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City of Eloy

CAAG 208 WATER QUALITY MANAGEMENT PLAN AMENDMENT AND DESIGNATED MANAGEMENT AGENCY (DMA) AREA AMENDMENT

FINAL
April 2007

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City of Eloy

CAAG 208 WATER QUALITY MANAGEMENT PLAN AMENDMENT AND DESIGNATED MANAGEMENT AGENCY (DMA) AREA AMENDMENT

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EXECUTIVE SUMMARY

The City of Eloy has recently received tremendous interest from developers wishing to build within its existing Planning and Designated Management Agency (DMA) area, as well as in adjacent areas. To be prepared for this potential growth, the City has undertaken the development of a Wastewater Management Plan. This 208 Amendment describes the three significant outputs from this Plan: revised DMA area, existing WWTP expansion, and identification of future wastewater sub-basin areas and water reclamation facilities (WRF).

The City of Eloy became a DMA in 1998 and has provided wastewater treatment at its existing WWTP for over 40 years. Currently, the WWTP has a capacity of approximately 2.0 million gallons per day (mgd) annual average daily flow (AADF) with a flow of approximately 0.74 mgd AADF. Effluent from the plant is recharged. The plant sub-basin area is about 28 square miles with an existing developed area of about six square miles.

DMA Area

In reviewing the known and proposed developments in the existing planning area and adjacent areas, the City revised its General Planning Area as well as developed a revised DMA area. The DMA area increased from 97 to 158 square miles. These revised areas are shown on Figure 3. As the proposed DMA area is too big to be served by a single regional WWTP, the area was divided into nine wastewater sub-basin areas, including the existing WWTP area and eight (8) new sub-basin areas. These sub-basin areas are shown on Figure 5.

The latest (December 2006 Draft) POPTAC population projection for the Eloy area in 2055 is 109,314. To obtain a land use based estimate of the potential growth in the DMA area, a conceptual land use plan was developed, see Figure 6. From this plan, the ultimate buildout population was calculated. Using an estimate of development starts and rate of buildout, a phased population projection was developed.

Year	2005		2010[1]		2020		2030		Buildout	
	Population	Flow (mgd)	Population	Flow (mgd)	Population	Flow (mgd)	Population	Flow (mgd)	Population	Flow (mgd)
Sub-Basin 1	10,375	0.74	44,347	4.0	77,607	7.0	115,080	10.38	115,080	10.38
Sub-Basin 2	0	0	0	0	35,770	2.10	95,047	6.48	102,201	8.41
Sub-Basin 3	0	0	0	0	42,389	2.69	112,633	8.28	121,111	10.75
Sub-Basin 4	0	0	0	0	12,285	1.08	34,503	3.33	37,100	4.32
Sub-Basin 5	0	0	0	0	26,099	1.90	69,348	5.86	74,568	7.61
Sub-Basin 6	0	0	0	0	34,253	2.33	91,015	7.17	97,866	9.31
Sub-Basin 7	0	0	0	0	30,137	1.88	74,020	5.78	80,557	7.51
Sub-Basin 8[2]	0	0	0	0	0	0.96	0	2.94	0	3.82
Sub-Basin 9[2]	0	0	0	0	0	1.06	0	2.58	0	3.20
Totals	**10,375**	**0.74**	**44,347**	**4.0**	**258,540**	**21.0**	**591,647**	**52.8**	**628,484**	**65.31**

Notes:

(1) Although some of the new WRFs may start with initial flows in the 2010 timeframe, they are shown beyond 2010 for planning level estimates.

(2) Sub-Basins 8 and 9 include only commercial/industrial flows, with zero population.

Existing WWTP

The projected flows to the existing WWTP from Sub-Basin Area 1 are shown below.

Year	Flow (mgd)
2006	0.74
2010	4.0
2020	7.0
2030	10.38
Buildout	10.38

The improvements required at the WWTP to meet the projected flows will be phased to match the flows. The first phase expansion will be to 4.0 mgd. The estimated costs for this expansion are shown below.

Element		Estimated Project Cost
1A.	Headworks Expansion	$ 3,742,000
1B.	Secondary Treatment Expansion	$ 7,872,000
1C.	Solids Handling Facilities	$13,869,000
1D.	Tertiary Treatment	$ 5,332,000
Phase 1 Total Estimated Cost		**$30,815,000**

Of these improvements, the most immediate is the Headworks Expansion and the schedule for this expansion is shown below.

Element	Start	Finish
Design	Jan 2007	May 2007
Bid	June 2007	Aug 2007
Construction	Sept 2007	Sept 2008

Future Water Reclamation Facilities

To serve the eight proposed wastewater sub-basin areas, eight new regional water reclamation facilities were identified. The proposed locations of these WRFs are shown on Figure 5. The estimated schedules for the WRFs coming online are shown below. Also shown are the projected flows for 2020 and 2030.

Sub-Basin WRF	Facility Online	2020 Flow (mgd)	2030 Flow (mgd)
2	2010	2.10	6.48
3	2010	2.69	8.28
4	2010	1.08	3.33
5	2015	1.90	5.86
6	2015	2.33	7.17
7	2015	1.88	5.78
8	2015	0.96	2.94
9	2015	1.06	2.58

The cost of the individual plants will depend on many factors and will not be known in detail until additional engineering analysis is completed. A general cost for a new 2.0 mgd tertiary WRF as described above, could range from $25 to $35 million. For eight (8) new 2.0 mgd WRFs, the overall cost could range from $200 to $280 million. At buildout, the costs for the WRFs could reach $1.15 billion.

Effluent from each WRF will be used for irrigation and groundwater recharge. There are no planned discharges from any of the plants. Solids from the plants will be either landfilled or used in land application.

Impacts and Financial

The only impacts identified were potential short-term construction noise and dust problems. The City will finance the expansion of the existing WWTP with a combination of user fees, connection fees, development fees, and the sale of bonds. For the construction of the new WRFs, these will be constructed by the developers in the new wastewater service areas. After construction of the WRFs, they will be handed over to the City for operation and maintenance.

1.0 INTRODUCTION

This amendment to the City of Eloy (City) Central Arizona Association of Governments (CAAG) 208 Water Quality Management Plan (WQMP), to be referred to hereafter as the 208 Plan Amendment, addresses the request of the City, a Designated Management Agency (DMA), to amend its existing 208 Plan. This 208 Plan Amendment addresses the expansion of the City's DMA Area from 97 square miles to 158 square miles, identifies the ultimate treatment capacity of the City's existing wastewater treatment plant (WWTP), identifies the division of the new service area into nine wastewater sub-basins, and identifies the locations and ultimate capacities of eight future water reclamation facilities (WRF) to serve the sub-basins. This 208 Plan Amendment also identifies potential reclaimed water uses, potential benefits and impacts, and a methodology for developers to obtain approval to pursue the initial phase of future regional water reclamation facilities.

This 208 Amendment summarizes the initial phases of this Wastewater Management Plan and contains:

- The revised City General Planning and DMA Area
- A conceptual buildout land use plan
- Potential water reclamation facility sub-basin areas
- Potential locations of future regional water reclamation facilities in each sub-basin area
- Estimated buildout flows for each sub-basin area
- A procedure for City review and approval for developer wastewater facilities
- An expansion plan for the City's existing wastewater treatment plant from 2.0 to 4.0 million gallons per day (mgd) annual average daily flow (AADF), and to an ultimate capacity of 10.4 mgd AADF

Future wastewater planning phases will develop sewer system models for the sub-basin areas, identify potential collection layouts for each sub-basin area, identify potential wastewater reuse plans, and estimate future capital costs.

1.1 Background

The City has received tremendous interest from developers wishing to build within its existing Planning and DMA area, as well as in adjacent areas. To be prepared for this potential growth, the City has undertaken the development of a Wastewater Management Plan.

The details of this planning will be contained in a series of Technical Memoranda (TMs), which form the basis of the Wastewater Master Plan. The memoranda drafted to date are:

- TM 1 - Existing Wastewater Treatment Plant Evaluation and Expansion Plan
- TM 2 - Phased Regional Wastewater Reclamation Facilities, Review and Approval Process
- TM 3 - Phased Water Reclamation Facility Design and Construction Guidelines
- TM 4 - Software Selection
- TM 5 - Infrastructure Performance and Design Criteria

Drafts of these Technical Memoranda are available for review at the CAAG and City offices.

Figure 1 shows the location of the City of Eloy relative to the adjacent communities and Figure 3 shows the proposed DMA area along with the recently adopted General Planning area.

2.0 PROJECT DESCRIPTION

2.1 Overview

Wastewater has been adequately treated at the existing City site for many years. The existing wastewater treatment plant (WWTP) capacity is currently rated at 2.0 mgd AADF with the flows in 2005 averaging 0.74 mgd, or 37 percent of current capacity.

The existing sub-basin for the WWTP is approximately 38 square miles. The population projections for the WWTP sub-basin area result in a potential wastewater flow of 10.4 mgd AADF by buildout. To accommodate this growth, the existing WWTP must be expanded.

Together with the projected flow to the existing WWTP, the City has experienced tremendous interest from developers about growth in the balance of the existing planning area. With this interest, the City decided it needed a broader look at the whole question of growth in the existing planning area and outside the existing planning area.

2.2 Planned Developments

To identify the new planning area, Eloy identified all of the known planned developments in the surrounding area. These planned developments are shown on Figure 2. Based on the location of these developments, a revised City Planning Area was identified. The existing Planning Area covers approximately 97 square miles, of which approximately 6 square miles are currently developed. This proposed Planning Area covers an area of approximately 158 square miles.

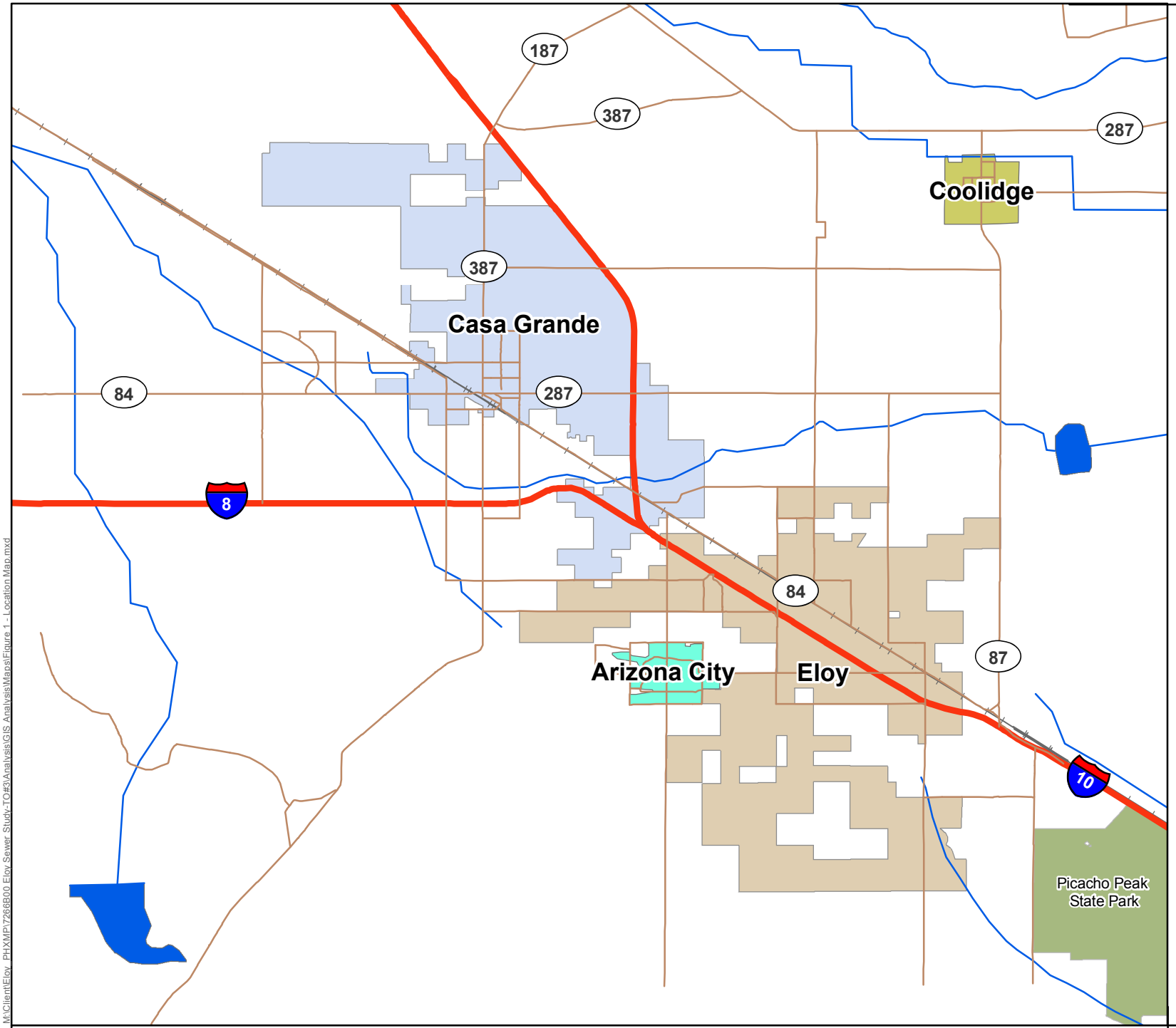
2.3 Proposed DMA Area

Figure 3 shows the existing DMA boundary. It also shows the proposed DMA Area and the recently adopted City General Planning area.

The revised DMA area covers an area of approximately 158 square miles and lies within the adopted General Planning area. As configured, there are no overlaps with any of the adjacent jurisdictions. These include the Arizona City Sanitary District to the west, Picacho Sewer Company to the north, and the City of Casa Grande to the north and northwest.

A description of the proposed DMA area is contained in Appendix B. The proposed DMA area was provided by Pinal County via a map dated December 13, 2006.

Figure 4 shows the adjacent planning areas: Arizona City Sanitary District, City of Casa Grande, City of Coolidge, and Picacho Sewer Company.



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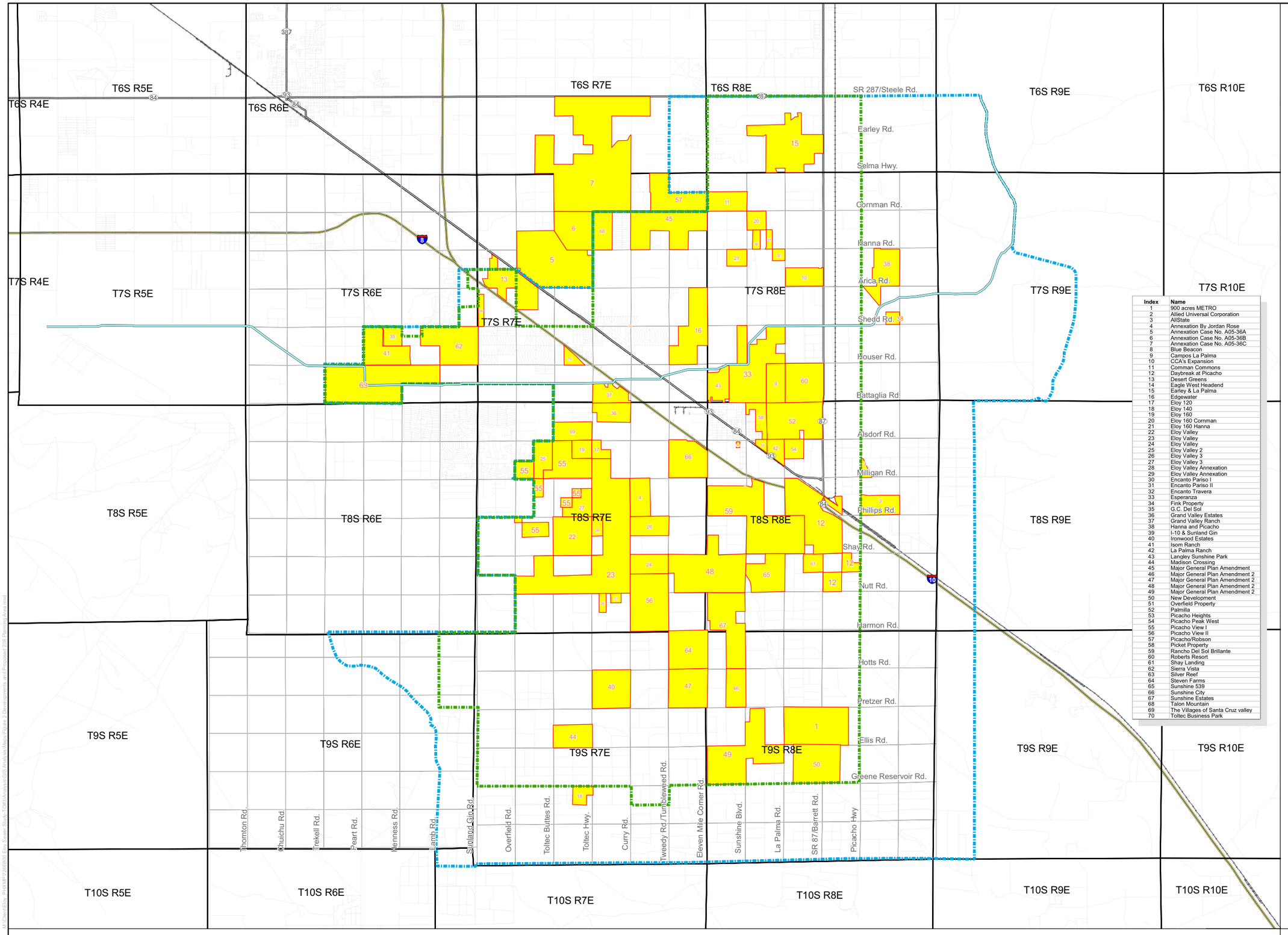
M:\Client\Eloy_PHXMP\7266B00 Eloy Sewer Study-TO#3\Analysis\GIS Analysis\Maps\Figure 1 - Location Map.mxd

Location Map

Figure 1



Index	Name
1	900 acres METRO
2	Allied Universal Corporation
3	AllState
4	Annexation By Jordan Rose
5	Annexation Case No. A05-36A
6	Annexation Case No. A05-36B
7	Annexation Case No. A05-36C
8	Blue Beacon
9	Campos La Palma
10	CCA's Expansion
11	Comman Commons
12	Daybreak at Picacho
13	Desert Greens
14	Eagle West Headend
15	Earley & La Palma
16	Edgewater
17	Eloy 120
18	Eloy 140
19	Eloy 160
20	Eloy 160 Cornman
21	Eloy 160 Hanna
22	Eloy Valley
23	Eloy Valley
24	Eloy Valley
25	Eloy Valley 2
26	Eloy Valley 3
27	Eloy Valley 3
28	Eloy Valley Annexation
29	Eloy Valley Annexation
30	Encanto Pariso I
31	Encanto Pariso II
32	Encanto Travera
33	Esperanza
34	Fink Property
35	G.C. Del Sol
36	Grand Valley Estates
37	Grand Valley Ranch
38	Hanna and Picacho
39	I-10 & Sunland Gin
40	Ironwood Estates
41	Isom Ranch
42	La Palma Ranch
43	Langley Sunshine Park
44	Madison Crossing
45	Major General Plan Amendment
46	Major General Plan Amendment 2
47	Major General Plan Amendment 2
48	Major General Plan Amendment 2
49	Major General Plan Amendment 2
50	New Development
51	Overfield Property
52	Palmilla
53	Picacho Heights
54	Picacho Peak West
55	Picacho View I
56	Picacho View II
57	Picacho/Robson
58	Picket Property
59	Rancho Del Sol Brillante
60	Roberts Resort
61	Shay Landing
62	Sierra Vista
63	Silver Reef
64	Steven Farms
65	Sunshine 539
66	Sunshine City
67	Sunshine Estates
68	Talon Mountain
69	The Villages of Santa Cruz valley
70	Toltec Business Park

[1] Eloy Proposed DMA boundary provided by Pinal County 12/13/06

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Developments, City Planning Area, and Proposed DMA Area

Figure 2

T6S R4E
T6S R5E
T6S R6E
T6S R7E
T6S R8E
T6S R9E
T6S R10E
T7S R4E
T7S R5E
T7S R6E
T7S R7E
T7S R8E
T7S R9E
T7S R10E
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T9S R9E
T9S R10E
T10S R5E
T10S R6E
T10S R7E
T10S R8E
T10S R9E
T10S R10E

SR 287/Steele Rd.
Earley Rd.
Selma Hwy.
Cornman Rd.
Hanna Rd.
Arica Rd.
Sheed Rd.
Houser Rd.
Battaglia Rd.
Alsdorf Rd.
Milligan Rd.
Phillips Rd.
Shay Rd.
Nutt Rd.
Harmon Rd.
Hotts Rd.
Pretzer Rd.
Ellis Rd.
Greene Reservoir Rd.

