage treatment facility to a developer (see strategy 1.A.6)

Milestones:

1.B.5.a – Policies and procedures are developed to implement this strategy

Measures of Success:

1.B.5.a – Plans for construction have been approved before operational flow is at 95% of design capacity so that construction can begin in a timely manner.
1.B.5.a – Approved plans for construction enables new funding sources to help pay for construction

Responsible Parties:

DMAs and Wastewater Management Utilities

Strategy 1.A.6: Develop **capacity assurance** procedures for wastewater treatment facilities to fulfill subdivision and permit application requirements that will avoid building unnecessary

treatment plant capacity or tying up capacity in developments that are never built.

Milestones:

1.A.6.a – Local ordinances, policies, and procedures adopted to implement this strategy are compatible with existing state rules and policies

Measures of Success:

1.A.6.a – Capacity assurance is no longer tied up with proposed developments that will not be built and adequate capacity is maintained.

Responsible Parties:

The DPA or its authorized agent
DMAs and Wastewater Management Utilities
Yuma 208 Review Council
ADEQ 208 and Engineering Review Programs

Strategy 1.A.7: Property owners within service areas, planning areas, and high priority areas for sewer lines have regulatory and non-regulatory incentives to **connect to centralized sewers** when sewer lines become available

Milestones:

1.A.7.a – Local ordinances needed to implement this strategy are adopted
1.A.7.b – Other incentives to encourage connections in target areas are considered and if viable are instituted
1.A.7.c – Target education and outreach to land owners in these areas concerning the long-term benefits of centralized wastewater treatment

Measures of Success

1.A.7.a – As new centralized sewer become available, few property owners object to connecting on to the system

Responsible Parties

The DPA or its authorized agent
DMAs and Wastewater Management Utilities
Yuma 208 Review Council

Strategy 1.A.8: To support Yuma 208 Plan consistency reviews, provide clear criteria and directives for wastewater development through a **Wastewater Treatment Options Table** (see table in Chapter 4).

Milestones:

1.A.8.a – Local ordinances needed to support options in this table are adopted
1.A.8.b – Policies, procedures and educational materials needed to support implementation of this strategy are development and implemented

Measures of Success:

1.A.8.a – Use of the options table eliminates any controversy or inconsistency concerning the type of system appropriate for a proposed development.

Responsible Parties

Yuma County Department of Development Services
Yuma 208 Review Council
ADEQ 208 Program

Goal 2: Pollutant load reductions result in measurable **water quality improvements** in surface water and groundwater quality.

Objective 2.A: Discharges from wastewater treatment plants and on-site wastewater treatment systems do *not* cause or contribute to:

- An exceedance of a surface or aquifer **water quality standard**
- An exceedance of an adopted **Total Maximum Daily Load** (TMDL)
- An impairment of a surface water designated use

Strategy 2.A.1: Review of proposed developments considers **potential impacts** to an impaired surface water, a surface water with a TMDL load allocation, or ground water quality where one or more wells in the area indicate that the aquifer water quality standard is exceeded or nearing the standard

Milestones:

2.A.1.a – The location of wells exceeding aquifer water quality standards and pollutants of concern are tracked on the Yuma 208 Website, using information in ADEQ's groundwater quality database

2.A.1.b – The location and information about pollutants of concern for impaired surface waters and TMDLs are tracked on the Yuma 208 Website

2.A.1.b. Local ordinances, policies, and procedures needed to implement this strategy are adopted and instituted

Measures of Success:

2.A.1.a – Measurable improvements in groundwater and surface water quality reported in ADEQ's integrated report on water quality.

Responsible Parties:

The DPA or its authorized agent

ADEQ Programs: 208, Assessments, TMDLs, Engineering Review, Groundwater Permits, and Surface Water Permits Programs

Objective 2.B: Encourage implementation of **Best Management Practices** (BMPs) to reduce pollutant loadings to surface water and groundwater.

Strategy 2.B.1: Implement the Yuma County Stormwater Management Program (adopted April 7, 2004 or future updates) and the Yuma County Ordinance Regulating Stormwater Quality Management and the Discharge of Stormwater (adopted September 5, 2007 of future updates)

Milestones:

2.B.1.a – Critical projects and potential funding sources are identified and implemented

2.B.1.b – Community support for project implementation is developed

Measures of Success:

2.B.1.a – BMP implementation results in reduced pollutant loads (e.g., sediment, nutrients, bacteria, grease and oils) to streams during flood events.

Responsible Parties:

Yuma County Department of Development Services (Flood Control Program)

Yuma 208 Review Council

ADEQ Nonpoint Source Program and Grants & Outreach Program

Proposed Yuma Watershed Partnership

Strategy 2.B.2: Encourage implementation of **agriculture and livestock BMPs** to reduce targeted pollutant discharges to surface or groundwater. BMPs should focus on:

- Fertilizer and animal wastes management to reduce nitrate loading to groundwater

- Crop production techniques to reduce boron, selenium, total dissolved solids (TDS), pesticides, herbicides loadings
- Irrigation practices that reduce seasonal high groundwater that can negatively impact septic systems and sewer lines.

Milestones:

2.C.1.a – Educational needs and opportunities are identified and education is implemented

2.C.1.b – Grant funds, loans, and other incentives for implementing BMPs are identified and actions to obtain these funds are supported

Measures of Success:

2.C.1.a – Measurable improvement in water quality

2.C.1.b – Measurable reduction in the groundwater table near septic systems and sanitary sewer lines

Responsible Parties:

Yuma 208 Review Council

Yuma Area Agriculture Council

State and federal agencies that support agriculture

(ADA, AZ Cooperative Extension Service, AZ Association of Conservation Districts, NRCD, NRCS, US Farm Services)

US Bureau of Reclamation

Nonpoint Ed. for Municipal Officials (NEMO) and Master Watershed Stewards

ADEQ Nonpoint Source and Grants & Outreach Programs

Objective 2.C: Encourage implementation of critical watershed improvement and education projects to improve or protect water quality in Yuma County

Strategy 2.C.1: Support the local development and implementation of a **Watershed Improvement Plan** that identifies critical water quality improvement and education projects, funding sources, and agency resource commitments (see Objective 3.B)

Milestones:

2.D.1.a – Develop, educate, and empower a Watershed Partnership (see Strategy 3.B.1) or identify an agency to sponsor plan development and implementation

2.D.1.b – Identify grant funds to implement projects

2.D.1.c – Implement critical projects to reduce pollutant loads and restore watershed health

Measures of Success:

2.D.1.a – Broad community participation in project implementation

2.D.1.b – Additional funding sources are identified for implementation

2.D.1.c – Water quality improvements result in delisting "impaired waters" or improving groundwater quality

Responsible Parties:

Yuma 208 Review Council

Proposed Yuma Watershed Partnership

ADEQ Nonpoint Source and Grants & Outreach Programs

Nonpoint Ed. for Municipal Officials (NEMO) and Master Watershed Stewards

- Goal 3: Coordination, cooperation, and public involvement support plan implementation

Objective 3.A: Encourage coordination and cooperation among programs, agencies, and other watershed partners.

Strategy 3.A.1: ADEQ's **208 Plan Consistency Reviews** are coordinated with interested parties in Yuma County stakeholders so that reviews are thorough and yet completed in a timely manner (see the Consistency Review and Public Review processes in Chapter 4). (See also strategy 3.A.2)

Milestones

3.A.1.a – The Consistency Review and Public Review processes described in Chapter 4 of this plan are instituted

Measures of Success:

3.A.1.a – The Consistency Review and Public Review processes routinely identify significant issues and concerns

Responsible Parties:

The DPA or its authorized agent
Yuma 208 Review Council
ADEQ 208 Program

Strategy 3.A.2 – A Yuma County 208 Water Quality Review Council (**Yuma 208 Review Council)**, with representation from Designated Management Agencies, Wastewater Management Utilities, and the DPA (Yuma County) is responsible for:

- Review and comment to ADEQ about actions requiring 208 Public Review (see Chapter 4)
- Coordination of the public review process with other local agencies
- Help in implementing this strategic plan (Chapter 3) and other procedures established in this plan (Chapter 4)

Milestones:

3.A.2.a – The Designated Planning Agency creates and administers the Yuma 208 Review Council
3.A.2.b – Education and training opportunities are provided for Yuma 208 Review Council members about water quality and wastewater issues and potential mitigation or remediation actions

Measures of Success:

3.A.2.a – Public review and comments routinely raise pertinent issues

Responsible Parties:

Yuma 208 Review Council
Yuma County Planning and Zoning
Municipal planning and zoning departments in Yuma County
ADEQ Nonpoint Source and Grants & Outreach Programs
Nonpoint Ed. for Municipal Officials (NEMO) and Master Watershed Stewards

Strategy 3.A.3 – **Memorandums of Understanding (MOUs) or Intergovernmental Agreements (IGAs)** or other agreements are used to formalize relationships among governmental agencies and utilities to assure long-term wastewater services to an area.

Milestones:

3.A.3.a – MOUs or IGAs needed to implement strategies in this plan are developed and instituted
3.A.3.b – Existing MOUs or IGAs needed to implement the Yuma 208 Plan are updated as needed

Measures of Success:

3.A.3.a – The development of MOUs and IGAs eliminates uncertainty concerning long-term future wastewater services for developed areas in Yuma County and eliminates potential conflicts between DMAs and other public service providers.

Responsible Parties:

The DPA or its authorized agent
DMAs and Wastewater Management Utilities

Strategy 3.A.4 –**Notify the Designated Management Agency or Wastewater Management Utility** if a *proposed* wastewater treatment facilities or on-site systems is within a service area,

planning area, or "high priority area for sewer lines" to ensure that the proposed wastewater treatment is consistent with their Wastewater Master Plans (new, replacement system, or significant expansion).

Milestones:

3.A.4.a – Procedures are established so that the DMA or WMU is notified

3.A.4.b – Local ordinances are established to assure that proposed wastewater treatment facilities within these areas are consistent with approved Wastewater Master Plans, including updates to these plans

Measures of Success:

3.A.4.a – Future development of wastewater treatment facilities are consistent with the Wastewater Master Plans, as well as the Yuma 208 Plans

Responsible Parties:

The DPA or its authorized agent
DMAs and Wastewater Management Utilities

Objective 3.B: A **website** provides integrated information to support 208 reviews and development of wastewater facilities in Yuma County

Strategy 3.B.1: Maintain a **website** to support 208 Consistency Reviews and development decisions. Updated as needed. Website information includes, but is not limited to:

- Locations of
  - Service areas, planning areas, and wastewater treatment plants
  - High priority areas for sewer line expansion
  - Sensitive areas with site limiting conditions that would not support conventional on-site wastewater treatment facilities (septic systems)
  - Wells with nitrate levels exceeding or near the 10 mg/L Aquifer Water Quality Standard
  - Impaired surface waters and pollutants of concern
  - Surface waters with TMDL's established and pollutants of concern
- Wastewater Treatment Options Table(s) criteria for wastewater treatment facilities and on-site systems
- Local and state points of contact for further information

Milestones:

3.B.1.a – Website is developed and available for all interested parties

3.B.1.b – Information on the website is reviewed and updated at least yearly after following receipt of Wastewater Master Plan updates

Measures of Success:

3.B.1.a – Reduction in time and other resources used to complete 208 Consistency Reviews.

3.B.1.b. – Developers and governmental agencies routinely use the information on the website

Responsible Parties:

The DPA or its authorized agent
Yuma 208 Review Council
ADEQ 208 Program

Objective 3.C: An informed public understands local water quality issues, supports needed infrastructure, and is actively involved in protecting and enhancing water quality in Yuma County

Strategy 3.C.1: Encourage the development of an active **Yuma Watershed Partnership** to

educate the public, coordinate water quality improvement activities among government agencies and tribal authorities, and encourage public involvement in improving the watershed

Milestones:

3.C.1.a – Master Watershed Steward classes are held to educate interested parties about water quality issues in this watershed

3.C.1.b – Funding sources and other support for water quality improvement projects are identified

3.C.1.c – The Partnership is encouraged and given support to initiate water quality improvement and education projects

Measures of success

3.C.1 a – The Watershed Partnership initiates at least one watershed improvement project or education project each year

3.C.1.b – The Watershed Partnership obtains grants to implement projects

Responsible Parties

Yuma 208 Review Council
ADEQ Nonpoint Source Program and Grants & Outreach Program
Nonpoint Ed. for Municipal Officials (NEMO) and Master Watershed Stewards

Goal 4: The Yuma 208 Plan remains an effective and efficient tool for managing water quality.

Objective 4.A: Performance evaluations and feedback on strategies are used to determine progress and direct plan revisions.

Strategy 4.A.1: The Designated Planning Agency will provide a *brief* **annual report** to ADEQ's 208 Program on the status of the Yuma 208 Plan implementation and an evaluation of the plan's effectiveness by reporting:

- Milestones accomplished or barriers to accomplishing milestones
- Achievement of measures of success
- Recommendations concerning strategy modifications (see Strategy 4.A.3) needed to meet goals and objectives

Milestones:

4.A.1.a – The Yuma 208 Review Council reviews and comments on the draft 208 Annual Report prepared by the DPA

4.A.1.a – The final 208 Annual Report is submitted to ADEQ's 208 Program by March 1, 2011, and annually thereafter

Measures of Success:

4.A.1.a – Annual reviews provide feedback needed to determine success and redirect resources as needed

Responsible Parties

The DPA or its authorized agent
Yuma 208 Review Council
ADEQ 208 Program

Strategy 4.A.2: Review **the Yuma 208 plan, and revise if necessary, every five (5) years** after this plan is approved using the process established in this plan (see Chapter 4). In addition, **other revisions** can be submitted to ADEQ outside of this 5-year cycle to change:

- The strategic plans goals, objectives, or strategies
- Significant changes in the process established in Chapter 4 of this plan
- Wastewater Treatment Options Table

(Note that amendments are no longer needed to support approval of proposed new or

expanding wastewater facilities, service areas, or planning areas.)

Milestones:

4.A.2.a – Policies and procedures are established to implement this strategy

4.A.2.b – The Yuma 208 Plan is reviewed and proposed revisions are submitted within every 5 years after adoption of this plan. The first revision would be due by June 2015.

Measures of Success:

4.A.2.a – Plan revisions reflect water quality issues in Yuma County

4.A.3.b – Plan revisions result in better targeted strategies and simplified processes

Responsible Parties

The DPA or its authorized agent

Yuma 208 Review Council

ADEQ 208 Program

Chapter 4 – Yuma 208 Plan Implementation

Implementing this Yuma 208 Plan will take a variety of tools – 208 Consistency Reviews, new local ordinances, development of a Yuma 208 Review Council, a Wastewater Treatment Options Table, a new website, and more. This chapter describes these new tools and the processes.

Past 208 processes were revised to provide a more streamlined and coordinated approach to implementation of this plan. Implementation is built on open communication channels and clear roles and responsibilities so processes can occur in a timely manner and be seamlessly integrated with the permit approval process.

How the processes fit together is illustrated in **Figure 11**.To get to the permit review process, a proposal must be reviewed to be sure that it is consistent with strategies in the Yuma 208 Plan, including the Wastewater Treatment Options Table. It also must be compatible with established Wastewater Management Plans. All of the strategies in the strategic plan will be considered during this review process.

As illustrated by the wider arrows (Figure 11), the process is faster if the proposal is consistent with the 208 Plan. Although the 208 Plan strategies, options tables, and processes can be revised, such revisions cause lengthy delays in obtaining a permit. It is usually easier, faster, and less costly to revise the proposal so it is consistent with the 208 Plan and compatible with existing Wastewater Management Plans.

The process could be delayed if the wastewater entity (municipality or private utility) must be approved as a Designated Management Agency or Wastewater Management utility and must develop an approved Wastewater Master Plan. However, only major wastewater treatment facilities with service areas would need this level of effort. Other wastewater treatment facilities or on-site systems must simply be compatible with existing wastewater master plans. Note that the inventories within these master plans would be updated after the facilities are approved.

This processes illustrated in Figure 11 are discussed in detail in this chapter. Criteria, coordination, and negotiation among interested and affected parties occur throughout the processes and are not easily illustrated in a flow diagram. Roles and responsibilities are also not easily illustrated but are described in the text.

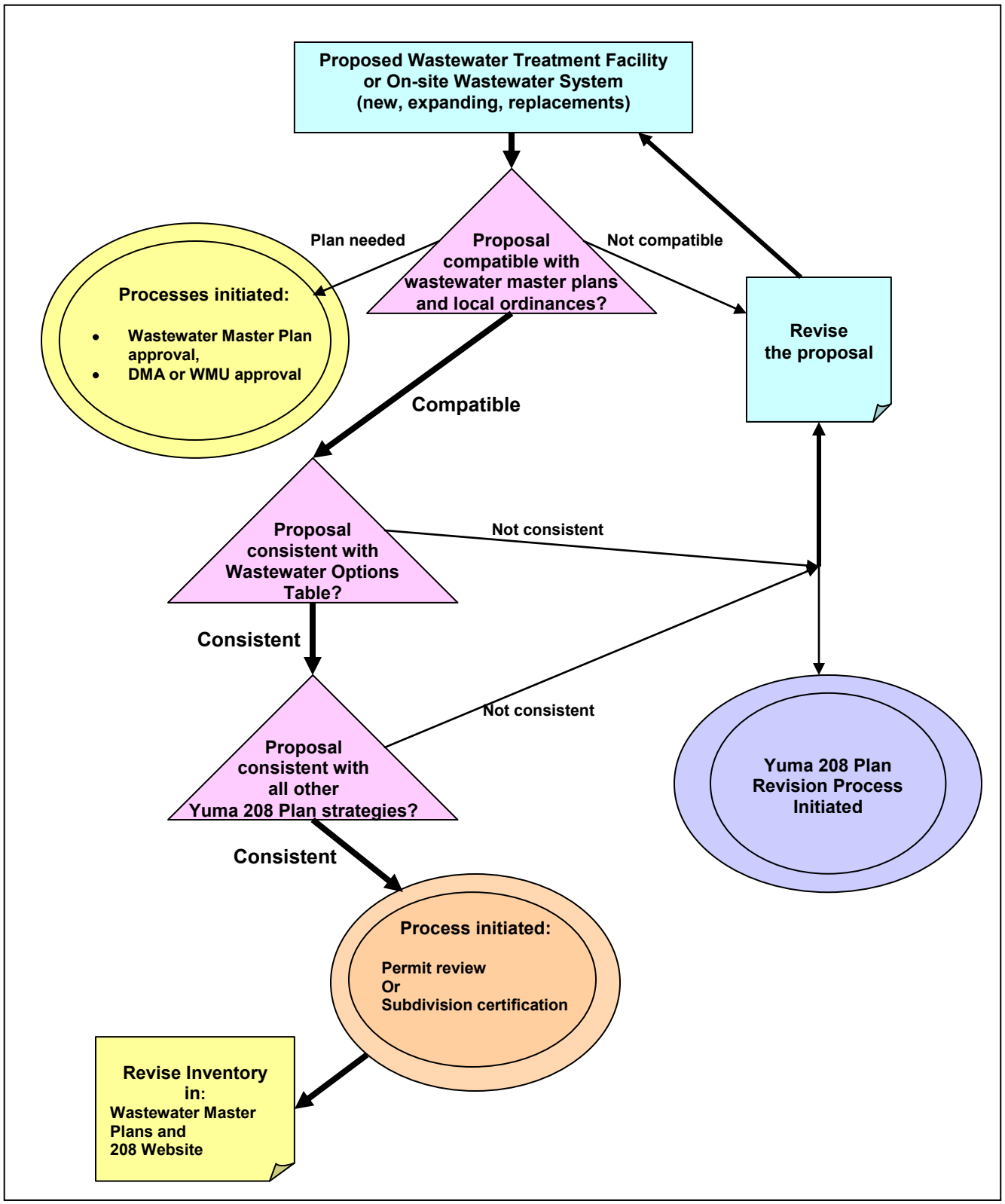


Figure 11 – Overview of the 208 Plan Processes

Local Ordinance Development

Although federal and state regulations mandate that permits must be consistent with the 208 Plan and that the plan must address several types of water quality concerns, existing regulations do not provide adequate authority implement some aspects of this plan. Therefore, additional legal authority should be considered. Ordinance development was included as a milestone in several of the strategies in Chapter 3 and is discussed below. In addition, some local policies and procedures may also be needed.

To assure consistency with state regulations and policies, development of new local ordinances, and policies should be coordinated with ADEQ and other state and federal regulatory agencies.

Designated Management Agencies and Wastewater Management Utilities – Additional ordinances are needed to *require* a municipality to be approved as a DMA or a privately-owned wastewater utility as a WMU, and *require* that they take on the responsibilities of a DMA or WMU outlined in this plan. Ordinances should indicate that these requirements must be met *before* approval of new or expanding wastewater facilities. Additional policies and procedures should be considered for coordinating approval of a Wastewater Management Utility. (See further discussion of DMA and WMU later in this chapter.)

Wastewater Master Plans – Local ordinances would be needed to *require* development and adoption of Wastewater Master Plans *before* approval of the new or expanding wastewater facilities when the wastewater entity would be functioning as a DMA or WMU

A local ordinance or policy may also be needed to develop a mechanism for adopting the plans by the Yuma County Board of Supervisors, a municipality, a sanitary district, or the Yuma 208 Review Council.

Adopted master plans must be considered by ADEQ and the County during the on-site wastewater treatment APP review process, as established in APP rules R18-9-A309; however, additional local ordinances would be needed to *require* routine compatibility review of the Wastewater Master Plans during the permit review process. These master plans are developed to fulfill a Yuma 208 Plan strategy and would therefore be considered during the review process under state and federal regulations. (See discussion in Local Ordinance Development)

Rescinding Capacity Assurance – Local legal authority and processes are needed for a municipality in Yuma County to rescind capacity assurance once given to a developer or to establish a phased approach to providing capacity assurance (strategy 1.A.4). State APP regulations require capacity assurance to be given, and without other clear regulations, the assurance is assumed by ADEQ to be an everlasting contract with the developer.

Proposal Submission Requests – Local ordinances, policies, and procedures are needed to implement strategy 1.A.4 and *require* wastewater treatment facility proposals to include additional information (e.g., such as the cost-effectiveness, resource conservation strategies, treatment efficiencies, or economies of scale).

Wastewater Treatment Options Table – Although wastewater treatment facilities must be consistent with the 208 Plan, additional local ordinances would be needed to *require* that on-site wastewater treatment facilities (i.e., septic systems and alternative systems with combined flows less than 24,000 gpd covered under APP General Permits) and wastewater treatment collection systems are consistent with the 208 Plan and the Wastewater Options Table presented in this chapter (strategy 1.A.8).

Impacts to Impaired Waters – Local ordinances would be needed to *require* Yuma County to consider during the permit review process potential pollutant contributions to surface waters

with TMDLs or assessed by ADEQ as an "impaired" or "not attaining" standards, and contributions to an aquifer with wells that exceed an Aquifer Water Quality Standards (e.g., nitrate standards or *E. coli* bacteria standards) (strategy 2.A.1).

Consistency Review Process

The Consistency Review Process facilitates regional wastewater coordination by encouraging communication among government agencies during the application review process. The reviews also consider broader potential area-wide impacts than the permit review process and encourage development of infrastructure that achieves desired economies of scale and conservation of resources. Equally important, Consistency Reviews provides earlier opportunities for public involvement in the decision process than the permit review process.

Consistency reviews also occur as part of the Wastewater Master Plan review process. This process is discussed in more detail in another subsection of this chapter.

Revised 208 Consistency Review Process – In the past, Consistency Reviews frequently resulted in 208 Plan Amendments and extensive public review, a process that generally cost the developer $20,000 and took up to a year to complete. This Yuma 208 Plan introduces a new process, where the strategic plan and a Wastewater Treatment Options Table provide clear criteria for acceptable wastewater infrastructure development. Plan revisions may be needed, but they should be rare.

Instead of using the 208 Amendment Process to keep an accurate inventory of wastewater facilities, the inventory will be part of the Wastewater Master Plans which are updated annually and kept available to all interested parties at a website. The inventory is now a tool, not the outcome of planning.

