

ORIGINAL

JOHNSON UTILITIES L



0000084494

5230 East Shea Boulevard * Scottsdale, Ari

PH: (480) 998-3300; FAX: (480) 483-7908

RECEIVED

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2008 MAY -9 P 3:36

May 9, 2008

AZ CORP COMMISSION
DOCKET CONTROL

Alexander Igwe
Utilities Division
Arizona Corporation Commission
1200 W. Washington Street
Phoenix, Arizona 85007

RE: Johnson Utilities Company- Application to extend a Certificate of Convenience and Necessity. Docket No. WS-02987A-07-0487

Dear Mr. Igwe,

Thank you for extending the grace period to allow us ample time to respond to your Insufficiency Letter. Please see the responses to your deficiencies below.

1. A sewer master plan for the Skyline Estates and JO Combs Educational Village clarifying how wastewater service will be provided to these projects are attached here to as Attachments 1 and 2 respectively. We have yet to receive a design report for the Quail Run Estates Project. The plan for Quail Run Estates is to serve it with an 8" Force-main and Lift-station that will tie into the Skyline Estates Force-main at Skyline Dr. and Sierra Vista Dr. as shown on the aerial attached hereto as Attachment 3. Quail Run Estates will have 525 homes producing an estimated .11 MGD. All three projects will be served by the Pecan WWTP, which has a current APP for 4 MGD. We've attached our current subdivision commitments for the Pecan WWTP, which shows we have sufficient capacity remaining to serve the requested expansion area, hereto as Attachment 4.
2. The Aquifer Protection Permit for our Pecan Wastewater Treatment Plant is attached hereto as Attachment 5.
3. The compliance status reports for our water and wastewater facilities are attached hereto as Attachment 6.
4. The remaining cost estimates to serve Quail Run Estates and JO Combs Educational Village along with the Skyline Estates off-site facilities are attached hereto as Attachment 7.
5. The developers have not directed the engineers to complete design plans for the developments until they are included in the CC&N area due to the design costs. If for any reason the CC&N was not granted they will have spent a significant amount of money prematurely

Arizona Corporation Commission

DOCKETED

MAY - 9 2008

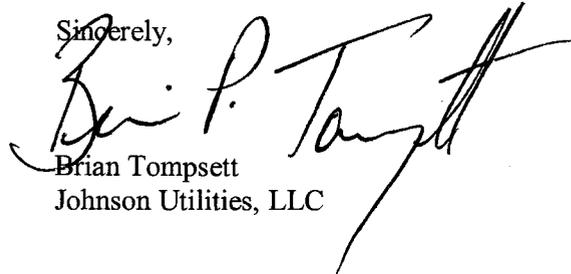
DOCKETED BY	<i>MM</i>
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JOHNSON UTILITIES L.L.C

5230 East Shea Boulevard * Scottsdale, Arizona 85254
PH: (480) 998-3300; FAX: (480) 483-7908

If Staff needs any additional information or clarification to satisfy any of the deficiencies,
please contact me at 480-998-3300.

Sincerely,



Brian Tompsett
Johnson Utilities, LLC

Enclosure

Cc: Docket Control
Dorothy Hains

ATTACHMENT

1

Conceptual Sewer Master Plan

for

Skyline Estates

Pinal County, Arizona

April 7, 2006

united engineering group

4505 E. Chandler Blvd., Suite 170

Phoenix, AZ 85048

Phone: 480.705.5372

Fax: 480.705.5376

Conceptual Sewer Master Plan

For

Skyline Estates

Pinal County, Arizona

Prepared For:

Skyline & Quail, L.L.C.

8800 N. Gainey Center Dr.

Suite 255

Scottsdale, AZ 85258

Tel: (480) 609-1200

Fax: (480) 609-1130

Prepared By:

United Engineering Group

4505 E. Chandler Blvd.

Suite 170

Phoenix, AZ 85048

Tel: (480) 705-5372

Fax: (480) 705-5376

April 7, 2006

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Exhibits

- Exhibit A – Site/Vicinity Map
- Exhibit B – Sewer Line Layout
- Exhibit C – Offsite Sewer Exhibit

Line Sizing Table

Table 1 – Sub-main Lines

Abbreviations and Terminology

gpd –	Gallons Per Day
MGD –	Million-Gallons Per Day (1,000,000 gpd)
gpm –	Gallons Per Minute
gpcd –	Gallons Per Capita per Day
EDU –	Equivalent Density Unit – Equal to the design discharge of one detached single family residential dwelling unit
AAC Title 18 –	Arizona Administrative Code Title 18. The document containing the rules and regulations governing wastewater collection and treatment in the State of Arizona.
Average Discharge –	Anticipated mean outflow over a 24-hour period
Peak Discharge –	Anticipated flow rate for the system at peak usage times. Arizona Administrative Code Title 18 was used to determine the peaking factor for each portion of the system. Peak Discharge is equal to Average Discharge multiplied by the peaking factor.

1.0 Introduction

The following report describes a master plan study for a proposed sewer system serving the community of *Skyline Estates*. Currently, negotiations are taking place between Johnson Utilities Company (JUC) and Skyline & Quail, L.L.C. (the Developer) on a line extension agreement. This Master Plan will quantify the necessary treatment capacity and discuss the proposed tie-in location. In addition, this report will demonstrate a conceptual sewer layout, based on the approved PAD (Planned Area Development) zoning, addressing the unique conditions on this site.

1.1 Existing Conditions

Skyline Estates consists of 291 gross acres. The site is located at the southwest corner of Skyline Drive and Quail Run Lane. The site is described as the north half of Section 11, Township 3 South, Range 8 East, of the Gila and Salt River Base and Meridian, Pinal County, Arizona; Except the northwest quarter of the northwest quarter of Section 11, Township 3 South, Range 8 East, of the Gila and Salt River Base and Meridian, Pinal County, Arizona. See Exhibit A: Vicinity Map.