Thornton Rd.
Ghulichu Rd.
Trekell Rd.
Peart Rd.
Henness Rd.
Lamb Rd.
Sunland Gin Rd.
Overfield Rd.
Toltec Buttes Rd.
Toltec Hwy.
Curry Rd.
Tweedy Rd./Tumbleweed Rd.
Eleven Mile Corner Rd.
Sunshine Blvd.
La Palma Rd.
SR 87/Barrett Rd.
Picacho Hwy

N

Miles
0 0.5 1 2

Interstate
State Highway
Streets
Railroad
Canal
Sections
Township & Range
Eloy Existing DMA
Eloy Planning Area
Eloy Proposed DMA[1]

[1]Eloy Proposed DMA boundary provided by Pinal County 12/13/06

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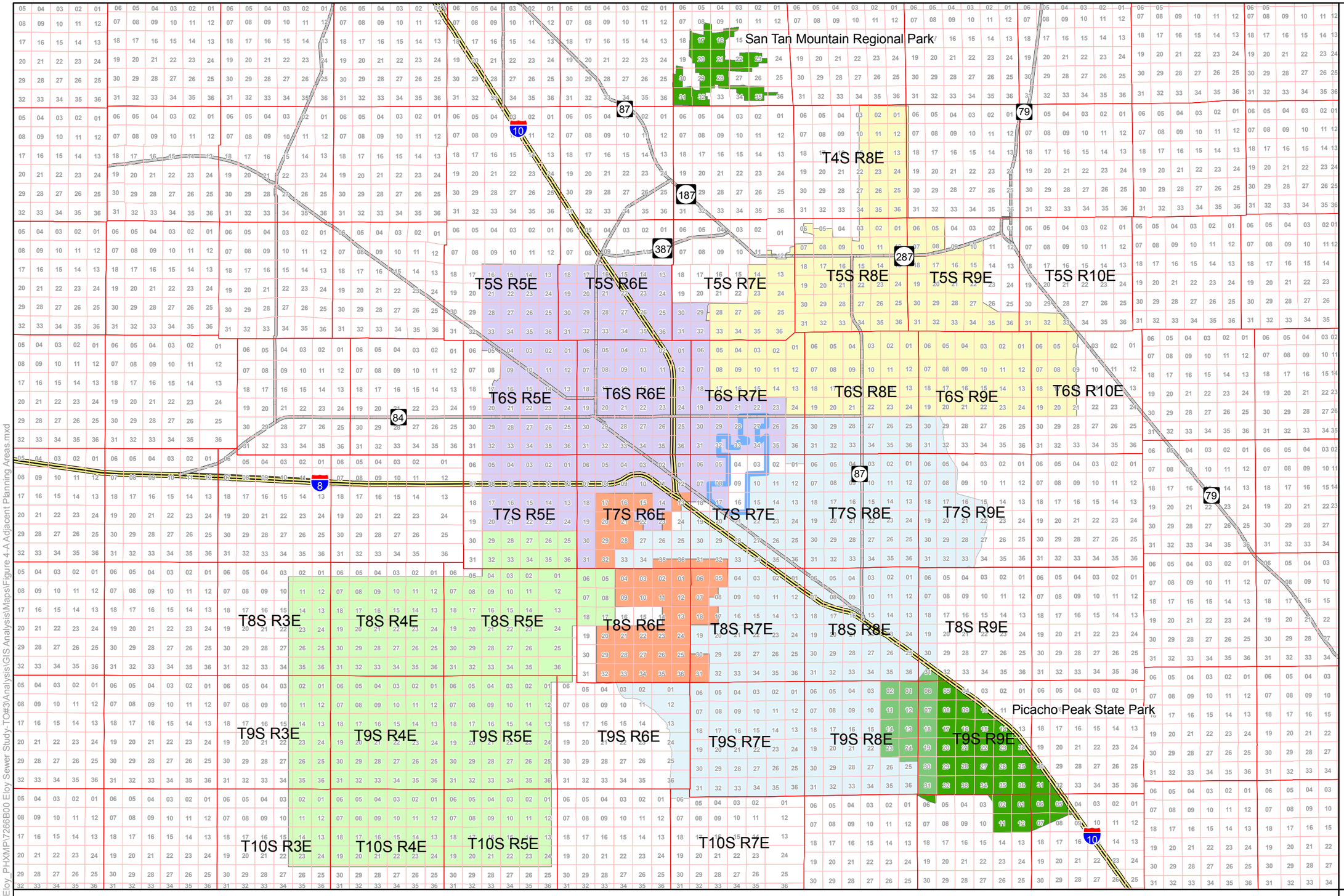
M:\Client\Eloy_PHXMP\72686\800 Eloy Sewer Study-TO6\Analysis\GIS Analysis\Maps\Figure 3 Existing and Proposed 208 Planning and DMA Areas.mxd

Existing and Proposed DMA Areas

Figure 3



ELOY, ARIZONA

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0 2.5 5

- Arizona City DMA
- Picacho Sewer (2005)
- Casa Grande Planning Area
- Coolidge 208 Planning Boundary
- Eloy Proposed 208 Planning Area
- Tohono O'Odham Nation
- Parks
- Sections
- Interstate
- Street
- Township & Range

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M:\Client\Eloy_PHXMP\7266B00 Eloy Sewer Study-TO#3\Analysis\GIS Analysis\Maps\Figure 4-A Adjacent Planning Areas.mxd

Adjacent Planning Areas

Figure 4

2.4 Wastewater Sub-Basins

Given the size of the proposed Eloy DMA Area, topography, and infrastructure boundaries (such as Interstate 10, State Highway 84, Santa Rosa Canal, railroad, etc.), it has been determined that a multi-plant regional water reclamation system (as opposed to one large centralized treatment facility) would be a more effective means of treating and reusing wastewater within the planning area. Figure 5 shows the proposed DMA divided into nine (9) sub-basin areas -- the existing plant sub-basin and eight (8) new sub-basin areas. These areas were identified based on the topography, developer's plans, and physical boundaries such as roads, railroads, etc. Also shown on Figure 5 are the proposed locations of the water reclamation facilities which will serve each of the sub-basin areas.

Wastewater services will continue to be provided by the Arizona City Sanitary District and the Picacho Sewer Company within their respective service areas, which are outside the proposed City of Eloy DMA. However, an intergovernmental agreement (IGA) is under consideration between Arizona City Sanitary District and the City of Eloy. This IGA would allow wastewater from one jurisdiction to be treated by another when conditions permit.

3.0 DESIGNATED MANAGEMENT AGENCY

The City of Eloy became a Designated Management Agency (DMA) in 1998. Since then it has been carrying out the functions of a DMA, including WWTP upgrades and associated permitting and water quality planning. Included in Appendix B is a description of the proposed DMA boundary.

3.1 Sewer Master Planning

3.1.1 Existing System

The Wastewater Management Plan being developed by the City is only looking at the broad picture of how the area should develop. It will take more detailed engineering and financial plans to define exactly how the broad plans should be implemented. Some of the planning efforts the City needs to complete include:

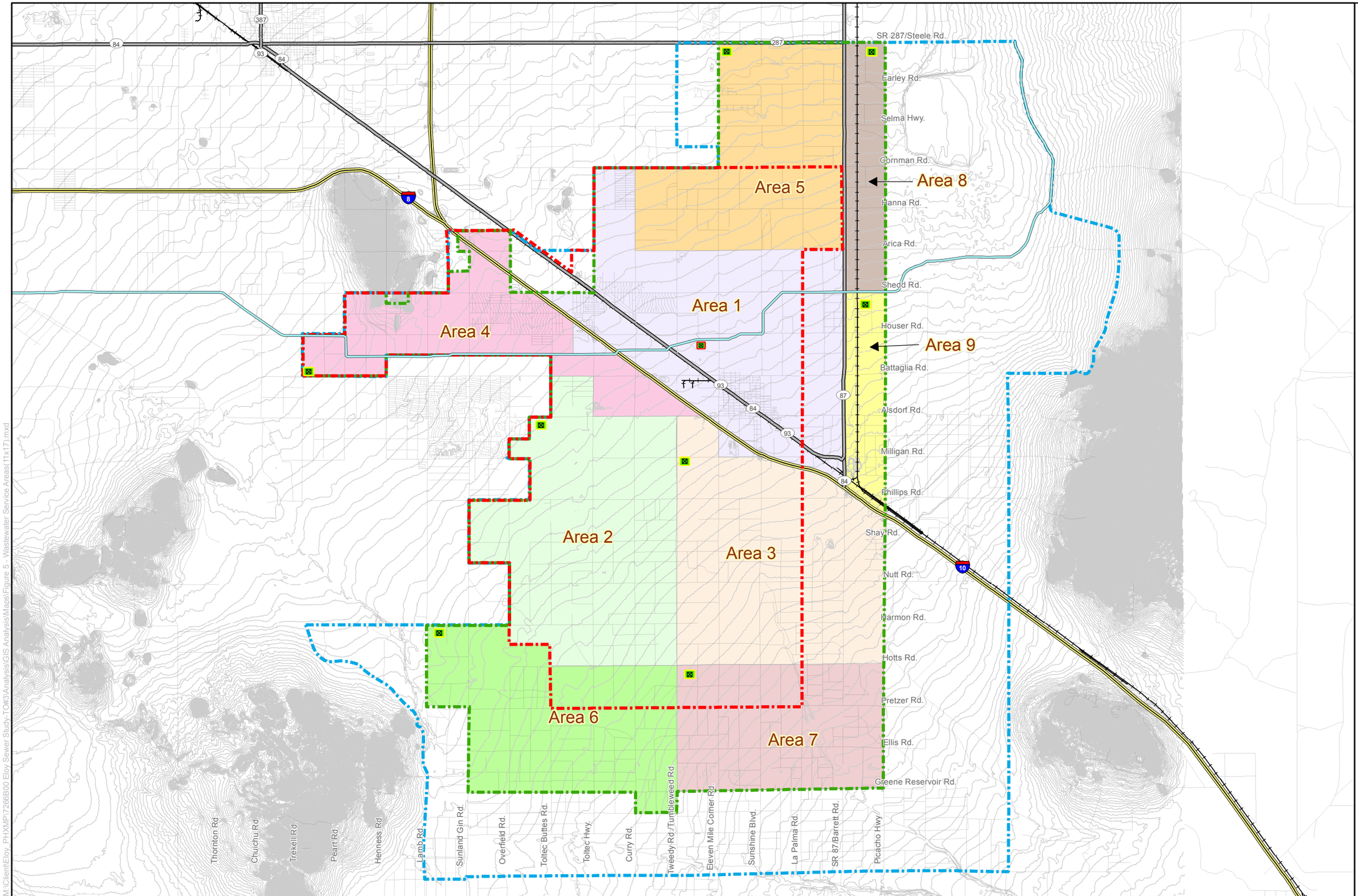
1. Existing WWTP Facility Plan

   Update population projections for the 5- to 20-year planning period with more accurate data developed by DES and CAAG, to be published by CAAG & DES in late 2006 or early 2007.

   Complete preliminary design for Phase 1 expansion.

   Refine cost estimates.

   Refine Permitting and Construction Schedule.



[1] Eloy Proposed DMA boundary provided by Pinal County 12/13/06

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M:\Client\Eloy_PHXMP\72866B00 Eloy Sewer Study-TO#3\Analysis\GIS Analysis\Maps\Figure 5 - Wastewater Service Areas(11x17).mxd

Water Reclamation Facility (WRF) Sub-Basins

Figure 5

2. Evaluate Existing Collection System

Identify Data Deficiencies:

Data Collection

System Analysis

Identify System Deficiencies

Identify System Improvements

Develop Cost Estimates

Develop Phasing Plan for Improvements

3. WRF Facility Plans

Review projected land use and population projections.

Review developer trends and interest.

Develop alternative collection and treatment options.

Evaluate collection and treatment options.

Identify implementation options.

Develop cost estimates.

Identify and evaluate phasing options.

4. Financing Plan

Identify future capital and O&M costs.

Evaluate existing rate and development fund structure to meet future costs.

Identify financing options.

Evaluate financing options.

Develop financing plan.

3.1.2 Future Water Reclamation Systems

Overall Concept

The overall approach adopted by the City relative to the construction of Regional WRFs is as follows:

- Permanent small, less than 2.0 mgd, treatment plants will not be permitted in the City planning area.
- Multiple WRFs will not be allowed in a wastewater sub-basin area.
- All WRFs will conform to standard City design and construction guidelines.
- The City will ultimately own and operate the plants.

The Phased Regional WRF shall be defined as a wastewater reclamation facility that will be expanded over several phases as the developments within its sub-basin area are constructed. The initial phase will be constructed by the developer(s) within the sub-basin area in order to expedite the construction of these facilities, to provide timely sewer service to these developments, and to promote growth outside the existing City sewer collection system. The Regional WRFs will be planned with the goal of beneficial reuse of reclaimed water. As such, the WRFs will likely be located near reclamation opportunities and will (in contrast to typical wastewater treatment plants) not necessarily be located at the geographic low point of the sewer sub-basin area. Land for the Regional WRF will be provided by the sub-basin area developers.

The development of the proposed Phased Regional WRF Review and Approval Process requires some initial assumptions regarding the WRFs, including the following:

1. Regional WRFs will only be considered within the sub-basin areas established by the City.
2. Each Regional WRF will be constructed by the developer as the initial phase of the permanent Regional WRF.
3. Each Regional WRF will be constructed at a location advantageous to water reclamation.
4. Adequate space will be provided to accommodate future expansion of each Regional WRF to serve its designated region. The initial phase shall be planned to accommodate future expansions to buildout at the designated site.
5. The initial phase of each Regional WRF must have the capability to meet all required effluent water quality standards as stated in the Arizona Administrative Code (A.A.C.). In addition, each WRF will not discharge to any waters of the U.S. (thereby requiring an NPDES permit).
6. Once built, each Regional WRF will be owned and operated by the City.

Review and Approval Process

The process for review and approval of the initial phase of each Regional WRF is as follows:

1. Developer meets with City to discuss the project and City requirements.
2. Developer submits phased Regional WRF Data Sheet to City.
3. City reviews phased Regional WRF Data Sheet, and approves or disapproves initial phase request based on the review criteria.
4. City sends a concept approval letter to developer.
5. If City approves the initial phased Regional WRF concept, the Developer will submit a phased Regional WRF Engineering Report to City.

6. City reviews Engineering Report.
7. Upon acceptance of the Engineering Report, the developer can proceed in obtaining the necessary Approval to Construct and APP permits from ADEQ. The developer shall provide copies of the ADEQ permitting submittals to the City.
8. Developer submits intermediate (approximately 60-percent completion stage) design drawings and specifications for City review and comment.
9. Upon City approval of the intermediate design submittal, the developer submits Final (100-percent completion stage) design drawings and specifications for final City comment and approval.
10. Upon acceptance of the final design drawings and specifications, the City will issue a Regional WRF Construction Permit.

Design and Construction Guidelines

These guidelines were assembled so that any WRF constructed in the City's planning area would meet City requirements and allow the City the maximum level of control in the review and approval process. The type of items included in the guidelines are:

- Effluent quality
- Design flows
- Site requirements
- Acceptable treatment processes
- Odor and noise control
- Utility and standby power
- Instrumentation, controls, and alarm telemetry
- Construction requirements
- O&M manual
- Warranties, insurance, and guarantees
- Spare parts
- Testing and acceptance

Other Guidelines and Requirements

Over and above the specific "how to" guidelines that the WRF developers must follow, there are other guidelines that must be adhered to. These include the City of Eloy Pretreatment requirements, Air Quality permits, ADEQ BADCT requirements and Aquifer Protection Permits (APPs), ADWR recharge, and reclaimed water permits/agreements.

3.2 Authority to Carry Out DMA Functions

The City, being an Arizona Municipal Corporation, has the authority under A.R.S. Section 9-240 to construct and maintain sewers, to appropriate money for payment of expenses, and to perform the other municipal functions identified in the statute. The City also has the authority, under A.R.S. Section 241, to purchase or lease real property within or outside the municipal boundaries. This authority also includes the ability of the City to acquire, through condemnation, such properties as is necessary for the operation of a municipal utility, e.g., wastewater treatment plant, within or outside the City limits. A.R.S Section 2-244 allows the City to levy taxes for the administration of the City.

3.3 Financial Solvency

The City of Eloy is a legally incorporated city in the State of Arizona. Therefore, it has all of the legal rights to administer and fund water quality management by:

- Raising revenues through taxes
- Accepting grants or other funding
- Incurring long or short term debt

The 2007 City budget for the Sewer Fund is $1.195 million.

The next major expansion of the WWTP will likely be funded by selling bonds, which will be redeemed by a combination of user fees and new development fees. Smaller short-term expansions of the existing WWTP may be funded by impact fees and/or contributions from individual developers.

A copy of the City's Wastewater Division budget is included in Appendix C.

3.4 Administrative and Technical Competency

The wastewater and water quality functions for the City are administered by the Water and Wastewater Division as part of the Public Works Department. These functions include operating and maintaining the sewage collection and treatment system, applying for and providing annual reports for state operating and discharge permits, and implementing the City's industrial pretreatment program, including establishing sewer discharge standards. The City is also in the process of completing the initial phases of a Wastewater Management Plan.

The current staffing in the Division is 14, and 13 have some level of state certification for collection systems, water distribution, water treatment and wastewater treatment. A copy of the Division organization chart is included in Appendix D.

A copy of the City's pretreatment program is included in Appendix E.

3.5 Political Accountability

The City of Eloy DMA was established in 1998 with a self-certification letter. Since that time, the DMA has been, and will continue to be, governed by the elected City Council.

Municipalities adjacent to the City of Eloy include Casa Grande and Coolidge. Other political entities around Eloy include:

- Arizona City Sanitary District, a County public improvement district and also a DMA;
- Picacho Sewer Company, a private sewer company; and
- The Tohono O'odham Nation.

In addition to these neighbors, land adjacent to the City of Eloy is unincorporated land within Pinal County, such as the land to the south and east of the City.

Figure 4 shows the location of these adjacent entities.

It should be noted that the Eloy DMA area has been identified and approved by Pinal County.

Letters of support can be found in Appendix F.

4.0 WASTEWATER CHARACTERIZATION

4.1 Population

Draft population projections for Census County Divisions (CCDs) in Pinal County were obtained from CAAG. The projections were draft POPTAC (Population Technical Advisory Committee) numbers, dated December 1, 2006. For the Eloy CCD, the projected population in year 2055 is 109,314. As described in subsequent paragraphs, the estimated wastewater flows for Eloy were developed based on planned land uses and corresponding unit flows per land use category. The land use-based buildout population projection for the proposed Eloy DMA area is 628,500. The land use projections are thought to be more comprehensive and relevant to wastewater planning. Therefore, the land use-based projections were used in lieu of the POPTAC estimates.

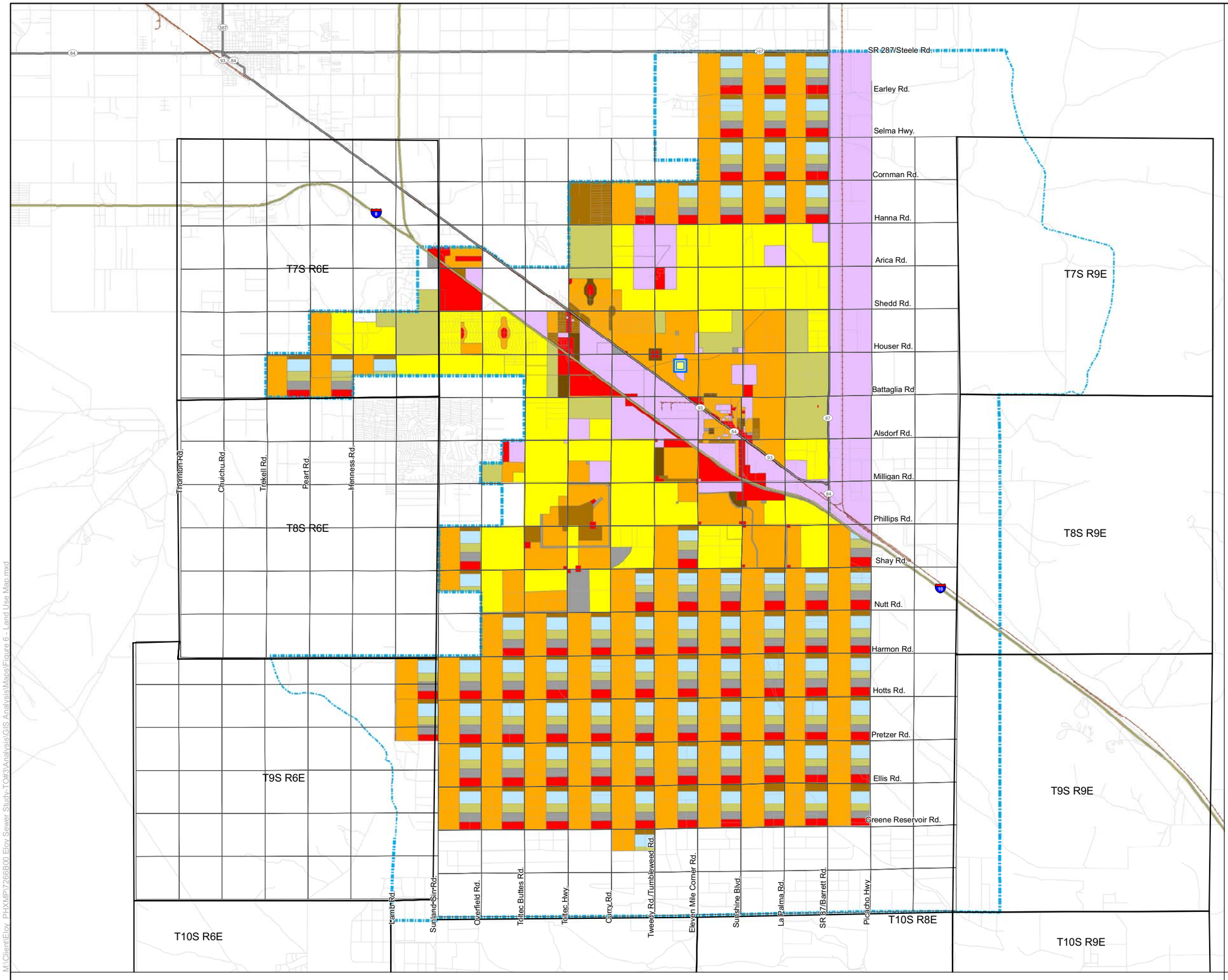
4.2 Existing and Future Land Use Plans

The City of Eloy's general plan identifies the land uses in the existing planning area, as shown on Figure 6. Categories of the different land uses utilized in the plan are shown in Table 1.