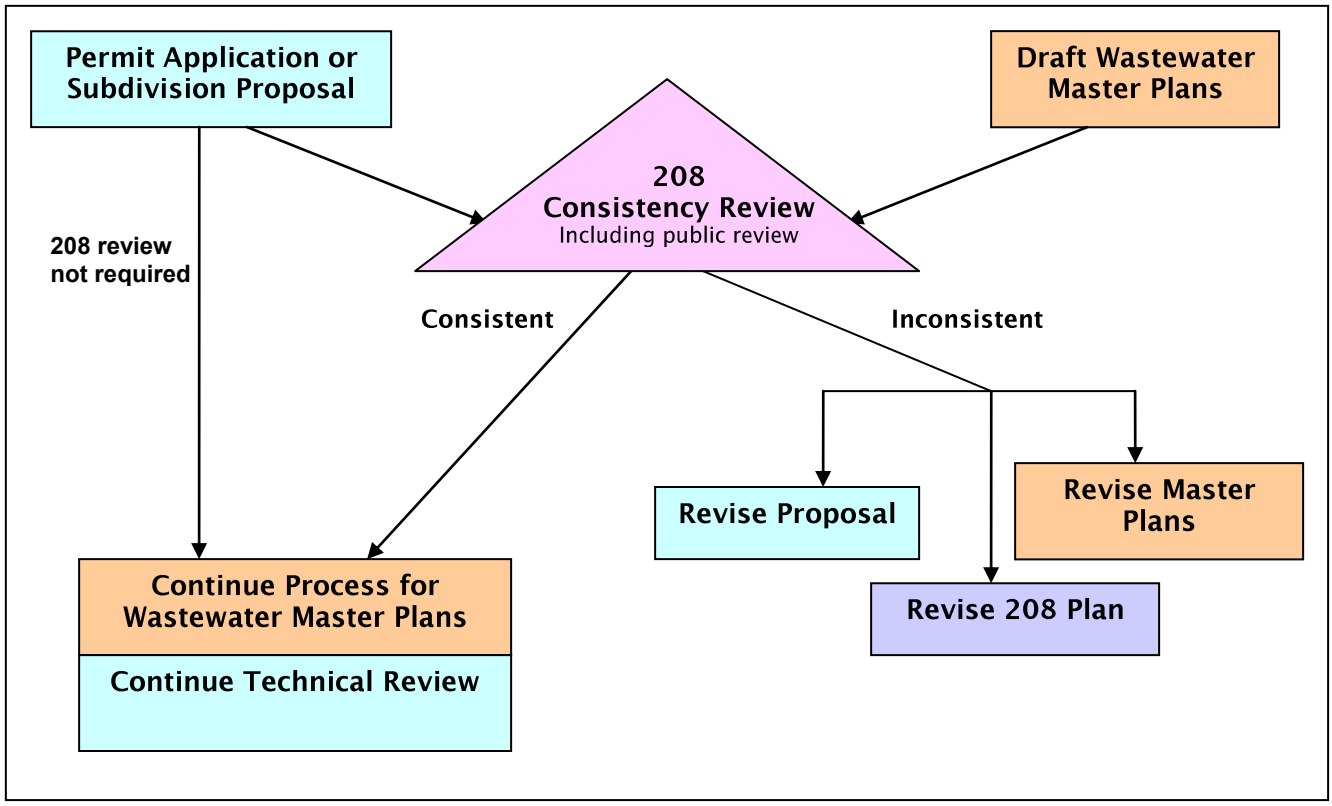
ADEQ still makes the official 208 Consistency Review determination, if a review is required. Consistency reviews consider 208 Plan strategies such as the Wastewater Treatment Option Table, whether an approved Wastewater Master Plan has been provided (if required), and whether the proposal is consistent with other strategies in the Yuma 208 Plan.

Coordination with Technical Reviews – A 208 consistency review generally occurs during ADEQ's technical review process for wastewater applications and "certificates of facilities" for proposed subdivisions. The relationship between the administrative and technical review of an application and the 208 Consistency Review Process is illustrated in **Figure 12**.

Consistent/Inconsistent – When proposed facilities or master plans are consistent with the Yuma 208 Plan, revisions are not needed, the public review process is reduced, and the process is quickly completed. If proposals or master plans are inconsistent with the Yuma 208 Plan, they can be revised and resubmitted. Although strategies or the wastewater options table in the Yuma 208 Plan also can be revised, this would be time consuming and costly and would put the technical review process on hold (see plan revision process subsection of this chapter).

Not compatible with Wastewater Master Plans or Local Ordinances – Yuma County must also determine if the proposal is compatible with Wastewater Master Plans and local ordinances. If not compatible, the proposal needs to be revised by working with the DMA or WMU. County reviews supplements and is integrated with ADEQ's 208 consistency review to avoid duplication of efforts by encouraging communication and cooperation.

Figure 12 – 208 Consistency Review Process



Consistency Review Criteria – Not all wastewater permit applications require a 208 Consistency Review. The following chart indicates when a 208 Consistency Review form must be submitted to ADEQ. Application forms for a 208 Review can be found at ADEQ's website: www.azdeq.gov/environ/water/watershed/regional.html.

Table 3 – 208 Consistency Review Criteria

Review Required	Review Not Required
Combined design flow 3000 gpd or more	Combined design flow less than 3000 gpd
Domestic sewage (including commercial if primarily domestic sewage)	Not domestic sewage (e.g., industrial process wastewater)
New Wastewater Master Plans or annual update with significant changes and no prior Consistency Review. Significant modifications include: • A change in service area or planning area • WWTP design flow increase of 10% or more • New wastewater treatment plant • New treatment or disposal methods • New AZPDES discharge point	Proposed minor modifications to wastewater treatment plants proposed or included in yearly updates of a Wastewater Master Plan (Minor modifications do not include those on list in left column)
Proposed new wastewater treatment plant or significant modifications to an existing treatment plant (see list above), and no prior Consistency Review.	Proposed development to connect to existing sewer lines and wastewater treatment plant has adequate capacity
Proposed subdivisions	Renewal of an AZPDES permit, no new discharge point locations or changes in flow
	Proposed new components for a sewage collection system only
	Minor technical corrections to a permit, such as change in ownership

As shown in Table 3, review is dependent on whether combined design flow to a wastewater treatment facility will be above or below 3000 gallons per day. All wastewater flows on the property are considered.

Unless specifically exempted above, a 208 Review form should be submitted to ADEQ. During the early administrative phase, ADEQ will determine whether a formal 208 Consistency Review is required.

Once approved, the wastewater master plan and inventory on the Yuma 208 website must be updated.

208 Public Review Process – The 208 Public Review Process gives the public an opportunity to learn about potential wastewater development and express their concerns during the application review process. As shown in the following diagram (**Figure 13**), public comments are used to inform the 208 Consistency Review. This public review process fulfils federal requirements for public participation established in 40 CFR Part 25. However, public review is *not* always necessary. The criteria for when public review is *required* are shown in **Table 4.**

Figure 13 – 208 Public Review Process

(See Strategy 3)

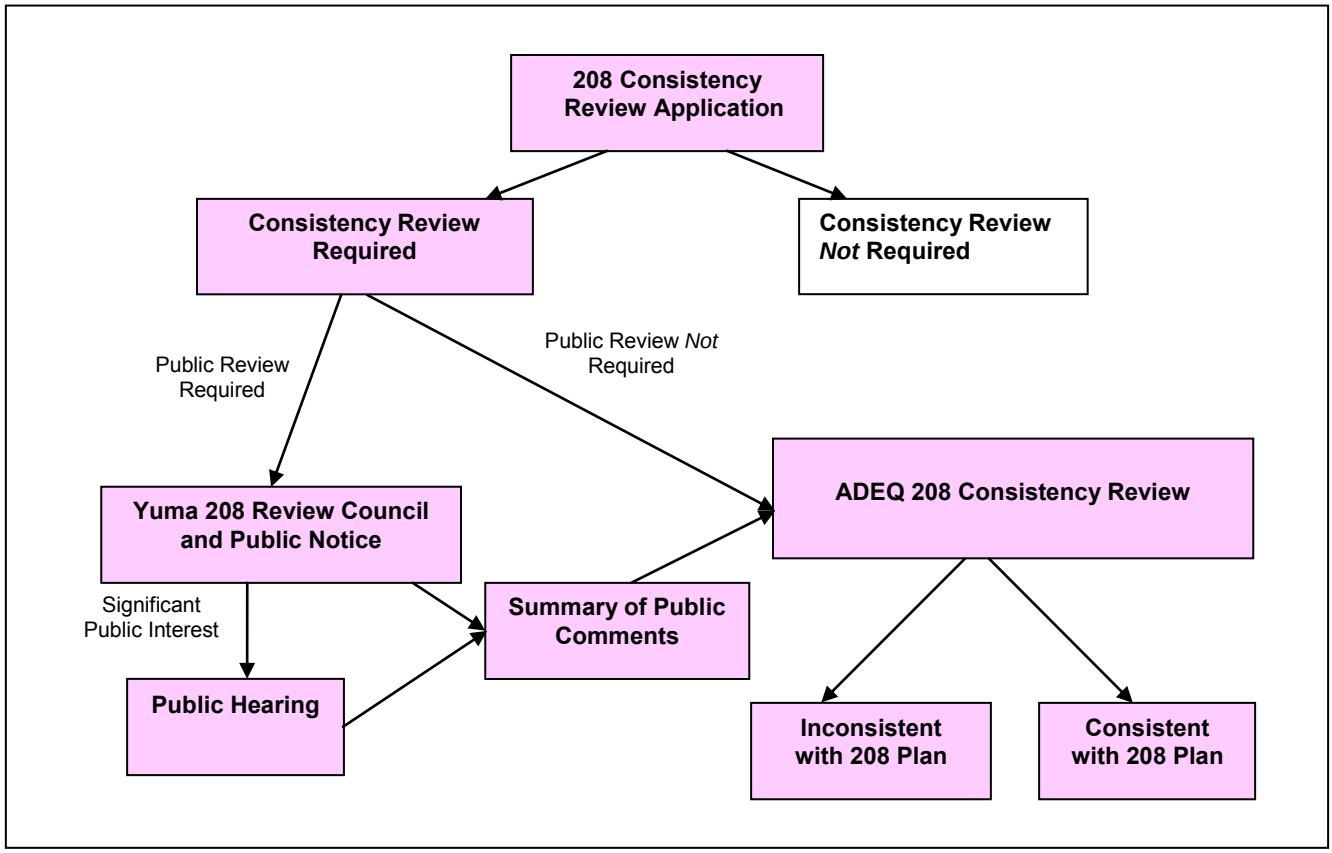


Table 4 – Public Review Process Criteria

PUBLIC REVIEW REQUIRED	PUBLIC REVIEW NOT REQUIRED
New Wastewater Master Plan and significant changes in to these plans	
Proposed: • New wastewater treatment plants • Expansion of a WWTP onto new property • New AZPDES discharge location • New or modification of a service area or planning area	All other modifications or expansions of wastewater facilities
208 Plan Revision	

If ADEQ determines that the proposal is inconsistent with the 208 Plan before public review and comment, public review would be delayed until the proposal is revised.

As shown in **Figure 13**, the type of public review will vary based on public interest. ADEQ's 208 Program staff will consult with Yuma County to determine the level of public review needed for each proposal. Two types of public review and comment are described below in **Table 5**.

Table 5 – Level of Public Review

TYPE OF REVIEW	DESCRIPTION OF PROCESS
Public Notice and Yuma County 208 Council Review	Proposal reviewed by the Yuma County 208 Council after a 30-day public notice and comment period. The amount and type of public notice will vary based on the proposed magnitude of change and potential for public impact. At a *minimum:* 1. Public notice would be published in the local newspaper, and would include: • Brief description of the project • Map of site location, discharge sites, pumping stations, etc • How to make comments • Where to obtain further information 2. Additional information about the project would be posted on a website and be available for review at the Yuma County Department of Development Services.
Public Hearing	If public interest is apparent based on response during public notice and Council review, a formal public hearing may be held. This would extend the public review process by 45 days. A public hearing notice would be published and written notice provided to interested parties who commented during the prior public notice phase. Yuma County or ADEQ's 208 Program staff may decide to expand written public notice to other potentially affected parties. This notice must be at least 30 days prior to the meeting. The public may make their comments at the hearing or in writing within five (5) days of closing the hearing.

At the end the Public Comment Process, the Yuma 208 Review Council or Yuma County Department of Development Services will provide ADEQ with a summary of comments and their recommendations.

Yuma 208 Review Council is encouraged to seek out ways to integrate this public review with other public review requirements, such as having joint hearings with planning and zoning, or for establishment of sanitary districts, if the opportunities arise.

Yuma County may charge a fee for conducting this public review process or for assisting in the development of proposals. Fees will be set by the Yuma County Board of Supervisors.

The more the proposal is consistent with the Yuma 208 Plan, the *shorter* the public review and comment period is likely to be.

Wastewater Treatment Options Table

Function – The Wastewater Treatment Options Table (**Table 6**) will be used during 208 Plan consistency reviews of new or expanding wastewater treatment facilities and should be applied during review of new or replacement on-site wastewater systems. The Wastewater Treatment Options Table was created to implement Strategy 1.A.8 in the strategic plan. If a proposed wastewater treatment facility must be consistent with the Yuma 208 Plan, it must be consistent with this Wastewater Treatment Options Table.

As shown in Figure 11, if inconsistent with the plan (e.g., this table), either the proposal or the table must be revised. Revision of the table would require going through a Yuma 208 Plan revision process described at the end of this chapter.

It is recommended that Yuma County develop ordinances to provide further authority for using this table and implementing this strategy. Although the table addresses on-site systems, current state and federal regulations do not require consistency reviews for many of these systems.

In selecting the right option, engineering and physical constraints inherent in the site and situation must be considered. Also, selected options must meet all current Aquifer Protection Permit (APP) and Arizona Pollutant Discharge Elimination System Permit (AZPDES Permit) rule requirements.

Option 1 – Connect to an existing wastewater treatment plant with adequate capacity – If readily available, economically feasible, and the wastewater treatment plant (WWTP) has adequate capacity, connecting to a sewer line is usually the best choice within a service area, a planning area, or a high priority area for sewer lines.

Connecting to existing wastewater facilities would be consistent with the strategic plan when these plants provide economies of scale, treatment efficiencies, resource conservation, or are more cost-effective than other alternatives (strategy 1.A.4). Even outside of a service or planning area it could be more cost-effective and resource conservative (consistent with the plan) to connect to an existing wastewater plant than construct new facilities or systems. These opportunities should be evaluated before constructing new wastewater treatment plants or using on-site wastewater treatment (septic systems).

Sometimes connection to an existing sewer line would require a change in a service area. This change would require a 208 consistency review, including public review. Sometimes this type of change would require an Inter-Governmental Agreement (IGA) or Memorandum of Understanding (MOU) to institutionalize long-term agreements services. Once approved, the changes would be documented in Wastewater Master Plan would be modified during the next annual update.

Other options may be more cost-efficient when the sewer line is not yet available or the plant does not yet have capacity. In these cases, new developments should be designed so that connections to sewer lines can easily be accommodated when sewer lines become available.

Option 2 – Modify existing wastewater treatment plant or collection system – Enlarging or modifying existing wastewater facilities to take on a new development can also improve treatment efficiency, energy efficiency, resource conservation, or economies of scale. As developments are proposed, Yuma County and the wastewater facilities (DMAs and WMUs) should look for opportunities to merge wastewater treatment plants, expand treatment plants, or create collection systems to take advantage of economies of scale. This is more consistent with the Yuma 208 Plan than developing new, smaller treatment plants that are less efficient at removing pollutants.

When inside a service area or high priority area for sewer lines, proposed development should be delayed until adequate capacity is available at the wastewater treatment plant and the sewer lines are available to the property. However, if development cannot be delayed, the "phased approach" in Option 4 and 5 could be considered.

Option 3 – Build new wastewater treatment facilities – Sometimes construction of new wastewater treatment facilities is the best alternative due to physical and engineering constraints inherent in the situation and/or space limitations at the existing facilities. New construction also can be the best alternative and consistent with the Yuma 208 Plan when it is designed to use more effective technologies than existing facilities. For example, they can be constructed to facilitate reuse of effluent to water landscaping or and use of biosolids as an alternative energy source. New facilities can be constructed to accommodate future expansion if further growth is anticipated.

To be consistent with the 208 Plan, new centralized wastewater treatment facilities and collection systems should be designed to take advantage of new technologies and potential economies of scale. New facilities and collections systems should be designed to accept wastewater from older and less efficient facilities or systems.

Similar to Option 2, when inside a service area or high priority area for sewer lines, proposed development should be delayed until adequate capacity is available at the wastewater treatment plant and the sewer lines are available at the property. If development cannot be delayed, the "phased approach" in Option 4 and 5 could be considered.

Option 4 – Build on-site wastewater systems (up to 24,000 gpd) – An on-site wastewater system (septic system) can be the best option in some situations. For example, this is an excellent option in low density developments (2 acres or larger) with no site limiting conditions. This option does not provide the economies of scale, treatment efficiencies, or resource conservation potential of Option 1, 2, or 3. However, on larger properties with good site conditions, on-site systems can be a low-cost and effective alternative.

An individual on-site system is an option if: (all of the following)

- Adequate site conditions (APP Rules R18-9-A310)
- Not in a 100-year floodway (Floodplain Use Statutes 48-3609(C)
- Subdivision density is less than 2.17 lots/acre (i.e., lots are larger than 0.46 acres) (Yuma County Subdivision Ordinance Section 4.29)
- A public sewer line is not available to the subdivision (Yuma County Subdivision Ordinance 4.29)
- Both an on-site well and wastewater system, the minimum lot size is 1 acre (Yuma County Subdivision Ordinance Section 4.29 and AZ Subdivision Rules R18-5-404)
- The property is *not* located with an area identified for connection to a sewage collection system by a wastewater master plan adopted by the county, municipality or sanitary district (APP Rules R18-9-A309(A)(5)(a)(iii))

A conventional on-site septic system is an option if: (all of the following)

- Not in a Nitrogen Management Area (APP Rules R18-9-A317(D))
- Nitrate concentration in groundwater less than 10 mg/L (Aquifer Protection Standard) within ½ mile of the development (need local ordinance)

Alternative on-site wastewater systems (APP Rules E303 through E322) are an option if:

- Land owner can demonstrate adequate maintenance will be performed (need ordinance)

Phased approach – In service areas or high priority areas for sewer lines, where development or replacement of existing on-site systems cannot be delayed until sewer lines are available (Options 1, 2 and 3), individual septic systems could be allowed using a phased approach if:

- APP rule requirements are met
- Dry sewer line collection system is provided to the properties
- The residents are required to connect to the sewer lines and properly abandon their septic system when the sewer line from the WWTP is extended to their area.

This phased approach requires local ordinances and procedures for notification of new owners when property changes ownership.

Option 5 – Build a satellite plant or communal facility – If the other options are not feasible, sometimes one of the following small centralized wastewater treatment facilities must be considered:

- A "satellite plant" is a small privately-owned wastewater treatment facility that services one property, such as a recreational vehicle park. The facility is larger or uses technologies beyond those of an on-site wastewater system and smaller than most municipal wastewater treatment facilities.

- A communal facility serves multiple properties but may be using rather simple technologies, such as an expanded septic tank and leaching system.

These small treatment plants and collection systems do not provide the economies of scale and treatment efficiencies provided by larger plants, but are a necessary option in areas where larger centralized facilities are not available and individual on-site systems are not appropriate due to lot size or other site limiting conditions. They are more expensive and more complicated to operate than conventional on-site systems, and therefore, may need to be maintained by a certified operator.

Phased approach – In service areas where development cannot be delayed until sewer lines are available, satellite plants or communal systems could be used during an initial development phase until sewer lines become available. However, local ordinances or written agreements between the owners the wastewater facility and the wastewater treatment plant need to be established so that these facilities would become collector systems for the municipal wastewater treatment plant when the sewer lines become available.

Commercial and Industrial Wastewater – Domestic sewage discharges from commercial properties would require 208 Consistency Review and would follow the Options Table. However, more toxic discharges and industrial process wastewater are not covered under the 208 Process or covered by this Yuma 208 Plan.

Options Considering Distance to Sewer Lines – Sometimes deciding which wastewater treatment option is preferable can be determined by considering the distance to existing sewer lines or the wastewater treatment plant. Such guidance is provided in **Table 7**. The five options in Table 6 are combined into just three options in Table 7:

- Septic – An on-site wastewater treatment system, including an alternative on-site system
- Tie in – Connect to a wastewater treatment plant
- Satellite Plant – Construct a small treatment plant

Table 7 should be considered guidance.

Table 6 – Wastewater Treatment Options Table

Selected option must meet all ***current*** Aquifer Protection Permit, Arizona Pollutant Discharge Elimination System Permits, and adopted local ordinance requirements.

	Option 1	Option 2	Option 3	Option 4	Option 5
	Existing WWTP with Adequate Capacity	**Expand WWTP or Collection System**	**New Centralized WWTP and Collection System**	**Individual On-site Wastewater Treatment Systems** (up to 24,000 gpd)	**Satellite Plants or Communal Facilities***
In a Service Area, a Planning Area, or High Priority Area for Sewer Lines* **(As identified in an adopted master sewer plan)**	Connecting to an existing WWTP is generally the best option if feasible.* If sewer lines are not yet available or WWTP capacity not sufficient, see Options #2 and #3.	Expanding a WWTP is generally preferable to building new facilities. It is usually more cost-effective to delay proposed development until expansion has been completed. However, if unwilling to delay development, an initial phase can be developed (see Options #4 and #5.)	Construction of new public service facilities may be the best option, for example if the size of the plant cannot be expanded due to size. New facilities must be provided by the entity assigned the Service Area (or developed under a contract with that entity). If in a High Priority Area, but outside of a Service Area or Planning Area, development of a sanitary district, wastewater improvement district, or private utility should be *encouraged*. It is usually more cost-effective in long term to delay proposed development until new facilities are complete. However, if unwilling to delay development, an initial phase can be developed see Options #4 and #5.	This option includes septic systems and alternative on-site systems Both new or replacement individual on-site wastewater systems should be restricted by local ordinance to: • Lots larger than 1 acre with adequate site conditions for the individual on-site wastewater system and a replacement system • Sewer lines are not available If unwilling to delay development until sewer lines are available, individual on-site systems could be used in a "first phase" of development if: • Dry sewer line are constructed to facilitate connection to the sewer line, and • A local ordinance requires property owners to connect to sewers when they become available, and a mechanism is in place to notify future property owners of this requirement.	These privately owned facilities may be an option only when sewer lines are not yet available. In a Service Area, this is another alternative if unwilling to delay development until sewer lines are available under a "first phase" of development if: • There is a written agreement with the WWTP to connect on the collection system to the sewer lines when sewer lines become available and properly decommission the treatment system. (This may also require local ordinances.)
All Other Areas	If feasible,* modify the Service Area and connect to the sewer lines. This would require Public Review, 208 Consistency Review, and revision of the Wastewater Master Plan (see Wastewater Master Plan discussion) (Not a likely option)	If feasible,* modify the Service Area and connect to the sewer lines. This would require Public Review, 208 Consistency Review, and revision of the Wastewater Master Plan (see Wastewater Master Plan discussion)	If feasible,* establish a Service Area and initiate development of a **new WWTP and collection system**. Establishment of a Service Area would require development of the Wastewater Master Plan and may require certification as a DMA.	A good option on lots larger than 1 acre with no site limiting conditions for conventional systems.	Centralized on-site wastewater treatment facilities include "package plants" and communal septic systems which may be a good option where sewer lines are not available and site limiting conditions restrict the use of conventional septic systems.

Table footnotes:
"Feasible" means that economic, physical, and technological constraints established in APP and AZPDES Rules are considered.
"WWTP" means Waste Water Treatment Plant.
"Adequate capacity" means the daily flow would not exceed 100% of APP Permit design flow for the treatment plant
"Service Area" means an area established in the Wastewater Master Plan as:

- An area with existing sewer lines, including distant collector systems, which pump to a centralized WWTP
- An area that a public service provider has an exclusive right to service through an agreement with the Arizona Corporation Commission

- A municipal boundary line, if city has agreed to sewer the area

"Planning Area" means the area that a DMA or Wastewater Management Utility plans to sewer in the future that is outside of the service area. Both public and private utilities should have established Planning Areas in their Wastewater Master Plans.
"High Priority Areas for Sewer Lines" means an area where providing sewer lines are a high priority, as established in a Wastewater Master Plan (see Strategy 1.A.3)
"Higher density area" means the average lot size is less than one acre.
"Communal Facility" is a wastewater treatment system used by multiple property owners but not large enough to be considered a public utility.