A sewer solution exists for this property. The outfall location is in the southwest corner of the site. This location takes advantage of the natural topography of the site, allowing for gravity flow onsite.

1.2 Proposed Development

The proposed layout consists of single family housing lots and a centrally located park area. An existing City of Mesa gas line will not be relocated. It is located in a 20-foot easement that traverses the site from north to south. The sewer Master Plan is based on the current lot layout which was revised to accommodate the gas line (see Exhibit B). The site will be phased in 7 parcels. Site development will start in the southwest corner and continue east.

1.3 Anticipated Sewer Solution

Skyline Estates is two miles north of JUC's existing service area. However, JUC has reached an agreement with Diversified Water Company that allows it to serve the Skyline Area and will apply for a CC&N (Certificate of Convenience and Necessity) expansion. It is anticipated that the Arizona Corporation Commission (ACC) will grant JUC's CC&N expansion request. When this request is granted, JUC will be the certified provider of sewer service for this area. This Master Plan will become the basis for a Line Extension Agreement between the developer and JUC. This agreement will specify terms and requirements for wastewater service to the development.

No offsite infrastructure or treatment facilities have yet been constructed in the immediate vicinity. Therefore, the developer has received instruction from JUC to pump wastewater to the Pecan treatment plant on Gantzel Road. The offsite sewer solution is for a lift station to pump flows north on Sierra Vista Drive, west on Skyline Drive, north on Schnepf Road, and west on Combs Road to an existing force main stub. The total force main required between site outfall and the treatment plant is approximately 6 miles (see Exhibit C).

2.0 Design Criteria

The following design standards are from JUC's *Design Guide* and the Arizona Administrative Code (AAC) Title 18. A population of 2.6 persons per dwelling unit was used per JUC requirements for Family Community Residences.

Flow Rates

Peaking Factor:	Per AAC
Residential Demand:	90 gallons/person/day
	2.6 persons/unit

Pipes

Minimum Slope:	Calculated using Manning's Formula, $n = 0.013$
8-in.	0.0040 ft/ft
10-in.	0.0024 ft/ft
12-in.	0.0019 ft/ft
15-in.	0.0014 ft/ft
18-in.	0.0011 ft/ft
21-in.	0.00092 ft/ft
24-in.	0.00077 ft/ft

Full Flow Velocity

Minimum:	2.0 ft/sec
Maximum:	9.0 ft/sec

Manholes

Size:	4-ft diameter for 8 in. to 12-in. lines
	5-ft diameter for 15-in. and larger lines
Spacing:	500-ft for 8-in. to 15-in. lines

3.0 Design Methodology

A sewer model was used to aid the design. Exhibit B shows the conceptual layout with pipe sizing. Design calculations were made for manholes at parcel outfall locations. Each parcel was assigned a population calculated from the proposed lot layout. Final grading design has helped determine the invert and rim elevations provided in Table 1. In addition, a draft sewer design has been completed using final grades. While not included in this report, this design gives an accurate lift station invert depth.

The objective is to use gravity flow where possible. The site slopes from northeast to southwest at 0.4%, which is equal to the minimum slope requirement. The required cover for sanitary sewer is 4 feet. In washes, the required cover is 4 feet below scour depth. The sewer depth may also be affected by clearance regulations when crossing water mains and other utilities.

4.0 Proposed Facilities

4.1 Collection System

Numerous scenarios and pipe layouts were considered; the chosen layout is shown in Exhibit B. Wastewater flows will be collected within individual parcels and will be conveyed to onsite sub-mains. Table 1 at the end of this report provides line sizing based on the lot layout and the design criteria provided in Section 2.0. In addition to demonstrating compliance with design criteria, the tables provide cumulative flows for each sewer line.

All onsite lines will eventually converge at the lift station near Sierra Vista Road and Jennings Street. The United Engineering Group final design team has determined that the outfall invert will be at an approximate elevation of 1518.7 feet or 17.3 feet below existing ground surface.

4.2 Offsite

After examining the topography of the area and comparing construction costs between alternatives, a lift station and force main will be utilized to convey flows offsite. At this stage of design, it appears that an 8-inch force main will be constructed up to the tie in, which is an existing force main stub on Combs Road approximately 500 feet east of Gantzel Road. The proposed route is shown in Exhibit C.

The average daily maximum flow at build-out for *Skyline Estates* will be approximately 0.24 MGD. Treatment service will be provided by an existing facility, the Pecan WRP, which is located on Gantzel Road a half mile north of Combs. JUC has confirmed that capacity will be available based on the timeline discussed in Section 5.

5.0 Phasing and Timeline

The onsite sewer system will be constructed as required by the phasing of the *Skyline Estates* development. The site is divided into 7 parcels. Construction on Parcel 1.1 will begin in January 2007. Development will subsequently continue through all parcels (4 to 7 years until build-out). Full sewer capacity may be required in 4 to 8 years.

6.0 Conclusion

This report assumes right-of-way will be available along the proposed and existing street alignments, and that there are no unique situations not already mentioned. If the current land use plan is implemented, the plan in this report can be utilized as proposed.