Table 1 Land Use Classifications CAAG 208 WQMP Amendment City of Eloy	
Land Use Category	**Dwelling Density (DU/AC)[(1)]**
High Density Residential	14
Medium High Density Residential	10
Medium Density Residential	4
Low Density Residential	1
Rural Residential	0.5
Commercial	-
Industrial	-
Public/Institutional	-
Other	-
(1) Dwelling unit per acre.	

The proposed DMA area does not yet have a defined land use plan. That land use plan is currently being developed by the City; however, it may not be formally adopted for several months. To assist in the estimation of future wastewater flows from the proposed DMA area, some form of land use planning is required. To this end, the City identified known developments (see Figure 2), and for the balance of the area, a "typical" square mile of land uses was developed. The "typical" land use was used for the proposed planning areas and portions of the existing planning area that lack specific land use designations. This "typical" land use plan for the revised planning area is shown on Figure 6. Table 2 shows a summary of the estimated buildout acreage.

Table 2 Summary of Developed Acres CAAG 208 WQMP Amendment City of Eloy	
Land Use Category	**Developed Acres Buildout**
High Density Residential	420
Medium High Density Residential	47,253
Medium Density Residential	5,345
Low Density Residential	13,245
Rural Residential	24,272
Commercial	10,477
Industrial	8,658
Public/Institutional	1,396
Other	10,382



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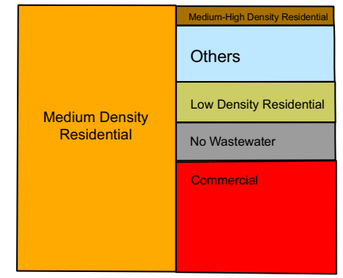
Typical Square Mile Breakdown:



Existing Wastewater Treatment Plant
Streets
Interstate
State Highway
Railroad
Sections
Township & Range
Eloy Planning Area

Land Use

Rural Residential (0.5 DU/AC)
Low Density Residential (1 DU/AC)
Medium Density Residential (4 DU/AC)
Medium-High Density Residential (10 DU/AC)
High Density Residential (14 DU/AC)
Commercial
Institutional / Public / Industrial
Others
No Wastewater

Land Use Category	Area (Acres)	% of Square Mile
Low Density Residential	64	10
Medium Density Residential	320	50
Medium-High Density Residential	32	5
Others	96	15
Commercial	64	10
No Wastewater	64	10

The usage of of this information is for planning purposes only.

City of Eloy - CAAG 208 Water Quality Management Plan Amendment, April 2007

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M:\Client\Eloy_PHXMP\726600 Eloy Sewer Study-TO#3\Analysis\GIS Analysis\Maps\Figure 6 - Land Use Map.mxd

Land Use Plan

Figure 6

4.3 Unit Flows

The critical element in the design of a wastewater collection and treatment system is the amount of wastewater (gallons per day (gpd) or million gallons per day (mgd)), to be collected, transported, treated, and reused. In master planning, this flow is generally estimated from the land use, where each type of land use generates a particular volume of wastewater (gallons per acre per day, gpad). For residential land use, the land use classification defines the number of dwelling units per acre (DU/AC) (see Table 1), and the City Planning Department identifies the average number of persons per dwelling unit. In Eloy, this has been estimated as 3.0 persons per dwelling unit. This produces gallons per capita per day (gpcd). Table 3 shows the unit flows for the Eloy Wastewater Master Plan. Since no flow measurements have been made in Eloy, the unit flows used in the planning are typical for communities similar to Eloy.

Table 3 Summary of Wastewater Unit Flows
CAAG 208 WQMP Amendment
City of Eloy

Land Use Category	Unit Flows
High Density Residential	65 gpcd
Medium High Density Residential	65 gpcd
Medium Density Residential	65 gpcd
Low Density Residential	65 gpcd
Rural Residential	65 gpcd
Commercial	1,000 gpad
Industrial	1,000 gpad
Public/Institutional	500 gpad
Other	1,000 gpad

4.4 Buildout Flows

The total flow from the planning area for residential areas is calculated by multiplying the area (acres) by the housing density (DU/AC), by the estimated number of people per house (3), and by the unit flow (gpcd).

Residential flow = acres x DU/AC x 3.0 x 65 (gpcd)

For industrial and commercial land uses, the flow is estimated by multiplying the acres by the unit flow for the type of land use.

Industrial/Commercial flow = acres x unit flow (gpad)

Table 4 shows a summary of the projected buildout flow from the proposed DMA area.

Table 4 Summary of Projected Wastewater Flow
CAAG 208 WQMP Amendment
City of Eloy

Land Use Category	Estimated Acres	Estimated Population	Estimated Total Flow (mgd)
Rural Residential	17,885	26,828	1.74
Low Density Residential	9,403	28,209	1.83
Medium Density Residential	36,055	432,665	28.12
Medium-High Density Residential	4,108	123,230	8.01
High Density Residential	418	17,552	1.14
Commercial	7,249	--	7.25
Institutional/Public/Industrial	13,192	--	10.10
Others	7,106	--	7.11
No Wastewater Collection	5,789	--	0.00
Total	**101,205**	**628,484**	**65.31**

No flow measurements have been made in Eloy to verify these numbers. Verification of actual flow rates will be completed as part of detailed engineering for the proposed water reclamation facilities.

4.5 Wastewater Sub-Basin Area Flows

To better manage the future wastewater flows, the proposed planning area was divided into wastewater sub-basin areas. These areas were based on the natural topography (since it is generally advisable to let gravity help in the collection of wastewater); barriers such as railroads, canals, highways, and hills (which inhibit wastewater flow); existing collection systems; and known future developments. Figure 5 shows the proposed wastewater sub-basin areas for the proposed Eloy DMA area. Also shown on Figure 5 is the proposed location of future regional water reclamation facilities to serve each sub-basin. Table 5 lists (for each of the sub-basin areas) the acres by land use category, projected buildout population, and projected buildout flow.

Table 5 Future Wastewater Flows (by Sub-Basin Area) CAAG 208 WQMP Amendment City of Eloy			
Land Use Category	**Acres**	**Projected Population**	**Estimated Flow (mgd)**
Area 1			
Rural Residential	3,954	5,931	0.39
Low Density Residential	2,981	8,943	0.58
Medium Density Residential	5,123	61,480	4.00
Medium-High Density Residential	1,012	30,351	1.97
High Density Residential	199	8,375	0.54
Commercial	1,001	--	1.00
Institutional/Public/Industrial	3,801	--	1.90
Others	0	--	0.00
No Wastewater Collection	214	--	0.00
Area 1 Subtotal	**18,285**	**115,080**	**10.38**
Area 2			
Rural Residential	6,087	9,130	0.59
Low Density Residential	787	2,362	0.15
Medium Density Residential	5,642	67,705	4.40
Medium-High Density Residential	767	23,003	1.50
High Density Residential	0	0	0.00
Commercial	653	--	0.65
Institutional/Public/Industrial	280	--	0.14
Others	975	--	0.98
No Wastewater Collection	1,188	--	0.00
Area 2 Subtotal	**16,379**	**102,201**	**8.41**
Area 3			
Rural Residential	2,096	3,143	0.20
Low Density Residential	1,049	3,148	0.20
Medium Density Residential	7,575	90,897	5.91
Medium-High Density Residential	605	18,135	1.18
High Density Residential	138	5,787	0.38
Commercial	1,376	--	1.38
Institutional/Public/Industrial	192	--	0.10
Others	1,404	--	1.40
No Wastewater Collection	1,220	--	0.00
Area 3 Subtotal	**15,654**	**121,111**	**10.75**

Table 5 Future Wastewater Flows (by Sub-Basin Area) CAAG 208 WQMP Amendment City of Eloy			
Land Use Category	**Acres**	**Projected Population**	**Estimated Flow (mgd)**
Area 4			
Rural Residential	3,437	5,155	0.34
Low Density Residential	1,512	4,536	0.29
Medium Density Residential	1,660	19,921	1.29
Medium-High Density Residential	137	4,099	0.27
High Density Residential	81	3,389	0.22
Commercial	1,123	--	1.12
Institutional/Public/Industrial	990	--	0.50
Others	294	--	0.29
No Wastewater Collection	234	--	0.00
Area 4 Subtotal	**9,467**	**37,100**	**4.32(1)**
Area 5			
Rural Residential	2,312	3,469	0.23
Low Density Residential	972	2,917	0.19
Medium Density Residential	4,510	54,116	3.52
Medium-High Density Residential	469	14,067	0.91
High Density Residential	0	0	0.00
Commercial	990	--	0.99
Institutional/Public/Industrial	901	--	0.45
Others	1,321	--	1.32
No Wastewater Collection	836	--	0.00
Area 5 Subtotal	**12,311**	**74,568**	**7.61**
Area 6			
Rural Residential	0	0	0.00
Low Density Residential	1,204	3,613	0.23
Medium Density Residential	6,507	78,084	5.08
Medium-High Density Residential	539	16,170	1.05
High Density Residential	0	0	0.00
Commercial	1,247	--	1.25
Institutional/Public/Industrial	11	--	0.01
Others	1,693	--	1.69
No Wastewater Collection	1,243	--	0.00
Area 6 Subtotal	**12,444**	**97,866**	**9.31**
(1) Area 4 WRF capacity will be 10.0 mgd based on IGA with Arizona City Sanitary District.			

Table 5 Future Wastewater Flows (by Sub-Basin Area) CAAG 208 WQMP Amendment City of Eloy			
Land Use Category	**Acres**	**Projected Population**	**Estimated Flow (mgd)**
Area 7			
Rural Residential	0	0	0.00
Low Density Residential	897	2,690	0.17
Medium Density Residential	5,038	60,461	3.93
Medium-High Density Residential	580	17,405	1.13
High Density Residential	0	0	0.00
Commercial	860	--	0.86
Institutional/Public/Industrial	0	--	0.00
Others	1,418	--	1.42
No Wastewater Collection	855	--	0.00
Area 7 Subtotal	**9,649**	**80,557**	**7.51**
Area 8			
Rural Residential	0	0	0.00
Low Density Residential	0	0	0.00
Medium Density Residential	0	0	0.00
Medium-High Density Residential	0	0	0.00
High Density Residential	0	0	0.00
Commercial	0	--	0.00
Industrial	3,819	--	3.82
Others	0	--	0.00
No Wastewater Collection	0	--	0.00
Area 8 Subtotal	**3,819**	**0**	**3.82**
Area 9			
Rural Residential	0	0	0.00
Low Density Residential	0	0	0.00
Medium Density Residential	0	0	0.00
Medium-High Density Residential	0	0	0.00
High Density Residential	0	0	0.00
Commercial	0	--	0.00
Industrial	3,198	--	3.20
Others	0	--	0.00
No Wastewater Collection	0	--	0.00
Area 9 Subtotal	**3,198**	**0**	**3.20**

One of the areas being considered for inclusion in the Eloy/Arizona City Sanitary District IGA is Area 4. The projected City flow for Area 4 is 4.32 mgd. The Arizona City Sanitary District currently projects a potential future flow of up to 6.0 mgd to Area 4. This could result in a total flow of approximately 10.0 mgd in Area 4.

4.6 Future Flow Phasing

The previous tables identified the projected buildout flows for the DMA area and wastewater sub-basins. However, a major question is how the DMA and wastewater sub-basins will develop over the next 20 years. To develop some estimate of the 10 to 20 year future flows, projections were made as to possible starting and buildout dates for the known developments in the Planning area (Figure 2). For the areas with no defined developments, an assessment was made that 25 percent of the area would start development by 2020.

Table 6 shows the estimated projected population and flow from the wastewater sub-basins through 2030. Also shown in the table is the projected buildout population and wastewater flows for the DMA area.

5.0 WASTEWATER TREATMENT FACILITIES

5.1 Existing Plant

A wastewater facility has been located at the existing 51.6 acre site for many years and currently serves the 38.7 square mile Wastewater Sub-Basin Area No. 1. Before the current facility was constructed at the site, it had four aerated lagoons with four recharge basins. In 1998, the facility was upgraded to include the following:

- Influent pump station
- Static screens (4 units)
- Extended aeration biological process for nitrogen removal (Biolac®) (2 basins)
- Integrated secondary clarifiers (4 clarifiers)
- Effluent storage pond
- Effluent recharge basins (3 basins)

The plant also has a chlorine contact chamber, a bulk hypochlorite storage tank, and an effluent pump. However, the disinfection and effluent pumping systems are not currently used since agriculture irrigation is no longer an acceptable disposal option and the reuse permit has lapsed.

Table 6 Land Use Based Population/Flow Projections (by Sub-Basin)
CAAG 208 WQMP Amendment
City of Eloy

	2005		2010[1]		2020		2030		Buildout	
Year	Population	Flow (mgd)	Population	Flow (mgd)	Population	Flow (mgd)	Population	Flow (mgd)	Population	Flow (mgd)
Sub-Basin 1	10,375	0.74	44,347	4.0	77,607	7.0	115,080	10.38	115,080	10.38
Sub-Basin 2	0	0	0	0	35,770	2.10	95,047	6.48	102,201	8.41
Sub-Basin 3	0	0	0	0	42,389	2.69	112,633	8.28	121,111	10.75
Sub-Basin 4	0	0	0	0	12,285	1.08	34,503	3.33	37,100	4.32
Sub-Basin 5	0	0	0	0	26,099	1.90	69,348	5.86	74,568	7.61
Sub-Basin 6	0	0	0	0	34,253	2.33	91,015	7.17	97,866	9.31
Sub-Basin 7	0	0	0	0	30,137	1.88	74,020	5.78	80,557	7.51
Sub-Basin 8[2]	0	0	0	0	0	0.96	0	2.94	0	3.82
Sub-Basin 9[2]	0	0	0	0	0	1.06	0	2.58	0	3.20
Totals	**10,375**	**0.74**	**44,347**	**4.0**	**258,540**	**21.0**	**591,647**	**52.8**	**628,484**	**65.31**

Notes:

(1) Although some of the new WRFs may start with initial flows in the 2010 timeframe, they are shown beyond 2010 for planning level estimates.

(2) Sub-Basins 8 and 9 include only commercial/industrial flows, with zero population.

Treated effluent from the secondary clarifiers flows to the effluent storage pond and from there, it is directed to the recharge basins. The discharge to the basins is cycled between basins to allow for wet and dry cycles. The estimated recharge rate for the basins is approximately 1.2 acre-feet/acre/day, which was set at 0.6 acre-feet/acre/day for the design of the basins to account for the wet-dry cycling.

Solids from the treatment process are initially directed to a sludge holding pond, with the dried sludge sent to the City landfill for disposal. Figure 7 shows the layout of the existing plant.

The plant operates under an Aquifer Protection Permit (APP) No.101689, dated March 21, 2005. Table 7 shows the permit standards and the current plant effluent quality.

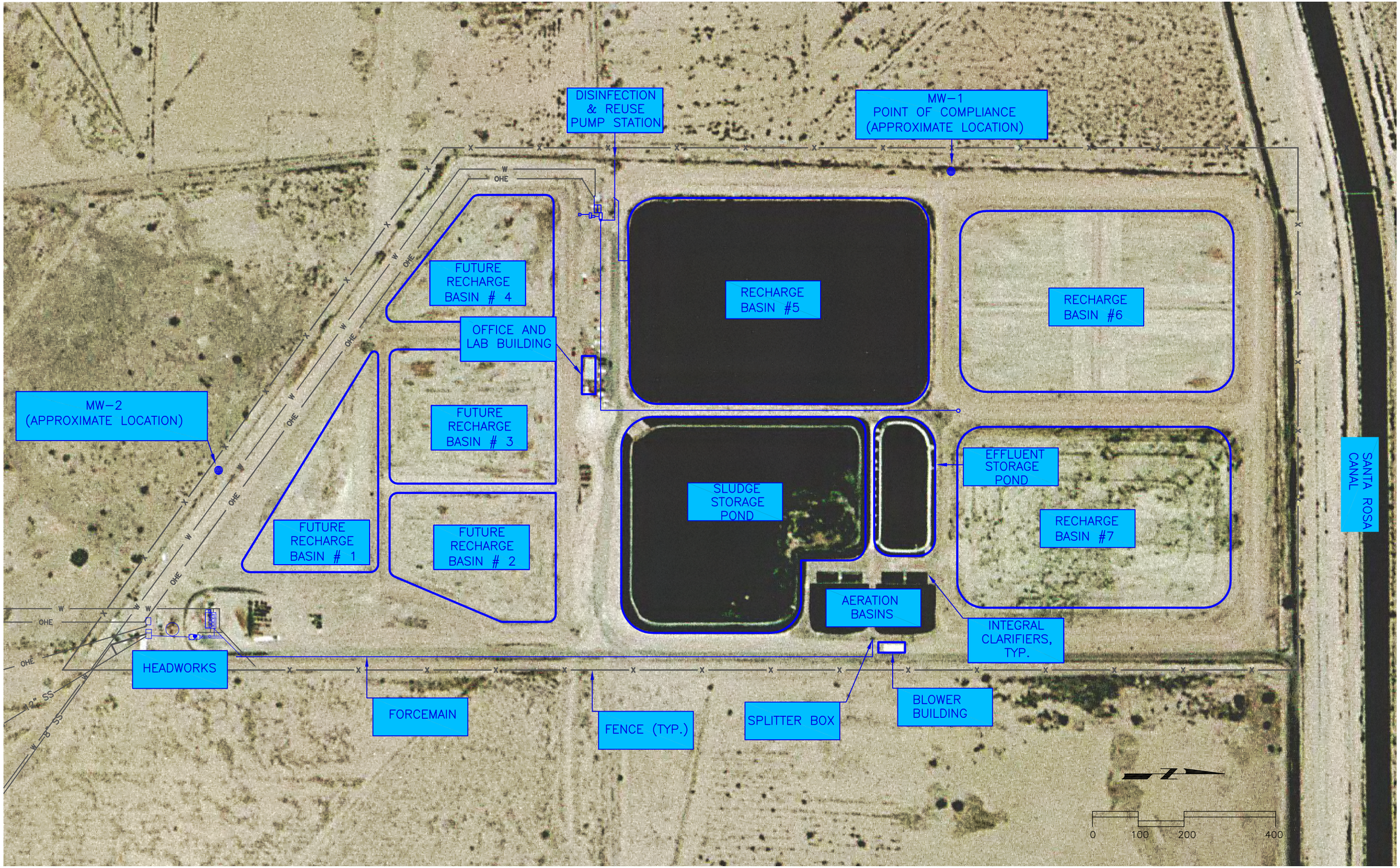
Table 7 Summary of WWTP and APP Parameters
CAAG 208 WQMP Amendment
City of Eloy

Parameter	Plant Effluent	APP Standard
Average Annual Flow, mgd	0.74	1.90
Maximum Discharge, mgd	0.89	2.0
Total Nitrogen, Average, mg/L	3.4	8.0
Total Nitrogen, Maximum, mg/L	4.2	10.0

In summary, the plant is currently operating at about 37 percent of its capacity of 2.0 mgd and is producing a well-treated effluent that meets all permit requirements. Also, with the low plant loading, the solids produced at the plant are well digested and dry easily for disposal. Figure 8 shows a schematic of the existing WWTP process.

5.1.1 Future Plant Flows and Alternatives

Based on the revised land use plan for Sub-Basin Area No. 1, the buildout population is expected to be about 125,000 with an average annual wastewater flow of 10.38 mgd (see Table 5). To adequately treat such a flow, the existing plant will have to be modified. Successfully expanding the existing plant from 2.0 mgd to its nominal buildout capacity of 10.5 mgd requires careful thought and the development of a long-term conceptual plan.