Option selection should also consider how best to incorporate technologies for reuse of effluent and biosolids, including the use of biosolids to develop alternative energy sources, and other strategies in the Yuma 208 Plan.

Table 7 – Guidance for Selecting Wastewater Treatment Systems Based on Distance

Type of Development	Distance from Existing Sewer Line or WWTP			
	< 300 Feet	300 Feet to 1 Mile	1 -2 miles	> 2 miles
New Single Lot	TIE IN	SEPTIC	SEPTIC	SEPTIC
Failed On-site System (Septic System)	TIE IN	REPLACE SEPTIC	REPLACE SEPTIC	REPLACE SEPTIC
New Development with Lots >1 Acre	TIE IN	SEPTIC	SEPTIC	SEPTIC
		TIE IN If > 50 lots	TIE IN If > 100 Lots	
New Development with Lots < 1 Acre	TIE IN	TIE IN	TIE IN	SATELLITE PLANT

"WWTP" means Wastewater Treatment Plant
"Satellite Plant" indicates that a construction of a new wastewater treatment facility should be considered, rather than tying into an existing system.

Wastewater Master Plans

Wastewater Master Plans must be developed by Designated Management Agencies or Wastewater Management Utilities for their service and planning areas, and by Yuma County (the Designated Planning Agency) for the rest of the county where development has occurred or is anticipated within the next 20 years. Combined, these plans provide an inventory of existing facilities, priorities for development of new facilities, and other information needed for regional wastewater management.

Because changes in service areas, wastewater facilities, and priorities are anticipated, these plans must be updated yearly and then reviewed and revised on a 10-year cycle. Revisions should be coordinated with the Yuma County Comprehensive Plan and other related planning processes. Review should be initiated after five (5) years of the master plan approval, to assure adequate time for plan development, public review, ADEQ approval, and Yuma County adoption within 10-years.

The *minimum* components to meet Yuma 208 Plan requirements for Wastewater Master Plans are defined in **Appendix C**. Most information can be submitted in table format as a spreadsheet or database and as geo-spatial data (Geographic Information System covers for maps). These requirements can be revised but would require a revision of the Yuma 208 Plan (see Plan Revision Process at the end of this chapter).

Service Areas and Planning Areas – All public wastewater providers (privately and publicly owned utilities) need to define boundaries for both a service area and planning area. (See definitions below.) Areas that are expected to be developed or may need to shift from on-site systems (septic systems) to sewers within the next 20-years should be included in either a service area or a planning area. Boundaries for these areas are delineated in the Wastewater Master Plans and on the 208 Website to provide developers, the community, and the wastewater treatment facility more certainty about what areas will be sewered in the future and who will be providing the services.

Service Areas and Planning Areas

A Service Area includes:

- Areas a DMA and Wastewater Management Utility is servicing, including distant collector systems
- Areas that the public wastewater utility has exclusive right to service through an agreement with the Arizona Corporation Commission (private utilities) or County Board of Supervisors (sanitary districts or wastewater improvement districts)
- Municipal boundary or incorporated area or other area a municipality has agreed to sewer

A Planning Area includes:

- Areas adjacent to a service area that the DMA or Wastewater Management Utility plans to provide sewers in the future
- Areas where new developments may occur or where centralized sewer lines may need to replace existing on-site wastewater treatment facilities within the next 20 years

The establishment of a service area or planning area should be negotiated with other nearby public wastewater utilities to avoid overlaps or gaps in service. Some agreements will need to be institutionalized through Inter-Governmental Agreements or Memorandums of Understanding (see Strategy 3.A.3). Although the service areas for private utilities are

established through the Corporation Commission, planning areas do not require this approval and can be more easily renegotiated.

High Priority Areas for Sewer Lines – Areas that are high priority for sewer lines should also be delineated in the Wastewater Master Plans, along with a schedule for when sewer lines should become available. DMAs and WMUs need to work with the Yuma County Department of Development Services to identify and track these areas to fulfill Strategy 1.A.3.

208 Review Process – To be consistent with the Yuma 208 Plan a Wastewater Master Plan must be approved first if it is part of a municipal system or a privately-owed facility approved by the Arizona Corporation Commission and has a designated service area. (See discussion of Designated Management Agencies and Wastewater Management Utilities in the following subsection.)

Not all proposed wastewater treatment plants will require development of a wastewater master plan before facilities can be approved. For example, small facilities serving one owner, that are not required to obtain approval through the Arizona Corporation Commission to operate, would also not be required to provide this master plan (e.g., a recreational vehicle park or shopping center).

The Wastewater Master Plans do not have to be revised *before* approval of new facilities, expansions or modifications in facilities, or changes in service area or planning areas; however, such changes would require a 208 Consistency Review with public review and comment. (See discussion concerning Consistency Review and Public Review processes in this chapter.) After approval of new facilities, the Wastewater Master Plan must be revised during annual updates.

Well written Wastewater Master Plans should anticipate growth and development within their service and planning areas. Plans should include potential for expansion to accommodate nearby development. The Wastewater Master Plan should include capacity for mergers with smaller wastewater systems and additions of collection systems even outside of their planning area. Therefore generally, the Wastewater Master Plan should not need to be revised when the proposed development occurs within a service area or planning area.

Wastewater Master Plan Approval Process – The Wastewater Master Plan approval process is illustrated in Figure 14. New and significant modifications of the plans must be approved by ADEQ as being consistent with the Yuma 208 Plan requirements and strategies. This approval process includes review by the Yuma 208 Review Council and the public.

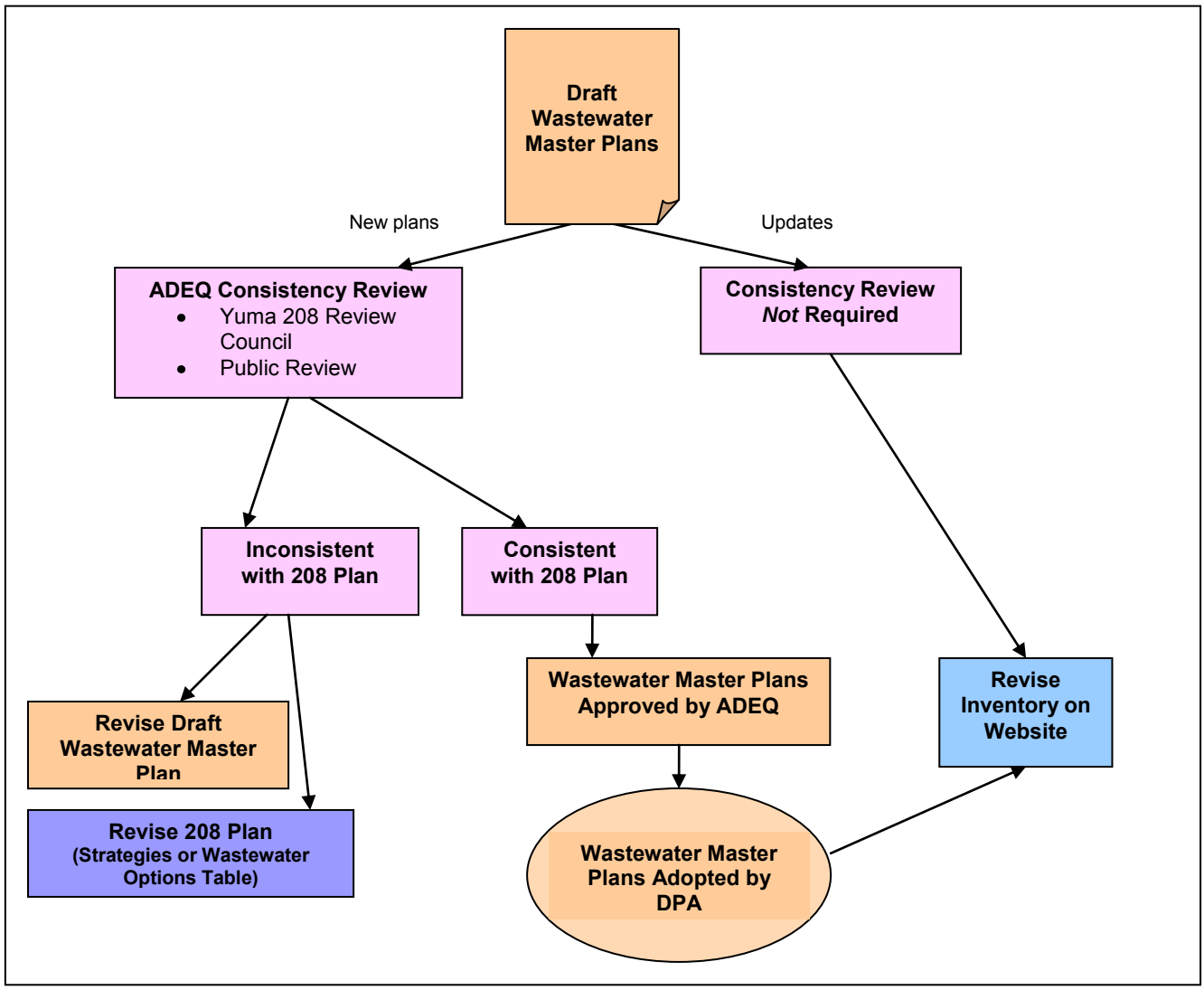
Disputes about service area or planning area boundaries or collection systems should be resolved by the Yuma 208 Review Council and the Designated Planning Agency.

If not consistent with the Yuma 208 Plan, either the draft Wastewater Master Plan or the approved Yuma 208 Plan must be revised. Revision of the Wastewater Master Plan is recommended. (See Yuma 208 Plan Revision process discussion at the end of this chapter).

Once approved, the plans should be adopted by Yuma County (the DPA) and should be integrated with the Yuma Comprehensive Plan.

These master plans are ***not*** an amendment or revision of the Yuma 208 Plans but are considered during the consistency reviews because they fulfill one of the significant strategies within the plan (see strategy 1.A.1).

Figure 14 – Wastewater Master Plan Process



Later modification of approved Wastewater Master Plans would *not* require a 208 Consistency Review. Instead, consistency reviews occur as facilities, on-site systems, and collection systems are proposed. However, review and approval would be required to replace an existing Wastewater Master Plan.

DMAs and WMUs

Designated Management Agencies (DMAs) – According to the Clean Water Act (Section 208(c)(1), a Designated Management Agency as an existing or newly created local, regional, or state *agency or political subdivision* that has water quality issues, as a result of urban-industrial concentrations or other factors. An incorporated municipality, sanitary district, or wastewater improvement district that will be a public wastewater utility need to be certified as a Designated Management Agency. ADEQ and EPA must certify that a proposed Designated Management Agency has the authority and capacity to carry out the functions of the DMA.

Currently four municipalities are recognized as DMAs in Yuma County: City of Yuma, San Luis, Somerton, and Wellton. It is anticipated that as new developments occur outside of these incorporated communities, these DMAs may expand their boundaries or other entities may wish to become a DMA.

Before a wastewater treatment facility is established and people become dependent on the public wastewater utility, the proposed utility needs to be able to demonstrate that it has the long-term capability to provide adequate services in perpetuity. The entity needs to have an approved Wastewater Master Plan and it needs to make a commitment to implement the Yuma 208 Plan. (Strategies 1.A.1 and 1.A.2)

Figure 15 – Figueroa Wastewater Treatment Plant in Yuma

Wastewater Management Utilities (WMUs) – Some privately-owned utilities function as a DMA, but because they are not a government subdivision, they cannot technically be a Designated Management Agency. To assure wastewater treatment for the long-term, these facilities need to be approved by ADEQ as a having the same capabilities, resources, and commitment to the Yuma 208 Plan as a DMA and be approved as a Wastewater Management Utility (Strategy 1.A.2).

For example, when a privately-owned public utility serves multiple land owners and may need to expand facilities or collection systems to provide service to all properties in its designated service area, it needs to take on many of the functions of a DMA. The larger the facility and collection system, the more a private utility needs to be able to demonstrate legal, financial, and managerial capabilities before establishment or expansion of facilities is approved.

Private Utility

A private utility provides wastewater services to an area approved by the Arizona Corporation Commission, as outlined in their Certificate of Convenience and Necessity (CC&N).

Existing Wastewater Management Utilities and proposed WMUs need to have approved Wastewater Master Plans that show service areas, planning areas, and provide 20-year plans for growth (Strategy 1.A.1). They need to be coordinating with neighboring DMAs and the Yuma County to provide wastewater facilities to high priority areas for sewer lines and to implement other strategies in the 208 Plan.

Not all privately-owned public wastewater treatment facilities need to be a Wastewater Management Utility. For example, a facility serving one owner such as a recreation vehicle park, motel, or shopping center would not be functioning as a DMA and likely would not be able to fulfill several requirements of a DMA. A wastewater facility serving *all lots* within a small subdivision, would also not be functioning as a DMA. However, before this private facility can expand its service or collection system to other neighborhoods, it needs to be approved as a Wastewater Management Utility and develop an approved Wastewater Management Plan.

Functions of a DMA – A DMA must be able to (Clean Water Act Section 208(c)(2):

- Carry out appropriate portions of an regional 208 Plan
- Manage effectively waste treatment facilities and *related facilities* in conformance with the 208 Plan (see note below about related facilities)
- Design, construct, operate, and maintain new and existing wastewater treatment facilities, directly or by contract, as required by *any plan* established to fulfill Section 208 planning requirements (see note below about any plan)
- Accept and utilize grants or other funds from any source for waste treatment management purposes
- Raise revenues, including assessment of waste treatment changes
- Incur short-term and long-term indebtedness
- Assure in the implementation of the regional 208 Plan that each participating community pays its proportionate share of treatment costs
- Refuse to receive any wastes from any municipality or subdivision which does not comply with any provisions of *an approved plan* established to fulfill Section 208 planning requirements (see note below about an approved plan)
- Accept industrial wastes for treatment

To clarify this list:

"Related facilities" would include collection systems and effluent/biosolid disposal methods.

"An approved plan" or "any plan" established to fulfill Section 208 planning requirements would include both the Yuma 208 Plan and adopted Wastewater Master Plans.

"Accept industrial wastes for treatment" also indicates that the entity needs the ability to require pre-treatment of wastewater entering the collection system.

The Code of Federal Regulations further requires that Designated Management Agencies must be able to demonstrate the legal, financial, and managerial capabilities to implement these plans (both 208 Plan and the Wastewater Management Plans) within their boundary area.

Responsibilities of a DMA or WMU – Becoming as a DMA or MWU is making a commitment to implement the strategies in the Yuma 208 Plan and help revise future Yuma 208 Plans. A DMA or WMU must also provide an approved Wastewater Master Plan. Each DMA or MWU also has the opportunity to have a voting member on the Yuma 208 Review Council.

As discussed in Chapter 1, strategies in the 208 Plan must also address nonpoint source issues and controls and help implement load reductions established in a TMDL. Therefore the DMA or WMU is making a commitment to help manage and control of nonpoint source pollution, which includes pollutants carried by stormwater and pollutants associated with activities such as agriculture, construction, urban development, roads, mining, recreation, and septic systems. The DMA or WMU is also making a commitment to help implement any TMDL by participating in development and implementation of a TMDL Implementation Plan (TIP) or other watershed improvement plan (see TMDL discussion in Chapter 2).

Incentives for Certification – If ordinances and policies are established, all potential Designated Management Agencies and Wastewater Management Utilities need to demonstrate the legal, financial, and managerial capabilities and desire to implement the Yuma 208 Plan within their CC&N boundary area(s) *before* new or expanded wastewater treatment facilities would be approved (Strategy 1.A.2). Entities proposing these wastewater facilities would also provide an *approved* 20-year Wastewater Master Plan *before* development, or further development of facilities (Strategy 1.A.1). In return, these public wastewater service providers should be given voting representation on the Yuma 208 Review Council.

Certification – The process for certification of a Designated Management Agency or Wastewater Management Utility is described below and illustrated in **Figure 16**:

1. The utility petitions Yuma County (the DPA) and ADEQ to be recognized as a DMA or WMU. Petition would include documentation of:
    a. The legal, financial, and managerial capability to provide services
    b. A draft Wastewater Management Plan
    c. Willingness to participate in 208 Plan implementation
2. The utility obtains approval of a 20-year Wastewater Master Plan for its service and planning areas from ADEQ and Yuma County Board of Supervisors.
3. Yuma County holds at least one public hearing. (Can combine with the public hearing for the draft Wastewater Master Plan in step 2, if feasible)
4. Yuma County submits a public response to comments, its comments, and its Resolution of Support to ADEQ
5. ADEQ, as the Governor's designee for the 208 Program, reviews the proposal and if complete, approves the designation.
6. A. If a proposed DMA, ADEQ submits all pertinent information to EPA for approval. According to Section 208(c)(1), EPA then has 120 days to accept the designation or find that the entity does not possess the adequate authority. Upon EPA's acceptance of the designation, the Yuma 208 Plan is automatically revised to reflect a new DMA and the Yuma 208 website information will be updated.
   B. If a proposed WMU, ADEQ approval only is required.

Approval of a new DMA or WMU would be considered an automatic update of the Yuma 208 Plan, and website information would need to be updated. (See the following Plan Revision Process discussion.)

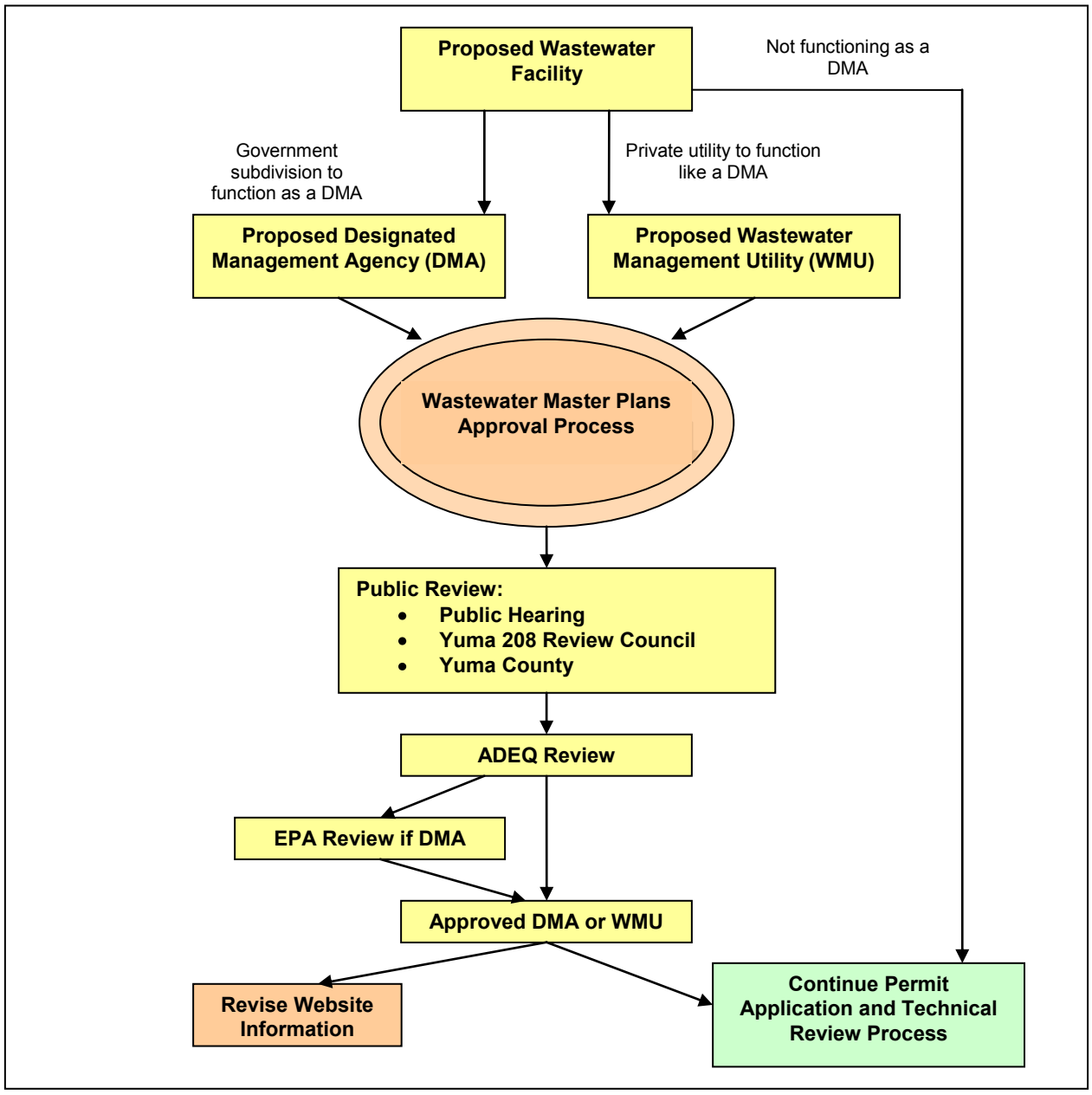
Designation of a DMA or MWU – ADEQ can withdraw or modify the designations if:

- The agency requests such cancellation in writing
- The agency fails to meet its management or planning requirements as specified in grant agreements, contracts, or memorandums of understanding (MOUs)
- The agency no longer has the resources or commitment to continue water quality management or planning activities within its designated boundaries

When the DPA is de-designated, ADEQ assumes the roles and responsibilities for that area.

However, de-designation of a DMA or MWU is not that easy. The county does not have the authority and resources to manage a wastewater treatment facility. The purpose of establishing a Designated Management Agency or Wastewater Management Utility *before* construction or expansion of a facility is to assure that it has the resources and capability to provide these services and fulfill planning responsibilities in perpetuity.

Figure 16 – New DMA or MWU Approval Process


Proposed Wastewater Facility
Not functioning as a DMA
Government subdivision to function as a DMA
Private utility to function like a DMA
Proposed Designated Management Agency (DMA)
Proposed Wastewater Management Utility (WMU)
Wastewater Master Plans Approval Process
Public Review:
Public Hearing
Yuma 208 Review Council
Yuma County
ADEQ Review
EPA Review if DMA
Approved DMA or WMU
Revise Website Information
Continue Permit Application and Technical Review Process

208 Plan Revisions

Adoption of Yuma 208 Plan revisions requires a formal public review process and approval by ADEQ and EPA. Yuma County will review and may revise this plan every five years; however, revisions can be requested at any time.

Conditions requiring plan revisions are shown in the following table:

Table 8 – 208 Plan Revision Criteria

Plan Revision Required	Plan Revision Not Required
Changes in goals, objectives, or strategies	Changes in milestones, measures of success, or responsible parties in the strategic plan
Changes in the Wastewater Treatment Options Table	New or modifications of Wastewater Master Plans
Changes in processes established in this chapter of the plan • 208 Consistency Review Process • Public Review Process • Wastewater Master Plan Review Process • DMA/WMU approval Process • 208 Plan Revision Process	New or modifications in wastewater treatment works, subdivisions, or other proposals
New Designated Management Agency or Wastewater Management Utility *	

* Approval of a new Designated Management Agency or Wastewater Management Utility, or an appointment of a new Designated Planning Agency by ADEQ, would be considered an automatic revision of the Yuma 208 Plan. These revisions would follow the approval process described in the previous subsection rather than the process described here.