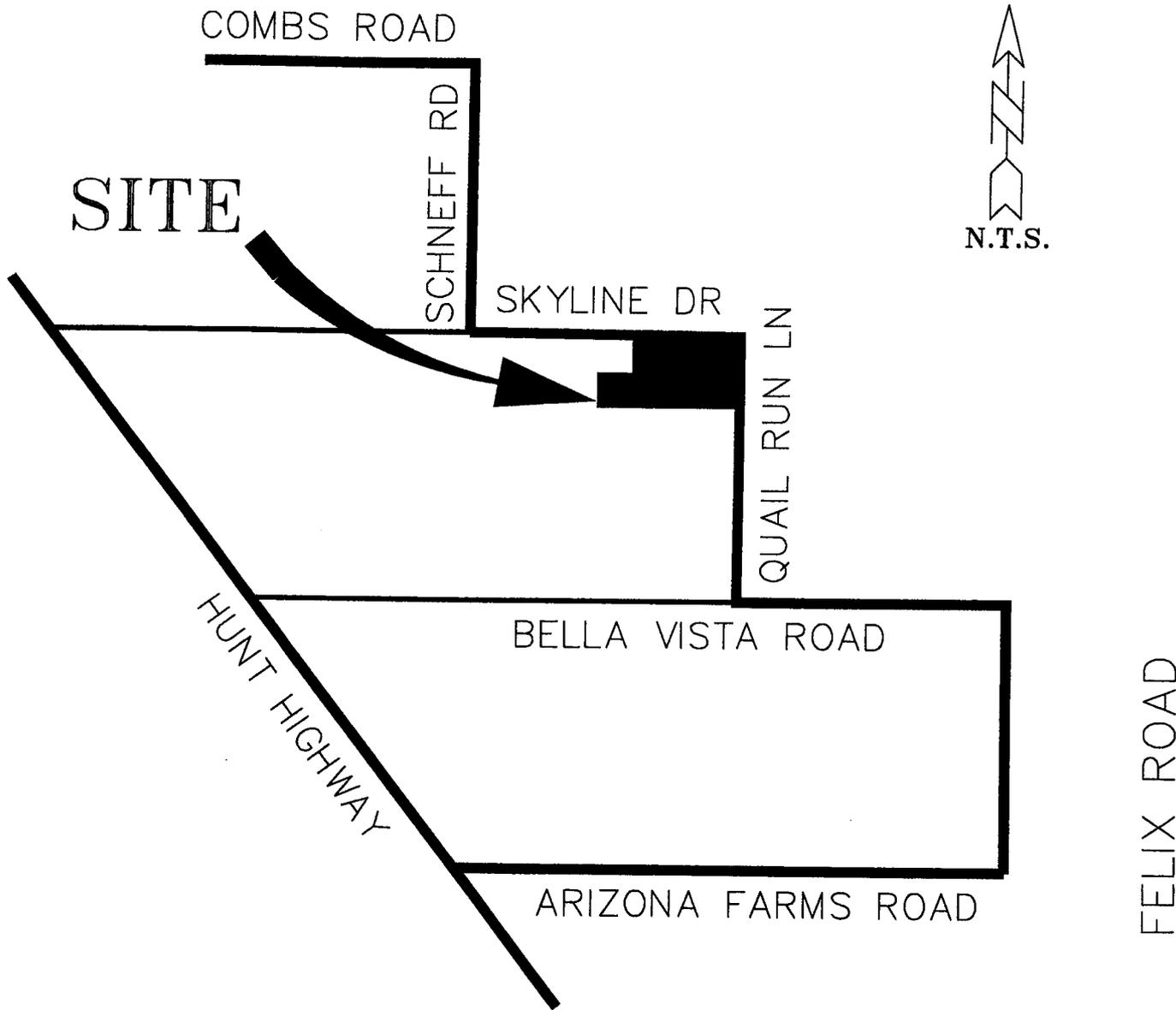
The wastewater collection system has been designed to maximize the benefit to the *Skyline Estates* community. This solution will serve anticipated end users while providing a sufficient buffer of additional capacity for unforeseen demands. As shown by the calculations, wastewater can be conveyed on this site by gravity. A tie-in location to the regional system will be located in the southwest corner at a proposed lift station. The lift station and force main are currently being designed to meet the needs of *Skyline Estates*.

While further studies may address the costs and timing issues specific to this project, this study focuses on the technical and engineering aspects of an economical design. This analysis will be the basis for a Line Extension Agreement and should be supported by Johnson Utilities Company, Pinal County, and area environmental groups and agencies. The proposed plan is in conformance with the regional plan and will benefit the environment by eliminating the need for septic systems and package plants.

References

Arizona Secretary of State, "Arizona Administrative Code; Title 18; Chapter 9 – Department of Environmental Quality Water Pollution Control," Published by The State of Arizona, effective January 1, 2001.

Johnson Utilities Design Guide & Standard Details. Effective November 2005.