EXISTING WASTEWATER TREATMENT PLANT LAYOUT

Figure 7

City of Eloy, Arizona – CAAG 208 Water Quality Management Plan Amendment

April 2007

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EXISTING WWTP PROCESS SCHEMATIC

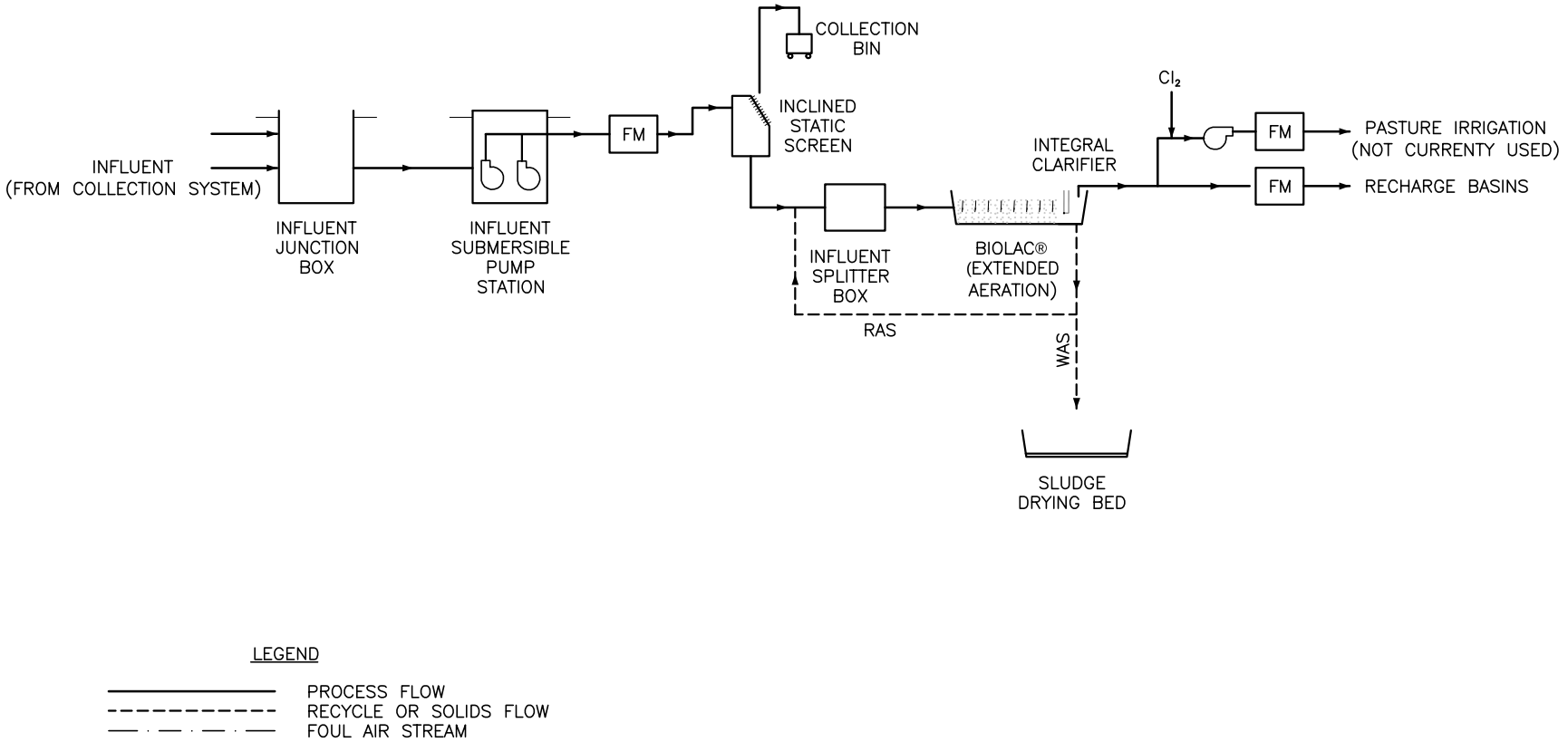

Figure 8

Some of the issues considered in the conceptual planning for the WWTP included:

- Short-term expansion versus buildout expansion needs
- Future setback requirements
- Good neighbor practices
- Unit process footprints
- Headworks
- Secondary treatment
- Solids handling and disposal
- Tertiary treatment for turbidity removal and disinfection
- Odor, noise, and aesthetic controls
- Effluent reuse and disposal requirements and options
- Project phasing

Some of the conclusions drawn from the WWTP analysis are:

- The plant expansion will likely be completed in three to four separate phases.
- The headworks will have to be replaced. The new headworks should contain an influent lift station, mechanically cleaned screens, grit removal (not required during initial expansion phase), and odor control.
- The Phase I Expansion may include a new headworks, adding one 2-mgd Biolac® unit with integral clarifiers, expanding and upgrading the existing disinfection system, and continuation with the present sludge treatment handling system.
- The Biolac® secondary treatment system should not be included in any expansion beyond 4.0 mgd. It is too land intensive and inefficient and as such, is generally not a suitable technology for larger treatment facilities.
- Expansion beyond 4.0 mgd should consider a more conventional secondary treatment process, with nitrogen removal. This will reduce the footprint of the plant. Another option is utilizing a membrane biological reactor (MBR) process, which has an even smaller footprint. However, MBR plants can be more expensive and more difficult to operate. When decisions are made for systems beyond the 4.0 mgd size, the MBR option should be revisited.
- Include external secondary clarifiers for expansion beyond 4.0 mgd.
- Build a new effluent pump station.
- Replace the existing chlorine disinfection system with ultraviolet light (UV) disinfection. This reduces the amount of hazardous materials on site as well as

reducing the formation of disinfection byproducts. However, the use of bulk hypochlorite is a practical alternative that may be continued.

- Add tertiary filtration to meet Class A+ if this effluent quality is required in the future. Cloth media disk filtration was identified as a viable and cost-efficient filtration process for consideration.
- For sludge handling in the larger plant, it is recommended that the waste sludge be thickened prior to digestion.
- Aerobic digestion should be used at the site to minimize odor production and aid in the process of producing a quality solids end product.
- The digested sludge should be dewatered prior to landfill disposal, unless land application sites are identified.

5.1.2 WWTP Project Phases

For planning purposes, the WWTP expansion is identified as a three-phased expansion. It is possible that minor expansions will take place in between each of the major expansion phases in order to upgrade or expand minor facilities. For example, Phase 1A may include only the headworks expansion and Phase 1B may include an expansion of the secondary and tertiary processes.

Phase 1

The first expansion is the short-term expansion, bringing the total capacity to 4 mgd AADF. The expansion would add the following:

Preliminary Treatment: New headworks facility, including two screen channels with one mechanically cleaned screen installed and one manually cleaned screen to serve as an emergency bypass. Odor control would be provided on the headspace in the screening channels. Construct a new influent lift station and piping to the aeration basin splitter structure. Designate areas for future grit removal, future third (and possibly fourth) screening channel, and a future Headworks Building (to enclose the screening channels and screening equipment).

Secondary Treatment: Install one 2-mgd Biolac® aeration basin and integral clarifiers. Expand or construct a new aeration basin splitter structure. Expand and upgrade the existing blower facility.

Tertiary Treatment: The existing disinfection system would be expanded to accommodate the expansion of the WWTP.

Solids Handling: The existing sludge storage basin could continue to be used for sludge management. However, depending upon the needs of the City, improvements may be made to the solids handling facilities during Phase 1.

Phase 2

The second expansion would bring the facility to a total capacity of 7 mgd AADF, along with the conversion from the proprietary extended aeration process to a more conventional process. In addition, offsite recharge or reuse will be required in order to dispose of the effluent. This phase would mark a major expansion for the WWTP.

Preliminary Treatment: A grit chamber would be added to the headworks facility. Additional pumps would be added to the lift station. A second mechanically cleaned screen would be added to replace the manually cleaned screen. A Headworks Building would be constructed over the screening area. Odor control would be expanded to accommodate the new Headworks Building. The existing static screens and unused primary clarifier structure would also be demolished.

Secondary Treatment: A 7 mgd conventional activated sludge process, with two equally-sized trains, and three external clarifiers would be constructed. A return activated sludge/waste activated sludge (RAS/WAS) pump station would also be constructed. After completion of the Phase 2 expansion, the Biolac® basins would be taken offline. A new Blower Building with climate control would be provided.

Tertiary Treatment: Disinfection would be expanded as necessary to match the increase in capacity. If necessary, disk filters could be added to provide greater effluent disposal flexibility. The effluent pump station would be expanded to enable offsite recharge and reuse. The tertiary equipment would be constructed in a sequential and common wall arrangement, as much as practical, to provide a more compact footprint.

Solids Handling: Aerobic digesters would be constructed (common wall with the aeration basins) along with a new RAS/WAS Building and a new Solids Handling Building. The existing sludge storage basin would be drained and decommissioned at the completion of Phase 2. These improvements may be completed as part of Phase 1.

Buildout

The third (and possibly fourth) phase(s) would bring the capacity of the WWTP to buildout at approximately 10.5 mgd AADF. The buildout facility is illustrated in Figure 9, followed by a process flow schematic presented in Figure 10. In addition, each phased expansion is summarized in Table 8.

Preliminary Treatment: Two additional screen channels and two mechanically cleaned screens would be added. A second grit chamber would also be added. Additional pumps would be added to the influent lift station. The Headworks Building would be expanded to accommodate the additional screening equipment.

Secondary Treatment: An additional 3.5 mgd activated sludge process would be constructed along with one additional external clarifier and blower. The additional biological basins would be common wall with the basins constructed under Phase 2, to provide a more compact footprint.

Tertiary Treatment: Additional filtration and disinfection equipment would be added. The effluent disposal pump station would be expanded with additional pumps.

Solids Handling: Additional aerobic digesters would be common wall constructed with the aeration basins. The solids handling equipment would be expanded to match the increase in the plant capacity.

Figure 9 also shows the expanded 10.5 mgd WWTP can be constructed on the existing site and still maintain the required 350 feet setback, assumed from the existing fence line.

5.1.3 Existing WWTP Effluent Reuse and Disposal

Currently, the WWTP recharges the effluent in three recharge basins and it is permitted to recharge up to 2.0 mgd of effluent. There are approximately 25 acres of land available for recharge at the existing WWTP. However, to recharge all of the estimated buildout flow of 10.5 mgd, approximately 60 acres will be required.

To provide maximum use of the reclaimed water, the City also wants to consider other reuse options. These include:

- Urban Lakes
- Riparian Habitat
- Open Access Landscape Irrigation

The City currently owns 80 acres of land to the north of the Santa Rosa Canal. This property could be used for recharge, riparian habitat, and/or a water conservation center. For the urban lakes, the City should coordinate with the developers to determine the size and best fit into the community.

To be able to use the plant effluent for uses other than recharge, the effluent quality of the plant will need to increase from its current Class B+ to Class A+ classification.

5.1.4 Solids Disposal

The solids from the existing plant are initially stored in the onsite sludge storage ponds. Once they have dried, they are removed and disposed of in the City's landfill, located near the intersection of Allsdorf and Toltec Roads. This disposal plan will most likely continue in the future, although the sludge processing capability will improve as the plant is expanded.

Table 8 contains a summary of the proposed expansion phases for the existing WWTP.

LEGEND:

- PHASE I
- PHASE II
- BUILD-OUT
- AB ANOXIC/AEROBIC BASINS
- AD AEROBIC DIGESTER
- AM ADMIN., MAINTENANCE & OPERATIONS BUILDING
- BE BLOWER & ELECTRICAL BUILDING
- FDR FILTER, DISINFECTION & REUSE PUMP STATION
- RW RAS/WAS PUMP STATION
- SC SECONDARY CLARIFIERS
- RB RECHARGE BASINS

350 FT. SETBACK

EXISTING FENCE (TYP)

0 100 200 400

BUILDOUT WATER RECLAMATION FACILITY LAYOUT (10.5 MGD, AADF)

Figure 9

208 Water Quality Management
City of Eloy, Arizona – CAAG 208
Plan Amendment
April 2007

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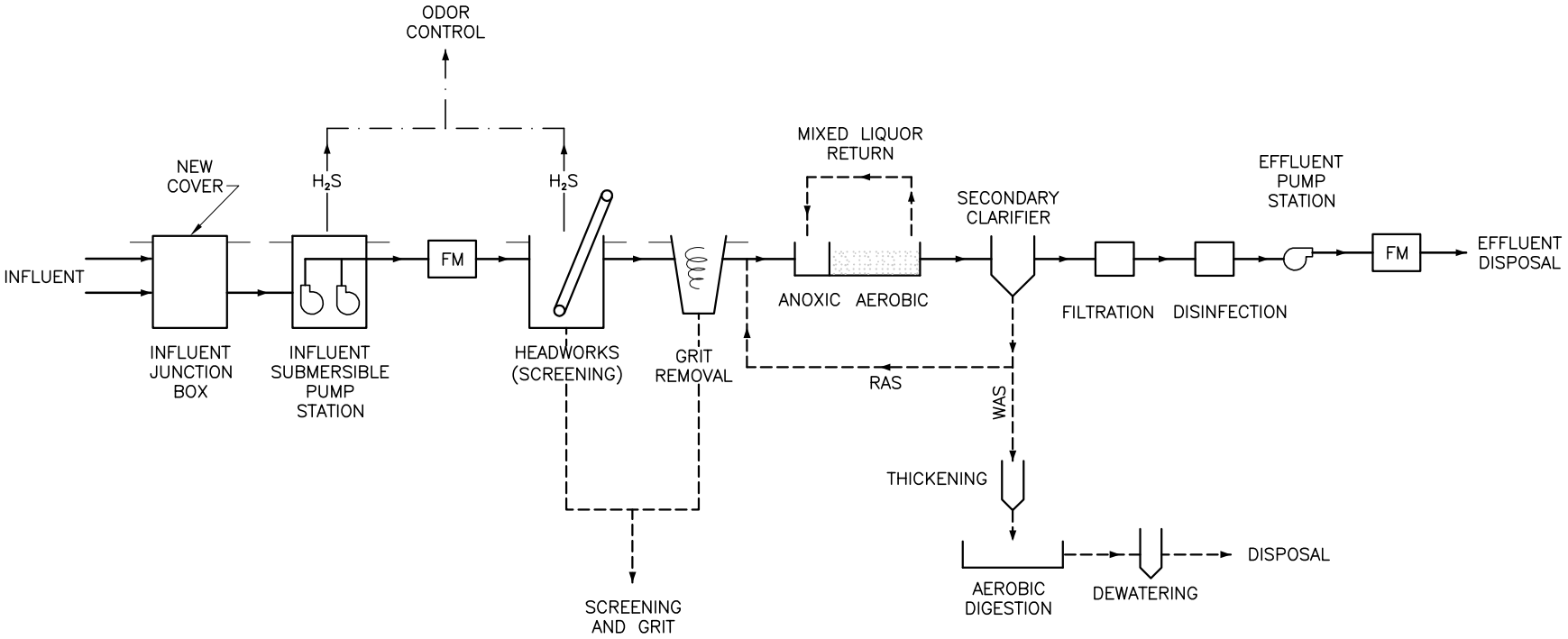
H:\Client\ELOY_PHXC\7266B00\TASK004\208.FIG-8 3-29-07 10:05am TPerez ; 1117-bdr.208 ;20060302085357.bmp;H:\CanonScans\CAD\1st Floor\20060302085357.tif;eloy_image.tif

BUILDOUT WATER RECLAMATION FACILITY
PROCESS SCHEMATIC



LEGEND

PROCESS FLOW
RECYCLE OR SOLIDS FLOW
FOUL AIR STREAM

ODOR CONTROL FOR SECONDARY TREATMENT PROCESS AND SOLIDS HANDLING NOT SHOWN, FOR CLARITY PURPOSES.

Figure 10

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City of Eloy, Arizona – CAAG 208 Water Quality Management Plan Amendment

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Table 8 Expansion Plan Matrix - Existing WWTP Evaluation and Expansion Plan
CAAG 208 WQMP Amendment
City of Eloy

	Existing WWTP	Phase 1 Expansion	Phase 2 Expansion	Buildout [1]
Annual Average Daily Flow (mgd AADF)	2	4	7	10.5
Average Day Max Month Flow (mgd ADMMF)	3 [2]	6 [2]	9.5 [3]	14.2 [3]
Preliminary Treatment				
Screening	Static Screens	One Mechanically Cleaned Screen One Manually Cleaned Screen	Add one Mechanically Cleaned to replace manually cleaned screen	Four Mechanically Cleaned Screens
Grit Removal	None	None	One Mechanical Vortex Grit Chamber	Two Mechanical Vortex Grit Chambers
Lift Station	Wet Pit (10' diameter)	New Wet or Dry Well Lift Station	Add Pumps	Wet or Dry Well Lift Station
Odor Control	None	Wet Chemical Scrubber or In-Ground Biofilter to treat channel headspace and Lift Station	Expand to include Headworks Building	Wet Chemical Scrubber or In-Ground Biofilter
Secondary Treatment				
Biological	Two 1 mgd Biolac®	Add 2 mgd Biolac®	Add 7 mgd AADF MLE process (two 3.5 mgd AADF trains)	10.5 mgd AADF MLE process (three 3.5 mgd AADF trains)
Clarification	Four Integral	Six Integral	Three External 110' Diameter Circular Clarifiers	Four External 110' Diameter Circular Clarifiers
RAS/WAS Pumping	Air Lift	Air Lift	Wet Pit Submersible Pump Station	Wet Pit Submersible Pump Station
Tertiary Treatment				
Disinfection	Bulk Hypochlorite (not used)	Bulk Hypochlorite or UV	Expand Disinfection	Bulk Hypochlorite or UV
Filtration	None	None	Option - Disk Filters	Option - Disk Filters
Effluent Disposal				
Effluent Disposal Pump Station	One pump (not used)	Same	New Vertical Turbine Pump Station	Vertical Turbine Pump Station
Required Recharge [4] Area (acres)	11.2	22.4	39.4	58.5

Table 8 Expansion Plan Matrix - Existing WWTP Evaluation and Expansion Plan
CAAG 208 WQMP Amendment
City of Eloy

	Existing WWTP	Phase 1 Expansion	Phase 2 Expansion	Buildout (1)
Max. Onsite Recharge Available (acres)	25.4	23.4	18.2	19.5
Offsite Recharge Required (acres) (5)	None	None	21.2	39.0
Solids Handling				
Thickening	None	None Option: Add Thickeners	Centrifuge, Gravity Belt Thickener, or Rotary Drum Thickener	Centrifuge, Gravity Belt Thickener, or Rotary Drum Thickener
Digestion	Sludge Drying Bed	Sludge Drying Bed Option: Add Two Aerobic Digesters	Two Aerobic Digesters	Four Aerobic Digesters
Dewatering	None	None Option: Add Dewatering	Centrifuge or Belt Filter Press	Centrifuge or Belt Filter Press
Miscellaneous				
Admin., Maintenance, and Lab Building	Trailer	Same	Option - Add Building	Option - Add Building
Headworks Building	None	None	Add Building	Headworks Building
Solids Handling Building	None	None	Add Building	Solids Handling Building
Blower/Electrical Building	Three Sided Shed	Expand Existing, Enclose, add Noise Controls	New Building	Blower and Electrical Building with Climate Control

Notes:

(1) Buildout features shown represent the final quantity and type of each feature, while Phases 1 and 2 represent the additions to the facility.
(2) Assumed maximum month peaking factor of 1.5.
(3) Assumes peaking factor reduced to 1.35 as collection area expands.
(4) Required recharge area includes a 10 percent increase to account for containment berms and access roads. However, these features could require additional land. These quantities are to serve as an approximation with accurate land areas determined through site-specific hydrogeologic testing.
(5) Assumes recharge is the only method of effluent disposal. Offsite Recharge Required is the difference between the Max. Onsite Recharge Available and the Required Recharge Area. Required Recharge Area is based upon 0.6 acre-ft/acre/day design percolation rate used at the existing WWTP, rate taken from Westland (2004).
Offsite recharge may be performed at the 80 acres of City owned land to the north of the existing WWTP. This would enable all recharge to be handled offsite and provide more space at the existing WTTP for treatment process and support facilities.

5.1.5 Cost Estimate

Based on the identified needs of the WWTP, the Phase 1 expansion (to expand the plant to 4.0 mgd AADF) has been divided into four sub-phases, as shown below. Also shown are the estimated project costs for each phase.

Element	Estimated Project Cost
1A. Headworks Expansion	$ 3,742,000
1B. Secondary Treatment Expansion	$ 7,872,000
1C. Solids Handling Facilities	$13,869,000
1D. Tertiary Treatment	$ 5,332,000
Phase 1 Total Estimated Cost	**$30,815,000**

Of the four sub-phases, the Headworks Expansion 1A is the most critical. Therefore, the City plans to proceed immediately with this expansion. The other sub-phases of Phase 1 will come on line as the flow to the plant increases.

5.2 Future Water Reclamation Facilities

At this early stage in the planning process, there are no detailed engineering studies of the proposed sub-basin water reclamation facilities. Once the facilities are scheduled to come online, they will be designed to be easily expanded, to produce a Class A+ effluent and be environmentally friendly with a small footprint, odor and noise control, and generally be aesthetically pleasing. A general description of the proposed WRFs is given below.

5.2.1 Process

All of the proposed WRF will be initially constructed as small 1.0 to 2.0 mgd plants. These plants will be later expanded to nominally 4.0, 6.0, and 10.0 mgd as required. The first phase of the plants will consist of the following treatment units:

- Preliminary treatment with only screening to remove larger items. As the plants expand, grit removal may be added.
- Secondary treatment will initially use an extended aeration process with clarifiers. As the plants expand beyond the 4.0 or 6.0 mgd size, the process may change to conventional activated sludge.
- Tertiary treatment will consist of filtration for plants of all sizes.
- Disinfection will use either UV or some form of chlorine. If chlorine is utilized, the plant may also require dechlorination.
- Solids handling will initially use aerobic digestion for treatment. Sludge drying may be accomplished initially with drying beds but as the plant expands, filters may be used. For the larger plants, consideration will be given to anaerobic digestion. Disposal of

the solids will initially be at an approved landfill. Consideration may also be given to land application.

- Effluent will be reused for irrigation and for recharge. It is not anticipated that any of the WRFs will require outfall(s) to any receiving streams designated as "waters of the United States".

5.2.2 WRF Locations

The approximate location of the proposed eight sub-basin regional WRFs is shown on Figure 5. Listed below are their estimated 1/4 section locations.

Sub-Basin Regional WRF	Section Location
2	NE 1/4 Section 8, T8S, R7E
3	NW 1/4 Section 13, T8S, R7E
4	SW 1/4 Section 33, T7S, R6E
5	NW 1/4 Section 30, T6S, R8E
6	SE 1/4 Section 1, T9S, R6E
7	NW 1/4 Section 12, T9S, R7E
8	NE 1/4 Section 27, T6S, R8E
9	NE 1/4 Section 27, T7S, R8E

5.2.3 WRF Costs

The cost of the individual plants will depend on many factors and will not be known in detail until additional engineering analysis is completed. A general cost for a new 2.0 mgd tertiary WRF as described in Section 5.2.1, could range from $25 to $35 million. For eight (8) new 2.0 mgd WRFs, the overall cost could range from $200 to $280 million.

6.0 CONSTRUCTION SCHEDULE

6.1 Existing WWTP

The proposed schedule for the Phase 1A Headworks Expansion is listed below.

Element	Start	Finish
Design	Jan 2007	May 2007
Bid	June 2007	Aug 2007
Construction	Sept 2007	Sept 2008

The proposed schedule for the construction of the other phases of the WWTP expansion is listed below.