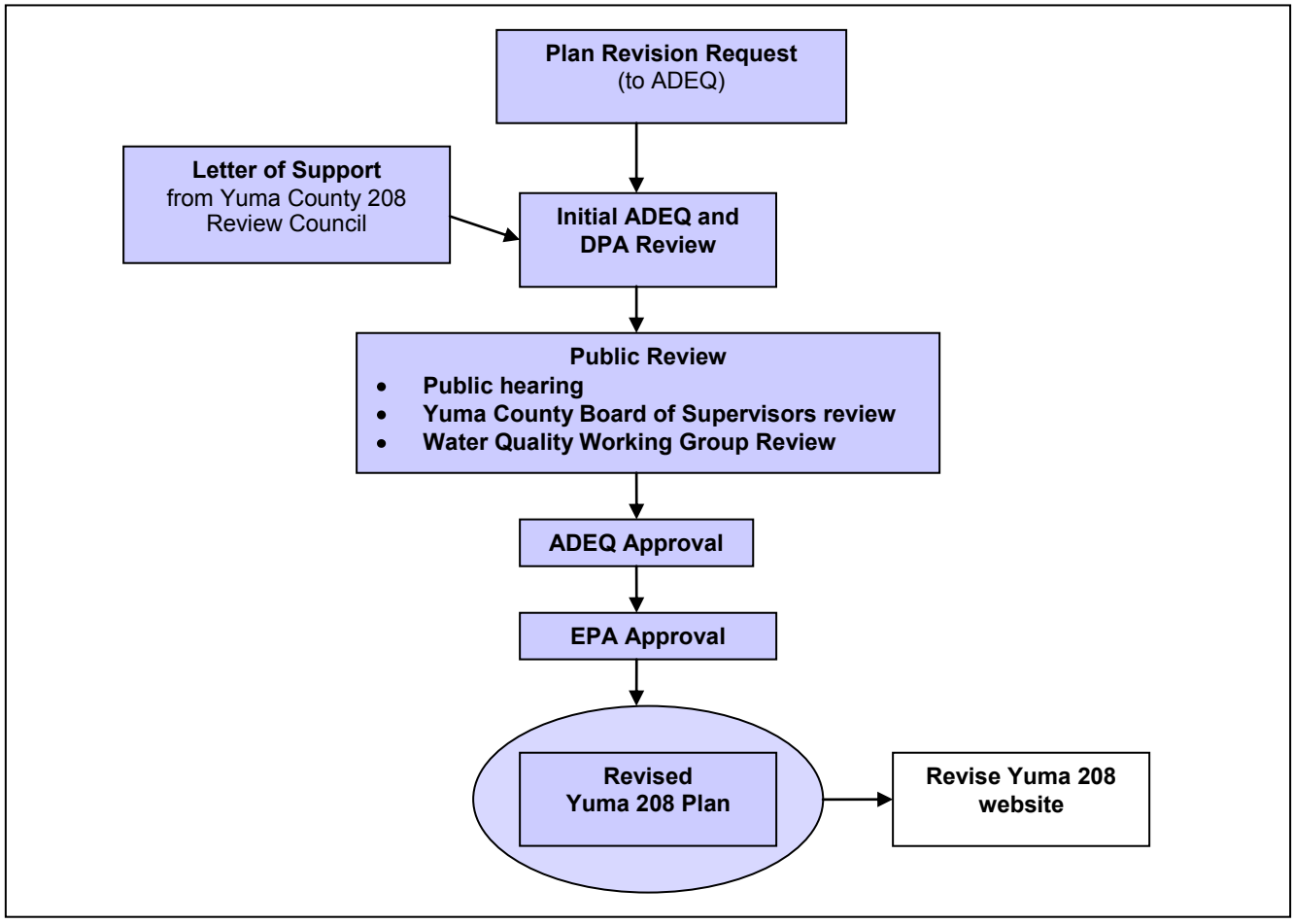
This process replaces the Plan Amendment Process used in the past. Unlike the prior 208 Plan Amendment Process, a the Yuma 208 Plan will not need to be revised to approve a proposed subdivision, planned community, new wastewater treatment plant, or other development. The Wastewater Master Plan may need to be revised, but this can be done during the annual update of these plans and their inventory. New developments and wastewater treatment plants would go through the 208 Consistency Review Process and Public Review Process as described in the previous Chapters to assure conformity with the 208 plan and to allow affected parties to voice their concerns.

Revision Process – The 208 Plan revision process is described below and illustrated in **Figure 17**:

- 208 Plan Revision Request Form is submitted to ADEQ. Any entity, including ADEQ, may request a plan revision.
- Letter of Support – The Yuma 208 Review Council should provide a letter of support for initiating the plan revision process.
- Initial Review – ADEQ and the DPA or its agent completes an initial review and makes recommendations to the entity requesting the amendment
- Public Review occurs in three ways:
    - Public Hearing
        - At least one formal local public hearing must be held in Yuma County. Additional public forums may be added based on public interest. ADEQ may choose to make a presentation as part of the hearing.
        - Public notice must be given at least 45 days prior to the hearing

        - Revision materials must be available for public review at least 30 days prior to the hearing.
        - The party requesting the amendment is responsible for preparing a hearing transcript and responsiveness summary of comments.
    - Presentation of the revision/revised plan for approval by the Yuma County Board of Supervisors (the DPA).
    - Presentation of the revision/revised plan at the Water Quality Working Group, with any recommendations from The Working Group going to ADEQ.
- Submission of the revision/revised plan for approval by ADEQ, including a summary of concerns and recommendations raised during public review, and a letter of support from the County Board of Supervisors.
- If certified by ADEQ, the U.S. Environmental Protection Agency is sent a copy of the plan revision and has 30 days to review and respond. If no response within 30 days, ADEQ will assume that the revision is approved and will incorporate it into the State Water Quality Management Plan.
- Implementation of the plan and incorporation of changes in the information available at the Yuma 208 website.

Figure 17 – 208 Plan Revision Process



Yuma County may charge fees for conducting the 208 Plan Revision Process. Any fees will be set by the Yuma County Board of Supervisors.

Additional information about 208 consistency reviews, 208 plan revisions, and application forms can be obtained at: www.azdeq.gov/environ/water/watershed/regional.html.

A Yuma 208 Website Tracking System

The 208 Website is a "library" of information for wastewater planning in Yuma County. The 208 Tracking System website is to be a tool to facilitate, coordinate, and help direct development of wastewater facilities in Yuma County. Developers should be encouraged to use this system so that proposals move more rapidly through the 208 Review Process.

The website will incorporate and integrate information from the individual Wastewater Master Plans so that the information is readily accessible to developers and other interested parties. It will track the inventory of wastewater systems in Yuma County and show where new services are planned.

At a minimum, this website will provide the following information:

- The inventory of public and private wastewater treatment facilities: location, design capacity, existing use, service areas, and planning areas
- Sensitive areas, where on-site wastewater treatment systems are be appropriate
- High priority areas for sewer lines
- The Wastewater Treatment Options Table
- Other information that would support 208 Consistency Reviews
- Surface waters classified as "impaired"
- Surface waters with established Total Maximum Daily Loads
- Wells sampled for nitrate, highlighting wells near or exceeding 10 mg/L (the Arizona Aquifer Water Quality Standard)

Appendix A – Yuma 208 Plan
Legal Authorities

Regional water quality management planning and wastewater treatment works and disposal practices must conform to water quality rules and laws. This appendix expands the information provided in Section 1 by describing local, state, and federal regulations affecting regional water quality planning. Copies of the regulations discussed in this section can be downloaded from the internet at the sites shown in the table below. The regulations highlighted below are also included at the end of this Appendix A.

Table 8 – Websites for Laws and Regulations

Program	Regulation	Website for Download
Animal Feeding Operations	AAC R18-0-D901 thru D905	http://www.azsos.gov/public_services/Title_18/18-09.htm
Arizona Aquifer Protection Permit Program (APP)	AAC R18-9-201 thru E323	http://www.azsos.gov/public_services/Title_18/18-09.htm
	ARS, Title 49, Article 3	http://www.azleg.gov/ArizonaRevisedStatutes.asp?Title=49
AZPDES Permits	AAC R18-9-A901 thru C905	http://www.azsos.gov/public_services/Title_18/18-09.htm
	ARS, Title 49, Article 3.1	http://www.azleg.gov/ArizonaRevisedStatutes.asp?Title=49
Biosolids and Sludge	AAC R18-9-1001 thru 1015	http://www.azsos.gov/public_services/Title_18/18-09.htm
County Planning & Zoning	ARS 11-826 thru 833	http://www.azleg.state.az.us/ArizonaRevisedStatutes.asp?Title=11
General Water Quality	Federal Clean Water Act	http://epw.senate.gov/water.pdf.
Gray Water	AAC R18-9-719	http://www.azsos.gov/public_services/Title_18/18-09.htm
NPDES Permits	Clean Water Act Section 402	http://www.epa.gov/owow/wetlands/laws/section402.html
Municipal Separate Stormwater Systems (MS4)	40 CFR - 122.26 (large & medium); 122.32 (small systems)	http://www.access.gpo.gov/nara/cfr/waisidx_02/40cfr122_02.html
	AAC R18-9-902(B)(8)	http://www.azsos.gov/public_services/Title_18/18-09.htm
Reclaimed Water - conveyances	AAC R18-9-601 thru 603	http://www.azsos.gov/public_services/Title_18/18-09.htm
Reclaimed Water - reuse	AAC R18-9-701 thru 720	http://www.azsos.gov/public_services/Title_18/18-09.htm
	ARS, Title 49, Article 3, 49-254.02	http://www.azleg.gov/ArizonaRevisedStatutes.asp?Title=49
Regional Water Quality Planning	Clean Water Act Section 28	http://epw.senate.gov/water.pdf
	CFR Title 40 Section 130	http://ecfr.gpoaccess.gov
	AAC R18-5-301 thru 303	http://www.azsos.gov/public_services/Table_of_Contents.htm
Sanitary Districts & Domestic Wastewater Improvement Districts	ARS 48-1011 thru 1020 ARS 48-2001 thru 2032	http://www.azleg.gov/ArizonaRevisedStatutes.asp?Title=48
Subdivision Certification	AAC R18-5-401 thru 410	http://www.azsos.gov/public_services/Title_18/18-09.htm
	ARS Title 49, Article 1, 49-104(B)(11)	http://www.azleg.gov/FormatDocument.asp?inDoc=/ars/49/00104.htm&Title=49&DocType=ARS

Program	Regulation	Website for Download
Water Quality Standards 1. Surface Water 2. Reclaimed water 3. Groundwater 4. Impaired water ID	AAC 1. R18-11-101 thru 123 2. R18-11-301 thru 309 3. R18-11-501 thru 506 4. R18-11-601 thru 606	http://www.azsos.gov/public_services/Title_18/18-11.htm
Yuma Co Stormwater	Ordinance	http://www.yumacountyaz.gov/index.aspx?page=563
Yuma Co Subdivision	Regulation	http://www.co.yuma.az.us/index.aspx?page=724
Yuma County Zoning	Ordinance Section 302.05	http://www.yumacountyaz.gov/index.aspx?page=306

AAC = Arizona Administrative Code
ARS = Arizona Revised Statutes
FCR = Federal Code of Regulations

Review of Laws Governing Regional Wastewater Planning

Clean Water Act and Federal Regulations – As discussed in Section 1, regional water quality management planning is required under Section 208 of the federal Clean Water Act. ADEQ's 208 Program facilitates the review of infrastructure projects to assure they are consistent with the certified regional water quality management plan. The processes developed to implement Section 208 encourage the identification of water quality problems and implementation of strategies to address these problems. Public participation and collaboration among public and private sectors is promoted during all stages of plan development and implementation.

Specific regulations in the Federal Code of Regulations (Title 40, Section 130) establish how regional water quality management planning will be conducted.

A copy of Section 208 of the Clean Water Act, and associated federal and state water quality planning regulations are included at the end of this Appendix.

State Water Quality Management Planning Rules – How regional water quality management will be conducted in Arizona is established in a set of brief rules (A.A.C. R18-5-301 through 303) and the Continuing Planning Process adopted by ADEQ in 1993.

The Continuing Planning Process establishes how state water quality programs will be coordinated and water quality goals will be achieved. ADEQ plans to revise portions of the Continuing Planning Process to adjust to the new model 208 planning process developed for this Yuma 208 Plan.

Yuma County 2010 Comprehensive Plan – The *Yuma County 2010 Comprehensive Plan* was developed under Arizona's *The Growing Smarter Act* to address problems associated with growth. The goal for the County's Comprehensive Plan is to accomplish a coordinated, adjusted, and harmonious development of the jurisdiction. Specifically the Comprehensive Plan provides guidelines for future land use development. Development of this plan must fulfill requirement of Arizona Revised Statutes governing county planning and zoning: ARS 11-801 though 11-833. The Environmental Element section of the *Yuma County 2010 Comprehensive Plan* includes a brief discussion of water quality, wastewater management, and Clean Water Act Section 208 requirements.

Yuma County Subdivision Regulations – County subdivision regulations, adopted in September 2008, apply to all subdivision of land located within unincorporated areas of Yuma County. A copy of the regulations governing wastewater (Section 4.29 and 4.30) are included at the end of this appendix.

Yuma Joint Land Use Plan – The City of Yuma and Yuma County created a Joint Land Use Plan to provide a common "blue print" of land uses and development policies to guide future economic growth and development of lands within the incorporated and unincorporated areas around the City of Yuma. The Joint Land Use Plan promotes urban development within areas currently provided with City of Yuma wastewater services and water, or areas where these services are planned in the future. The provision of adequate water and wastewater services is of primary importance in realizing implementation of this plan.

Yuma County Zoning Ordinance - - These zoning regulations govern the use of land, buildings as established by the Yuma County Board of Supervisors. This ordinance was established to implement the Yuma County Comprehensive Plan by safeguarding and enhancing the appearance and quality of development as well as providing for the social, physical and economic advantages resulting from the orderly planned use of land.

Review of Laws Governing Wastewater and Agriculture Permits

The federal Clean Water Act strives to restore and maintain the chemical, physical, and biological integrity of the nation's waters by controlling discharges of pollutants. The basic means to achieve the goals of the Clean Water Act is through a system of water quality standards, permits and discharge limitations. Two primary laws, the federal Clean Water Act and the Arizona Aquifer Protection Program, impact sewage treatment facilities through required permits.

Arizona Pollutant Discharge Elimination System (AZPDES) Permit Program – The National Pollutant Discharge Elimination System (NDPES) Program requires permits for activities that discharge pollutants to waters of the United States. This program is established under Section 402 of the Clean Water Act. EPA has delegated authority to ADEQ to operate the NPDES program, which in Arizona is referred to as the Arizona Pollutant Discharge Elimination System (AZPDES) Permit Program. All facilities that discharge pollutants from any point source into a surface water are required to obtain or seek coverage under an AZPDES permit. The program includes individual permits, and general permits for construction, deminimus discharges, and municipal (MS4) and industrial storm water (Multi-Sector General Permit) discharges.

Individual Permits – A wastewater treatment plant that discharges to a surface water requires an individual permit, which lasts no more than five years. The permit addresses effluent limitations, monitoring requirements, reporting requirements, and other special conditions such as best management practices. Applications for new discharges must be made no later than 180 days before the discharge begins. Applications for permit renewals (for existing dischargers) must be made at least 180 days before the existing permit expires. Facilities must be consistent with the appropriate 208 Plan in order to receive a permit. R18-9-A903(6).

Multi-Sector General Permit –Industrial sites that discharge stormwater associated with industrial activity are required to have a Multi-Sector General Permit. A Stormwater Pollution Prevention Plan (SWPPP) must be developed for the industrial activities identified in the Multi-Sector General Permit. The SWPPP includes best management practices that would be implemented to reduce soil erosion, and contain or minimize the pollutants that might be released to surface waters.

The industry also must implement the appropriate sector-specific requirements for wastewater treatment works (a Sector T industry) which are (one of the following):

- Treatment works treating domestic sewage, or any other sewage sludge or wastewater treatment device or system used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge.

- Located within the confines of a facility with a design flow of 1.0 million gallons per day (MGD) or more
- Required to have an approved pretreatment program under 40 CFR Part 403.

Construction General Permit – Storm water discharges associated with construction activities (clearing, grading, or excavating) which disturb *one acre or more* must obtain an AZPDES Construction General Permit. Permit coverage also is required for construction activities that will disturb less than one acre of land if the project is part of a larger common plan of development or sale and the entire project will ultimately disturb one or more acres.

If new clearing, grading, or excavating activities will occur, then a Stormwater Pollution Prevention Plan must be prepared and implemented during the course of construction. The SWPPP must identify such elements as the project scope, anticipated acreage of land disturbance, and the best management practices that would be implemented to reduce soil erosion, and contain or minimize the pollutants that might be released to surface waters.

Pretreatment – As part of an AZPDES Permit, publicly-owned treatment works (POTWs) that discharge five million gallons per day or greater, must provide a pretreatment program to control pollutants discharged to its sewer system from identified Significant Industrial Users. Significant Industrial Users are those businesses that have discharges that significantly impact the sanitary sewage conveyance system or treatment facilities, either because of the discharge amount or certain pollutants in the discharge. Usually the Pretreatment Plan involves permitting the industrial users, discharge limits for certain pollutants, required monitoring and reporting from the industrial user, and enforcement authority for violations. ADEQ must approve the pretreatment plan or its amendments.

Municipal Separate Storm Sewer Systems (MS4s) – State and federal regulations require some municipalities to obtain a permit for their municipal stormwater discharges. These regulations stemmed from national studies, and local findings within Arizona, that showed runoff from urban areas greatly impairs stream ecology and the health of aquatic life. While many of the water courses in Arizona are ephemeral or intermittent, these national regulations still apply.

ADEQ has authority to determine that a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, and storm drains) constitutes an MS4, even if not owned or operated by a municipality.

Aquifer Protection Program – In Arizona, the Aquifer Protection Permit Program is the major regulatory program aimed at protecting groundwater quality from the disposal of pollutants on land or in subsurface excavations. An APP is needed for any facility that discharges a pollutant to an aquifer, or to the land surface or vadose zone in such a way that the pollutant might reach the aquifer (A.R.S. § 49-241(A)). Arizona law also establishes a list of facilities considered to be discharging and therefore require an APP (A.R.S. § 49-241(B):

- Surface impoundments, pits, ponds, and lagoons;
- Solid waste disposal facilities, except for mining overburden and wall rock that has not been subject to mine leaching operations;
- Injection wells;
- Land treatment facilities;
- Septic tank systems;
- Point source discharges to navigable waters;
- Sewage or wastewater treatment facilities.
- Wetlands designed and constructed to treat municipal and domestic wastewater for underground storage.

The APP program issues both individual and general permits. On-site wastewater (septic) treatment systems are covered by general permits. Larger on-site wastewater systems, from 3,000 to less than 24,000 gallons per day, also usually obtain a general permit. Permitting for most on-site wastewater treatment general permits is delegated to the counties.

Proposed wastewater treatment plants must be consistent with the appropriate 208 Plan in order to receive an individual permit (R18-9-A201(B)(6)). A person constructing a new on-site wastewater septic system must connect to a sewage collection system if the on-site wastewater treatment facility is located within an area identified for connection to a sewage collection system in a 208 Plan (R18-9-A309(A)(5)).

Nitrogen Management Area – An area designated by ADEQ where prescribed measures to control nitrogen will be enforced because cumulative discharges of nitrogen threaten to cause or have caused an exceedance of the Aquifer Water Quality Standard for nitrate (10 mg/L).

Within a Nitrogen Management Area:

- An on-site wastewater treatment facility (including septic systems) must employ one or more alternative technologies allowed under APP rules that achieve a discharge level containing not more than 15 mg/L of total nitrogen.
- Delegated authority for wastewater permits to the county may be rescinded
- Agricultural operation must use the best control measure necessary to reduce nitrogen discharge.
- ADEQ may require the owner or operator of an impoundment liner to reassess its performance
- Entities must comply with any special provisions established to reduce nitrogen loading to groundwater.

Nitrogen Management General Permits – The application of nitrogen fertilizer and operation of a concentrated animal feeding operation also regulated under a general APP Permit (R18-9-401 thru 404). These rules indicate best management practices applicable to controlling nitrogen impacts to ground water.

Grazing General Permit – An entity who engages in livestock grazing and applies any voluntary best management practices to maintain soil cover and prevent accelerated erosion, nitrogen discharges, and bacterial impacts to surface water is issued a Surface Water Quality General Grazing Permit (R18-9-501).

Yuma County Stormwater Management Program – Yuma County is regulated under the Municipal Separate Stormwater Sewer System (MS4) Program. This document indicates the best management practices (BMPs) selected by the County to reduce pollution from stormwater runoff to streams, lakes, washes, and designated canals to the maximum extent practicable.

A Yuma County ordinance regulating stormwater management was developed to:

- Regulate the contribution of pollutants into the municipal stormwater sewer system by discharges of any user,
- Prohibit illicit connections and discharges
- Minimize nonpoint source pollution from new development and redevelopment projects
- Reduce stormwater runoff rates and volumes, soil erosion, and reduce discharges of pollutants to the maximum extent practicable by requiring BMPs and other measures
- Ensure that stormwater management controls are properly maintained

Review of Laws Governing Waste Residuals

Reuse of effluent – Arizona has regulations that apply to the facility generating wastewater that will be reused and to the site where the reclaimed water is used or applied. The facility providing the reclaimed water must have an individual APP indicating the class of reclaimed water it generates (R18-9-703(A)). The APP requires the facility to monitor the effluent quality to ensure that the effluent limitations for the particular reclaimed water class are met.

> **Reclaimed water** is water that has been treated or processed by a wastewater treatment plant or an on-site wastewater treatment facility.

Reclaimed Water Quality Standards (R18-11-301 through 309) establishes five classes of reclaimed water expressed as a combination of minimum treatment requirements and a limited set of numeric reclaimed water quality criteria.

- Class A reclaimed water is required for reuse applications where there is a relatively high risk of human exposure to potential pathogens in the reclaimed water.
- Class B or C reclaimed water is acceptable for uses where the potential for human exposure is lower
- Class A+ and Class B+ reclaimed water have received treatment to produce water with a total nitrogen concentration of less than 10 mg/l. These categories of reclaimed water will minimize concerns over nitrate contamination of groundwater beneath sites where reclaimed water is applied. As a result, the general permits for the direct reuse of Class A+ and Class B+ reclaimed water do not include nitrogen management as a condition of the reuse.

Reusing reclaimed water is governed by various general permits (R18-9-708).

Ground Water Recharge – Injecting treated effluent into the vadose zone or aquifer would require an APP General Permit. The type of permit would depend on the method of recharge and the available uses of the recharged water (A.R.S. § 49-245.02). APP rules also establish the requirements for recharge/disposal through wetlands.

Gray Water – "Gray water" means wastewater collected separately from a sewage flow that originates from a clothes washer, bathtub, shower, and sink, but does not include wastewater from a kitchen sink, dishwasher or toilet. Use of gray water and harvesting rainwater for watering landscape, instead of using potable water, is encouraged as a way to conserve limited water resources in an arid climate. The use of gray water is regulated under an APP general permit (R18-9-719).

Biosolids and Sewage Sludge – Sewage sludge is the solid, semisolid or liquid residue that is generated during the treatment of domestic sewage in a wastewater treatment plant. Use and disposal of sewage sludge and biosolids is regulated under AZPDES Permit requirements. Treated biosolids produced by a facility can be applied to agricultural fields, mining reclamation, or landscaping provided that all applicable regulations are followed.

> **Biosolids** is that part of sewage sludge that that is placed on, or applied to the land to use the beneficial properties of the material as a soil amendment, conditioner, or fertilizer.

In Arizona, sewage sludge that is not applied as biosolids must be disposed of through a surface disposal site (e.g., landfill) that complies with 40 CFR 503, Subpart C, and obtains an APP. Grit and other materials generated during preliminary treatment are considered solid waste and must be disposed of accordingly.

Biosolids processing facilities are also subject to rules governing hazardous waste (Resource Conservation and Recovery Act (RCRA)). In Arizona, RCRA is implemented by ADEQ's Waste Programs Division, which is responsible for permitting facilities that treat, store or dispose of hazardous waste and for approving solid waste facility plans.

Review of Laws Governing Location

Subdivision Approval – Prior to sale or lease of subdivided lands, the Arizona Department of Real Estate requires ADEQ to issue a Certificate of Approval for Subdivisions (ARS §49-104(B)(11)). To issue this certification, ADEQ must determine that the subdivision will have adequate drinking water, wastewater disposal, and refuse disposal as established in A.A.C R18-5-401 through 411.

If the proposed subdivisions will use on-site wastewater treatment systems, the applicant must demonstrate through geology, soils, and design reports that all lots have acceptable site conditions and adequate lot sizes. The County Health Department must also provide a statement of agreement to the use of individual on-site systems. *Where* the on-site wastewater system is to be installed on each lot is the lot owner responsibility, *when* they build the system.

If the subdivision is to connect to a wastewater treatment plant, Treatment Plant Capacity Assurance statement must be provided by the treatment plant. This statement must affirm that service to the subdivision will not cause the design flow of the facility to be exceeded nor any permit limits for the facility to be exceeded. If the subdivision's sewage collection system will not discharge directly to a wastewater treatment facility, Capacity Assurance for Sewage Collection System must provide from the operator of the collection system(s).