Vicinity Map



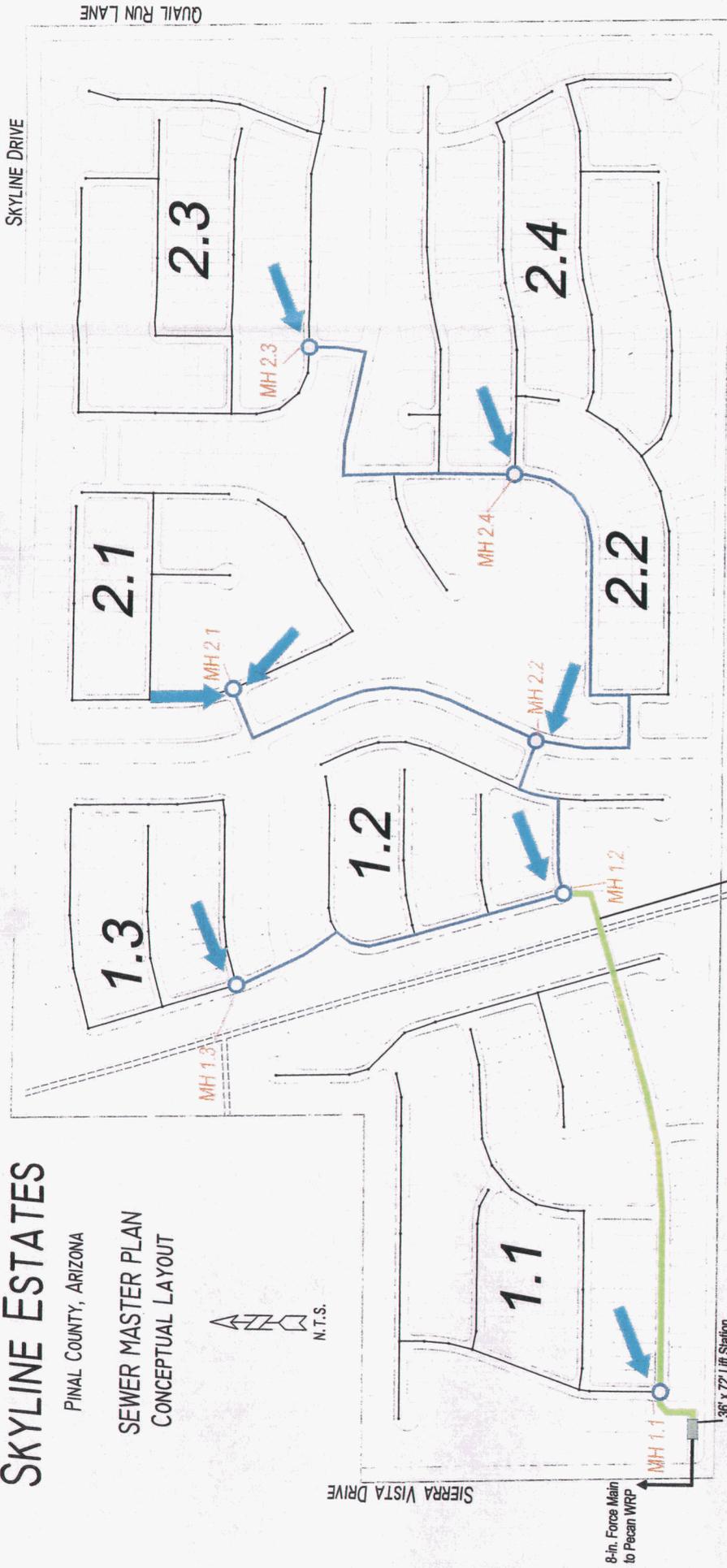
united engineering group
 4505 East Chandler Boulevard
 Suite 173
 Phoenix, Arizona 85046
 Phone: (480) 705-5372
 Fax: (480) 705-6376

Exhibit A

SKYLINE ESTATES

PINAL COUNTY, ARIZONA

SEWER MASTER PLAN CONCEPTUAL LAYOUT



- 8-in. Sewer
- 8-in. Sub-main Sewer
- 10-in. Sub-main Sewer
- Contributing Manhole

EXHIBIT B



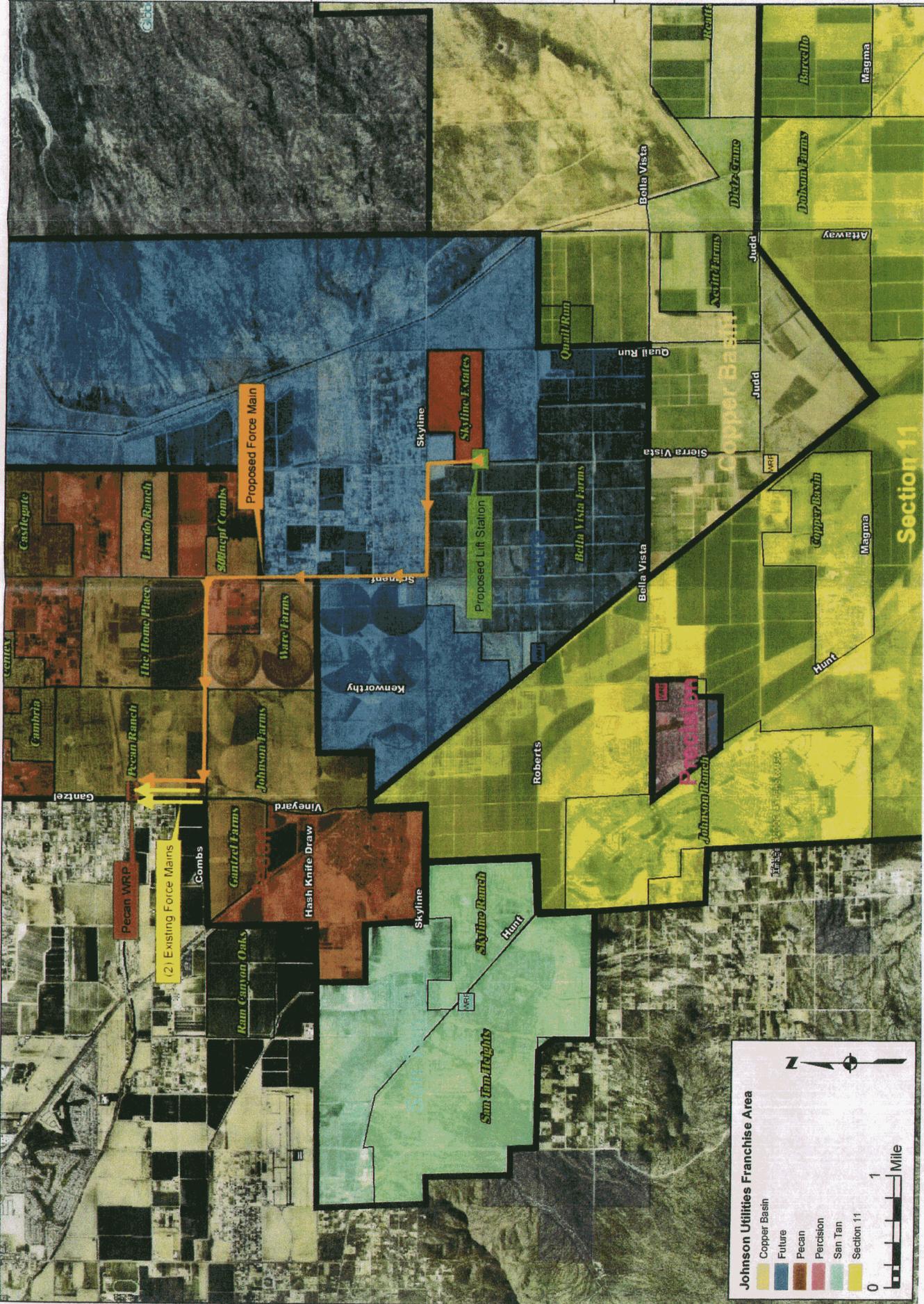
Sean M. Hamill
 united engineering group
 4505 E Chandler Blvd Suite 170
 Phoenix, AZ 85048
 Phone: 480-705-5372
 Fax: 480-705-5376
<http://www.unitedeng.com>