Year	Estimated Population	Estimated Total Flow (mgd)
2005	10,375	0.75
2010	44,347	4.0
2020	77,607	7.0
2030	115,080	10.4

When the expansions will take place will depend on the actual population growth in the plant service area. Triggers for the expansion will be based on a percentage of flow as a function of the plant capacity. These include:

- Complete Engineering Design Report when flow reaches 75 percent of plant capacity.
- Complete construction when flow reaches 90 percent of plant capacity.

6.2 Proposed WRFs

No firm information is available for the start dates of any of the proposed sub-basin regional water reclamation facilities. However, based on the start of some of the proposed developments, the following estimate can be made of when the first phase of the facilities will come on line.

Sub-Basin	Facility on Line
2	2010
3	2010
4	2010
5	2015
6	2015
7	2015
8	2015
9	2015

When the future expansions will take place at each WRF will depend on the actual population growth in the plant service area. Triggers for the expansion will be based on a percentage of flow as a function of the plant capacity. These include:

- Complete Engineering Design Report when flow reaches 75 percent of plant capacity.
- Complete construction when flow reaches 90 percent of plant capacity.

7.0 IMPACT

There are three major elements in this 208 Plan Amendment: revised Planning/DMA areas; expansion of the existing WWTP; and identification of the nine wastewater sub-basin WRFs. The following describes the impacts of these three elements.

7.1 Environmental Impact

- Currently Known Water Quality Issues: There are no water quality issues or problems in the existing or proposed DMA area.
- Point Source Pollution: There are no existing point source discharges in the area and no point source discharges are planned for the future. All of the proposed wastewater treatment plants will reuse the plants effluent for either irrigation or for groundwater recharge.
- Non-Point Source Pollution: The only potential non-point source pollution from the proposed plan would be temporary runoff from the construction of the facilities. However, each proposed construction site will have to develop and implement a storm water pollution prevention plan.
- Soil Erosion: The only potential for soil erosion would be during construction of the facilities. However, this potential will be greatly reduced as each construction site will have to develop and implement a storm water pollution prevention plan.
- Air Quality: There are two potential sources of air quality impacts form implementation of the Amendment. One is during construction and the increase of dust in the air. However, these impacts can be mitigated by the application of appropriate dust control measures. The other potential source of air quality impacts from implementing the amendment is the installation of standby generators at each plant site. To mitigate the impacts of the generators, each generator will be required to obtain an Air Quality Permit which will dictate the installation of appropriate pollution control equipment.

7.2 Community Impacts

- Service/Infrastructure: The expansion of the City's planning area will be very beneficial in the planning of the growth that will take place in the planning area. Without comprehensive planning, the land will be developed according to the needs of developers. Historically, this lack of planning has resulted in:
  - Developments being located where the land is the cheapest
  - Wastewater facilities being constructed on the basis of the lowest cost
  - Little thought being given to quality or long-term operation or maintenance
  - Each development ending up having its own small plant

– After the developments are completed, the wastewater facilities being handed over to the Home Owners Association (HOA)
– HOAs not having the financial capabilities to operate and maintain the facilities
– The County or City taking over after numerous complaints about odors and plant failures

With the revised service area under the City DMA, any proposed wastewater facilities will have to follow a logical plan with any proposed facilities being required to meet City standards and requirements. These include:

- Financing Plan
- Design Standards
- Construction Materials and Standards
- Operation & Maintenance Standards
- Reclaimed Water Plan

After completion of the WRFs by the developers, they will be handed over to the City to own and operate. This approach will greatly minimize the issues common to developer-operated plants such as maintenance, operation, noise, and odor problems.

- Residential/Commercial: The development of the planning area with houses, roads, malls, etc., and the resulting loss of open space could be considered as negative impacts. In contrast, having no area-wide plan could result in haphazard development, groundwater impacts, odor complaints, and higher costs.

- Economic: According to the financial plans being developed by the City, all of the new wastewater systems will be funded by developments and new residents. The only rate increases to be expected by existing residents would be required improvements to the existing system.

7.3 Water-Based Recreation

- Recreational Uses: There is no current water-based recreation in the DMA area and none is planned in the future.

- Access to Water-Based Recreation: There is no current water-based recreation in the DMA area and none is planned in the future.

- Changes In Land Use: There is no current water-based recreation in the DMA area and none is planned in the future.

8.0 PERMITTING

The WWTP expansion and the new WRFs will require permitting. The following describes which permits are likely required.

8.1 Air Quality Permit

Air quality permits will be required for the generators installed at the existing WWTP and at the proposed WRFs.

8.2 ADWR Underground Storage Facility Permit

In July 30, 2003, the Arizona Department of Water Resources (ADWR) issued an Underground Storage Permit to the existing WWTP for the storage of the recharged effluent. The plant is allowed to recharge up to 2,240 acre-feet per year. In addition, the City has submitted an application to ADWR for underground storage of 55,000 acre-feet per year of CAP water.

All new WRFs that recharge all or some of the effluent will be required to obtain a separate Underground Storage Permit.

8.3 ADEQ Aquifer Protection Permit

The existing WWTP operates under an existing Aquifer Protection Permit (APP) No. 101689, dated March 21, 2005, which allows the plant to recharge up to 2.0 mgd. Monitoring of the groundwater is required to make sure the soil aquifer treatment is operating satisfactorily. Any modifications or expansions to the plant will require an amendment to the permit. The associated reuse permit for the plant has been allowed to expire.

All of the new WRFs will be required to obtain individual APPs.

8.4 AZPDES/NPDES Permit

Under the current planning, none of the plants will discharge to any receiving waters. Therefore, no AZPDES permits will be required.

8.5 AZPDES Storm Water Pollution Prevention Permit

Construction of all wastewater facilities will be required to satisfy stormwater permit requirements.

8.6 CAAG 208 Areawide Water Quality Management Plan Amendment

If there are any changes to the proposed water quality management plan, amendments will be required to the CAAG Plan.

8.7 Construction Permits

Local permits will be required for construction of the proposed facilities.

8.8 Local Floodplain and Drainage Regulations

All of the local floodplain and drainage regulations will have to be followed.

8.9 Non-Point Source Permits

No non-point source permits will be required.

8.10 Reclaimed Water

Reclaimed water will be a component of the APP for each of the proposed new WRFs. If reuse is reintroduced at the existing WWTP, APP modification will be required.

8.11 Sludge Management

The current plan is for the sludge from the existing and proposed plants to be disposed of in an approved landfill.

9.0 FINANCIAL

The City will finance the expansion of the existing WWTP with a combination of user fees, connection fees, development fees, and the sale of bonds. For the construction of the new WRFs, these will be constructed by the developers in the new wastewater service areas.

The costs for the expanded City plant will be incorporated into the sewer fund budget. The operation and maintenance costs for the new WRFs will also be included into the sewer fund budget. The existing budget for the City's Wastewater Department is $1.195 million.

Appendix A

208 AMENDMENT CHECKLIST

208 AMENDMENT CHECKLIST
Revised December 2005
Section 208 Clean Water Act
40 CFR Part 130.6

AUTHORITY			
Item	Requirement	Provide brief summary of how requirements are addressed	Addressed on page:
1	Proposed Designated Management Agency (DMA) shall self-certify that it has the authorities required by Section 208(c)(2) of the Clean Water Act to implement the plan for its proposed planning and service areas. Self-certification shall be in the form of a legal opinion by the DMA or entity attorney.	*Eloy is a Designated Management Agency.* *Letter of self-certification was prepared in 1998.*	

20-YEAR PLANNING			
Item	Requirement	Provide brief summary of how requirements are addressed	Addressed on page:
2	Clearly describe the existing wastewater treatment (WWT) facilities and locations.	*Section 5.0 – Existing Wastewater Treatment Plant Expansion Planning.* *The existing WWTP has a capacity of 2.0 mgd annual average daily flow and has a current flow of approximately 0.74 mgd annual average daily flow. Process units at the plant include:* • *Influent pump station* • *Static screens (4)* • *Extended aeration biological process for nitrogen removal (Biolac®) (2)* • *Integrated secondary clarifiers (4)* • *Effluent storage pond* • *Effluent recharge basins (3)*	25

20-YEAR PLANNING			
Item	Requirement	Provide brief summary of how requirements are addressed	Addressed on page:
		The plant also has a chlorine contact chamber, a bulk hypochlorite storage tank, and an effluent pump. However, the disinfection and effluent pumping systems are not used since agriculture irrigation is no longer an option and the reuse permit has lapsed. *Treated effluent from the secondary clarifiers flows to the effluent storage pond and from there it is directed to the recharge basins. The discharge to the basins is cycled between basins to allow for wet and dry cycles. The estimated recharge rate for the basins is about 1.2 acre-feet/acre/day.* *Solids from the treatment process are directed to a sludge holding pond and then the dry sludge is sent to the City landfill for disposal. Figure 6 shows the layout of the existing plant.*	
3	Show WWT certified and service areas for private utilities and sanitary district boundaries if appropriate.	*Figure 4 shows the certified areas for Arizona City Sanitary District, and Picacho Sewer Company.*	9
4	Clearly describe alternatives and the recommended WWT plan: Provide POPTAC population estimates (or COG-approved estimates only where POPTAC not available) over 20-year period.	*Section 5.0 – Existing Wastewater Treatment Plant Expansion Planning.* *The buildout capacity of the existing WWTP service area is estimated to be 14 mgd AADF. To provide the buildout capacity at the existing plant site and within the ADEQ setback criteria, the existing secondary treatment process has to be changed to a less land intensive process. Other units that have to be modified are the headworks, disinfection, effluent pumping, solids handling, and effluent reuse and disposal. Options evaluated and the units selected in each of these areas are listed below.*	27

20-YEAR PLANNING			
Item	Requirement	Provide brief summary of how requirements are addressed	Addressed on page:
		<u>Headworks</u>: Influent pumping, screening, grit removal and odor control. The recommended headworks calls for a new dry well lift station; new step screens coupled with conveyor, washer and compactor; new vortex grit removal and wet scrubber odor control. It is also recommended that the headworks be located in a new headworks building. *<u>Secondary Treatment</u>: Options evaluated included conventional activated sludge, extended aeration (including Biolac®), and a membrane bioreactor process. The process selected for the long term is a conventional activated sludge process with nitrogen removal.* *<u>Secondary Clarification</u>: The current Biolac process also includes clarification. Future expansion would include separate circular clarifiers.* *<u>Tertiary Treatment</u>: Options considered included sodium hypochlorite and UV for disinfection; traveling bridge, continuous backwash, and cloth media (disk) for filtration; and effluent pumping. Selected options were UV disinfection or bulk hypochlorite, disk filters and a new effluent pump station.* *<u>Solids Handling</u>: Options covered included solids thickening, digestion and dewatering. The recommended plan includes thickening, aerobic digestion, and dewatering. All of these units are to be included in a new solids handling building.* *Relative to the actual expansion, it was recommended that it be completed in four or more phases.* *<u>Phase 1</u>: Expand WWTP to 4.0 mgd with expansion of headworks, installing one 2 mgd Biolac® aeration basin and expand disinfection system. Solids handling may also be added during this phase.*	

20-YEAR PLANNING			
Item	Requirement	Provide brief summary of how requirements are addressed	Addressed on page:
		<u>Phase 2</u>: Expand WWTP to 7.0 mgd with the expansion of headworks, build new 7.0 mgd conventional activated sludge system, add three new circular clarifiers, expand disinfection, construct aerobic digesters, and construct a new solids handling building. *<u>Phases 3 and 4 Buildout</u>: These expansions will increase the plant to 14.0 mgd by adding a second 7.0 mgd activated sludge system, two new clarifiers, additional disinfection facilities, additional aerobic digesters, along with other necessary solids handling features.* *The draft POPTAC projection for Eloy in 2055 is 109,314. Using land use projections, the projected population at buildout is 628,500. Population projections for the WWTP Sub Service area are:* *<u>Year</u> — <u>Population</u> 2005 — 10,375 2010 — 44,347 2020 — 77,607 2030 — 115,080*	
5	Provide wastewater flow estimates over the 20-year planning period.	*See Section 4.6, Future Flow Phasing.* *To get some idea of future flows, the developer plans were identified and an assessment made as to their date of initiation and completion. Based on this assessment, an estimate was made as to the population projections for 2010, 2020, and 2030, in each of the nine wastewater sub areas This projection is shown in Table 6.*	25

20-YEAR PLANNING			
Item	Requirement	Provide brief summary of how requirements are addressed	Addressed on page:
6	Illustrate the WWT planning and service areas. Please submit a GIS map to show both areas, if applicable.	*The revised DMA area has been increased form 97 to 158 square miles. To better handle the projected flow, the area was divided into nine wastewater sub areas. Area 1 serves the existing WWTP.* *See Figure 5 – Wastewater Planning Sub Areas*	12
7	Describe the type and capacity of the recommended WWT Plant.	*See Section 5.1 – Existing Wastewater Treatment Plant.* *The first Phase expansion will be from 2.0 to 4.0 mgd. It will involve the construction of a new headworks along with the installation of one new 2.0 mgd Biolac® extended aeration basin. Specifically, it will involve:* *<u>Preliminary Treatment</u>: One mechanically cleaned screen and one manually cleaned screen; new pump station, and new odor control.* *<u>Secondary Treatment</u>: One new Biolac secondary unit including clarifiers.* *<u>Tertiary Treatment</u>: Expand disinfection system as necessary.* *See Section 5.2 Future Water Reclamation Facilities* *The eight proposed WRF will be similar in design and construction. The first phase will be a 2.0 mgd extended aeration plant with tertiary treatment to produce a Class A+ effluent.*	25 38
8	If applicable**,** identify any known water quality problems and explain how the plan addresses them, consider alternative control measures, and recommend solution for implementation.	*There are no known water quality issues in the area.*	

20-YEAR PLANNING			
Item	Requirement	Provide brief summary of how requirements are addressed	Addressed on page:
9	If private WWT utilities with certificated areas are within the proposed regional service area, define who (municipal or private utility) serves what area and when. Identify whose sewer lines can be approved in what areas and when?	*Figure 4 – Planning Areas* *Picacho Sewer Company is adjacent to the planning area and it will serve the area within its borders.*	10
10	Describe method of effluent disposal and reuse sites (if appropriate).	*Section 5.1.3 Existing WWTP Effluent Reuse and Disposal.* *Effluent from the existing plant is recharged via three recharge basins at the plant site.* *Section 5.2 Future WRF.* *Effluent form the proposed WRF's will be used for irrigation and ground water recharge.*	33 38
11	If Sanitary Districts are within a proposed planning or service area, describe who serves the Sanitary Districts and when.	*The Arizona Sanitary District is adjacent to the proposed City of Eloy DMA Planning area and it will continue to serve its designated area.*	17
12	Describe ownership of land proposed for plant sites and reuse areas.	*Section 5.1 Existing Wastewater Treatment Plant Expansion.* *The existing WWTP site is owned by the City and there is sufficient land at the site for the future buildout flow of 14.0 mgd.* *Section 5.2 Future Water Reclamation Facilities* *Future sites of the WRF will be donated by the developers.*	25 38

20-YEAR PLANNING			
Item	Requirement	Provide brief summary of how requirements are addressed	Addressed on page:
13	Address timeframes in the development of the treatment works.	*Section 6.0 Construction Schedule.* *The schedule for the Phase 1A Headworks Expansion is listed below.* *Element* / *Start* / *Finish* *Design* / *Jan 2007* / *May 2007* *Bid* / *June 2007* / *Aug 2007* *Construction* / *Sept 2007* / *Sept 2008* *The schedule for the proposed WRFs:* *Sub-Basin* / *Time* *2* / *2010* *3* / *2010* *4* / *2010* *5* / *2015* *6* / *2015* *7* / *2015* *8* / *2015* *9* / *2015*	39 40
14	Address financial constraints in the development of the treatment works.	*Section 9.0 Financial.* *There are no financial constraints identified. The City will fund the construction of the expansion of the existing WWTP using bonds. The bonds will be repaid with user fees and developer connection charges.*	44
15	Describe how discharges will comply with EPA municipal and industrial stormwater discharge regulations (Section 405, CWA).	*There will be no discharges form any of the wastewater plants.*	

20-YEAR PLANNING			
Item	Requirement	Provide brief summary of how requirements are addressed	Addressed on page:
16	Describe how open areas & recreational opportunities will result from improved water quality and how those will be used.	*There will be no changes to the current situation.*	
17	Describe potential use of lands associated with treatment works and increased access to water-based recreation, if applicable.	*There will be no changes to the current situation.*	

REGULATIONS			
Item	Requirement	Provide brief summary of how requirements are addressed	Addressed on page:
18	Describe types of permits needed, including NPDES, APP and reuse.	*Section 8.0 Permitting.* *APP and USF modification will be required for any expansion of the existing City WWTP beyond 2.0 mgd.* *New APP permits will be required for the proposed Water Reclamation Facilities. Other required permits include air quality, local construction, SWPPP, and reuse.*	43
19	Describe restrictions on NPDES permits, if needed, for discharge and sludge disposal.	*There will be no discharges from any of the wastewater plants.*	
20	Provide documentation of communication with ADEQ Permitting Section 30 to 60 days prior to public hearing regarding the need for specific permits.	*Permits will be sought once the 208 Plan Amendment is approved.*	

REGULATIONS			
21	Describe pretreatment requirements and method of adherence to requirements (Section 208 (b)(2)(D), CWA).	*City passed a pretreatment ordinance controlling discharges to the sewer collection system. Copy in Appendix E. Ordinance complies with CWA requirements.*	16
22	Identify, if appropriate, specific pollutants that will be produced from excavations and procedures that will protect ground and surface water quality (Section 208(b)(2)(K) and Section 304, CWA).	*There will be no specific pollutants produced form excavation. Dust will be controlled using appropriate dust control practices.*	41
23	Describe alternatives and recommendation in the disposition of sludge generated. (Section 405 CWA)	*The current sludge disposal practice is landfill. In the future, consideration may be given to land application. .*	33
24	Define any non-point issues related to the proposed facility and outline procedures to control them.	*There will be no non-point issues form the proposed facilities.*	
25	Describe process to handle all mining runoff, orphan sites and underground pollutants, if applicable.	*There are no mines in the area. .*	
26	If mining related, define where collection of pollutants has occurred, and what procedures are going to be initiated to contain contaminated areas.	*There are no mines in the area. .*	
27	If mining related, define what specialized procedures will be initiated for orphan sites, if applicable.	*There are no mines in the area. .*	

CONSTRUCTION			
Item	Requirement	Provide brief summary of how requirements are addressed	Addressed on page:
28	Define construction priorities and time schedules for initiation and completion.	*Existing WWTP Phase I Headworks Expansion* *Element* / *Start* / *Finish* *Design* / *Jan 2007* / *May 2007* *Bid* / *June 2007* / *Aug 2007* *Construction* / *Sept 2007* / *Sept 2008* *The proposed schedule for the WRFs is:* *Sub Basin* / *Time* *2* / *2010* *3* / *2010* *4* / *2010* *5* / *2015* *6* / *2015* *7* / *2015* *8* / *2015* *9* / *2015*	39
29	Identify agencies that will construct, operate and maintain the facilities and otherwise carry out the plan.	*The City will be responsible for the Phase 1 expansion of the WWTP.* *Developers under direction of the City will develop the proposed WRFs.*	
30	Identify construction activity-related sources of pollution and set forth procedures and methods to control, to the extent feasible, such sources.	*Section 7.0 Impact.* *The Contractor is required to submit a SWPPP to control any discharges from the site.*	41

FINANCING AND OTHER MEASURES NECESSARY TO CARRY OUT THE PLAN			
Item	Requirement	Provide brief summary of how requirements are addressed	Addressed on page:
31	If plan proposes to take over certificated private utility, describe how, when and financing will be managed.	*The City of Eloy will not take over any certified private utilities.*	
32	Describe any significant measure necessary to carry out the plan, e.g., institutional, financial, economic, etc.	*There are no significant measures required. The City of Eloy is a DMA and currently has measures in place.*	
33	Describe proposed method(s) of community financing.	*Section 9.0 Financial.* *The City will sell revenue bonds as well as implement connection fees, and developer impact fees. The revenue bonds will be paid off with user fees.*	44
34	Provide financial information to assure DMA has financial capability to operate and maintain wastewater system over its useful life.	*The City is a defined DMA and has sufficient financial capability to implement the contents of the plan throughout its useful life. The current sewer fund has an annual budget of $1.19 million.*	
35	Provide a time line outlining period of time necessary for carrying out plan implementation.	*Existing WWTP, Phase 1A Schedule* *Element* / *Start* / *Finish* *Design* / *Jan 2007* / *May 2007* *Bid* / *June 2007* / *Aug 2007* *Construction* / *Sept 2007* / *Sept 2008* *Future WRFs schedule is:* *Sub Basin* / *Time* *2* / *2010* *3* / *2010* *4* / *2010* *5* / *2015* *6* / *2015* *7* / *2015* *8* / *2015* *9* / *2015*	39 40

FINANCING AND OTHER MEASURES NECESSARY TO CARRY OUT THE PLAN			
36	Provide financial information indicating the method and measures necessary to achieve project financing. (Section 201 CWA or Section 604 may apply.	*The City will sell revenue bonds and repay them with user charges, connection fees and developer impact fees. Current Sewer Department budget is $1.19 million.*	16