Clean Water Act Section 404 Permits and 401 Certification – Section 404 of the Clean Water Act identifies conditions for when a permit is required for placing fill or dredged material into waters of the United States. The U.S. Army Corp of Engineers is responsible for administering the 404 permit program. If a federal permit is required for a project, a state-issued Clean Water Act section 401 certification of the permit will be required. The U.S. Army Corps of Engineers includes the conditions of the Clean Water Act 401 certification as requirements of its Section 404 permit to ensure that the permitted activities do not result in a violation of the State's surface water quality standards.

Particular Surface Waters – Listing as an impaired water or as an Outstanding Arizona Water, or having a Total Maximum Daily Load established by ADEQ may impact permits by limiting the amount of certain pollutants that can be discharged to the surface water.

Impaired Waters – Under Section 303 of the Clean Water Act, states are required to adopt surface water quality standards that preserve and protect the quality of navigable waters. Section 303(d) of the Clean Water Act requires that the Department identify and list waters that do not meet one or more of the surface water quality standards. Waters that do not meet an applicable water quality standard are impaired (A.R.S. § 49-232). No further degradation of water quality is permitted in impaired surface water (A.A.C. R18-11-107). This must be considered for AZPDES permitted discharges to the surface water and APP permitted discharges to the ground that might impact surface water quality.

Total Maximum Daily Load (TMDL) – Based on the 303(d) impaired waters list, the Clean Water Act requires that a Total Maximum Daily Load (TMDL) analysis be conducted. A TMDL is the maximum daily amount of the pollutant loads from natural sources, non-point sources and point-source discharges of the pollutant that can be carried by a surface water without causing an exceedance of a water quality standard (A.R.S. § 49-234). TMDLs are one of the required elements that must be included in 208 Plans or referenced as part of the Plans.

Outstanding Arizona Water (OAW) – ADEQ can classify a surface water as an OAW because of its unique attributes, such as the geology, flora and fauna, water quality, aesthetic value, or the wilderness characteristic of the surface water, or an endangered or threatened species is associated with the surface water and the existing water quality is essential to the species.

Floodplains – Under ARS § 48-3609(C) and the Arizona Department of Water Resources interpretation, waste disposal systems must not be installed in a regulatory floodway, which ADWR defines as the area officially declared a floodway by a county flood control district or incorporated community.

Clean Water Act Section 208 - Areawide Waste Treatment Management

(a) For the purpose of encouraging and facilitating the development and implementation of areawide waste treatment management plans:

(1) The Administrator, within ninety days after the date of enactment of this Act and after consultation with appropriate Federal, State, and local authorities, shall by regulation publish guidelines for the identification of those areas which, as a result of urban-industrial concentrations or other factors, have substantial water quality control problems.

(2) The Governor of each State, within sixty days after publication of the guidelines issued pursuant to paragraph (1) of this subsection, shall identify each area within the State which, as a result of urban-industrial concentrations or other factors, has substantial water quality control problems. Not later than one hundred and twenty days following such identification and after consultation with appropriate elected and other officials of local governments having jurisdiction in such areas, the Governor shall designate

(A) the boundaries of each such area, and

(B) a single representative organization, including elected officials from local governments or their designees, capable of developing effective areawide waste treatment management plans for such an area.

The Governor may in the same manner at any later time identify any additional area (or modify an existing area) for which he determines areawide waste treatment management to be appropriate, designate the boundaries of such area, and designate an organization capable of developing effective areawide waste treatment management plans for such area.

(3) With respect to any area which, pursuant to the guidelines published under paragraph (1) of this subsection, is located in two or more States, the Governors of the respective States shall consult and cooperate in carrying out the provisions of paragraph (2), with a view toward designating the boundaries of the interstate area having common water quality control problems and for which areawide waste treatment management plans would be most effective, and toward designating, within one hundred and eighty days after publication of guidelines issued pursuant to paragraph (1) of this subsection, of a single representative organization capable of developing effective areawide waste treatment management plans for such area.

(4) If a Governor does not act, either by designating or determining not to make a designation under paragraph (2) of this subsection, within the time required by such paragraph, or if, in the case of an interstate area, the Governors of the States involved do not designate a planning organization within the time required by paragraph (3) of this subsection, the chief elected officials of local governments within an area may by agreement designate (A) the boundaries for such an area, and (B) a single representative organization including elected officials from such local governments, or their designees, capable of developing an areawide waste treatment management plan for such area.

(5) Existing regional agencies may be designated under paragraphs (2), (3), and (4) of this subsection.

(6) The State shall act as a planning agency for all portions of such State which are not designated under paragraphs (2), (3), or (4) of this subsection.

(7) Designations under this subsection shall be subject to the approval of the Administrator.

(b) (1)

(A) Not later than one year after the date of designation of any organization under subsection (a) of this section such organization shall have in operation a continuing areawide waste treatment management planning process consistent with section 201 of this Act. Plans prepared in accordance with this process shall

contain alternatives for waste treatment management, and be applicable to all wastes generated within the area involved. The initial plan prepared in accordance with such process shall be certified by the Governor and submitted to the Administrator not later than two years after the planning process is in operation.

(B) For any agency designated after 1975 under subsection (a) of this section and for all portions of a State for which the State is required to act as the planning agency in accordance with subsection (a)(6), the initial plan prepared in accordance with such process shall be certified by the Governor and submitted to the Administrator not later than three years after the receipt of the initial grant award authorized under subsection (f) of this section.

(2) Any plan prepared under such process shall include, but not be limited to

(A) the identification of treatment works necessary to meet the anticipated municipal and industrial waste treatment needs of the area over a twenty-year period, annually updated (including an analysis of alternative waste treatment systems), including any requirements for the acquisition of land for treatment purposes; the necessary waste water collection and urban storm water runoff systems; and a program to provide the necessary financial arrangements for the development of such treatment works, and an identification of open space and recreation opportunities that can be expected to result from improved water quality, including consideration of potential use of lands associated with treatment works and increased access to water-based recreation;

(B) the establishment of construction priorities for such treatment works and time schedules for the initiation and completion of all treatment works;

(C) the establishment of a regulatory program to:

(i) implement the waste treatment management requirements of section 201(c),

(ii) regulate the location, modification, and construction of any facilities within such area which may result in any discharge in such area, and

(iii) assure that any industrial or commercial waste discharged into any treatment works in such area meet applicable pretreatment requirements;

(D) the identification of those agencies necessary to construct, operate, and maintain all facilities required by the plan and otherwise to carry out the plan;

(E) the identification of the measures necessary to carry out the plan (including financing), the period of time necessary to carry out the plan, the costs of carrying out the plan within such time, and the economic, social, and environmental impact of carrying out the plan within such time;

(F) a process to

(i) identify, if appropriate, agriculturally and silviculturally related nonpoint sources of pollution, including return flows from irrigated agriculture, and their cumulative effects, runoff from manure disposal areas, and from land used for livestock and crop production, and

(ii) set forth procedures and methods (including land use requirements) to control to the extent feasible such sources;

(G) a process of

(i) identify, if appropriate, mine-related sources of pollution including new, current, and abandoned surface and underground mine runoff, and

(ii) set forth procedures and methods (including land use requirements) to control to the extent feasible such sources;

(H) a process to

(i) identify construction activity related sources of pollution, and

(ii) set forth procedures and methods (including land use requirements) to control to the extent feasible such sources;

(I) a process to

(i) identify, if appropriate, salt water intrusion into rivers, lakes, and estuaries resulting from reduction of fresh water flow from any cause,

including irrigation, obstruction, ground water extraction, and diversion, and

(ii) set forth procedures and methods to control such intrusion to the extent feasible where such procedures and methods are otherwise a part of the waste treatment management plan;

(J) a process to control the disposition of all residual waste generated in such area which could affect water quality; and

(K) a process to control the disposal of pollutants on land or in subsurface excavations within such area to protect ground and surface water quality.

(3) Areawide waste treatment management plans shall be certified annually by the Governor or his designee (or Governors or their designees, where more than one State is involved) as being consistent with applicable basin plans and such areawide waste treatment management plans shall be submitted to the Administrator for his approval.

(4)

(A) Whenever the Governor of any State determines (and notifies the Administrator) that consistency with a statewide regulatory program under section 303 so requires, the requirements of clauses (F) through (K) of paragraph (2) of this subsection shall be developed and submitted by the Governor to the Administrator for approval for application to a class or category of activity throughout such State.

(B) Any program submitted under subparagraph (A) of this paragraph which, in whole or in part, is to control the discharge or other placement of dredged or fill material into the navigable waters shall include the following:

(i) A consultation process which includes the State agency with primary jurisdiction over fish and wildlife resources.

(ii) A process to identify and manage the discharge or other placement of dredged or fill material which adversely affects navigable waters, which shall complement and be coordinated with a State program under section 404 conducted pursuant to this Act.

(iii) A process to assure that any activity conducted pursuant to a best management practice will comply with the guidelines established under section 404(b)(1), and sections 307 and 403 of this Act.

(iv) A process to assure that any activity conducted pursuant to a best management practice can be terminated or modified for cause including, but not limited to, the following:

(I) violation of any condition of the best management practice;

(II) change in any activity that requires either a temporary or permanent reduction or elimination of the discharge pursuant to the best management practice.

(v) A process to assure continued coordination with Federal and Federal-State water-related planning and reviewing processes, including the National Wetlands Inventory.

(C) If the Governor of a State obtains approval from the Administrator of a statewide regulatory program which meets the requirements of subparagraph (B) of this paragraph and if such State is administering a permit program under section 404 of this Act, no person shall be required to obtain an individual permit pursuant to such section, or to comply with a general permit issued pursuant to such section, with respect to any appropriate activity within such State for which a best management practice has been approved by the Administrator under the program approved by the Administrator pursuant to this paragraph.

(D)

(i) Whenever the Administrator determines after public hearing that a State is not administering a program approved under this section in accordance with the requirements of this section, the Administrator shall

so notify the State, and if appropriate corrective action is not taken within a reasonable time, not to exceed ninety days, the Administrator shall withdraw approval of such program. The Administrator shall not withdraw approval of any such program unless he shall first have notified the State, and made public, in writing, the reasons for such withdrawal.
(ii) In the case of a State with a program submitted and approved under this paragraph, the Administrator shall withdraw approval of such program under this subparagraph only for a substantial failure of the State to administer its program in accordance with the requirements of this paragraph.

(c)

(1) The Governor of each State, in consultation with the planning agency designated under subsection (a) of this section, at the time a plan is submitted to the Administrator, shall designate one or more waste treatment management agencies (which may be an existing or newly created local, regional or State agency or potential subdivision) for each area designated under subsection (a) of this section and submit such designations to the Administrator.
(2) The Administrator shall accept any such designation, unless, within 120 days of such designation, he finds that the designated management agency (or agencies) does not have adequate authority:

(A) to carry out appropriate portions of an areawide waste treatment management plan developed under subsection (b) of this section;
(B) to manage effectively waste treatment works and related facilities serving such area in conformance with any plan required by subsection (b) of this section;
(C) directly or by contract, to design and construct new works, and to operate and maintain new and existing works as required by any plan developed pursuant to subsection (b) of this section;
(D) to accept and utilize grants, or other funds from any source, for waste treatment management purposes;
(E) to raise revenues, including the assessment of waste treatment charges;
(F) to incur short- and long-term indebtedness;
(G) to assure in implementation of an areawide waste treatment management plan that each participating community pays its proportionate share of treatment costs;
(H) to refuse to receive any wastes from any municipality or subdivision thereof, which does not comply with any provisions of an approved plan under this section applicable to such area; and
(I) to accept for treatment industrial wastes.

(d) After a waste treatment management agency having the authority required by subsection (c) has been designated under such subsection for an area and a plan for such area has been approved under subsection (b) of this section, the Administrator shall not make any grant for construction of a publicly owned treatment works under section 201(g)(1) within such area except to such designated agency and for works in conformity with such plan.

(e) No permit under section 402 of this Act shall be issued for any point source which is in conflict with a plan approved pursuant to subsection (b) of this section.

(f)

(1) The Administrator shall make grants to any agency designated under subsection (a) of this section for payment of the reasonable costs of developing and operating a continuing areawide waste treatment management planning process under subsection (b) of this section.

(2) For the two-year period beginning on the date of the first grant is made under paragraph (1) of this subsection to an agency, if such first grant is made before October 1, 1977, the amount of each such grant to such agency shall be 100 per centum of the costs of developing and operating a continuing areawide waste treatment management planning process under subsection (b) of this section, and thereafter the amount granted to such agency shall not exceed 75 per centum of such costs in each succeeding one-year period. In the case of any other grant made to an agency under such paragraph (1) of this subsection, the amount of such grant shall not exceed 75 per centum of the costs of developing and operating a continuing areawide waste treatment management planning process in any year.

(3) Each applicant for a grant under this subsection shall submit to the Administrator for his approval each proposal for which a grant is applied for under this subsection. The Administrator shall act upon such proposal as soon as practicable after it has been submitted, and his approval of that proposal shall be deemed a contractual obligation of the United States for the payment of its contribution to such proposal, subject to such amounts as are provided in appropriation Acts. There is authorized to be appropriated to carry out this subsection not to exceed $50,000,000 for the fiscal year ending June 30, 1973, not to exceed $100,000,000 for the fiscal year ending June 30, 1974, not to exceed $150,000,000 per fiscal year for the fiscal years ending June 30, 1975, September 30, 1977, September 30, 1978, September 30, 1979, and September 30, 1980, not to exceed $100,000,000 per fiscal year for the fiscal years ending September 30, 1981, and September 30, 1982, and such sums as may be necessary for fiscal years 1983 through 1990.

(g) The Administrator is authorized, upon request of the Governor or the designated planning agency, and without reimbursement, to consult with, and provide technical assistance to, any agency designated under subsection (a) of this section in the development of areawide waste treatment management plans under subsection (b) of this section.

(h)

(1) The Secretary of the Army, acting through the Chief of Engineers, in cooperation with the Administrator is authorized and directed, upon request of the Governor or the designated planning organization, to consult with, and provide technical assistance to, any agency designed 1 under subsection (a) of this section in developing and operating a continuing areawide waste treatment management planning process under subsection (b) of this section.

(2) There is authorized to be appropriated to the Secretary of the Army, to carry out this subsection, not to exceed $50,000,000 per fiscal year for the fiscal years ending June 30, 1973, and June 30, 1974.

(i)

(1) The Secretary of the Interior, acting through the Director of the United States Fish and Wildlife Service, shall, upon request of the Governor of a State, and without reimbursement, provide technical assistance to such State in developing a statewide program for submission to the Administrator under subsection (b)(4)(B) of this section and in implementing such program after its approval.

(2) There is authorized to be appropriated to the Secretary of the Interior $6,000,000 to complete the National Wetlands Inventory of the United States, by December 31, 1981, and to provide information from such Inventory to States as it becomes available to assist such States in the development and operation of programs under this Act.

(j)

(1) The Secretary of Agriculture, with the concurrence of the Administrator, and acting through the Soil Conservation Service and such other agencies of the Department of Agriculture as the Secretary may designate, is authorized and directed to establish and administer a program to enter into contracts, subject to such amounts as are provided

in advance by appropriation acts, of not less than five years nor more than ten years with owners and operators having control of rural land for the purpose of installing and maintaining measures incorporating best management practices to control nonpoint source pollution for improved water quality in those States or areas for which the Administrator has approved a plan under subsection (b) of this section where the practices to which the contracts apply are certified by the management agency designated under subsection (c)(1) of this section to be consistent with such plans and will result in improved water quality. Such contracts may be entered into during the period ending not later than September 31, 1988. Under such contracts the land owners or operator shall agree:

(i) to effectuate a plan approved by a soil conservation district, where one exists, under this section for his farm, ranch, or other land substantially in accordance with the schedule outlined therein unless any requirement thereof is waived or modified by the Secretary;

(ii) to forfeit all rights to further payments or grants under the contract and refund to the United States all payments and grants received thereunder, with interest, upon his violation of the contract at any stage during the time he has control of the land if the Secretary, after considering the recommendations of the soil conservation district, where one exists, and the Administrator, determines that such violation is of such a nature as to warrant termination of the contract, or to make refunds or accept such payment adjustments as the Secretary may deem appropriate if he determines that the violation by the owner or operator does not warrant termination of the contract;

(iii) upon transfer of his right and interest in the farm, ranch, or other land during the contract period to forfeit all rights to further payments or grants under the contract and refund to the United States all payments or grants received thereunder, with interest, unless the transferee of any such land agrees with the Secretary to assume all obligations of the contract;

(iv) not to adopt any practice specified by the Secretary on the advice of the Administrator in the contract as a practice which would tend to defeat the purposes of the contract;

(v) to such additional provisions as the Secretary determines are desirable and includes in the contract to effectuate the purposes of the program or to facilitate the practical administration of the program.

(2) In return for such agreement by the landowner or operator the Secretary shall agree to provide technical assistance and share the cost of carrying out those conservation practices and measures set forth in the contract for which he determines that cost sharing is appropriate and in the public interest and which are approved for cost sharing by the agency designated to implement the plan developed under subsection (b) of this section. The portion of such cost (including labor) to be shared shall be that part which the Secretary determines is necessary and appropriate to effectuate the installation of the water quality management practices and measures under the contract, but not to exceed 50 per centum of the total cost of the measures set forth in the contract; except the Secretary may increase the matching cost share where he determines that

(1) the main benefits to be derived from the measures are related to improving offsite water quality, and

(2) the matching share requirement would place a burden on the landowner which would probably prevent him from participating in the program.

(3) The Secretary may terminate any contract with a landowner or operator by mutual agreement with the owner or operator if the Secretary determines that such termination would be in the public interest, and may agree to such modification of contracts previously entered into as he may determine to be desirable to carry out the purposes of the program or facilitate the practical administration thereof or to accomplish equitable treatment with respect to other conservation, land use, or water quality programs.

(4) In providing assistance under this subsection the Secretary will give priority to those areas and sources that have the most significant effect upon water quality. Additional

investigations or plans may be made, where necessary, to supplement approved water quality management plans, in order to determine priorities.
(5) The Secretary shall, where practicable, enter into agreements with soil conservation districts, State soil and water conservation agencies, or State water quality agencies to administer all or part of the program established in this subsection under regulations developed by the Secretary. Such agreements shall provide for the submission of such reports as the Secretary deems necessary, and for payment by the United States of such portion of the costs incurred in the administration of the program as the Secretary may deem appropriate.
(6) The contracts under this subsection shall be entered into only in areas where the management agency designated under subsection (c)(1) of this section assures an adequate level of participation by owners and operators having control of rural land in such areas. Within such areas the local soil conservation district, where one exists, together with the Secretary of Agriculture, will determine the priority of assistance among individual land owners and operators to assure that the most critical water quality problems are addressed.
(7) The Secretary, in consultation with the Administrator and subject to section 304(k) of this Act, shall, not later than September 30, 1978, promulgate regulations for carrying out this subsection and for support and cooperation with other Federal and non-Federal agencies for implementation of this subsection.
(8) This program shall not be used to authorize or finance projects that would otherwise be eligible for assistance under the terms of Public Law 83–566.
(9) There are hereby authorized to be appropriated to the Secretary of Agriculture $200,000,000 for fiscal year 1979, $400,000,000 for fiscal year 1980, $100,000,000 for fiscal year 1981, $100,000,000 for fiscal year 1982, and such sums as may be necessary for fiscal years 1983 through 1990, to carry out this subsection. The program authorized under this subsection shall be in addition to, and not in substitution of, other programs in such area authorized by this or any other public law.

Code of Federal Regulations Section 130 - Water Quality Planning and Management

§ 130.0 Program summary and purpose.

(a) This subpart establishes policies and program requirements for water quality planning, management and implementation under sections 106, 205(j), non-construction management 205(g), 208, 303 and 305 of the Clean Water Act. The Water Quality Management (WQM) process described in the Act and in this regulation provides the authority for a consistent national approach for maintaining, improving and protecting water quality while allowing States to implement the most effective individual programs. The process is implemented jointly by EPA, the States, interstate agencies, and areawide, local and regional planning organizations. This regulation explains the requirements of the Act, describes the relationships between the several components of the WQM process and outlines the roles of the major participants in the process. The components of the WQM process are discussed below.

(b) Water quality standards (WQS) are the State's goals for individual water bodies and provide the legal basis for control decisions under the Act. Water quality monitoring activities provide the chemical, physical and biological data needed to determine the present quality of a State's waters and to identify the sources of pollutants in those waters. The primary assessment of the quality of a State's water is contained in its biennial Report to Congress required by section 305(b) of the Act.

(c) This report and other assessments of water quality are used in the State's WQM plans to identify priority water quality problems. These plans also contain the results of the State's analyses and management decisions which are necessary to control specific sources of pollution. The plans recommend control measures and designated management agencies (DMAs) to attain the goals established in the State's water quality standards.

(d) These control measures are implemented by issuing permits, building publicly-owned treatment works (POTWs), instituting best management practices for nonpoint sources of pollution and other means. After control measures are in place, the State evaluates the extent of the resulting improvements in water quality, conducts additional data gathering and planning to determine needed modifications in control measures and again institutes control measures.

(e) This process is a dynamic one, in which requirements and emphases vary over time. At present, States have completed WQM plans which are generally comprehensive in geographic and programmatic scope. Technology based controls are being implemented for most point sources of pollution. However, WQS have not been attained in many water bodies and are threatened in others.

(f) Present continuing planning requirements serve to identify these critical water bodies, develop plans for achieving higher levels of abatement and specify additional control measures. Consequently, this regulation reflects a programmatic emphasis on concentrating planning and abatement activities on priority water quality issues and geographic areas. EPA will focus its grant funds on activities designed to address these priorities. Annual work programs negotiated between EPA and State and interstate agencies will reflect this emphasis.

§ 130.1 Applicability.

(a) This subpart applies to all State, eligible Indian Tribe, interstate, areawide and regional and local CWA water quality planning and management activities undertaken on or after February 11, 1985 including all updates and continuing certifications for approved Water Quality Management (WQM) plans developed under sections 208 and 303 of the Act.

(b) Planning and management activities undertaken prior to February 11, 1985 are governed by the requirements of the regulations in effect at the time of the last grant award.

§ 130.2 Definitions.

(a) *The Act.* The Clean Water Act, as amended, 33 U.S.C. 1251 *et seq.*

(b) *Indian Tribe.* Any Indian Tribe, band, group, or community recognized by the Secretary of the Interior and exercising governmental authority over a Federal Indian reservation.

(c) *Pollution.* The man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.
(d) *Water quality standards (WQS).* Provisions of State or Federal law which consist of a designated use or uses for the waters of the United States and water quality criteria for such waters based upon such uses. Water quality standards are to protect the public health or welfare, enhance the quality of water and serve the purposes of the Act.
(e) *Load or loading.* An amount of matter or thermal energy that is introduced into a receiving water; to introduce matter or thermal energy into a receiving water. Loading may be either man-caused (pollutant loading) or natural (natural background loading).
(f) *Loading capacity.* The greatest amount of loading that a water can receive without violating water quality standards.
(g) *Load allocation (LA).* The portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources. Load allocations are best estimates of the loading, which may range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading. Wherever possible, natural and nonpoint source loads should be distinguished.
(h) *Wasteload allocation (WLA).* The portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality-based effluent limitation.
(i) *Total maximum daily load (TMDL).* The sum of the individual WLAs for point sources and LAs for nonpoint sources and natural background. If a receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. If Best Management Practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs.
(j) *Water quality limited segment.* Any segment where it is known that water quality does not meet applicable water quality standards, and/or is not expected to meet applicable water quality standards, even after the application of the technology-based effluent limitations required by sections 301(b) and 306 of the Act.
(k) *Water quality management (WQM) plan.* A State or areawide waste treatment management plan developed and updated in accordance with the provisions of sections 205(j), 208 and 303 of the Act and this regulation.
(l) *Areawide agency.* An agency designated under section 208 of the Act, which has responsibilities for WQM planning within a specified area of a State.
(m) *Best Management Practice (BMP).* Methods, measures or practices selected by an agency to meet its nonpoint source control needs. BMPs include but are not limited to structural and nonstructural controls and operation and maintenance procedures. BMPs can be applied before, during and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters.
(n) *Designated management agency (DMA).* An agency identified by a WQM plan and designated by the Governor to implement specific control recommendations.

§ 130.3 Water quality standards.