Skyline Estates

Offsite Sewer Solution

DATE: 1-19-2006

JOB NUMBER: 10944



Johnson Utilities Franchise Area

- Copper Basin
- Future
- Pecan
- Precision
- San Tan
- Section 11

Table 1. Skyline Estates Sewer Master Plan - Sub-ma

Up Stream MH	Down Stream MH	Adjacent			C Pipe			Area (sq. ft)	Capacity (cfs)	Capacity (mgd)	Q/Qfull (%)	Full Flow Velocity (fps)
		Unit Count	Equivalent Population	ADWF (mgd)	Equivalent Population	ADV Diamet (mg er (in)						
ONSITE LINES												
2.3	2.4	178	462.8	0.0417	462.8	0.04	8	0.349066	1.011	0.6536	16.8%	2.9
2.4	2.2	192	499.2	0.0449	962.0	0.08	8	0.349066	0.809	0.5229	40.1%	2.3
2.2	1.2	86	223.6	0.0201	1466.4	0.13	8	0.349066	1.015	0.6558	45.7%	2.9
1.2	1.1	102	265.2	0.0239	2015.0	0.18	10	0.545415	1.261	0.8149	48.6%	2.3
1.1	L.S.	242	629.2	0.0566	2644.2	0.23	10	0.545415	1.461	0.9441	53.4%	2.7
2.1	2.2	108	280.8	0.0253	280.8	0.02	8	0.349066	0.794	0.5131	15.5%	2.3
1.3	1.2	109	283.4	0.0255	283.4	0.02	8	0.349066	0.772	0.4988	16.1%	2.2

Design Criteria	Persons/EDU Multiplier		Fixed Peaking Factors*					
	Flow/Person Multiplier	or						
	Peaking Factor	ulation	pop.	PF	500	2.74		
Summary:	Lift Station Invert =	1518.70	ft	administrative	200	3.14	800	2.46
	Pipe size entering L.S. =	10	in.	18	300	2.90	900	2.42
	Capacity needed =	0.24	MG	400	2.64	1000	2.38	

ATTACHMENT

2

**SEWER DEMAND, DOMESTIC WATER DEMAND AND PEAK FIRE
FLOW REPORT**

for

J. O. COMBS ACADEMIC VILLAGE

AT KENWORTHY AND GERMANN ROADS

Pinal County, Arizona

Owner Developer:

J.O. Combs School District
301 East Combs Road
Queen Creek, AZ 85252
480-987-5300

Engineer:

Hubbard Engineering
625 North Gilbert Road, Suite 106
Gilbert, Arizona 85234
480-892-3313

Johnson International, Inc.:

5230 E. Shea Boulevard
Scottsdale, Arizona 85254
Phone: 480-998-3300
Fax: 480-483-7908

Job No. 26050
November 2006

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1 INTRODUCTION

1.1 Project Location and Description

This project is a school complex consisting of a high school, a middle school, and an elementary school proposed to be located on a 90-acre (including right-of-way) site on the south side of Germann Road between Kenworthy Road and Coyote Road in Pinal County in the northwest quarter of Section 9, Township 2 South, Range 8 East, on leased Arizona State Trust Land. The site is graded agricultural field and is surrounded by low density rural development on the east (Queen Creek Ranchos Amended, PCR 17-29) and west (unsubdivided and Queen Creek Suburban Ranches, PCR 15-16), agricultural fields on the south, and undeveloped desert on the north. See Figure 1: Vicinity aerial photograph.

The planned dates for the construction of the three schools are January 2008 for the elementary school, July 2009 for the high school, and July 2010 for the middle school. This may be adjusted as student population dictates. See Figure 2 on page 6.

1.2 Zoning

The zoning of the Queen Creek Ranchos subdivision that borders the site to the east and the Queen Creek Suburban Ranches subdivision that borders the site to the southwest is Suburban Ranch. The zoning of the undeveloped, unsubdivided parcels to the west, the State Trust land to the north and south, and this site itself is General Rural.



Figure 1: Vicinity aerial photograph

2 SEWER, DOMESTIC WATER AND FIRE FLOW DEMAND

The basis for the estimation of water and sewer demand came from Johnson Utilities Design Guide and Standard Details in conjunction with ADEQ guidelines as found in the Arizona Administrative Code Title 18, Ch. 9 Table 1.