IMPLEMENTABILITY			
Item	Requirement	Provide brief summary of how requirements are addressed	Addressed on page:
37	*Describe impacts and implementability of Plan:* Describe impacts on existing wastewater (WW) facilities, e.g., Sanitary district, infrastructure/facilities and certificated areas.	*Section 7.0 Impact.* *There are no negative impacts of the plan on any existing WW facilities.*	41
38	Describe how and when existing package plants will be connected to a regional system.	*There are no package plants in the area.*	
39	Describe the impact on communities and businesses affected by the plan.	*Section 7.0 Impact.* *No impacts were identified in the 208 Plan.*	41
40	If a municipal wastewater (WWT) system is proposed, describe how WWT service will be provided until the municipal system is completed: i.e., will package plants and septic systems be allowed and under what circumstances. (Interim services)	*A WRF Review and Approval Process is identified in the 208 Amendment.*	13

PUBLIC PARTICIPATION (To be completed by CAAG)			
Item	Requirement	Provide brief summary of how requirements are addressed	Addressed on page:
41	Submit copy of mailing list used to notify the public of the public hearing on the 208 amendment. (40 CFR, Chapter 1, Part 25.5)	*To be completed by CAAG.*	
42	List location where documents are available for review at least 30 days before public hearing.	*To be completed by CAAG.*	
43	Submit copy of the public notice of the public hearing as well as an official affidavit of publication from the area newspaper. Clearly show the announcement appeared in the newspaper at least 45 days before the hearing.	*To be completed by CAAG.*	
44	Submit affidavit of publication for official newspaper publication.	*To be completed by CAAG.*	
45	Submit responsiveness summary for public hearing.	*To be completed by CAAG.*	

Appendix B

DESCRIPTION OF PROPOSED DMA AREA

Proposed Eloy DMA Legal Description

That Portion of Township 6 South, Range 8 East of the Gila and Salt River Baseline & Meridian, Pinal County, Arizona, described as follows:

All of Sections 27, 28, 29, 30, 31, 32, 33, and 34;

That Portion of Township 7 South, Range 6 East of the Gila and Salt River Baseline & Meridian, Pinal County, Arizona, described as follows:

The East Half (E/2) of the Southeast Quarter (SE/4) of Section 13;

The Southeast Quarter (SE/4) of Section 24;

All of Sections 25, 27, 33, and 34;

All of Section 26, EXCEPT the North Half (N/2) of the Northwest Quarter (NW/4);

The North Half (N/2) of Section 35;

The North Half (N/2) of Section 36;

That Portion of Township 7 South, Range 7 East of the Gila and Salt River Baseline & Meridian, Pinal County, Arizona, described as follows:

All of Sections 10, 11, 12, 13, 14, 15, 18, 19, 22, 23, 24, 25, 26, 27, 28, 29, 30, 33, 34, 35, and 36;

The North Half (N/2) of Section 31;

The North Half (N/2) of Section 32;

That Portion of Township 7 South, Range 8 East of the Gila and Salt River Baseline & Meridian, Pinal County, Arizona, described as follows:

All of Sections 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, and 34;

That Portion of Township 8 South, Range 7 East of the Gila and Salt River Baseline & Meridian, Pinal County, Arizona, described as follows:

All of Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 32, 33, 34, 35, and 36;

All of Section 8, EXCEPT the Northwest Quarter (NW/4);

The East Half (E/2) of Section 17;

The North Half (N/2) of Section 30;

That Portion of Township 8 South, Range 8 East of the Gila and Salt River Baseline & Meridian, Pinal County, Arizona, described as follows:

All of Sections 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, and 34;

That Portion of Township 9 South, Range 6 East of the Gila and Salt River Baseline & Meridian, Pinal County, Arizona, described as follows:

The East Half (E/2) of Section 1;

The East Half (E/2) of Section12;

The North Half (N/2) of the East Half (E/2) of Section 13;

That Portion of Township 9 South, Range 7 East of the Gila and Salt River Baseline & Meridian, Pinal County, Arizona, described as follows:

All of Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, and 24;

The North Half (N/2) of Section 26;

That Portion of Township 9 South, Range 8 East of the Gila and Salt River Baseline & Meridian, Pinal County, Arizona, described as follows:

All of Sections 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20, 21, and 22;

The above described parcel comprising and area of 101,281.94 acres, more or less.

T6S R5E | T6S R6E | T6S R7E | T6S R8E | T6S R9E | T6S R10E

T7S R5E | T7S R6E | T7S R7E | T7S R8E | T7S R9E | T7S R10E

T8S R5E | T8S R6E | T8S R7E | T8S R8E | T8S R9E | T8S R10E

T9S R5E | T9S R6E | T9S R7E | T9S R8E | T9S R9E | T9S R10E

T10S R5E | T10S R6E | T10S R7E | T10S R8E | T10S R9E | T10S R10E

SR 287/Steele Rd.
Earley Rd.
Selma Hwy.
Cornman Rd.
Hanna Rd.
Arica Rd.
Shedd Rd.
Houser Rd.
Battaglia Rd.
Alsdorf Rd.
Milligan Rd.
Phillips Rd.
Shaw Rd.
Nutt Rd.
Harmon Rd.
Hotts Rd.
Pretzer Rd.
Ellis Rd.
Greene Reservoir Rd.

Thornton Rd.
Chuichu Rd.
Trekell Rd.
Pearl Rd.
Hennessy Rd.
Lamb Rd.
Sunland Gin Rd.
Overfield Rd.
Toltec Buttes Rd.
Toltec Hwy.
Curry Rd.
Tweedy Rd./Tumbleweed Rd.
Eleven Mile Corner Rd.
Sunshine Blvd.
La Palma Rd.
SR 87/Barnett Rd.
Picacho Hwy

Sections
Township & Range
Proposed DMA Area

Notes:

1. The Transportation layers are GIS data from ESRI Data & Maps (2004).

2. The planning boundary and developments are based on information obtained from the City of Eloy.

3. This GIS map is a limited representation of facilities, intended for planning purposes only. It is not intended for construction or other purposes requiring greater positional accuracy.

Miles
0 0.5 1 2

N

City of Eloy - CAAG 208 Water Quality Management Plan Amendment, April 2007

carollo engineers

Description of Revised DMA Area

Appendix B

M:\Client\Eloy_PHX\MP\72666900 Eloy Sewer Study TO#3\Analysis\GIS Analysis\Maps\Appendix B Description of Revised Planning Area.mxd

Appendix C

CITY OF ELOY WASTEWATER DIVISION BUDGET

CITY OF ELOY
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 3 MONTHS ENDING SEPTEMBER 30, 2006

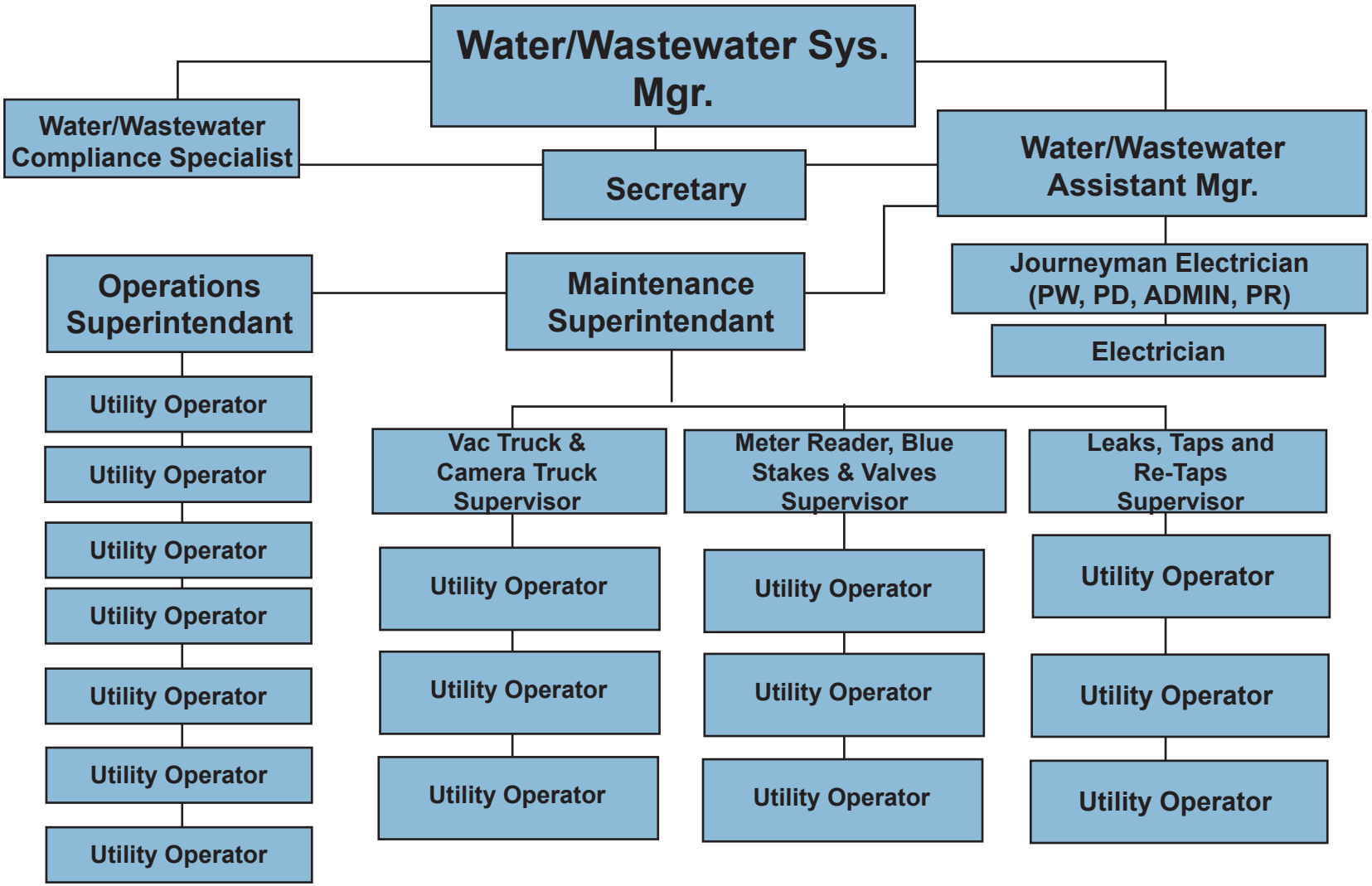
SEWER FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	SEWER					
53-452-1101	REGULAR EMPLOYEES	.00	49,160.34	312,085.00	262,924.66	15.8
53-452-1105	OVERTIME PAY	.00	2,091.90	8,450.00	6,358.10	24.8
53-452-1201	SOCIAL SECURITY/MEDICARE	.00	3,763.87	23,740.00	19,976.13	15.9
53-452-1202	GROUP INSURANCE	.00	8,803.56	54,435.00	45,631.44	16.2
53-452-1203	ASRS RETIREMENT CONTRIBUTIONS	.00	4,613.92	29,170.00	24,556.08	15.8
53-452-1206	WORKERS' COMPENSATION	.00	1,367.64	9,645.00	8,277.36	14.2
53-452-2101	OFFICE SUPPLIES	.00	50.38	3,000.00	2,949.62	1.7
53-452-2102	UNIFORM SERVICES	.00	54.27	6,000.00	5,945.73	.9
53-452-2104	FIELD SUPPLIES	.00	45.82	8,000.00	7,954.18	.6
53-452-2114	VEHICLE REPAIR & MAINTENANCE	.00	932.68	12,500.00	11,567.32	7.5
53-452-2115	EQUIPMENT REPAIR & MAINTENANCE	.00	1,850.93	4,700.00	2,849.07	39.4
53-452-2116	BUILDING REPAIR & MAINTENANCE	.00	19.89	2,000.00	1,980.11	1.0
53-452-2135	CHEMICALS	.00	.00	1,500.00	1,500.00	.0
53-452-2150	MISCELLANEOUS OTHER OPERATING	.00	57.32	4,000.00	3,942.68	1.4
53-452-2222	EQUIP REPAIR & MAINT-BOOSTERS	.00	.00	20,000.00	20,000.00	.0
53-452-2223	EQUIP REPAIR & MAINT-MAINS	.00	.00	65,100.00	65,100.00	.0
53-452-2402	TELECOMMUNICATIONS	.00	202.83	10,000.00	9,797.17	2.0
53-452-2403	POSTAGE	.00	827.87	5,000.00	4,172.13	16.6
53-452-2404	UTILITIES	.00	.00	110,000.00	110,000.00	.0
53-452-2458	LAB SUPPLIES/TESTING	.00	275.80	10,000.00	9,724.20	2.8
53-452-2590	OUTSIDE PROFESSIONAL SERVICES	.00	476.64	10,000.00	9,523.36	4.8
53-452-2591	CONSULTANTS	.00	191.66	5,000.00	4,808.34	3.8
53-452-2597	OTHER PROFESSIONAL SERVICES	.00	16.52	.00	(16.52)	.0
53-452-2598	RENTALS	.00	.00	5,000.00	5,000.00	.0
53-452-2601	GASOLINE & OIL	.00	81.10	23,000.00	22,918.90	.4
53-452-2700	TRAVEL & TRAINING	.00	180.00	13,100.00	12,920.00	1.4
53-452-2804	MEMBERSHIPS & SUBSCRIPTIONS	.00	.00	500.00	500.00	.0
53-452-2807	PERMITS & FEES	.00	.00	25,000.00	25,000.00	.0
53-452-9785	WIFA LOAN PAYMENT	.00	249,876.62	215,975.00	(33,901.62)	115.7
53-452-9788	USDA RURAL DEV BOND PAYMENT	.00	44,550.00	56,200.00	11,650.00	79.3
53-452-9801	L/P - COMPUTERS	.00	69.68	500.00	430.32	13.9
53-452-9802	L/P - COPIERS	.00	487.76	2,900.00	2,412.24	16.8
53-452-9803	L/P - VEHICLES	.00	2,438.80	7,200.00	4,761.20	33.9
53-452-9805	L/P BUILDING IMPROVEMENTS	.00	.00	4,800.00	4,800.00	.0
53-452-9816	L/P - SPACE SUIT	.00	418.08	2,500.00	2,081.92	16.7
53-452-9818	L/P PONTOON BOAT	.00	452.92	3,000.00	2,547.08	15.1
53-452-9819	L/P - SEWER VACTOR TRUCK	.00	.00	18,650.00	18,650.00	.0
53-452-9850	INSURANCE	.00	.00	26,250.00	26,250.00	.0
53-452-9888	CONTINGENT/RESERVE	.00	.00	66,255.00	66,255.00	.0
53-452-9920	BUILDING & IMPROVEMENTS	.00	.00	3,000.00	3,000.00	0
53-452-9921	EQUIPMENT & FURNITURE	.00	.00	7,015.00	7,015.00	.0
	TOTAL SEWER	.00	373,358.80	1,195,170.00	821,811.20	31.2
	TOTAL FUND EXPENDITURES	.00	373,358.80	1,195,170.00	821,811.20	31.2
	NET REVENUE OVER EXPENDITURES	.00	(373,358.80)	(1,195,170.00)	(821,811.20)	(31.2)

Appendix D

WASTEWATER DIVISION ORGANIZATION CHART

FUTURE WATER AND WASTEWATER DIVISION FLOW CHART



Appendix E

CITY OF ELOY PRETREATMENT PROGRAM

Sec. 19-34. Abbreviations.

BOD	Biochemical oxygen demand.
CFR	Code of Federal Regulations.
COD	Chemical oxygen demand.
COTW	City owned treatment works.
EPA	Environmental Protection Agency.
F	Fahrenheit.
l	Liter.
mg	Milligrams.
mg/l	Milligrams per liter.
NPDES	National pollutant discharge elimination system.
SIC	Standard Industrial Classification.
SWDA	Solid Waste Disposal Act, 42 USC 6901 et seq.
USC	United States Code.
TSS	Total suspended solids. (Ord. No. 87-280, Art. II, § 2, 8-10-87)

Sec. 19-35. Pretreatment regulations.

Users shall provide necessary wastewater treatment as required to comply with this article and shall achieve compliance with all federal categorical pretreatment standards within the time limitations as specified by the federal pretreatment regulations. Any facilities required to pretreat wastewater to a level acceptable to the city shall be provided, operated, and maintained at user's expense. Detailed plans showing pretreatment facilities and operating procedures will in no way relieve the user from the responsibility of modifying the facility as necessary to produce an effluent acceptable to the city under the provisions of this article. Any subsequent changes in pretreatment facilities or method of operation shall be reported to and be acceptable to the city prior to user's initiation of the changes.

The city shall annually publish in the local newspaper a list of the users which were not in compliance with any pretreatment requirements or standards at least once during the same twelve (12) months.

All records relating to compliance with pretreatment standards shall be made available to officials of the EPA or approval authority upon request. (Ord. No. 87-280, Art. III, § 1, 8-10-87)

Sec. 19-36. Prohibited wastes.

(a) *General prohibitions:* No person shall discharge or cause to be discharged to any sewer, which directly or indirectly connects to the COTW, any wastewater which may have an adverse or harmful effect on the COTW, COTW personnel or equipment, COTW effluent quality, public or private property; or which may otherwise endanger the public, the environment or create a public nuisance, or which exceeds limitations as set by this article or the director; or causes the COTW to violate state or federal regulations or permits. Prohibited wastes described in this section shall not be discharged to the COTW, or to any retention facility such as, but not limited to a sump, tank, clarifier, interceptor, piping or waste treatment system which normally drains or flows to the COTW collection or treatment systems. Any prohibited wastes found in any of these facilities shall be presumed to have been discharged to the COTW. Included within the prohibition, above set forth, is the discharge of any wastes which adversely affect water reclamation or sludge use.

The director, in determining the acceptability of specific wastes, shall consider the nature of the waste and adequacy and nature of the collection, treatment and disposal system available to accept the waste.

The director shall establish quantitative limitations for users which, because of their location, quantity or quality of discharge, may degrade wastewater quality to the level that it prevents or inhibits the COTW's efforts to reclaim the water or causes any unusual operation or maintenance problems in the COTW.

These general prohibitions apply to all such users of a COTW whether or not the user is subject to national categorical pre-

treatment standards or any other national, state, or local pretreatment standards or requirements.

(b) *Identification of additional prohibited wastes:* When the director determines that a user is discharging to the COTW any wastes not identified as prohibited in such amounts as may interfere with the operation of the COTW, the director shall:

(1) Advise the user of the impact of the contribution on the COTW;

(2) Develop a discharge limitation for such user to correct the interference with the COTW; and

(3) Require the user to obtain an industrial wastewater discharge permit.

(c) *Prohibited wastes and discharge limits:* Except as provided in section 3 of this article, prohibited wastes shall include the following:

(1) Any liquids, solids or gases which by reason of their nature or quantity are, or may be, sufficient, either alone or by interaction with other substances, to cause fire or explosion or be injurious in any other way to the COTW or to the operation of the COTW. At no time, shall two (2) successive readings on an explosion hazard meter, at the point of discharge into the system (or at any point in the system) be more than five (5) percent nor any single reading over ten (10) percent of the lower explosive limit (LEL) of the meter. Prohibited materials include, but are not limited to, gasoline, kerosene, naphtha, benzene, toluene, xylene, ethers, alcohols, ketones, aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides and sulfides and any other substances which the city, the state or EPA has notified the user is a fire hazard or a hazard to the system.

(2) Any waste containing toxic or poisonous solids, liquids or gases in such quantities that alone, or in combination with other waste substances, may create a hazard for humans, animals, or the local environment, interfere detrimentally with wastewater treatment processes, cause a public nuisance, cause any hazardous condition to occur in the COTW, or to exceed the limitation set forth in a categorical pre-

treatment standard. A toxic pollutant shall include but not be limited to any pollutant identified pursuant to Section 307(a) of the Act.

(3) Any waste having a pH lower than 6.0, greater than 9.0, or having any corrosive or detrimental characteristics that may cause injury to the COTW or service and maintenance personnel.

(4) Any solids or viscous substances of such size or in such quantities that they may cause obstruction to flow in the sewer or be detrimental to proper COTW operations. These objectionable substances include, but are not limited to, asphalt, asphalt residuals, dead animals, ashes, cinders, sand, mud, straw, industrial process shavings, stone or marble dust, spent grains, spent hops, metal, glass, glass grinding or polishing wastes, rags, feathers, grass clippings, spent lime, tar, plastics, wood, blood, paunch manure, grease, bones, hair, fleshings, entrails, paper cups, paper dishes, milk cartons or other similar paper products, either whole or ground.

(5) Any rain water, storm water, ground water, street drainage, roof drainage, yard drainage, water from yard fountains, ponds, swimming pools, lawn sprays or any other uncontaminated water except where prior approval for such discharge of uncontaminated water is given by the director.

(6) Any water added for the purpose of diluting wastes which would otherwise exceed maximum concentration limits.

(7) Any amounts of petroleum or mineral based cutting oils, commonly called soluble oil and which form persistent water emulsions.

(8) Any concentrations of nonbiodegradable oil, petroleum oil, or refined petroleum products in concentrations that would tend to cause adverse effects on the COTW.

(9) Any dispersed biodegradable oils, fats and greases, such as lard, tallow or vegetable oil in concentrations that would tend to cause adverse effects on the COTW.

(10) Any waste with a concentration of cyanide that causes adverse effects in the COTW or passes through the COTW.

(11) Any unreasonably large amount of undissolved solids.

(12) Any wastes with excessively high BOD, COD or decomposable organic content.

(13) Any noxious or malodorous liquids, gases, or solids which either singly or by interaction with other wastes are sufficient to create a public nuisance or hazard to life or are sufficient to prevent entry into the sewers for maintenance and repair.

(14) Any waste containing substances, including high pH material, which cause incrustations, scale or precipitates on sewer walls or other adverse effects on the sewerage system.

(15) Any substance promoting or causing the promotion of toxic gases.