A water quality standard (WQS) defines the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses. States and EPA adopt WQS to protect public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act (CWA). *Serve the purposes of Act* (as defined in sections 101(a)(2) and 303(c) of the Act) means that WQS should, wherever attainable, provide water quality for the protection and propagation of fish, shellfish and wildlife and for recreation in and on the water and take into consideration their use and value for public water supplies, propagation of fish, shellfish, wildlife, recreation in and on the water, and agricultural, industrial and other purposes including navigation.

Such standards serve the dual purposes of establishing the water quality goals for a specific water body and serving as the regulatory basis for establishment of water quality-based treatment controls and strategies beyond the technology-based level of treatment required by sections 301(b) and 306 of the Act. States shall review and revise WQS in accordance with applicable regulations and, as appropriate, update their Water Quality Management (WQM) plans to reflect such revisions. Specific WQS requirements are found in 40 CFR part 131.

§ 130.4 Water quality monitoring.

(a) In accordance with section 106(e)(1), States must establish appropriate monitoring methods and procedures (including biological monitoring) necessary to compile and analyze data on the quality of waters of the United States and, to the extent practicable, ground-waters. This requirement need not be met by Indian Tribes. However, any monitoring and/or analysis activities undertaken by a Tribe must be performed in accordance with EPA's quality assurance/quality control guidance.

(b) The State's water monitoring program shall include collection and analysis of physical, chemical and biological data and quality assurance and control programs to assure scientifically valid data. The uses of these data include determining abatement and control priorities; developing and reviewing water quality standards, total maximum daily loads, wasteload allocations and load allocations; assessing compliance with National Pollutant Discharge Elimination System (NPDES) permits by dischargers; reporting information to the public through the section 305(b) report and reviewing site-specific monitoring efforts.

[50 FR 1779, Jan. 11, 1985, as amended at 54 FR 14359, Apr. 11, 1989]

§ 130.5 Continuing planning process.

(a) *General.* Each State shall establish and maintain a continuing planning process (CPP) as described under section 303(e)(3)(A)–(H) of the Act. Each State is responsible for managing its water quality program to implement the processes specified in the continuing planning process. EPA is responsible for periodically reviewing the adequacy of the State's CPP.

(b) *Content.* The State may determine the format of its CPP as long as the minimum requirements of the CWA and this regulation are met. The following processes must be described in each State CPP, and the State may include other processes at its discretion.

(1) The process for developing effluent limitations and schedules of compliance at least as stringent as those required by sections 301(b) (1) and (2), 306 and 307, and at least stringent as any requirements contained in applicable water quality standards in effect under authority of section 303 of the Act.

(2) The process for incorporating elements of any applicable areawide waste treatment plans under section 208, and applicable basin plans under section 209 of the Act.

(3) The process for developing total maximum daily loads (TMDLs) and individual water quality based effluent limitations for pollutants in accordance with section 303(d) of the Act and §130.7(a) of this regulation.

(4) The process for updating and maintaining Water Quality Management (WQM) plans, including schedules for revision.

(5) The process for assuring adequate authority for intergovernmental cooperation in the implementation of the State WQM program.

(6) The process for establishing and assuring adequate implementation of new or revised water quality standards, including schedules of compliance, under section 303(c) of the Act.

(7) The process for assuring adequate controls over the disposition of all residual waste from any water treatment processing.

(8) The process for developing an inventory and ranking, in order of priority of needs for construction of waste treatment works required to meet the applicable requirements of sections 301 and 302 of the Act.

(9) The process for determining the priority of permit issuance.

(c) *Regional Administrator review.* The Regional Administrator shall review approved State CPPs from time to time to ensure that the planning processes are consistent with the Act and this regulation. The Regional Administrator shall not approve any permit program under Title IV of the Act for any State which does not have an approved continuing planning process.

§ 130.6 Water quality management plans.

(a) *Water quality management (WQM) plans.* WQM plans consist of initial plans produced in accordance with sections 208 and 303(e) of the Act and certified and approved updates to those plans. Continuing water quality planning shall be based upon WQM plans and water quality problems identified in the latest 305(b) reports. State water quality planning should focus annually on priority issues and geographic areas and on the development of water quality controls leading to implementation measures. Water quality planning directed at the removal of conditions placed on previously certified and approved WQM plans should focus on removal of conditions which will lead to control decisions.

(b) *Use of WQM plans.* WQM plans are used to direct implementation. WQM plans draw upon the water quality assessments to identify priority point and nonpoint water quality problems, consider alternative solutions and recommend control measures, including the financial and institutional measures necessary for implementing recommended solutions. State annual work programs shall be based upon the priority issues identified in the State WQM plan.

(c) *WQM plan elements.* Sections 205(j), 208 and 303 of the Act specify water quality planning requirements. The following plan elements shall be included in the WQM plan or referenced as part of the WQM plan if contained in separate documents when they are needed to address water quality problems.

(1) *Total maximum daily loads.* TMDLs in accordance with sections 303(d) and (e)(3)(C) of the Act and §130.7 of this part.

(2) *Effluent limitations.* Effluent limitations including water quality based effluent limitations and schedules of compliance in accordance with section 303(e)(3)(A) of the Act and §130.5 of this part.

(3) *Municipal and industrial waste treatment.* Identification of anticipated municipal and industrial waste treatment works, including facilities for treatment of stormwater-induced combined sewer overflows; programs to provide necessary financial arrangements for such works; establishment of construction priorities and schedules for initiation and completion of such treatment works including an identification of open space and recreation opportunities from improved water quality in accordance with section 208(b)(2) (A) and (B) of the Act.

(4) *Nonpoint source management and control.* (i) The plan shall describe the regulatory and non-regulatory programs, activities and Best Management Practices (BMPs) which the agency has selected as the means to control nonpoint source pollution where necessary to protect or achieve approved water uses. Economic, institutional, and technical factors shall be considered in a continuing process of identifying control needs and evaluating and modifying the BMPs as necessary to achieve water quality goals.

(ii) Regulatory programs shall be identified where they are determined to be necessary by the State to attain or maintain an approved water use or where non-regulatory approaches are inappropriate in accomplishing that objective.

(iii) BMPs shall be identified for the nonpoint sources identified in section 208(b)(2)(F)–(K) of the Act and other nonpoint sources as follows:

(A) *Residual waste.* Identification of a process to control the disposition of all residual waste in the area which could affect water quality in accordance with section 208(b)(2)(J) of the Act.

(B) *Land disposal.* Identification of a process to control the disposal of pollutants on land or in subsurface excavations to protect ground and surface water quality in accordance with section 208(b)(2)(K) of the Act.

(C) *Agricultural and silvicultural.* Identification of procedures to control agricultural and silvicultural sources of pollution in accordance with section 208(b)(2)(F) of the Act.

(D) *Mines.* Identification of procedures to control mine-related sources of pollution in accordance with section 208(b)(2)(G) of the Act.

(E) *Construction.* Identification of procedures to control construction related sources of pollution in accordance with section 208(b)(2)(H) of the Act.

(F) *Saltwater intrusion.* Identification of procedures to control saltwater intrusion in accordance with section 208(b)(2)(I) of the Act.

(G) *Urban stormwater.* Identification of BMPs for urban stormwater control to achieve water quality goals and fiscal analysis of the necessary capital and operations and maintenance expenditures in accordance with section 208(b)(2)(A) of the Act.

(iv) The nonpoint source plan elements outlined in §130.6(c) (4)(iii)(A)(G) of this regulation shall be the basis of water quality activities implemented through agreements or memoranda of understanding between EPA and other departments, agencies or instrumentalities of the United States in accordance with section 304(k) of the Act.

(5) *Management agencies.* Identification of agencies necessary to carry out the plan and provision for adequate authority for intergovernmental cooperation in accordance with sections 208(b)(2)(D) and 303(e)(3)(E) of the Act. Management agencies must demonstrate the legal, institutional, managerial and financial capability and specific activities necessary to carry out their responsibilities in accordance with section 208(c)(2)(A) through (I) of the Act.

(6) *Implementation measures.* Identification of implementation measures necessary to carry out the plan, including financing, the time needed to carry out the plan, and the economic, social and environmental impact of carrying out the plan in accordance with section 208(b)(2)(E).

(7) *Dredge or fill program.* Identification and development of programs for the control of dredge or fill material in accordance with section 208(b)(4)(B) of the Act.

(8) *Basin plans.* Identification of any relationship to applicable basin plans developed under section 209 of the Act.

(9) *Ground water.* Identification and development of programs for control of ground-water pollution including the provisions of section 208(b)(2)(K) of the Act. States are not required to develop ground-water WQM plan elements beyond the requirements of section 208(b)(2)(K) of the Act, but may develop a ground-water plan element if they determine it is necessary to address a ground-water quality problem. If a State chooses to develop a ground-water plan element, it should describe the essentials of a State program and should include, but is not limited to:

(i) Overall goals, policies and legislative authorities for protection of ground-water.

(ii) Monitoring and resource assessment programs in accordance with section 106(e)(1) of the Act.

(iii) Programs to control sources of contamination of ground-water including Federal programs delegated to the State and additional programs authorized in State statutes.

(iv) Procedures for coordination of ground-water protection programs among State agencies and with local and Federal agencies.

(v) Procedures for program management and administration including provision of program financing, training and technical assistance, public participation, and emergency management.

(d) *Indian Tribes.* An Indian Tribe is eligible for the purposes of this rule and the Clean Water Act assistance programs under 40 CFR part 35, subparts A and H if:

(1) The Indian Tribe has a governing body carrying out substantial governmental duties and powers;

(2) The functions to be exercised by the Indian Tribe pertain to the management and protection of water resources which are held by an Indian Tribe, held by the United

States in trust for Indians, held by a member of an Indian Tribe if such property interest is subject to a trust restriction on alienation, or otherwise within the borders of an Indian reservation; and

(3) The Indian Tribe is reasonably expected to be capable, in the Regional Administrator's judgment, of carrying out the functions to be exercised in a manner consistent with the terms and purposes of the Clean Water Act and applicable regulations.

(e) *Update and certification.* State and/or areawide agency WQM plans shall be updated as needed to reflect changing water quality conditions, results of implementation actions, new requirements or to remove conditions in prior conditional or partial plan approvals. Regional Administrators may require that State WQM plans be updated as needed. State Continuing Planning Processes (CPPs) shall specify the process and schedule used to revise WQM plans. The State shall ensure that State and areawide WQM plans together include all necessary plan elements and that such plans are consistent with one another. The Governor or the Governor's designee shall certify by letter to the Regional Administrator for EPA approval that WQM plan updates are consistent with all other parts of the plan. The certification may be contained in the annual State work program.

(f) *Consistency.* Construction grant and permit decisions must be made in accordance with certified and approved WQM plans as described in §§130.12(a) and 130.12(b).

§ 130.7 Total maximum daily loads (TMDL) and individual water quality- based effluent limitations.

(a) *General.* The process for identifying water quality limited segments still requiring wasteload allocations, load allocations and total maximum daily loads (WLAs/LAs and TMDLs), setting priorities for developing these loads; establishing these loads for segments identified, including water quality monitoring, modeling, data analysis, calculation methods, and list of pollutants to be regulated; submitting the State's list of segments identified, priority ranking, and loads established (WLAs/LAs/TMDLs) to EPA for approval; incorporating the approved loads into the State's WQM plans and NPDES permits; and involving the public, affected dischargers, designated areawide agencies, and local governments in this process shall be clearly described in the State Continuing Planning Process (CPP).

(b) Identification and priority setting for water quality-limited segments still requiring TMDLs.

(1) Each State shall identify those water quality-limited segments still requiring TMDLs within its boundaries for which:

(i) Technology-based effluent limitations required by sections 301(b), 306, 307, or other sections of the Act;

(ii) More stringent effluent limitations (including prohibitions) required by either State or local authority preserved by section 510 of the Act, or Federal authority (law, regulation, or treaty); and

(iii) Other pollution control requirements (e.g., best management practices) required by local, State, or Federal authority are not stringent enough to implement any water quality standards (WQS) applicable to such waters.

(2) Each State shall also identify on the same list developed under paragraph (b)(1) of this section those water quality-limited segments still requiring TMDLs or parts thereof within its boundaries for which controls on thermal discharges under section 301 or State or local requirements are not stringent enough to assure protection and propagation of a balanced indigenous population of shellfish, fish and wildlife.

(3) For the purposes of listing waters under §130.7(b), the term “water quality standard applicable to such waters” and “applicable water quality standards” refer to those water quality standards established under section 303 of the Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements.

(4) The list required under §§130.7(b)(1) and 130.7(b)(2) of this section shall include a priority ranking for all listed water quality-limited segments still requiring TMDLs, taking into account the severity of the pollution and the uses to be made of such waters and shall identify the pollutants causing or expected to cause violations of the

applicable water quality standards. The priority ranking shall specifically include the identification of waters targeted for TMDL development in the next two years.

(5) Each State shall assemble and evaluate all existing and readily available water quality-related data and information to develop the list required by §§130.7(b)(1) and 130.7(b)(2). At a minimum "all existing and readily available water quality-related data and information" includes but is not limited to all of the existing and readily available data and information about the following categories of waters:

(i) Waters identified by the State in its most recent section 305(b) report as "partially meeting" or "not meeting" designated uses or as "threatened";

(ii) Waters for which dilution calculations or predictive models indicate nonattainment of applicable water quality standards;

(iii) Waters for which water quality problems have been reported by local, state, or federal agencies; members of the public; or academic institutions. These organizations and groups should be actively solicited for research they may be conducting or reporting. For example, university researchers, the United States Department of Agriculture, the National Oceanic and Atmospheric Administration, the United States Geological Survey, and the United States Fish and Wildlife Service are good sources of field data; and

(iv) Waters identified by the State as impaired or threatened in a nonpoint assessment submitted to EPA under section 319 of the CWA or in any updates of the assessment.

(6) Each State shall provide documentation to the Regional Administrator to support the State's determination to list or not to list its waters as required by §§130.7(b)(1) and 130.7(b)(2). This documentation shall be submitted to the Regional Administrator together with the list required by §§130.7(b)(1) and 130.7(b)(2) and shall include at a minimum:

(i) A description of the methodology used to develop the list; and

(ii) A description of the data and information used to identify waters, including a description of the data and information used by the State as required by §130.7(b)(5); and

(iii) A rationale for any decision to not use any existing and readily available data and information for any one of the categories of waters as described in §130.7(b)(5); and

(iv) Any other reasonable information requested by the Regional Administrator. Upon request by the Regional Administrator, each State must demonstrate good cause for not including a water or waters on the list. Good cause includes, but is not limited to, more recent or accurate data; more sophisticated water quality modeling; flaws in the original analysis that led to the water being listed in the categories in §130.7(b)(5); or changes in conditions, e.g., new control equipment, or elimination of discharges.

(c) Development of TMDLs and individual water quality based effluent limitations.

(1) Each State shall establish TMDLs for the water quality limited segments identified in paragraph (b)(1) of this section, and in accordance with the priority ranking. For pollutants other than heat, TMDLs shall be established at levels necessary to attain and maintain the applicable narrative and numerical WQS with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality. Determinations of TMDLs shall take into account critical conditions for stream flow, loading, and water quality parameters.

(i) TMDLs may be established using a pollutant-by-pollutant or biomonitoring approach. In many cases both techniques may be needed. Site-specific information should be used wherever possible.

(ii) TMDLs shall be established for all pollutants preventing or expected to prevent attainment of water quality standards as identified pursuant to paragraph (b)(1) of this section. Calculations to establish TMDLs shall be subject to public review as defined in the State CPP.

(2) Each State shall estimate for the water quality limited segments still requiring TMDLs identified in paragraph (b)(2) of this section, the total maximum daily thermal load which cannot be exceeded in order to assure protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife. Such estimates shall take into account the normal water temperatures, flow rates, seasonal variations, existing sources of heat input, and the dissipative capacity of the identified waters or parts thereof. Such estimates shall include a calculation of the maximum heat input that can be made into each such part and shall include a margin of safety which takes into account any lack of knowledge concerning the development of thermal water quality criteria for protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in the identified waters or parts thereof.

(d) *Submission and EPA approval.* (1) Each State shall submit biennially to the Regional Administrator beginning in 1992 the list of waters, pollutants causing impairment, and the priority ranking including waters targeted for TMDL development within the next two years as required under paragraph (b) of this section. For the 1992 biennial submission, these lists are due no later than October 22, 1992. Thereafter, each State shall submit to EPA lists required under paragraph (b) of this section on April 1 of every even-numbered year. For the year 2000 submission, a State must submit a list required under paragraph (b) of this section only if a court order or consent decree, or commitment in a settlement agreement dated prior to January 1, 2000, expressly requires EPA to take action related to that State's year 2000 list. For the year 2002 submission, a State must submit a list required under paragraph (b) of this section by October 1, 2002, unless a court order, consent decree or commitment in a settlement agreement expressly requires EPA to take an action related to that State's 2002 list prior to October 1, 2002, in which case, the State must submit a list by April 1, 2002. The list of waters may be submitted as part of the State's biennial water quality report required by §130.8 of this part and section 305(b) of the CWA or submitted under separate cover. All WLAs/LAs and TMDLs established under paragraph (c) for water quality limited segments shall continue to be submitted to EPA for review and approval. Schedules for submission of TMDLs shall be determined by the Regional Administrator and the State.

(2) The Regional Administrator shall either approve or disapprove such listing and loadings not later than 30 days after the date of submission. The Regional Administrator shall approve a list developed under §130.7(b) that is submitted after the effective date of this rule only if it meets the requirements of §130.7(b). If the Regional Administrator approves such listing and loadings, the State shall incorporate them into its current WQM plan. If the Regional Administrator disapproves such listing and loadings, he shall, not later than 30 days after the date of such disapproval, identify such waters in such State and establish such loads for such waters as determined necessary to implement applicable WQS. The Regional Administrator shall promptly issue a public notice seeking comment on such listing and loadings. After considering public comment and making any revisions he deems appropriate, the Regional Administrator shall transmit the listing and loads to the State, which shall incorporate them into its current WQM plan.

(e) For the specific purpose of developing information and as resources allow, each State shall identify all segments within its boundaries which it has not identified under paragraph (b) of this section and estimate for such waters the TMDLs with seasonal variations and margins of safety, for those pollutants which the Regional Administrator identifies under section 304(a)(2) as suitable for such calculation and for thermal discharges, at a level that would assure protection and propagation of a balanced indigenous population of fish, shellfish and wildlife. However, there is no requirement for such loads to be submitted to EPA for approval, and establishing TMDLs for those waters identified in paragraph (b) of this section shall be given higher priority.

§ 130.8 Water quality report.

(a) Each State shall prepare and submit biennially to the Regional Administrator a water quality report in accordance with section 305(b) of the Act. The water quality report serves as the primary assessment of State water quality. Based upon the water quality data and problems identified in the 305(b) report, States develop water quality management (WQM) plan elements

to help direct all subsequent control activities. Water quality problems identified in the 305(b) report should be analyzed through water quality management planning leading to the development of alternative controls and procedures for problems identified in the latest 305(b) report. States may also use the 305(b) report to describe ground-water quality and to guide development of ground-water plans and programs. Water quality problems identified in the 305(b) report should be emphasized and reflected in the State's WQM plan and annual work program under sections 106 and 205(j) of the Clean Water Act.

(b) Each such report shall include but is not limited to the following:

(1) A description of the water quality of all waters of the United States and the extent to which the quality of waters provides for the protection and propagation of a balanced population of shellfish, fish, and wildlife and allows recreational activities in and on the water.

(2) An estimate of the extent to which CWA control programs have improved water quality or will improve water quality for the purposes of paragraph (b)(1) of this section, and recommendations for future actions necessary and identifications of waters needing action.

(3) An estimate of the environmental, economic and social costs and benefits needed to achieve the objectives of the CWA and an estimate of the date of such achievement.

(4) A description of the nature and extent of nonpoint source pollution and recommendations of programs needed to control each category of nonpoint sources, including an estimate of implementation costs.

(5) An assessment of the water quality of all publicly owned lakes, including the status and trends of such water quality as specified in section 314(a)(1) of the Clean Water Act.

(c) States may include a description of the nature and extent of ground-water pollution and recommendations of State plans or programs needed to maintain or improve ground-water quality.

(d) In the years in which it is prepared the biennial section 305(b) report satisfies the requirement for the annual water quality report under section 205(j). In years when the 305(b) report is not required, the State may satisfy the annual section 205(j) report requirement by certifying that the most recently submitted section 305(b) report is current or by supplying an update of the sections of the most recently submitted section 305(b) report which require updating.

§ 130.9 Designation and de- designation.

(a) *Designation.* Areawide planning agencies may be designated by the Governor in accordance with section 208(a) (2) and (3) of the Act or may self-designate in accordance with section 208(a)(4) of the Act. Such designations shall subject to EPA approval in accordance with section 208(a)(7) of the Act.

(b) *De-designation.* The Governor may modify or withdraw the planning designation of a designated planning agency other than an Indian tribal organization self-designated §130.6(c)(2) if:

(1) The areawide agency requests such cancellation; or

(2) The areawide agency fails to meet its planning requirements as specified in grant agreements, contracts or memoranda of understanding; or

(3) The areawide agency no longer has the resources or the commitment to continue water quality planning activities within the designated boundaries.

(c) *Impact of de-designation.* Once an areawide planning agency's designation has been withdrawn the State agency shall assume direct responsibility for continued water quality planning and oversight of implementation within the area.

(d) *Designated management agencies (DMA).* In accordance with section 208(c)(1) of the Act, management agencies shall be designated by the Governor in consultation with the designated planning agency. EPA shall approve such designations unless the DMA lacks the legal, financial and managerial authority required under section 208(c)(2) of the Act. Designated management agencies shall carry out responsibilities specified in Water Quality Management (WQM) plans. Areawide planning agencies shall monitor DMA activities in their area and recommend

necessary plan changes during the WQM plan update. Where there is no designated areawide planning agency, States shall monitor DMA activities and make any necessary changes during the WQM plan update.

§ 130.10 State submittals to EPA.

(a) The following must be submitted regularly by the States to EPA:

(1) The section 305(b) report, in FY 84 and every two years thereafter, and the annual section 205(j) certification or update of the 305(b) water quality report; (Approved by OMB under the control number 2040–0071)

(2) The annual State work program(s) under sections 106 and 205(j) of the Act; and (Approved by OMB under the control number 2010–0004)

(3) Revisions or additions to water quality standards (WQS) (303(c)). (Approved by OMB under 2040–0049)

(b) The Act also requires that each State initially submit to EPA and revise as necessary the following:

(1) Continuing planning process (CPP) (303(e));

(2) Identification of water quality-limited waters still requiring TMDLs (section 303(d)), pollutants, and the priority ranking including waters targeted for TMDL development within the next two years as required under §130.7(b) in accordance with the schedule set for in §130.7(d)(1).

(Approved by the Office of Management and Budget under control number 2040–0071)

(3) Total maximum daily loads (TMDLs) (303(d)); and

(4) Water quality management (WQM) plan and certified and approved WQM plan updates (208, 303(e)). (Paragraph (b)(1), (4) approved by OMB under the control number 2010–0004).

(c) The form and content of required State submittals to EPA may be tailored to reflect the organization and needs of the State, as long as the requirements and purposes of the Act, this part and, where applicable, 40 CFR parts 29, 30, 33 and 35, subparts A and J are met. The need for revision and schedule of submittals shall be agreed to annually with EPA as the States annual work program is developed.

(d) Not later than February 4, 1989, each State shall submit to EPA for review, approval, and implementation—

(1) A list of those waters within the State which after the application of effluent limitations required under section 301(b)(2) of the CWA cannot reasonably be anticipated to attain or maintain (i) water quality standards for such waters reviewed, revised, or adopted in accordance with section 303(c)(2)(B) of the CWA, due to toxic pollutants, or (ii) that water quality which shall assure protection of public health, public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water;

(2) A list of all navigable waters in such State for which the State does not expect the applicable standard under section 303 of the CWA will be achieved after the requirements of sections 301(b), 306, and 307(b) are met, due entirely or substantially to discharges from point sources of any toxic pollutants listed pursuant to section 307(a);

(3) For each segment of navigable waters included on such lists, a determination of the specific point source discharging any such toxic pollutant which is believed to be preventing or impairing such water quality and the amount of each such toxic pollutant discharged by each such source.