2.1 Peak Sewer Demand

Population, $P=3804$ people

Peaking Factor

$$PF = (6.330 * P^{-0.231}) + 1.094 = 2.037$$

Sewer Demand				
	<i>Applicable Unit</i>	<i>Number of Units</i>	<i>Sewage Design Flow per Applicable Unit, Gallon Per Day</i>	<i>Sewage Design Flow, Gallon Per Day</i>
Elementary	Student	750	15	11250
Staff & Office	Person	76	20	1520
with cafeteria	Student	1000	3	3000
			Subtotal	15770
Middle	Student	1000	20	20000
Staff & Office	Person	78	20	1560
with gym & shower	Student	1000	5	5000
with cafeteria	Student	1000	3	3000
			Subtotal	29560
High	Student	1700	20	34000
Staff & Office	Person	200	20	4000
with gym & shower	Student	1800	5	9000
with cafeteria	Student	1800	3	5400
			Subtotal	52400
Grand Total (GPD)				97730

Table 1. Sewer Demand

2.2 Water Demand

Population, $P=3804$ people

Water Demand				
	<i>Applicable Unit</i>	<i>Number of Units</i>	<i>Water Design per Applicable Unit, Gallon Per Day</i>	<i>Water Demand, Gallon Per Day</i>
Elementary	Student	750	17	12375
Staff & Office	Person	76	22	1672
with cafeteria	Student	1000	3	3300
			Subtotal	17347
Middle	Student	1000	22	22000
Staff & Office	Person	78	22	1716
with gym & shower	Student	1000	6	5500
with cafeteria	Student	1000	3	3300
			Subtotal	32516
High	Student	1700	22	37400
Staff & Office	Person	200	22	4400
with gym & shower	Student	1800	6	9900
with cafeteria	Student	1800	3	5940
			Subtotal	57640
Grand Total (GPD)				107503

Table 2. Water Demand

2.3 Fire Flow Demand

1300-1500 GPM for 2 hours at 65-80 static psi, 50-60 residual psi.

3 CONCLUSION

Hubbard Engineering is coordinating with Johnson Utilities and H₂O Inc. for the supply of sewer and water utilities to the J.O. Combs Academic Village.

A force sewer main is to be installed in Kenworthy Road beginning with an on-site lift station and continuing south on Kenworthy until Joy Road. Existing Pinal County right-of-way north of Pima Road is on the west side of Kenworthy Road and south of Pima Road on the east side of Kenworthy Road will be utilized.

Water will come from Joy Road and Schnepf Road and continue north on Schnepf Road until Germann Road and then west to Kenworthy and south just past the Loveland alignment and north of the Pleasant Run alignment where the proposed 12" line will connect to an existing 6" line. Right-of-way on the west of Schnepf Road and South side of Germann Road will be utilized. See Figure 2 on the following page.