(16) Any wastewater having a temperature which will inhibit biological activity in the COTW treatment plant resulting in interference, but in no case wastewater with a temperature at the introduction into the COTW which exceeds forty (40) degrees Centigrade (one hundred four (104) degrees Fahrenheit).

(17) Any wastes with a quantity of chlorine in excess of ten (10) mg/l.

(18) Any excessive amounts of chlorinated hydrocarbon or organic phosphorus type compounds.

(19) Any deionized water, steam condensate or distilled water in amounts which cause problems with hydraulic loading.

(20) Any waste containing substances that may preciptate, solidify, gel, polymerize or become viscous under conditions normally found in the sewerage system.

(21) Any waste producing discoloration of wastewater or treatment plant effluent, such as but not limited to dye wastes and vegetable tanning solutions.

(22) Any garbage or waste, other than that normally found in domestic wastewater, that is not ground sufficiently to pass through a three-eighths-inch screen.

(23) Any wastes containing excessive quantities of iron, boron, chromium, phenols, plastic resins, copper, nickel, zinc, lead, mercury, cadmium, selenium, silver, arsenic; or any other materials toxic to humans, animals, the local environment or to biological wastewater treatment processes.

(24) Any blow-down or bleed water from cooling towers or other evaporative coolers exceeding one-third of the makeup water.

(25) Any single pass cooling or heating water.

(26) Any excessive quantities of radioactive material wastes.

(27) Recognizable portions of the human anatomy.

(28) Any waste containing detergents, surface active agents, or other substances, which may cause excessive foaming in the sewerage system.

(29) Any sludge from water or wastewater treatment plants not owned and operated by the City of Eloy. The director may permit a user to discharge this substance which is otherwise prohibited by the article if he finds that the discharge will not adversely affect the operation of the sewerage system. No such permit shall be issued which would violate any other federal, state or local rule, regulations or standards.

(30) Any substance which may cause the COTW's effluent or any other product of the COTW such as residues, sludges, or scums, to be unsuitable for reclamation and reuse or to interfere with the reclamation process. In no case, shall a substance discharged to the COTW cause the COTW to be in noncompliance with sludge use or disposal criteria, guidelines or regulations developed under Section 405 of the Act; any criteria, guidelines, or regulations affecting sludge use or disposal developed pursuant to the Solid Waste Disposal Act, the Clean Air Act, the Toxic Substances Control Act, or state criteria applicable to the sludge management method being used.

(31) Any substance which will cause the COTW to violate its NPDES and/or State of Arizona Reclaimed Wastewater Reuse Permit, and/or groundwater discharge permit, or receiving water quality standards.

(32) Any pollutants, including oxygen demanding pollutants (BOD, etc.) released at a flow rate and/or pollutant concentration which a user knows or has reason to know will cause interference to the COTW. In no case shall a slug load have a flow rate or contain concentration or qualities of pollutants that exceed for any time period longer than fifteen (15) minutes more than five (5) times the average twenty-four-hour concentration, quantities, or flow during normal operation.

(d) *Federal categorical pretreatment standards:* Upon promulgation of federal categorical pretreatment standards for a particular industrial subcategory, the federal standard, if more stringent than limitations imposed under this article or in a permit issued by the city for sources in that subcategory, shall immediately supersede the limitations imposed under this article and/or the permit. The director shall notify all affected users of applicable reporting requirements under 40 CFR, Section 403.12.

(e) *Modification of federal categorical pretreatment standards:* Where the city's wastewater treatment system achieves consistent removal of pollutants limited by federal pretreatment standards, the city may apply to the approval authority for modification of specific limits in the federal pretreatment standards. "Consistent removal" shall mean reduction in the amount of a pollutant or alteration of the nature of the pollutant by the wastewater treatment system to a less toxic or harmless state in the effluent which is achieved by the system in ninety-five (95) percent of the samples taken when measured according to the procedures set forth in Section 403.7(c)(2) of Title 40 of the Code of Federal Regulations, Part 403—"General Pretreatment Regulations for Existing and New Sources of Pollution" promulgated pursuant to the Act. The city may then modify pollutant discharge limits in the federal pretreatment standards if the requirements contained in 40 CFR, Part 403, Section 403.7, are fulfilled and prior approval from the approval authority is obtained.

(f) *State requirements:* State requirements and limitations on discharges shall apply in any case where they are more stringent than federal requirements and limitations or those in this article or in a permit issued by the city.

(g) *Excessive discharge:* No user shall increase the use of process water or, in any way, attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in the federal categorical pretreatment standards, or in any other pollutant-specific limitation developed by the city or state except as set forth in Section 2.1, of [sic] e.g. the pH prohibition.

(h) *Additional discharge limits:* The director shall, from time to time, establish quantitative or other limitations applicable to waste discharges when, in his judgment, it is necessary to protect the COTW, assure compliance with federal or state regulations, or protect public health or environmental quality. Such limitations shall apply at or upstream from any industrial wastewater monitoring facility or station prior to mixing with domestic wastewaters unless the combined wastewater formula is used.

Quantitative or other limitations intended for application to general users and not for inclusion only on individual permits, shall be proposed to the city council by the director after a public hearing. The director shall provide notification at least forty-five (45) days prior to the public hearing by publication in a newspaper of general circulation in the City of Eloy and by written notice to any person who has filed a request of notification with the director. The notice shall contain a brief description of the nature of the proposal to be considered, and the time and place of the hearing. The directors recommendations and a report on the hearings shall be made to the city council for approval of discharge limits. (Ord. No. 87-280, Art. III, § 2, 8-10-87)

Sec. 19-37. Hospital wastes.

(a) *Regulated facilities:* Hospitals, clinics, offices of medical doctors, mortuaries, morgues and convalescent homes:

(1) May discharge through a grinder installation after director approval, wastes of the following categories:

a. Wet organic kitchen wastes from food preparation and disposal but excluding all paper and plastic items.
b. Infectious wastes, defined as:
   1. Laboratory and surgical operating room wastes except as excluded in (2)b. below.
   2. Wastes from outpatient areas and emergency rooms similar to those included in (1) above.

The installation will have inlet size and design features suitable for its intended use and so constructed that all particles pass through a maximum three-eighths-inch long opening.

(2) Shall not discharge to the sewer by any means:

a. Solid wastes generated in the rooms of patients who are isolated because of a suspected or diagnosed communicable disease.
b. Recognizable portions of the human anatomy.
c. Equipment, instruments, utensils and other materials of a disposable nature, that may harbor or transmit pathogenic organisms and that are used in the rooms of patients having a suspected or diagnosed communicable disease which by the nature of the disease is required to be isolated by public health agencies.
d. Wastes excluded by other provisions of this article except as specifically permitted in (1) above.
e. All solid wastes not included (1) above.

(b) *Limit of authority:* Nothing in this section shall be construed to limit the authority of the city health department or other health authority to define wastes as being infectious and, with the concurrence of the director, to require that they will not be discharged to the COTW.

(c) *Pretreatment:* Pretreatment may be required by the director. (Ord. No. 87-280, Art. III, § 3, 8-10-87)

Sec. 19-38. Applications and permits; general requirements.

(a) *Industrial wastewaters.* No person shall discharge or cause to be discharged any industrial wastewater directly or indirectly to the COTW without first obtaining director approval, including

any required industrial wastewater discharge permits. In approving discharges, the director shall set requirements at least as stringent as applicable state or federal rules, regulations or standards.

(1) The director may require a separate permit for each connection to the COTW.

(2) The director may require a separate permit from the owner or manager of a shopping center or industrial park as well as each business in the center or park.

(b) *Permit.* All new significant users proposing to connect to or to contribute to the COTW shall obtain an industrial wastewater discharge permit before connecting to or contributing to the COTW. All existing significant users connected to or contributing to the COTW shall obtain an industrial wastewater discharge permit within sixty (60) days after the effective date of this article.

(c) *State and federal requirements.* An industrial user must, at all times, comply with all applicable federal rules, regulations or standards, or any applicable more stringent state or local rules, regulations or standards. (Ord. No. 87-280, Art. IV, § 1, 8-10-87)

Sec. 19-39. Reporting requirements.

Permit holders discharging into the COTW will be required to file a periodic discharge report at time intervals to be determined by the director and specified in the permit. In no event shall the report interval be more than one (1) year.

(a) *Mandatory report by all permit holders:* The report shall include:

(1) The name and address of the facility, the permit number and the names of the owners.
(2) A brief description of the operation and hours of operation.
(3) Information showing wastewater discharge quantities. Upon approval of the director, verifiable estimates of flows may be used where justified by cost or feasibility considerations.

(b) *Report when required by the permit:*

(1) The report shall include the following when required by the permit:

a. The results of sampling and analysis. Results shall identify the nature and concentration (or mass) of regulated pollutants in the discharge of each process regulated by the permit. Reporting requirements may include both instantaneous and average concentrations.
b. A schedule of cleaning, pumping, or hauling as specified in the permit.
c. The reporting of the chemical constituents and quantities of liquid, gaseous, or solid materials stored on the site even though they may not normally be discharged. The director may require the reporting of other information to assist in the implementation of this article.

(c) *Reports for users subject to federal categorical pretreatment standards:*

(1) *Compliance date report:* Within ninety (90) days following the date for final compliance with applicable pretreatment standards or, in the case of a new source, following commencement of the introduction of wastewater into the COTW, any user subject to pretreatment standards and requirements shall submit to the director a report indicating the nature and concentration of all pollutants in the discharge from the regulated process which are limited by pretreatment standards and requirements and the average and maximum daily flow for the process units in the user facility which are limited by such pretreatment standards or requirements.

The report shall state whether the applicable pretreatment standards or requirements are being met on a consistent basis and, if not, what additional operation and maintenance and/or pretreatment is necessary to bring the user into compliance with the applicable pretreatment standards or requirements. This statement shall be signed by an authorized representative of the industrial user, and certified to by a qualified professional engineer.

(2) *Periodic compliance reports:*

a. Any user subject to a pretreatment standard, after the compliance date of such pretreatment standard, or, in the case of a new source, after commencement of the discharge into the COTW, shall submit to the director during the months of June and December, unless required more frequently in the pretreatment standard or by the director, a report indicating the nature and concentration of pollutants in the effluent which are limited by such pretreatment standards. In addition, this report shall include a record of all daily flows which during the reporting period exceeded the average daily flow in section 7, paragraph (a)(3) of this article. At the discretion of the director and in consideration of such factors as local high or low flow rates, holidays, budget cycles, etc., the director may agree to alter the months during which the above reports are to be submitted.

b. The director may impose mass limitations on users which are using dilution to meet applicable pretreatment standards or requirements, or in other cases where the imposition of mass limitations are appropriate. In such cases, the report required by subparagraph a. of this paragraph shall indicate the mass of pollutants regulated by pretreatment standards in the effluent of the user. These reports shall contain the results of sampling and analysis of the discharge, including the flow and the nature and concentration, or production and mass where requested by the director, of pollutants contained therein which are limited by the applicable pretreatment standards. The frequency of monitoring shall be prescribed in the applicable pretreatment standards. All analysis shall be performed in accordance with procedures established by the administrator pursuant to Section 304(g) of the Act and contained in 40 CFR, Part 136 and amendments thereto or with any other test procedures approved by the approval authority. Sam-

pling shall be performed in accordance with the techniques approved by the approval authority. Where 40 CFR, Part 136 does not include a sampling or analytical technique for the pollutant in question, sampling and analysis shall be performed in accordance with the procedures set forth in the EPA publication, "Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants, April, 1977," and amendments thereto, or with any other sampling and analytical procedures approved by the approval authority. (Ord. No. 87-280, Art. IV, § 2, 8-10-87)

Sec. 19-40. Accidental discharges—Protections.

All permitted users shall provide protection from accidental discharge or spill into the sewer system of prohibited, hazardous or other waste materials which are regulated through this article. Such protection shall be provided and maintained at the permitted user's expense. Detailed plans shall be submitted to the director for review and approval and a schedule of construction issued before construction. All permitted users discharging prior to the effective date of this article shall complete such protection by _____ or on such date as is specified on their permit. After the effective date of this article, no user shall commence discharge to the COTW without approved accidental discharge facilities or procedures. Approval of such plans and operating procedures shall not relieve the user of responsibility for modifying the facility or procedures to provide the protection necessary to meet the requirements of this article. (Ord. No. 87-280, Art. IV, § 3, 8-10-87)

Sec. 19-41. Same—Notification.

In the event of an accidental discharge, the user shall notify the director by telephone immediately upon discovery of the occurrence. The notification shall include location of discharge, type of waste, concentration and volume, and corrective actions. Within five (5) days following an accidental discharge, the user shall submit to the director a detailed written report containing such information and describing the cause of the discharge and

measures to be taken by the user to prevent similar future occurrences. Such notification shall not relieve the user of any expense, loss, damage, fines, civil penalties or other liability which may be incurred as a result of damage to the COTW or any other person or property; nor shall such notification relieve the user of any fines, civil penalties, or other liability which may be imposed by this article or other applicable law.

A notice shall be permanently posted on the user's bulletin board or other prominent place advising employees whom to call in the event of a dangerous discharge. Employers shall insure that all employees who may cause or suffer such a dangerous discharge to occur are advised of the emergency notification procedure. (Ord. No. 87-280, Art. IV, § 4, 8-10-87)

Sec. 19-42. Permit duration.

(a) *Generally:* Permits shall be issued for a specified time period, not to exceed five (5) years. A permit may be issued for a period less than a year or may be stated to expire on a specific date. Terms and conditions of the permit may be subject to modification by the city during the term of the permit as limitations or requirements as identified in section 19-36 are modified or other just cause exists. The user shall be informed of any proposed changes in his permit at least thirty (30) days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

(b) *Permit renewal:* An application for renewal of a permit shall be made at least one hundred eighty (180) days prior to expiration of user's existing permit. (Ord. No. 87-280, Art. IV, § 5, 8-10-87)

Sec. 19-43. Permit application.

A user required to obtain an industrial wastewater discharge permit will file with the director an application in the form prescribed by the director and accompanied by the permit fee designated in section 19-57.

The director may require a permit application for each connection to the COTW or from any user. The permit application shall contain at least the following requirements:

(1) Name, address, and location (if different from the address).

(2) SIC number according to the Standard Industrial Classification Manual, Bureau of the Budget, 1972, as amended.

(3) Discharge analysis: A complete report of all process wastewaters and industrial wastewaters produced or expected to be produced, including, but not limited to:

a. Wastewater discharge rates.

b. Representative chemical analyses shall be performed by an independent, reliable, analytical laboratory or by users laboratory if approved by the director. Analyses shall include concentrations of any substances for which specific limits have been set under this article, any prohibited wastes, and any hazardous wastes listed by the Arizona Department of Health Services (ACRR R9-8-1815(C)—(G)). Such analysis is required for only those substances or wastes that are in the wastewater being discharged to the COTW, provided, however, that the permit applicant must conduct a careful and diligent inquiry to determine whether any of the above-specified substances or wastes are present in the discharge. Failure to report the presence of any of the above-specified substances or wastes, when such wastes are actually in the wastewater being discharged, shall be a violation of this article.

The analysis requirement may be waived if the only regulated discharge is included in section 19-36(c)(a) (i.e., dispersed biogradable oils, fats and greases, such as lard, tallow or vegetable oil) and an approved grease interceptor is present and functioning on the premises. Sampling and analysis shall be performed in accordance with procedures established by the EPA pursuant to Section 304(g) of the Act and contained in 40 CFR, Part 136, as amended.

(4) Time and duration of contribution.

(5) Average daily and thirty-minute peak wastewater flow rates, including daily, monthly and seasonal variations if any.

(6) Site plans, floor plans, mechanical and plumbing plans and details to show all sewers, sewer connections, and appurtenances by size, location and elevation.

(7) Description of activities, facilities and plant processes on the premises including all materials which are or could be discharged.

(8) Where known, the nature and concentration of any pollutants in the discharge which are limited by any city, state, or federal pretreatment standards, and a statement regarding whether or not the pretreatment standards are being met on a consistent basis and if not, whether additional operation and maintenance and/or additional pretreatment is required for the user to meet applicable pretreatment standards.

(9) If additional pretreatment and/or operation and maintenance will be required to meet the pretreatment standards, the shortest schedule by which the user will provide such additional pretreatment. The completion date in this schedule shall not be later than the compliance date established for the applicable pretreatment standard. The following conditions shall apply to this schedule:

a. The schedule shall contain increments of progress in the form of dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment required for the user to meet the applicable pretreatment standards (e.g., hiring an engineer, completing preliminary plans, completing final plans, executing contract for major components, commencing construction, completing construction, etc.).

b. No increment referred to in subparagraph a. shall exceed six (6) months and the total compliance schedule shall not exceed two (2) years in length.

c. Not later than fourteen (14) days following each date in the schedule and the final date for compliance, the user shall submit a progress report to the director including, as a minimum, whether or not it complied with the increment of progress to be met on such date

and, if not, the date on which it expects to comply with this increment of progress, the reason for delay, and the steps being taken by the user to return the construction to the schedule established. In no event shall more than three (3) months elapse between such progress reports to the director.

(10) Each product produced by type, amount, process or processes and rate of production.

(11) Type and amount of raw materials processed (average and maximum per day).

(12) Number and type of employees, and hours of operation of plant and proposed or actual hours of operation of pretreatment system.

(13) Any other information as may be deemed by the city to be necessary to evaluate the permit application.

The city will evaluate the data furnished by the user and may require additional information. After evaluation and acceptance of data furnished, the city may issue an industrial wastewater discharge permit subject to terms and conditions provided herein. (Ord. No. 87-280, Art. IV, § 6, 8-10-87)

Sec. 19-44. Permit conditions.

(a) *Generally:* Industrial wastewater discharge permits shall be expressly subject to all provisions of this article and all other applicable regulations, user charges, and fees established by the city. Permits may contain the following:

(1) The unit charge or schedule of user charges and fees for the wastewater to be discharged to the COTW;

(2) Limits on the average and maximum wastewater constituents and characteristics and/or prohibition of discharge of certain wastewater components;

(3) Limits on average and maximum rate and time of discharge or requirements for flow regulation and equalization;

(4) Requirements for installation and maintenance of inspection and sampling facilities;

(5) Specifications for monitoring programs which may include: sampling locations; frequency of sampling; number; types; and standards for tests and reporting schedule;

(6) Compliance schedules;

(7) Requirements for submission of technical reports or discharge reports (see section 19-39);

(8) Requirements for maintaining and retaining plant records relating to wastewater discharge as specified by the city, and affording city, state and federal access thereto;

(9) Requirements for notification of the city of any new introduction of wastewater constituents or any substantial change in the volume or character of the wastewater constituents being introduced into the wastewater treatment system;

(10) Requirements for notification of slug discharges;

(11) Other conditions as deemed appropriate by the city to ensure compliance with this article.

(b) *User agreement:* In consideration of the granting of the permit, the user agrees:

(1) To furnish any additional information relating to installation or use of the industrial sewer for which this permit is sought as may be requested by the city.

(2) To accept and abide by all provisions of Ordinance No. [87-280] of the City of Eloy, and of all other pertinent ordinances or regulations that may be adopted in the future.

(3) To operate and maintain any waste pretreatment facilities, as may be required as a condition of the acceptance into the wastewater treatment system of the industrial wastes involved, in an efficient manner at all times, and at no expense to the city.

(4) To cooperate at all times with the city, state and EPA and their representatives in their inspecting, sampling, and study of the industrial wastes, and any facilities provided for pretreatment.

(5) To notify the city immediately in the event of any accident, or other occurrence that occasions discharge to the

wastewater treatment system of any wastewater or substances prohibited or not covered by the permit.

The permit shall reflect applicable general and categorical federal regulations and standards. In addition, no permit shall contain provisions which excuse compliance with any mandatory requirements of this article. Permits for new industrial discharges shall require that any pretreatment facilities deemed necessary by the director shall be operational when the discharges occur. The director shall be the approval authority for any submittals. After April 1, 1986, the director shall issue, deny, or not require a permit within one hundred twenty (120) days of receiving a complete permit application. However, the approval of such submittals by the director shall in no way relieve the user of the responsibility for modifying a structure or procedure as necessary to produce a discharge that meets the requirements of this article.

(c) *Permit denial:* The director shall deny a permit or permit modification if a user cannot establish that an industrial discharge will comply with the requirements of this article.

(d) *Separation of wastes:* All domestic wastewaters from restrooms, showers, drinking fountains, and similar sources shall be kept separate from all industrial wastewaters until the industrial wastewaters have passed through any required pretreatment facility system or device and the industrial wastewater monitoring facility. The director may waive this condition and allow the combined wastewater formula to be used.

(e) *Control manhole:* As a condition of the industrial wastewater discharge permit, or when required by the director, the owner of any property discharging industrial wastewater to the COTW shall install, at user's expense, a suitable control manhole together with such meters and other appurtenances deemed necessary by the director to adequately sample and measure the waste passing through the control manhole. This control manhole shall be located so as to permit unrestricted access by representatives of the director, state and EPA. The control manhole may be used as a junction manhole for domestic sewage and industrial waste, providing the junction occurs downstream of the sampling and flow measuring point.

The director shall approve control manhole details prior to construction. Construction shall be completed within sixty (60) days following written approval by the city.