(Approved by the Office of Management and Budget under control number 2040–0152)

(4) For the purposes of listing waters under §130.10(d)(2), *applicable standard* means a numeric criterion for a priority pollutant promulgated as part of a state water quality standard. Where a state numeric criterion for a priority pollutant is not promulgated as part of a state water quality standard, for the purposes of listing waters "applicable standard" means the state narrative water quality criterion to control a priority pollutant (e.g., no toxics in toxic amounts) interpreted on a chemical-by-chemical basis by

applying a proposed state cirterion, an explicit state policy or regulation, or an EPA national water quality criterion, supplemented with other relevant information.

(5) If a water meets either of the two conditions listed below the water must be listed under §130.10(d)(2) on the grounds that the applicable standard is not achieved or expected to be achieved due entirely or substantially to discharges from point sources.

(i) Existing or additional water quality-based limits on one or more point sources would result in the achievement of an applicable water quality standard for a toxic pollutant; or

(ii) The discharge of a toxic pollutant from one or more point sources, regardless of any nonpoint source contribution of the same pollutant, is sufficient to cause or is expected to cause an excursion above the applicable water quality standard for the toxic pollutant.

(6) Each state shall assemble and evaluate all existing and readily available water quality-related data and information and each state shall develop the lists required by paragraphs (d)(1), (2), and (3) of this section based upon this data and information. At a minimum, all existing and readily available water quality-related data and information includes, but is not limited to, all of the existing and readily available data about the following categories of waters in the state:

(i) Waters where fishing or shellfish bans and/or advisories are currently in effect or are anticipated.

(ii) Waters where there have been repeated fishkills or where abnormalities (cancers, lesions, tumors, etc.) have been observed in fish or other aquatic life during the last ten years.

(iii) Waters where there are restrictions on water sports or recreational contact.

(iv) Waters identified by the state in its most recent state section 305(b) report as either “partially achieving” or “not achieving” designated uses.

(v) Waters identified by the states under section 303(d) of the CWA as waters needing water quality-based controls.

(vi) Waters identified by the state as priority waterbodies. (State Water Quality Management plans often include priority waterbody lists which are those waters that most need water pollution control decisions to achieve water quality standards or goals.)

(vii) Waters where ambient data indicate potential or actual exceedances of water quality criteria due to toxic pollutants from an industry classified as a primary industry in appendix A of 40 CFR part 122.

(viii) Waters for which effluent toxicity test results indicate possible or actual exceedances of state water quality standards, including narrative “free from” water quality criteria or EPA water quality criteria where state criteria are not available.

(ix) Waters with primary industrial major dischargers where dilution analyses indicate exceedances of state narrative or numeric water quality criteria (or EPA water quality criteria where state standards are not available) for toxic pollutants, ammonia, or chlorine. These dilution analyses must be based on estimates of discharge levels derived from effluent guidelines development documents, NPDES permits or permit application data (e.g., Form 2C), Discharge Monitoring Reports (DMRs), or other available information.

(x) Waters with POTW dischargers requiring local pretreatment programs where dilution analyses indicate exceedances of state water quality criteria (or EPA water quality criteria where state water quality criteria are not available) for toxic pollutants, ammonia, or chlorine. These dilution analyses must be based upon data from NPDES permits or permit applications (e.g., Form 2C), Discharge Monitoring Reports (DMRs), or other available information.

(xi) Waters with facilities not included in the previous two categories such as major POTWs, and industrial minor dischargers where dilution analyses indicate exceedances of numeric or narrative state water quality criteria (or EPA water quality criteria where state water quality criteria are not available) for toxic

pollutants, ammonia, or chlorine. These dilution analyses must be based upon estimates of discharge levels derived from effluent guideline development documents, NPDES permits or permit application data, Discharge Monitoring Reports (DMRs), or other available information.

(xii) Waters classified for uses that will not support the "fishable/swimmable" goals of the Clean Water Act.

(xiii) Waters where ambient toxicity or adverse water quality conditions have been reported by local, state, EPA or other Federal Agencies, the private sector, public interest groups, or universities. These organizations and groups should be actively solicited for research they may be conducting or reporting. For example, university researchers, the United States Department of Agriculture, the National Oceanic and Atmospheric Administration, the United States Geological Survey, and the United States Fish and Wildlife Service are good sources of field data and research.

(xiv) Waters identified by the state as impaired in its most recent Clean Lake Assessments conducted under section 314 of the Clean Water Act.

(xv) Waters identified as impaired by nonpoint sources in the *America's Clean Water: The States' Nonpoint Source Assessments* 1985 (Association of State and Interstate Water Pollution Control Administrators (ASIWPCA)) or waters identified as impaired or threatened in a nonpoint source assessment submitted by the state to EPA under section 319 of the Clean Water Act.

(xvi) Surface waters impaired by pollutants from hazardous waste sites on the National Priority List prepared under section 105(8)(A) of CERCLA.

(7) Each state shall provide documentation to the Regional Administrator to support the state's determination to list or not to list waters as required by paragraphs (d)(1), (d)(2) and (d)(3) of this section. This documentation shall be submitted to the Regional Administrator together with the lists required by paragraphs (d)(1), (d)(2), and (d)(3) of this section and shall include as a minimum:

(i) A description of the methodology used to develop each list;

(ii) A description of the data and information used to identify waters and sources including a description of the data and information used by the state as required by paragraph (d)(6) of this section;

(iii) A rationale for any decision not to use any one of the categories of existing and readily available data required by paragraph (d)(6) of this section; and

(iv) Any other information requested by the Regional Administrator that is reasonable or necessary to determine the adequacy of a state's lists. Upon request by the Regional Administrator, each state must demonstrate good cause for not including a water or waters on one or more lists. Good cause includes, but is not limited to, more recent or accurate data; more accurate water quality modeling; flaws in the original analysis that led to the water being identified in a category in §130.10(d)(6); or changes in conditions, e.g., new control equipment, or elimination of discharges.

(8) The Regional Administrator shall approve or disapprove each list required by paragraphs (d)(1), (d)(2), and (d)(3) of this section no later than June 4, 1989. The Regional Administrator shall approve each list required under paragraphs (d)(1), (d)(2), and (d)(3) of this section only if it meets the regulatory requirements for listing under paragraphs (d)(1), (d)(2), and (d)(3) of this section and if the state has met all the requirements of paragraphs (d)(6) and (d)(7) of this section.

(9) If a state fails to submit lists in accordance with paragraph (d) of this section or the Regional Administrator does not approve the lists submitted by such state in accordance with this paragraph, then not later than June 4, 1990, the Regional Administrator, in cooperation with such state, shall implement the requirements of CWA section 304(l) (1) and (2) in such state.

(10) If the Regional Administrator disapproves a state's decision with respect to one or more of the waters required under paragraph (d) (1), (2), or (3) of this section, or one or more of the individual control strategies required pursuant to section 304(l)(1)(D), then

not later than June 4, 1989, the Regional Administrator shall distribute the notice of approval or disapproval given under this paragraph to the appropriate state Director. The Regional Administrator shall also publish a notice of availability, in a daily or weekly newspaper with state-wide circulation or in the Federal Register, for the notice of approval or disapproval. The Regional Administrator shall also provide written notice to each discharger identified under section 304(l)(1)(C), that EPA has listed the discharger under section 304(l)(1)(C). The notice of approval and disapproval shall include the following:

(i) The name and address of the EPA office that reviews the state's submittals.

(ii) A brief description of the section 304(l) process.

(iii) A list of waters, point sources and pollutants disapproved under this paragraph.

(iv) If the Regional Administrator determines that a state did not provide adequate public notice and an opportunity to comment on the lists prepared under this section, or if the Regional Administrator chooses to exercise his or her discretion, a list of waters, point sources, or pollutants approved under this paragraph.

(v) The name, address, and telephone number of the person at the Regional Office from whom interested persons may obtain more information.

(vi) Notice that written petitions or comments are due within 120 days.

(11) As soon as practicable, but not later than June 4, 1990, the Regional Office shall issue a response to petitions or comments received under paragraph (d)(10) of this section. Notice shall be given in the same manner as notice described in paragraph (d)(10) of this section, except for the following changes to the notice of approvals and disapprovals:

(i) The lists of waters, point sources and pollutants must reflect any changes made pursuant to comments or petitions received.

(ii) A brief description of the subsequent steps in the section 304(l) process shall be included.

§ 130.11 Program management.

(a) State agencies may apply for grants under sections 106, 205(j) and 205(g) to carry out water quality planning and management activities. Interstate agencies may apply for grants under section 106 to carry out water quality planning and management activities. Local or regional planning organizations may request 106 and 205(j) funds from a State for planning and management activities. Grant administrative requirements for these funds appear in 40 CFR parts 25, 29, 30, 33 and 35, subparts A and J.

(b) Grants under section 106 may be used to fund a wide range of activities, including but not limited to assessments of water quality, revision of water quality standards (WQS), development of alternative approaches to control pollution, implementation and enforcement of control measures and development or implementation of ground water programs. Grants under section 205(j) may be used to fund water quality management (WQM) planning activities but may not be used to fund implementation of control measures (see part 35, subpart A). Section 205(g) funds are used primarily to manage the wastewater treatment works construction grants program pursuant to the provisions of 40 CFR part 35, subpart J. A State may also use part of the 205(g) funds to administer approved permit programs under sections 402 and 404, to administer a statewide waste treatment management program under section 208(b)(4) and to manage waste treatment construction grants for small communities.

(c) Grant work programs for water quality planning and management shall describe geographic and functional priorities for use of grant funds in a manner which will facilitate EPA review of the grant application and subsequent evaluation of work accomplished with the grant funds. A State's 305(b) Report, WQM plan and other water quality assessments shall identify the State's priority water quality problems and areas. The WQM plan shall contain an analysis of alternative control measures and recommendations to control specific problems. Work programs shall specify the activities to be carried out during the period of the grant; the cost of specific activities; the outputs, for example, permits issued, intensive surveys, wasteload allocations, to

be produced by each activity; and where applicable, schedules indicating when activities are to be completed.
(d) State work programs under sections 106, 205(j) and 205(g) shall be coordinated in a manner which indicates the funding from these grants dedicated to major functions, such as permitting, enforcement, monitoring, planning and standards, nonpoint source implementation, management of construction grants, operation and maintenance of treatment works, ground-water, emergency response and program management. States shall also describe how the activities funded by these grants are used in a coordinated manner to address the priority water quality problems identified in the State's water quality assessment under section 305(b).
(e) EPA, States, areawide agencies, interstate agencies, local and Regional governments, and designated management agencies (DMAs) are joint participants in the water pollution control program. States may enter into contractual arrangements or intergovernmental agreements with other agencies concerning the performance of water quality planning and management tasks. Such arrangements shall reflect the capabilities of the respective agencies and shall efficiently utilize available funds and funding eligibilities to meet Federal requirements commensurate with State and local priorities. State work programs under section 205(j) shall be developed jointly with local, Regional and other comprehensive planning organizations.

§ 130.12 Coordination with other programs.
(a) Relationship to the National Pollutant Discharge Elimination System (NPDES) program. In accordance with section 208(e) of the Act, no NPDES permit may be issued which is in conflict with an approved Water Quality Management (WQM) plan. Where a State has assumed responsibility for the administration of the permit program under section 402, it shall assure consistency with the WQM plan.
(b) Relationship to the municipal construction grants program. In accordance with sections 205(j), 216 and 303(e)(3)(H) of the Act, each State shall develop a system for setting priorities for funding construction of municipal wastewater treatment facilities under section 201 of the Act. The State, or the agency to which the State has delegated WQM planning functions, shall review each facility plan in its area for consistency with the approved WQM plan. Under section 208(d) of the Act, after a waste treatment management agency has been designated and a WQM plan approved, section 201 construction grant funds may be awarded only to those agencies for construction of treatment works in conformity with the approved WQM plan.
(c) Relationship to Federal activities—Each department, agency or instrumentality of the executive, legislative and judicial branches of the Federal Government having jurisdiction over any property or facility or engaged in any activity resulting, or which may result, in the discharge or runoff of pollutants shall comply with all Federal, State, interstate and local requirements, administrative authority, and process and sanctions respecting the control and abatement of water pollution in the same manner and extent as any non-governmental entity in accordance with section 313 of the CWA.

§ 130.15 Processing application for Indian tribes.
The Regional Administrator shall process an application of an Indian Tribe submitted under §130.6(d) in a timely manner. He shall promptly notify the Indian Tribe of receipt of the application.

Arizona Administrative Code - Certified Areawide Water Quality Management Planning

R18- 5- 302. Certified Areawide Water Quality Management Plan Approval

A designated water quality planning agency shall submit a proposed Certified Areawide Water Quality Management Plan or plan amendment to the Director for review and approval. Upon approval, the Governor or the Governor's designee shall:

1. Certify that the plan or plan amendment is incorporated into and is consistent with the state water quality management plan, and
2. Submit the plan or plan amendment to the United States Environmental Protection Agency for approval.

R18- 5- 303. Determination of Conformance

All sewage treatment facilities, including an expansion of a facility, shall, before construction, conform with the Certified Areawide Water Quality Management Plan, Facility Plan, and General Plans as specified in subsections (1) and (2).

1. The Department [ADEQ] shall make the determination of conformance if the sewage treatment facility or expansion of the facility conforms with the Certified Areawide Water Quality Management Plan and Facility Plan that prescribe a configuration for sewage treatment and sewage collection system management by a designated management agency within the service area.
2. If the condition specified in subsection (1) is not met, the Department shall make the determination of conformance as follows:
   a. If no Facility Plan is applicable and a Certified Areawide Water Quality Management Plan as described in subsection (1) is available, the Department shall rely on the Certified Areawide Water Quality Management Plan for the determination of conformance.
   b. If no Certified Areawide Water Quality Management Plan as described in subsection (1) is available, the Department shall make the determination of conformance based on conformance with applicable General Plans and after conferring with the designated water quality planning agency for the area and any responsible and affected governmental unit.

Section 4.28 Drainage Facilities

A. The subdivider shall provide for adequate drainage.

B. Drainage shall consider lot layout and be designed to avoid concentration of stormwater on any lot except with retention basins.

C. All State and federal permits and approvals are the responsibility of the subdivider. A copy of all approved permits shall be provided to the Department of Development Services.

Section 4.29 Water and Sewer Systems

A. Water and sewer systems shall not include individual wells and septic tanks.

B. Subdivisions having lots of less than one net acre in area shall be provided with a complete water distribution system which will adequately serve the subdivision in the opinion of the political entity and agencies having jurisdiction.

C. Required connections to approved public or community water and wastewater systems:

1. Any residential subdivision with an overall gross density of 1.45 lots or more per acre shall have available to each proposed lot a connection with a County or State approved public water system (as defined in Title 18, Chapter 5 of the A.A.C.).
2. Any residential subdivision with an overall gross density of 2.17 lots or more per acre shall have available to each proposed lot a connection with a County or State approved public or community wastewater system (as defined in Title 18, Chapter 5 of the A.A.C.).
3. Subdivisions shall be provided with a sanitary sewer connection to each lot when the subdivision is located within an area identified for connection to a sewage collection system by a Certified Area-wide Water Quality Management Plan adopted under Title 18, Chapter 5 of the A.A.C. or a master plan adopted by a majority of the elected official of a board or council for a county, municipality, or sanitary district.

D. Municipal Systems. If a water or sewer system is to be installed in a subdivision in Yuma County's jurisdiction, and the system is to be assumed and maintained by a municipality, immediately upon completion of installation a complete set of construction plans must be provided for the proposed system.

1. The plans shall be prepared by a registered engineer and shall meet the utility requirements of the municipality and ADEQ.
2. Should the project fall within a designated Section 208 Water Quality Management Plan area, an approval letter from the municipality shall be obtained by the developer to submit with plans for reviews and subsequent approvals to construct issued by the Environmental Programs Division in accordance with the delegated authority granted by ADEQ.
3. The registered engineer retained by the developer or owner shall certify installation of the system in accordance with the approved plan to the Environmental Programs Division and the municipality.
4. The registered engineer shall provide “record” plans and location maps for all valves and hydrant locations.

E. Community Systems. If a water and/or sewer system is to be owned and operated by a utility company the plans must be prepared by a registered engineer and approved as follows:

1. The water and sewer systems in all subdivisions shall be approved by the Environmental Programs Division and ADEQ.
2. The installation of water and sewer systems shall be certified by a registered engineer to assure that the improvements are in accordance with the approved plan submitted to the Environmental Programs Division.

F. On-Site Sewage Disposal Systems

1. Whenever a public sanitary sewer system is not available to a subdivision, provision shall be made for the disposal of sewage in accordance with the requirements of the Environmental Programs Division of the Department of Development Services and ADEQ.
    a. Certification by a licensed soil scientist or registered engineer as meeting the minimum lot requirements or alternative requirements for installation of sewage

treatment and disposal systems set forth in Title 18, Chapter 9 of the A.A.C. as amended from time to time; or

b. Sewage Disposal Permit in accordance with Title 18, Chapter 9 of the Arizona Administrative Code and Environmental Programs Division regulations governing Sewage Treatment and Disposal Systems in Yuma County.

2. If a lot is proposed to be provided by an on-site sewage disposal system and an onsite individual well the lot shall be a minimum one (1) acre in size and be approved in accordance with Environmental Programs Division regulations.

Section 4.30- - Septic System Feasibility Report

Septic system feasibility reports shall contain the following;

A. Result of a soil test/site investigation

B. Result of a percolation test

C. Depth to groundwater

D. Proposed design or sample design.

(Abbreviations added:

ADEQ = the Arizona Department of Environmental Quality

A.A.C. = Arizona Administrative Code

Yuma County Zoning Ordinance

302.05- - Water and Sewage Systems Requirements

A. For those parcels with access to both public water and sewer, the minimum parcel size shall conform to the applicable zoning district standard.

B. For parcels requiring on-site water and/or sewage disposal facilities, the minimum lot size shall provide sufficient area necessary for the safe accommodation of individual wells and/or sewage disposal systems as follows:

1. Where both the water supply and sewage disposal system is to be developed on the same lot, the minimum size shall be at least one (1) acre, excluding streets, alleys and other rights-of-way and be large enough to accommodate the residence, septic system and one hundred percent (100%) reserve/expansion of the septic system.

2. Where water from a community system is provided and a sewage disposal system is to be developed on the lot, the lot shall be large enough to accommodate the residence, septic system and one hundred percent (100%) expansion of the septic system. Lots smaller than one (1) acre within a subdivision may require an alternative type of septic system.

The above standards are minimum standards. The Department of Development Services may require more restrictive standards based upon adopted environmental and sanitary codes or regulations.

Appendix B

Yuma County Wastewater Treatment Plants

The inventory of wastewater facilities in Yuma County includes only facilities treating domestic sewage. It is anticipated that this information and maps will change over time. Current information about these wastewater facilities and maps will be available at the Yuma 208 Website. Use the map number

Table 11 – Domestic Wastewater Treatment Facilities in Yuma County

Map Number	Facility Name	Type	Design Capacity (gpd)	Planned Expansion Or Modification (year)
SAN LUIS				
1	ADOC/ASPC Yuma Facility	Govt	870,000	
2	San Luis - East	Municipal	1,000,000	2.5 to 3.5 mgd (2060)
3	San Luis - West	Municipal	1,500,000	3.5 to 5 mgd (2030)
SOMERTON				
4	Somerton (City)	Municipal	800,000	1.2 to 1.6 mgd
5	Yuma County Housing @ Somerton	Govt	40,000	May connect to Somerton in future
WELLTON				
6	Copper Ridge	Private utility	20,000	No plans
7	Links at Coyote Wash	Private utility	69,300	Approved expand to 126,000. To expand to 235,000
YUMA – CITY OF				
8	Araby Acres RV Resort	Private	25,000	
9	Far West - Palm Shadows	Private utility	200,000	**To divert all flows to Far West -Section 14**
10	Sun Vista RV Park	Private	215,250	
11	Sweetwater Creek Utilities	Private utility	126,000	No plans

Map Number	Facility Name	Type	Design Capacity (gpd)	Planned Expansion Or Modification (year)
12	Westwind RV	Private	188,300	
13	Windhaven RV Park	Private	2,500	(Rest of park using on-site septic systems)
14	Yuma (City) - Desert Dunes	Municipal	9,000,000	Existing 3,300,000 To 6,000,000 by 2010, To 12,000,000 by build out
15	Yuma (City) - Figueroa Ave	Municipal	12,000,000	To 15,000,000 by build out
OUTSIDE OF A DMA BOUNDARY IN YUMA COUNTY				
16	Caravan Oasis RV Park	Private	78,455	
17	Country Breeze Estates	Private	49,000	
18	Del Pueblo RV & Tennis Resort	Private	56,700	
19	Far West - Del Oro	Private utility	495,000	495,000 by 2010
20	Far West – Marwood	Private utility	340,000	**To divert 130,000 gpd to Far West -Section 14**
21	Far West – Seasons	Private utility	150,000	150,000 by 2010
22	Far West – Section 14	Private utility	685,000	685,000 by 2010 1,300,000 by 2011 2,000,000 in future
23	Far West - Villa Del Rey	Private utility	< 20,000	**To divert all flows to Far West - Del Oro**
24	Far West - Villa Royale	Private utility	<20,000	**To divert all flows to Far West - Del Oro**
25	Fisher's Landing Water and Sewer (Martinez Lake)	Private utility	25,725	No plans
26	Fortuna Del Rey/Del Oro RV Park	Private	120,000	
27	GM Corp Desert Proving Grounds	Commercial	34,000	
28	Hidden Shores RV Village	Private	100,000	
29	Las Quintas Oasis RV	Private	50,000	
30	Pioneer Center - Underhill Trans	Commercial	80,000	May expand to 100,000
31	US Army - KofA Firing Range	Govt	19,500	Discussing expansion in future
32	US Army – Laguna Airfield	Govt	31,000	No plans. Using 1/3 of capacity
33	US Army - Main Admin	Govt	256,000	No plans. Using 1/2 of capacity. Rebuilt in 2008.
34	US Army - Materials Testing Area	Govt	64,500	Expanding to 95,000 by 2010 with lined lagoons
35	US Marine Corp – Air Station	Govt	200,000	
36	Yuma Lakes	Private	55,000	