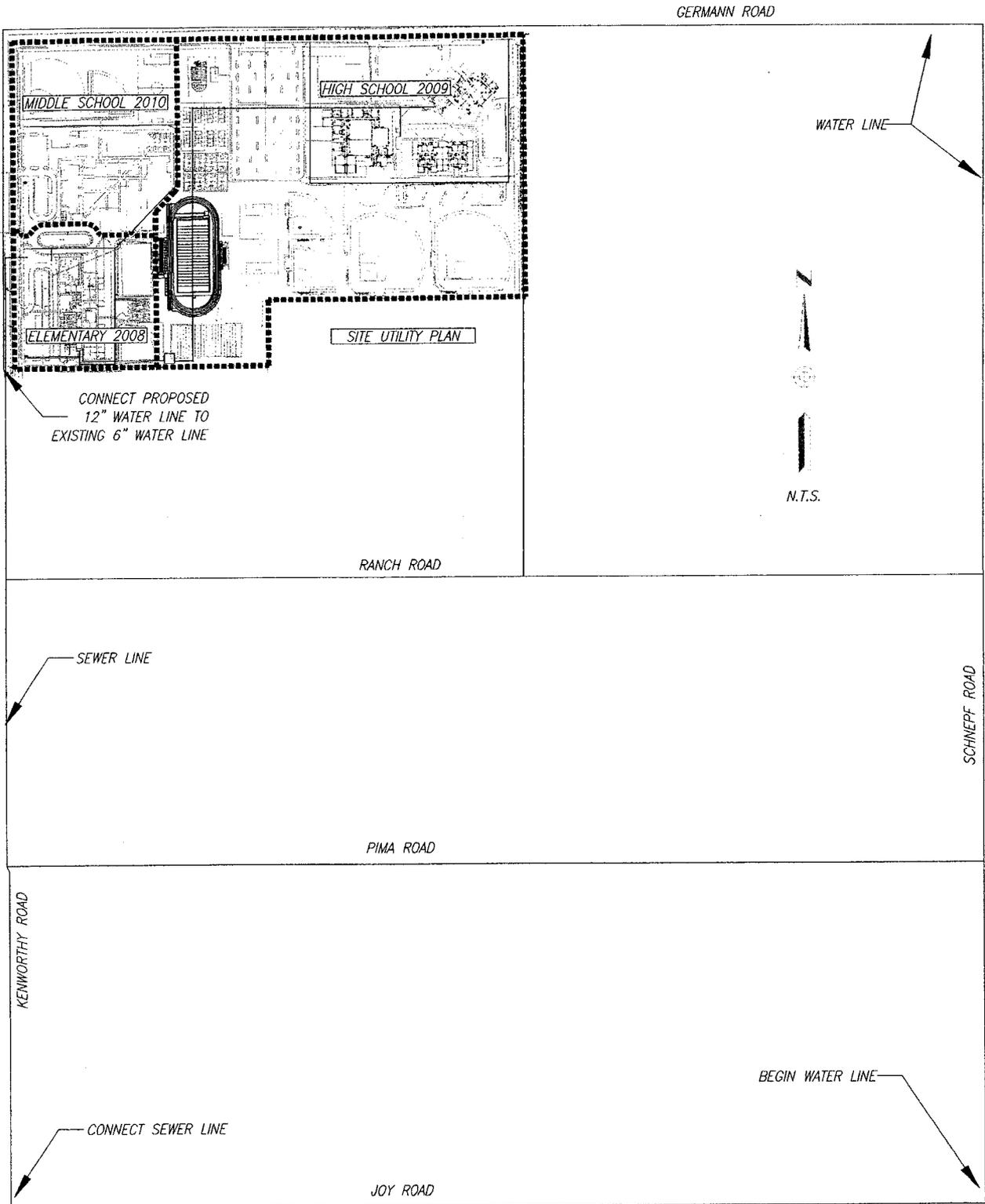
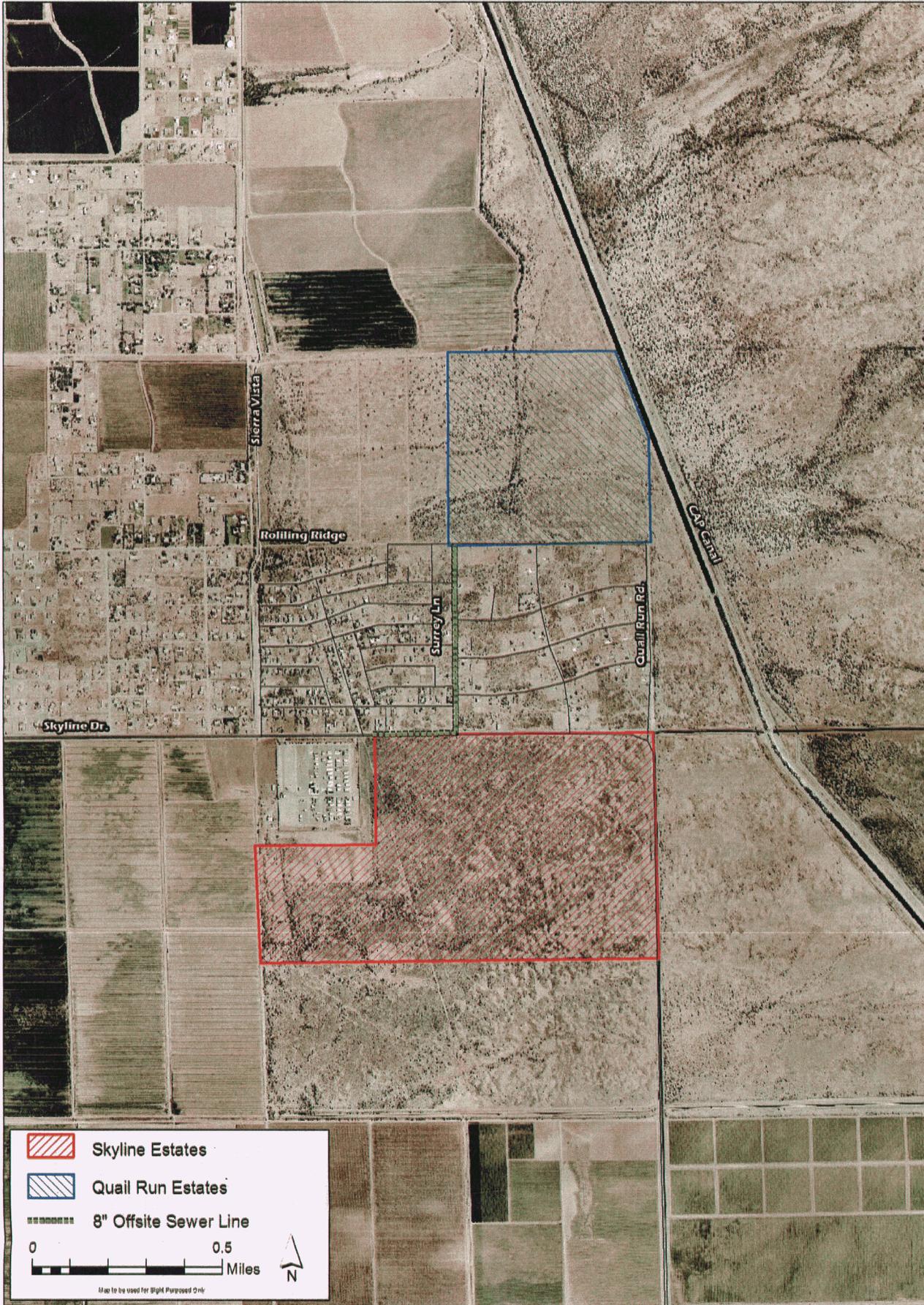