(f) *Self-monitoring, chemical analyses and city inspection:* Measurements of industrial discharge flow rates, flow volumes, chemical strengths or other characteristics for determining compliance with this article shall be made by the permit holder, at the permits holder's expense, periodically, as determined by the director. The self-monitoring requirements for industries subject to EPA categorical regulations must be equal to, or more stringent than, those set by federal pretreatment regulations. Sampling shall be performed in a manner that will assure the integrity of the samples and shall at least comply with federal guidelines and standards on sampling of wastewater. Analyses of industrial wastewaters shall be performed by an independent laboratory or by the laboratory of a permit holder if approved by the director. Prior to submittal of results from chemical analyses or other information, the results shall be signed by the chemist or technician performing the analyses, verifying their accuracy. All chemical analyses shall be conducted in accordance with the appropriate procedures contained in EPA's "Methods of Chemical Analysis of Water and Wastes" or Standard Methods (most recent edition). If no appropriate procedure is contained therein, a procedure approved by the director shall be used to measure chemical concentrations. Any laboratory or permit holder performing tests may be required by the director to furnish information on test methods and equipment used.

All permit holders making periodic measurements may be required by the director to furnish and install at the control manhole, or other appropriate location, a calibrated flume, weir, flow meter or similar device meeting his approval and suitable to measure the industrial wastewater flow rate and total volume. A flow indicating, recording, and totalizing register may be required by the director. In lieu of wastewater flow measurement, the director may accept records of water usage and adjust the flow volumes by suitable factors to determine peak and average flow rates for the specific industrial wastewater discharge. When required by the director, permit holders shall install and maintain in proper order, automatic flow-proportional sampling equipment

and/or automatic analysis and recording equipment. The sampling, analysis and flow measurement procedures, equipment and results shall be subject at any reasonable time to inspection by the director. Measurements to verify the quantities of waste flow and chemical composition and strengths reported by users shall be conducted on a random basis by personnel of the director.

(g) *Modification of a permit:*

(1) Generally: Within nine (9) months of the promulgation of a national categorical pretreatment standard, the industrial wastewater discharge permit of users subject to such standards shall be revised to require compliance with such standard within the time frame prescribed by such standard. Where a user, subject to a national categorical pretreatment standard, has not previously submitted an application for an industrial wastewater discharge permit as required by section 19-43 of this article, the user shall apply for an industrial wastewater discharge permit within sixty (60) days after the promulgation of the applicable national categorical pretreatment standard. In addition, the user with an existing industrial wastewater discharge permit shall submit to the director within sixty (60) days after the promulgation of an applicable federal categorical pretreatment standard the information required by paragraphs (8) and (9) of section 19-43.

The provisions and conditions of the permit may be modified by the director during the term of the permit as other limitations or requirements are modified or for other reasonable cause. The user shall be informed of any proposed changes in his permit at least thirty (30) days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance and shall not exempt the user from meeting ordinance standards. Should measurements or other investigations indicate that the industrial permit holder is discharging wastewater, chemical oxygen demand, suspended solids or other wastewater constituent in a quantity or at a flow rate significantly in excess of that stated in the permit, the user shall be required to apply for an amended permit. Users who apply for an amended permit may be

required to comply with existing permit provisions prior to issuance of the amended permit. Users who apply for an amended permit may be required to comply with existing permit provisions prior to issuance of the amended permit.

(2) Change in ownership: Industrial wastewater discharge permits are issued to a specific user for a specific operation. A permit shall not be reassigned or transferred or sold to a new owner, new user, different premises, or a new or changed operation without the approval of the city. Any succeeding owner or user shall also comply with the terms and conditions of the existing permit. Provided the business only changes ownership, and operations and location do not change, only a modification of the permit may be needed.

Permit modifications shall be initiated by the permit holder thirty (30) days prior to the change, and must be approved by the director.

(3) Change in location: Any change in location will require a new permit.

(4) Change in business operations: Any changes in permitted operation that add or change the constituents or concentrations of any industrial wastewater discharges or affect any other provisions of this article will require a modification of a permit. The director may require a new permit when there is a significant change to the business operations.

Permit modifications shall be initiated by the permit holder thirty (30) days prior to the change, and must be approved by the director. (Ord. No. 87-280, Art. IV, § 7, 8-10-87)

Sec. 19-45. Records retention.

All permit holders shall retain and preserve for not less than three (3) years, any records, books, documents, memoranda, reports, correspondence and any and all summaries thereof, relating to monitoring, sampling and chemical analyses made by or on behalf of a user in connection with its discharge. All records which pertain to matters which are the subject of administrative action or any other enforcement or litigation activities brought by the City of Eloy pursuant to this article shall be retained and

preserved by the user until all enforcement activities have concluded and all periods of limitation for appeals have expired. (Ord. No. 87-280, Art. IV, § 8, 8-10-87)

Sec. 19-46. Combined wastewater formula.

(a) *Formula:* A combined wastewater formula may be used by industrial users that mix regulated process wastewaters with other regulated or unregulated wastewaters prior to pretreatment. The formula was derived to allow calculation of fixed alternative discharge limits that may be applied to combined wastewaters, provided that written permission has been obtained from the director.

The alternative discharge limits are derived using the following formula:

$$C_T = \left[\frac{\sum_{I=1}^{N} C_I F_I}{\sum_{I=1}^{N} F_I}\right] \cdot \left[\frac{F_T - F_D}{F_T}\right]$$

where

C_T = the alternative discharge limit for the combined wastewater.

C_i = the discharge limit for a pollutant in the regulated wastewater i.

F_i = the average daily flow (at least a thirty-day period) of wastewater i to the extent that it is regulated for such a pollutant.

F_D = the average daily flow (at least a thirty-day period) from boiler blowdown water, noncontact cooling streams, sanitary wastewater (where such wastewater is not regulated by this article.

F_T = the average daily flow (at least a thirty-day period) through the combined treatment facility (includes F_I and F_D).

N = the total number of regulated wastewaters.

(b) *Applicable requirements:*

(1) An alternative discharge limit may not be used if the alternative limit is below the analytical detection limit for any of the regulated pollutants.

(2) An industrial user is required to monitor his own wastewater to ensure compliance with the alternative discharge limits determined by the combined wastewater formula.

(c) *Approval requirement:* The combined wastewater formula shall only be used with the director's approval and in no case shall the alternative discharge limits exceed the applicable federal categorical pretreatment standards. (Ord. No. 87-280, Art. IV, § 9, 8-10-87)

Sec. 19-47. Inspection, sampling, and right of entry.

A requirement for the issuance of an industrial wastewater discharge permit as set forth in this article is that the permit holder consent to allow entrance to user's facilities at reasonable times by COTW's, state's and EPA's personnel and representatives for purposes of inspection, sampling, records examinations or performances of any duty. Any permanent or temporary obstruction to easy access to user's facility shall promptly be removed by the facility user or owner at the written or verbal request of the director and shall not be replaced. No persons shall interfere with, delay, resist or refuse entrance to an authorized COTW, state or EPA representative attempting to inspect any facility involved directly or indirectly with a discharge of wastewater to the COTW.

Adequate identification shall be provided by the director for all inspectors and other authorized personnel and these persons shall identify themselves when entering any property for inspection purposes or when inspecting the work of any contractor.

The city shall inspect the facilities of any user to ascertain whether the purpose of this article is being met and all requirements are being complied with. Inspections of every facility that is involved directly or indirectly with the discharge of wastewater to the COTW may be made by the Director as he deems necessary. These facilities shall include, but not be limited to, sewers; sewage pumping plants; pollution control plants; all industrial processes; industrial wastewater generation, conveyance and pretreatment facilities; devices and connection sewers; and all similar sewerage facilities. Inspections may be made to determine that such facilities are maintained and operated properly and are adequate to meet the provisions of this article.

The city, approval authority and (where the NPDES state is the approval authority), EPA shall have the right to set up on user's property such devices as are necessary to conduct sampling, inspection, compliance monitoring and/or metering operations.

Where a user has security measures in force which would require proper identification and clearance before entry into their premises, the user shall make necessary arrangements with their security guards so that upon presentation of suitable identification, personnel from the city, approval authority and EPA will be permitted to enter, without delay, for the purposes of performing their specific responsibilities. (Ord. No. 87-280, Art. IV, § 10, 8-10-87)

Sec. 19-48. Response to survey questionnaires and permit application forms.

All users shall respond to any survey questionnaire or permit application form within thirty (30) days unless a more specific time is specified. Failure to respond to any survey questionnaire or permit application form shall subject the user to the penalty for violating the reporting provisions of this article as specified in section 19-53(b). (Ord. No. 87-280, Art. IV, § 11, 8-10-87)

Sec. 19-49. Administration of article provisions.

The director shall administer, implement and enforce the provisions of this article. (Ord. No. 87-280, Art. V, 8-10-87)

Sec. 19-50. Enforcement; discharge violation.

(a) *Notification of violation:* Whenever the director finds that a user has engaged in conduct which requires corrective action, the director shall serve or cause to be served upon such user, a written notice, either personally or by certified or registered mail, (return receipt requested), stating the nature of the alleged violation. A notification shall include an order for corrective action, and may include an order of suspension or revocation. Additional orders, or a change to a suspension or revocation may follow the initial order at the discretion of the director or as additional information becomes available.

(b) *Response to notification:* Within ten (10) days of the date of receipt of a notice, the user shall respond in writing to the director, advising of its position with respect to any allegations, and informing the director of any action taken.

(c) *Resolution of violation:* Thereafter, the parties shall meet to ascertain the veracity of the allegations and, where necessary, establish the conditions for continued discharge or the requirements prior to resumption of discharge. (Ord. No. 87-280, Art. VI, § 1, 8-10-87)

Sec. 19-51. Suspension or revocation of permit.

(a) *Suspension of permit for industrial waste discharge:* The director shall suspend a permit when, in the opinion of the director, the suspension is necessary to stop a discharge which presents a hazard to the public health, safety or welfare, to the environment, to the COTW, or causes interference with the COTW or causes the city to violate any condition of its NPDES or reclaimed wastewater reuse, or groundwater discharge permits.

A permit holder notified of a permit suspension shall immediately stop discharge of all industrial wastewater to the system. In the event of a failure of the permit holder to comply voluntarily with the suspension order, the director shall take such steps as are necessary to insure compliance, including immediate severance of the sewer connection, to prevent or minimize damage to the COTW system or endangerment to any individuals. The city shall reinstate the industrial wastewater discharge permit and/or the wastewater treatment service upon proof of the elimination

of the noncomplying discharge. A detailed written statement submitted by the user describing the causes of the harmful contribution and the measures taken to prevent any future occurrence shall be submitted to the city within fifteen (15) days of the date of occurrence.

(b) *Revocation of permit for industrial wastewater discharge:* Any user who violates the following conditions of this article, or applicable state and federal regulations, is subject to having his permit revoked in accordance with the procedures of this section of the article:

(1) Failure of a user to factually report the wastewater constituents and characteristics of his discharge;

(2) Failure of a user to report significant changes in operations, or wastewater constituents and characteristics;

(3) Refusal of reasonable access to the user's premises for purpose of inspection or monitoring; or,

(4) Violation of conditions of the permit.

(c) *Notification of violation:* Whenever the city finds that any user has violated or is violating this article, industrial wastewater discharge permit, or any prohibition, limitation or requirements contained herein, the city may serve upon such person a written notice stating the nature of the violation. Within fifteen (15) days of the date of the notice, a plan for the satisfactory correction thereof shall be submitted to the city by the user.

(d) *Show cause hearing:* The city may order any user who causes or allows an unauthorized discharge to enter the COTW to show cause before the city council why the proposed enforcement action should not be taken. A notice shall be served on the user specifying the time and place of a hearing to be held by the city council regarding the violation, the reasons why the action is to be taken, the proposed enforcement action, and directing the user to show cause before the city council why the proposed enforcement action should not be taken. The notice of the hearing shall be served personally or by registered or certified mail (return receipt requested) at least ten (10) days before the hearing. Service may be made on any agent or officer of a corporation.

The city council may itself conduct the hearing and take the evidence, or may designate any of its members or any officer or employee of the department of public works to:

(1) Issue in the name of the city council notices of hearings requesting the attendance and testimony of witnesses and the production of evidence relevant to any matter involved in such hearings;

(2) Take the evidence;

(3) Transmit a report of the evidence and hearing, including transcripts and other evidence, together with recommendations to the city council for action thereon.

At any hearing held pursuant to this article, testimony taken must be under oath and recorded stenographically. The transcript, so recorded, will be made available to any member of the public or any party to the hearing upon payment of the usual charges thereof.

After the city council has reviewed the evidence, it may issue an order to the user responsible for the discharge directing that, following a specified time period, the sewer service shall be discontinued unless adequate treatment facilities, devices or other related appurtenances are properly operated and/or installed. Further orders and directives as are necessary and appropriate may be issued.

Costs of all hearings shall be borne by the user. (Ord. No. 87-280, Art. VI, § 2, 8-10-87)

Sec. 19-52. Liability of user.

Any industrial wastewater user who discharges, or causes the discharge of wastewaters which cause damage to the city's facilities, detrimental effects on treatment processes, or any other damages resulting in costs to the city shall be liable for all damages occasioned thereby.

The approval of a plan or a wastewater pretreatment process, or the issuance of a permit by the director shall not relieve the user of his responsibility to maintain such pretreatment facility or process so that his discharge meets all requirements pursuant to this article. (Ord. No. 87-280, Art. VI, § 3, 8-10-87)

Sec. 19-53. Judicial proceedings.

(a) *Initiation of legal action:* If any person discharges sewage, industrial wastes or other wastes into the city's wastewater disposal system contrary to the provisions of this article, federal or state pretreatment requirements, or any order of the city, the city attorney may commence an action for appropriate legal and/or equitable relief in the circuit court of Pinal County, Arizona. This legal action may include an injunction that would prevent the user from making any further discharges into the COTW.

(b) *Civil penalties:* Any user who is found to have violated an order of the city council or who willfully or negligently failed to comply with any provision of this article, and the orders, rules, regulations and permits issued hereunder, shall be fined not less than five hundred dollars ($500.00) nor more than twenty-five thousand dollars ($25,000.00) for each offense. Each day on which a violation shall occur or continue shall be deemed a separate and distinct offense. In addition to the penalties provided herein, the city may recover reasonable attorney's fees, court costs, court reporters' fees and other expenses of litigation by appropriate suit at law against the person found to have violated this article or the orders, rules, regulations, and permits issued hereunder.

(c) *Falsifying information:* Any person who knowingly makes any false statements, representation or certification in any application, record, report, plan or other document filed or required to be maintained pursuant to this article, or industrial wastewater discharge permit, or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required under this article, shall, upon conviction, be punished by a fine of not more than one thousand dollars ($1,000.00) or by imprisonment for not more than six (6) months, or by both. User's industrial wastewater discharge permit shall also be subject to revocation. (Ord. No. 87-280, Art. VI, § 4, 8-10-87)

Sec. 19-54. Posting a bond.

The director may require posting of a bond by any user.

(a) *Bond:* As part of any permit condition, the director may at any time impose, revise or otherwise require a bond from any user who:

(6) Fees for consistent removal (by the City) of pollutants otherwise subject to Federal pretreatment standards;

(7) Other fees as the City may deem necessary to carry out the requirements contained herein.

These fees relate solely to the matters covered by this Article and are separate from all other fees chargeable by the City.

(c) *Renewal Permit Fee:* A renewal permit fee shall be paid to the Municipal Sewer Department prior to permit reissuance.

(d) *Permit Denial; No Refund:* The permit fee paid at the time of permit application shall be retained by the City when a permit is denied. The applicant shall forfeit the fee unless an acceptable proposal is submitted within one hundred twenty (120) days of the date of denial.

(e) *Modification:* A permit modification may be applied for and granted with no fee required.

(f) *Permit Not Required:* The permit fee shall be refunded when a determination is made that the original submittal does not require a permit. (Ord. 87-280, Art. VII, §§ 1–6, 8-10-87)

Sec. 19-58. Notice Procedure:

Any notice required to be given by the Director under this Article shall be in writing and served in person or by the first class registered or certified mail (return receipt requested). The notice shall be served upon an authorized representative, at the last address known to the Director or the occupants or owners of record of property upon which the alleged violations occurred. (Ord. 87-280, Art. IX, 8-10-87)

Sec. 19-59. Rules And Regulations:

All rules and regulations, guidelines, and charges adopted in conjunction with administration of this Article shall be in writ-

ing, and a copy shall be filed in the office of the City Clerk. A copy shall be available in the Municipal Sewer Department office. (Ord. 87-280, Art. X, 8-10-87)

Sec. 19-60. Time Limits:

Any time limit provided in any written notice or in any provision of this Article or in any regulation adopted pursuant to it shall be extended only by a written directive of the Director, following the written request of the user involved. The request must contain adequate justification for the extension of a time limit. (Ord. 87-280, Art. XI, 8-10-87)

Sec. 19-61. Right Of Revision:

The City reserves the right to amend this Article where deemed necessary. At least forty five (45) days before any formal consideration of an amendment to this Article, the Director shall notify in writing any person who has filed a request for notification with the Director. The City Clerk shall provide notification by publication in a newspaper of general circulation in the City. The notice shall contain a brief description of the nature of the amendment to be considered, and the time and place when formal action will be taken. (Ord. 87-280, Art. XII, 8-10-87)

ARTICLE III. BACKFLOW PREVENTION AND CROSS-CONNECTION CONTROL

Sec. 19-62. Purpose:

(a) To protect the public potable water supply of the city Water Department from the possibility of contamination or pollution by preventing the backflow of contaminants and pollutants into the public potable water supply system.

(b) To promote the elimination or control of existing cross-connections, actual or potential, with a customer's internal

Appendix F

LETTERS OF SUPPORT

Susan Versluis

From: "Susan Versluis" <versluis@azcitysewer.net>
To: "Terry Doolittle" <Terry.Doolittle@co.pinal.az.us>
Cc: "Rick Autry" <richard_autry@azci.net>; "William Sullivan" <wsullivan@cgsuslaw.com>; "Doug Olson" <dolson@ci.eloy.az.us>
Sent: Friday, December 08, 2006 9:44 AM
Subject: Pinal County 208 Area Wide Water Quality Management Plan

December 8, 2006

Dear Mr. Doolittle,

The Arizona City Sanitary District Board reviewed the map you provided on November 20, 2006. The District is continuing to develop a draft IGA with the City of Eloy in an effort to promote and further regional, rather than jurisdictional, wastewater planning. The District commends the City of Eloy for its willingness to think regionally. With this is mind, the District Board unanimously supported the map of Eloy's proposed DMA, reserving its right to withdraw its support during the public process in the event the parties are unable to agree on an IGA or at least the substantive parts of one.

Sincerely,
For the Arizona City Sanitary District
Susan Versluis
Susan Versluis
Office Manager

Robson Communities℠
Master-Planned Resort Living

Steven M. Soriano
Executive Vice President
Direct: (480) 895-4219
Fax: (480) 895-4353
E-mail: soriano@robson.com

September 7, 2006

Via facsimile + Email

J. Peter Armenta
Environmental Planner
Central Arizona Association of Governments
271 Main Street
Superior, AZ 85273

Dear Mr. Armenta:

The purpose of this letter is to express Robson Communities' support, with no objections, to the City of Eloy's 208/DMA Modification.

Sincerely,

Steven M. Soriano

Robson Communities

Master-Planned Resort Living

DATE: September 7, 2006 TIME: 3:27 PM

TO: J. Peter Armenta

COMPANY: Central Arizona Association of Governments

FAX NUMBER: 520-689-5020

FROM: Steven M. Soriano

NUMBER OF PAGES INCLUDING THIS PAGE: 2

COMMENTS: Letter regarding City of Eloy 208/DMA Modification

HARD COPY WILL ____WILL NOT__x__ FOLLOW VIA U.S. MAIL.

9532 E. Riggs Rd. Sun Lakes, AZ 85248-7463
FAX NUMBER: 480-895-4353
TELEPHONE NUMBER: 480-895-4219

Robson Communities

Master-Planned Resort Living

DATE: September 7, 2006 TIME: 3:27 PM

TO: J. Peter Armenta

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TX RESULT REPORT

NAME:
TEL :
DATE:SEP.07'2006 03:10

SESSION	FUNCTION	NO.	DESTINATION STATION	DATE	TIME	PAGE	DURATION	MODE	RESULT
2972	TX	01	915206895020	SEP.07	03:09	002	00H00'35"	ECM	OK

Karen Parker - Letter from Robson Communities

From: Karen Parker
To: jparmenta@CAAGcentral.org
Date: 9/7/2006 3:25 PM
Subject: Letter from Robson Communities

Mr. Armenta:

On behalf of Steve Soriano, attached is a letter from Robson regarding Eloy's 208/DMA Modification.

Thank you.
Karen Parker

>>> <RCICOPIER@ROBSON.COM> 9/7/2006 3:07 PM >>>

The following document has been scanned on the Fiery and attached to this email:
0907150738.pdf

City of Coolidge
Growth Management Department

141 N. Main St
Coolidge, AZ 85228
520-723-6075
520-723-6079 - Fax

September 7, 2006

John Mitchell
City Engineer
City of Eloy
1137 W. Houser Rd.
Eloy, AZ 85231

Mr. Mitchell:

We have reviewed the map of your proposal for a Designated Management Area for waste water collections systems and, as drawn, it does not conflict with current City of Coolidge Planning Boundaries or proposed annexations. The City of Coolidge will not oppose this designation.

Sincerely,

C. Alton Bruce

C. Alton Bruce
Growth Management Director

PINAL COUNTY
BOARD OF SUPERVISORS

FILE

TERRY DOOLITTLE
County Manager

December 13, 2006

Ms. Maxine Leather, Executive Director
Central Arizona Association of Governments
271 Main Street
Superior, Arizona 85273

Dear Maxine,

Pinal County has reviewed the plans of the Eloy DMA. Attached is a copy of a map and legal description of the area involved. We concur with their efforts and recommend CAAG approval.

Sincerely,

Terry Doolittle
Pinal County Manager

Attachment

Cc: Jim McFellin, City of Eloy
Jim Thompson, City of Casa Grande
Sue Versluis, Arizona City Sanitary District