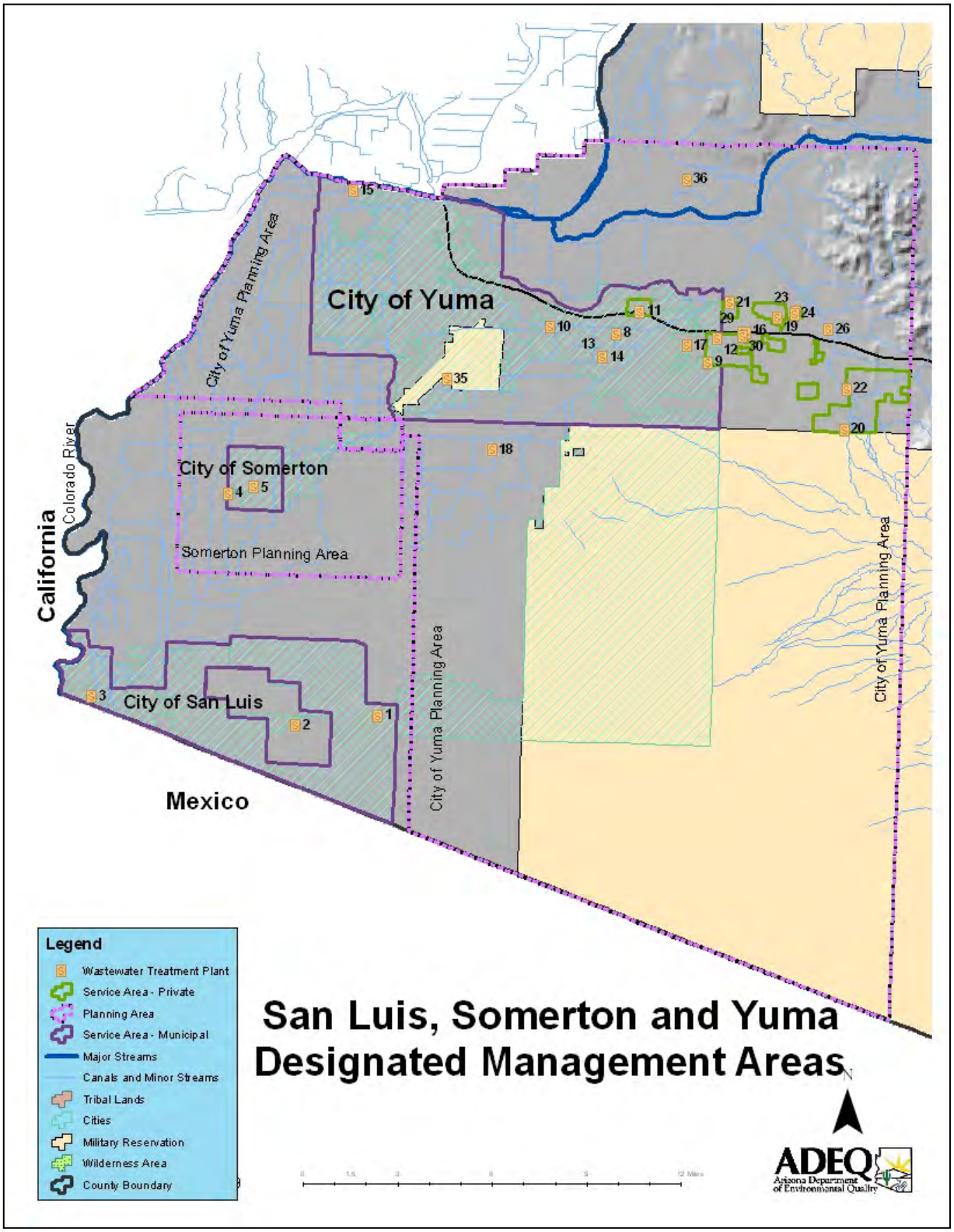


Figure 18 - San Luis, Somerton, Yuma DMAs

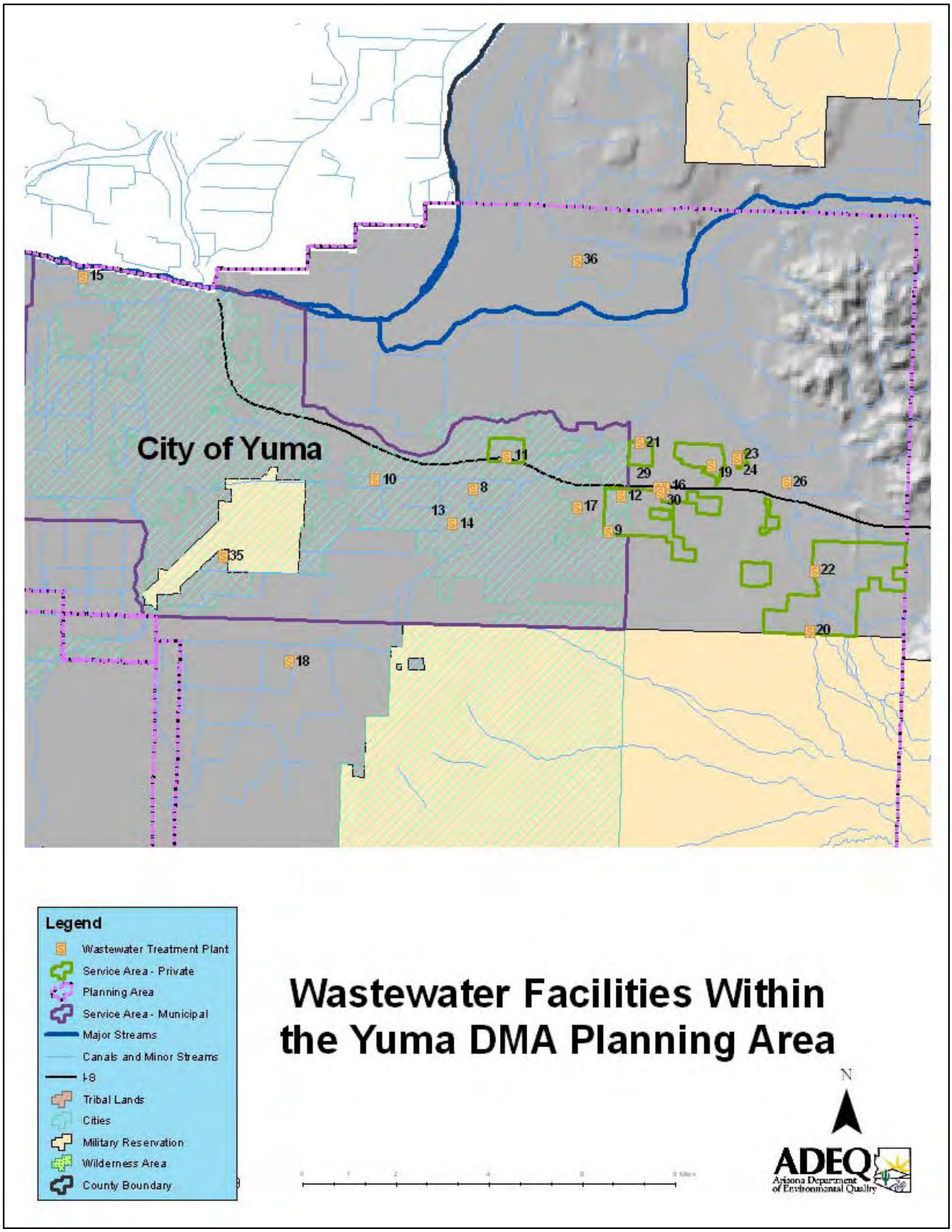


Figure 19 - Wastewater Facilities In Yuma DMA

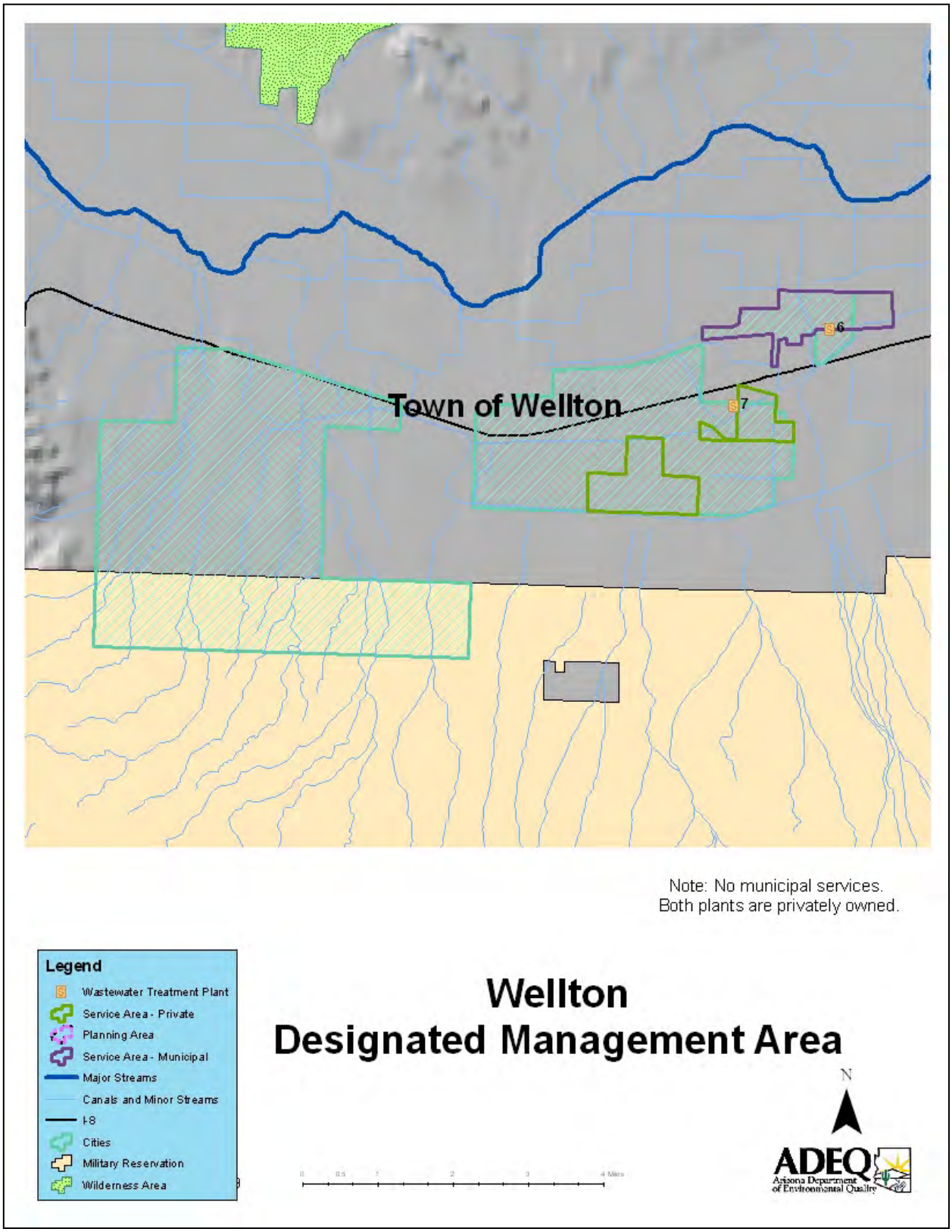


Figure 20 – Wellton Designated Management Agency

Figure 21 - Far West and Sweetwater Utilities

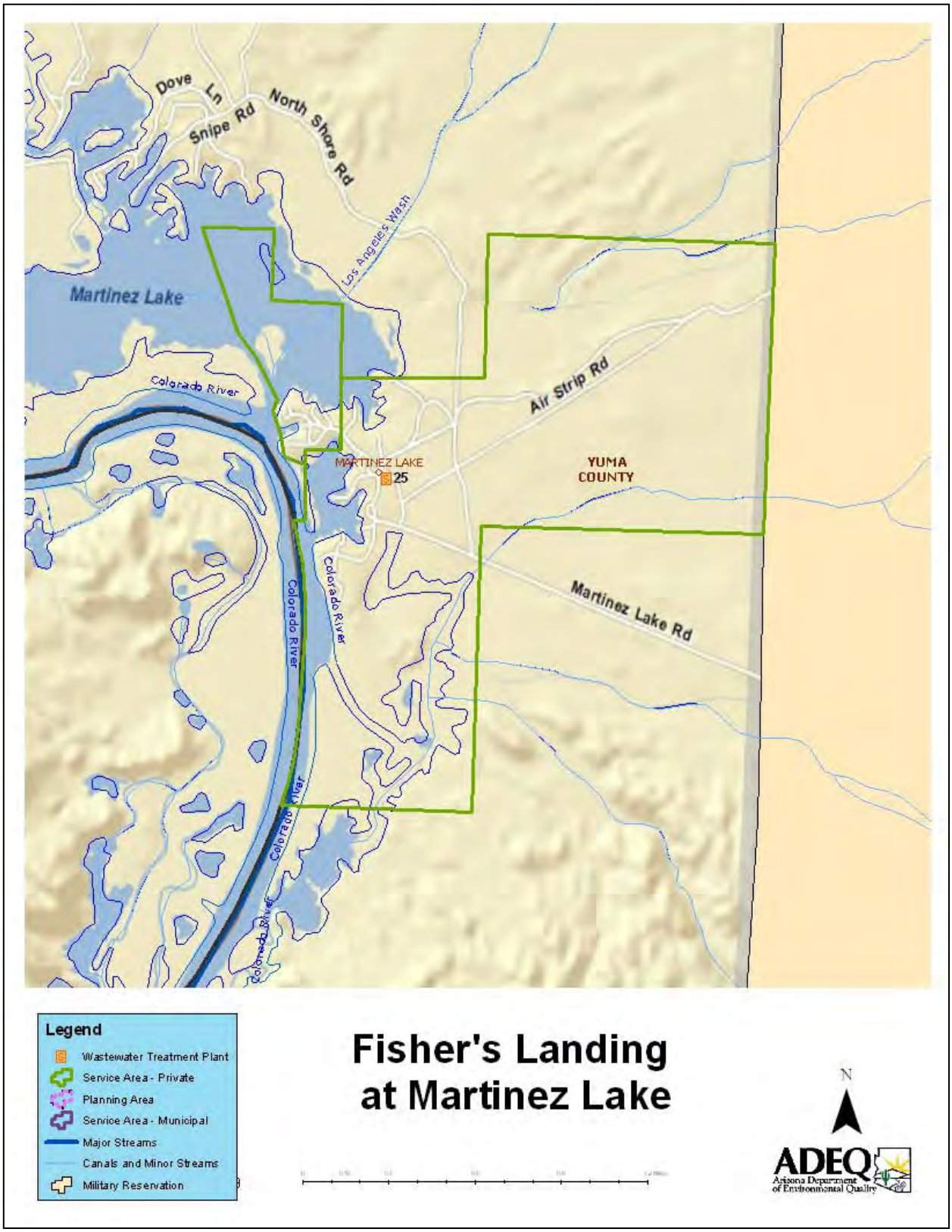


Figure 22 - Martinez Lake Sewer Company

Appendix C
Wastewater Master Plan Requirements

Wastewater Master Plans are to be developed for areas with a Designated Management Area or Quasi-DMA and by the Designated Planning Area or its agent for areas with wastewater treatment plants outside of the DMAs. Plans may also be requested from private utilities and other entities that do not qualify or do not wish to become a DMA or Quasi-DMA to provide because the information provided in these plans is essential to facilitate and coordinated regional wastewater development.

The following is an outline of the *minimum* information required in the Wastewater Master Plans. Most of the information can be submitted in table format (tables, spreadsheet or database), as maps, and as GIS covers. Example spreadsheet tables are included at the end of this appendix.

The development of GIS covers will be coordinated by the Yuma County Department of Development Services. These covers will be used in the Yuma 208 Website that will assist both developers and 208 Consistency Reviews in coordinating regional development of wastewater facilities.

Annual updates are required to keep current information on the Yuma 208 Website maintained by the county. Annual updates will only need to *report changes* to the information, the tables, and the GIS covers.

Minimum Requirements for a Wastewater Master Plan

Authority

1. Agency writing the plan and authority for providing wastewater services
2. Agency responsible for construction, operation, and maintenance of facilities

Wastewater Treatment Plants (WWTPs)

3. Plant names and permit information
4. Location information (address, map, and GIS covers)
5. Capacity and use information for each WWTP
    a. APP approved Design Capacity

b. Constructed Capacity
c. Operational Flow (average measured flow, past 12 months)
d. Capacity Assurance promised to developers
e. Capacity Assurance remaining
f. AZPDES discharge flow limit

6. Treatment, disposal, reuse or reclaimed uses for each WWTP
    a. Sewage
    b. Effluent
    c. Bio-solids
    d. Associated permits

Wastewater Collection System and Service Areas

7. Service Area and Planning Area boundaries
    a. Delineate boundaries and provide GIS covers and maps
        i. Include plat map, streets, and other major land marks
    b. Indicate WWTP(s) providing service to the Service Area
        i. Divide Service Area, if appropriate for multiple plants
8. Sewer Lines and Collection Systems
    a. Delineate sewer lines provide a GIS cover and map, including:
        i. Existing sewer lines and sewer lines that have been funded and will be constructed in near future
        ii. Collection system areas being served by the WWTP (may be outside the Service area
        iii. Plat map and street information
    b. Identify areas served by another centralized treatment work within the Service Area
        i. GIS cover showing boundary and name of facility

Planned New Facilities or Modification in Facilities or Treatment

9. Non-sewered areas
    a. Identify developed lots that are not connected to sewers
        i. GIS cover highlighting these plats
10. High priority areas for sewer lines
    a. Identify high priority areas for sewer lines due to older septic systems, high ground water, elevated nitrate concentration in ground water, development density, etc. (see Strategy 1.A.2)
        i. Location of these areas (GIS cover indicating reason)
        ii. Design flow from these areas
        iii. WWTP that would need to accommodate added flows, and WWTP capacity increase that would be needed
        iv. Additional infrastructure needed
    b. Identify areas waiting for sewer lines to initiate a development or where a collection system has been installed in anticipation of having sewer lines available
        i. Location of these areas (GIS cover showing name of areas)
        ii. Design flow from these areas
        iii. WWTP capacity increase necessary to accommodate added flow
        iv. Additional infrastructure needed
11. Centralized systems needed
    a. Identify areas where a sanitary district, wastewater improvement district, or private utility may be needed to provide appropriate wastewater treatment
        i. Location of these areas (GIS cover, showing name of areas)
        ii. Design flow from these areas
        iii. Efforts being made to create these facilities
12. Treatment and disposal modifications
    a. Describe treatment and disposal modification planned

b. Schedule for completing this work

13. Merging and Expanding WWTPs
    a. Identify which WWTPs will be expanded to become the central regional plant and which are the smaller WWTPs. The goal is to eliminate small package plants and provide regionally efficient major wastewater facilities over time.
    b. If plant may merge with a larger facility within the next 20 years, identify:
        i. Area served (GIS cover of area and identified WWTP)
        ii. Operational flow or design flow from service connections
        iii. WWTP capacity increase needed at the larger facility
        iv. Additional infrastructure needed
    c. Describe new plants and land needed for new facilities
14. Treatment Works Development Schedule
    a. Combining all potential facility development (described in #9 – 13), prioritize projects by using the following categories
        i. **Initiated:** Ongoing and should be completed within 1-2 years
        ii. **High priority:** Plan to complete within 5 years
        iii. **Medium priority**: Plan to complete within 6-10 years
        iv. **Low priority**: May initiate within the next 20 years
    b. Identify financing available or funding needs for all High Priority Projects
    c. Identify potential economic, social, and environmental benefits associated for all High Priority Projects
    d. Identify potential barriers to accomplishing High Priority Projects
15. Pretreatment needs and process water disposal
    a. Industrial or commercial facilities where pretreatment occurs or should be considered
    b. Discharges to system where process water could be improved

<u>Stormwater Management Infrastructure</u>

16. Identify and prioritize additional stormwater management infrastructure needed to implement the Yuma Stormwater Management Program
        i. **Initiated:** Ongoing and should be completed within 1-2 years
        ii. **High priority:** Plan to complete within 5 years
        iii. **Medium priority**: Plan to complete within 6-10 years
        iv. **Low priority**: May initiate within the next 20 years

<u>Regulatory Support</u>

17. Identify ordinances, policies, procedures, or incentives that have been established, or need to be established to:
    a. Get property owners to connect to sewer lines when they become available
    b. Rescind capacity assurance once given to developers or establish a phased approach for providing capacity assurance

This information will primarily be captured in spreadsheets and associated GIS covers. The following pages provide examples of the spreadsheet information that will be submitted. The specific information being requested for a Wastewater Master Plan can be revised if approved by ADEQ, the DPA, and the Yuma 208 Review Council.

Table 12 - Efforts to Implement the Yuma 208 Plan				
Program	**Ordinance, Plan, Policy, Form**	**Brief Description**	**Date Initiated**	**Website for copy**
Name	Names and numbers		year	address

Table 13 – Wastewater Treatment Plant Locations and Permits							
WWTP Name	**WWTP Short Name**	**Address**	**Facility Location latitude/longitude**	**Agency Responsible for Construction**	**Agency Resposible for O&M**	**APP Permit**	**NPDES Permit**
	(Link to GIS Cover and other info)	street, city, zip of facility	decimal degrees dd.dddddd NAD 83	Name	Name	Number	Number

Table 13 - Wastewater Treatment Plant Locations and Permits (continued)							
WWTP Short Name	**Reuse Permit**	**Biosolids Permit**	**Recharge Permit**	**Other Permit**	**AZPDES Discharge Point 1**	**AZPDES Discharge Point 2**	**AZPDES Discharge Point 3**
Link	Number	Number	Number	name/number	latitude/longitude NAD 83	latitude/longitude NAD 83	latitude/longitude NAD 83

Table 14 - Wastewater Treatment Plant Capacity							
WWTP Short Name	**APP Design Capacity**	**Constructed Capacity**	**Operational Flow**	**Percent of Design Capacity Given**	**AZPDES Discharge Limit (flow)**	**Planned Capacity Expansion or New WWTP**	**Planned Merger with Other WWTP**
Link	gpd	gpd	gpd	%	gpd	gpd (year to complete)	Name (year to complete)

Table 14 – Wastewater Treatment Plant Capacity (continued)						
WWTP Short Name	**Will Become Major Regional Facility**	**Land Needed for Facilities**	**Priority Ranking for New WWTP or Expansion**	**Financing to Support Development**	**Potential Barriers to Development**	**Added Economic, Social, or Environmental Benefits If Expand**
Link	yes / no	Amount and location	Initiated/High/Med/Low			

Table 15 - Special Protections and Concerns per WWTP					
WWTP Short Name	**Impaired Surface Water Downstream**	**Distance to Impaired Water**	**Pollutants Causing Impairment**	**Pollutants Exceeding Aquifer WQ Standards in Service Area**	**Pollutants Exceeding Aquifer WQ Standards in Planning Area**
Link	Name of Surface Water	Miles downstream	Names	Names	Names

Table 15 - Special Protections and Concerns per WWTP (continued)				
WWTP Short Name	**Unique Waters or Other Protection Downstream**	**Distance to Protected Area**	**Nitrogen Protection Area**	**Nitrogen Protection Area Restrictions**
Link	Names of Surface Waters	Miles Downstream	yes / no / action initiated	Description

Table 16 – Wastewater Treatment Plant - Technologies					
WWTP Short Name	**Effluent Treatment & Disposal Methods**	**Effluent Disinfection**	**Effluent Treatment & Disposal Changes Planned**	**Biosolids Treatment & Disposal Methods**	**Biosolid Treatment & Disposal Changes Planned**
Link	Brief description	Description	Description and time schedule	Brief description	Description and time schedule

Table 16 - Wastewater Treatment Plant - Technologies (continued)							
WWTP Short Name	**Alternative Energy Production**	**Reuse of Effluent**	**Reuse of Biosolids**	**Priority Ranking for Modifications or Expansion**	**Financing to Support Modifications**	**Potential Barriers to Modifications**	**Added Econ, Social, or Enviro Benefits If Modify**
Link	yes - no - plans	yes - no - plans	yes - no - plans	Initiated/High/Med/Low			

Table 17 - Collection Systems						
WWTP Short Name	**Service Area Name**	**Collection Area Name (existing and proposed)**	**Collection Area Services**	**Collection Area Design Flow**	**Basis of Design Flow Calculation**	**Lots Not Connected within Collection Area**
Link	Link to GIS	Link (e.g., subdivision, RV park, community)	Number of lots serviced	gpd (existing connections)		Number lots not serviced

Table 17 - Collection Systems (continued)						
Collection Area Name	**Added Design Flow Needed to Service Lots**	**Planned Expansion of Collection System**	**Priority Ranking for Expansion**	**Financing to Support Expansion**	**Potential Barriers to Expansion**	**Added Econ, Social, or Enviro Benefits if Expand**
Link from above	gpd (potential additional)	Number of lots / gpd	Initiated/High/Med/Low			

Table 18 - Other Wastewater Treatment Plants within Service and Planning Areas							
WWTP Short Name	**Other WWTPs in Service Area**	**Collection Area Name**	**Collection Area Services**	**Collection Area Design Flow**	**Basis for Design Flow**	**Lots Not Connected within Collection Area**	**Added Design Flow Needed to Serve All**
Link	Link	Link in GIS (subdivision, RV park, community)	Number of lots serviced	gpd (existing connections)		Number of lots not serviced	gpd (potential additional)

Table 18 - Other Wastewater Treatment Plants within Service and Planning Areas (continued)						
Other WWTP Name	**Planned Expansion of Collection System**	**Plans to Merge with Another WWTP**	**Priority Ranking for Expansion or Merger**	**Financing to Support Expansion or Merger**	**Potential Barriers to Expansion or Merger**	**Added Econ, Social, or Enviro Benefits if Expand or Merger**
Link	Number of lots/ gpd	Name of WWTP/ year	Initiated/High/Medium/Low			

Table 19 - High Priority Areas for Sewer Lines and Centralized Treatment						
WWTP Short Name	**Service Area Name**	**High Priority Area Name**	**Concern**	**Dry Sewered**	**Poorly Functioning Systems or Vaults**	**Lots Waiting Sewer Lines to Develop**
Link	Link to GIS	Link to GIS	Brief description	number of lots	number of lots	number of lots

Table 19 - High Priority Areas for Sewers and Centralized Treatment (continued)								
WWTP Short Name	**Design Flow**	**Basis of Design Flow**	**WWTP Capacity Increase Needed**	**Status of Capacity Increase**	**Status of Sewer Lines**	**Financing to Support for Expansion**	**Potential Barriers to Expansion**	**Added Econ, Social, or Enviro Benefits if Expand**
Link	gpd		gpd		Initiated/High			