Figure 2 Off-site Utility Depiction and Phasing Boundaries

ATTACHMENT

3



John Q User

DATE: 03-14-07

JOB NUMBER: 10069

Skyline Estates - Quail Run Estates
 Offsite Sewer Alignment

ATTACHMENT

4

Subdivision	ADEQ File No.	Lots	Sewer Design Flow 187.2 gpd/du
Pecan Creek N - Parcel 1	20020580	245	45,864
Pecan Creek N - Parcel 2	20020581	203	38,002
Pecan Creek N - Parcel 3	20020582	167	31,262
Pecan Creek N - Parcel 4	20020583	212	39,686
Pecan Creek N - Parcel 5	20020584	111	20,779
Pecan Creek N - Parcel 6	20020585	114	21,341
Pecan Creek N - Parcel 7	20020586	111	20,779
Pecan Creek N - Parcel 8	20020587	156	29,203
Castlegate Parcel 1	20020619	83	15,538
Castlegate Parcel 2	20020620	106	19,843
Castlegate Parcel 3	20010494	188	35,194
Castlegate Parcel 4	20020621	188	35,194
Castlegate Parcel 5	20010491	93	17,410
Castlegate Parcel 6	20010496	85	15,912
Castlegate Parcel 7	20010493	157	29,390
Castlegate Parcel 8	20030185	17	3,182
Castlegate Cottages P1	20010492	107	20,030
Castlegate Cottages P2	20010495	154	28,829
Castlegate Villages	20010507	218	40,810
Cambria Infrastructure	20000385	0	0
Cambria Parcel 1	20010092	104	19,469
Cambria Parcel 2	20000633	108	20,218
Cambria Parcel 3 Ph1	20010093	164	30,701
Cambria Parcel 3 Ph2	20010223	0	0
Cambria Parcel 4	20000416	134	25,085
Cambria Parcel 5	20000419	99	18,533
Cambria Parcel 6	20000417	107	20,030
Cambria Parcel 7	20000487	105	19,656
Vineyard Estates	20030155	161	30,139
Wayne Ranch	20030492	423	79,186
CircleCrossRanParcl 1	20020420	125	23,400
CircleCrossRanParcl 2	20020421	262	49,046
CircleCrossRanParcl 3	20020422	167	31,262
CircleCrossRanParcl 4	20020423	163	30,514
CircleCrossRanParcl 5	20020424	218	40,810
CircleCrossRanParcl 6	20030122	120	22,464
CircleCrossRanParcl 6B	20040646	75	14,040
CircleCrossRanParcl 7	20040647	119	22,277
CircleCrossRanParcl 8	20040648	116	21,715
CircleCrossRanParcl 9	20040649	107	20,030
CircleCrossRanParcl 10	20040650	144	26,957
CircleCrossRanParcl 11	20040714	123	23,026
CircleCrossRanParcl 12	20050059	107	20,030
CircleCrossRanParcl 13	20050060	123	23,026
CircleCrossRanParcl 14	20040715	127	23,774
CircleCrossRanParcl 15	20040716	97	18,158
CircleCrossRanParcl 16	20050061	76	14,227
CircleCrossRanParcl 17	20050063	98	18,346
CircleCrossRanParcl 18	20050064	70	13,104

Section 4. Proposed Subdivision or Other Project(Revised)

5/9/2008

CircleCrossRanParcel 19	20050065	100	18,720
CircleCrossRanParcel 20	20050066	116	21,715
CircleCrossRanParcel 21	20050067	84	15,725
Circle Cross Retail Center			6,000
SkylineRanchPh1,Parc A	20030639	122	22,838
SkylineRanchPh1,Parc B	20030640	129	24,149
SkylineRanchPh1,Parc C	20030641	121	22,651
SkylineRanchPh1,Parc D	20030642	145	27,144
SkylineRanchPh2,Parc A	20040301	181	33,883
SkylineRanchPh2,Parc B	20040303	111	20,779
SkylineRanchPh2,Parc C	20040305	135	25,272
SkylineRanchPh2,Parc D	20040306	100	18,720
SkylineRanchPh2,Parc E	20040349	146	27,331
SkylineRanchPh2,Parc F	20040350	114	21,341
SkylineRanchPh2,Parc G	20040351	123	23,026
SkylineRanchPh2,Parc H	20040304	98	18,346
SkylineRanchPh2,Parc I	20040525	114	21,341
Las Praderas, Ph 1 & 2	20010265	271	50,731
Meadow Vista SD	20040400	232	43,430
Laredo Ranch - Phase 1	20050023	309	57,845
Laredo Ranch - Phase 2	20050765	350	65,520
Laredo Ranch - Phase 3	20050765	307	57,470
Links Estates Ph 1	19940671	72	13,478
Links Estates Ph 2	19990294	76	14,227
Pecan Creek South Offsite		0	0
Pecan Creek South, Unit 1	20050357	293	54,850
Pecan Creek South, Unit 2	20050403	265	49,608
Pecan Creek South, Unit 3	20050438	254	47,549
Pecan Creek South, Unit 4		259	48,485
Pecan Creek South, Unit 5		362	67,766
Pecan Creek South, Unit 6		326	61,027
Taylor Ranch	20050402	395	73,944
Ocotillo Trails	20050505	82	15,350
Ocotillo Market Place			
The Parks Parcel A		112	20,966
The Parks Parcel B		164	30,701
The Parks Parcel C		175	32,760
The Parks Parcel D		187	35,006
The Parks Parcel E		84	15,725
The Parks Parcel F		168	31,450
Milagro		140	26,208
Belcara		46	8,611
Ironwood Crossing, Unit 1		662	123,926
Ironwoord Crossing, Unit2		364	68,141
Ironwood Collector & FM		0	0
Mortenson Farms Ph 1		105	19,656
Combs Rd Force Main		0	0
Johnson Farms Neighborhood 1		237	44,366

Section 4. Proposed Subdivision or Other Project(Revised)

5/9/2008

Total		14,793	2,775,250

ATTACHMENT

5

STATE OF ARIZONA
AQUIFER PROTECTION PERMIT NO. P-105324
PLACE ID 18583, LTF 37771
SIGNIFICANT AMENDMENT

1.0 AUTHORIZATION

In compliance with the provisions of Arizona Revised Statutes (A.R.S.) Title 49, Chapter 2, Articles 1, 2 and 3, Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, Articles 1 and 2, A.A.C. Title 18, Chapter 11, Article 4 and amendments thereto, and the conditions set forth in this permit, Johnson Utilities, L.L.C. is hereby authorized to operate the Pecan Water Reclamation Plant located at 38539 North Gantzel Road, approximately 1/2 mile north of Combs Road southeast of Queen Creek, Pinal County, Arizona, over groundwater of the Phoenix Active Management Area (AMA) in Township 2 S, Range 8 E, Section 29, NW 1/4, of the Gila and Salt River Base Line and Meridian.

This permit becomes effective on the date of the Water Quality Division Director's signature and shall be valid for the life of the facility (operational, closure, and post-closure periods) unless suspended or revoked pursuant to A.A.C. R18-9-A213. The permittee shall construct, operate and maintain the permitted facilities:

1. Following all the conditions of this permit including the design and operational information documented or referenced below, and
2. Such that Aquifer Water Quality Standards (AWQS) are not violated at the applicable point(s) of compliance (POC) set forth below or if an AWQS for a pollutant has been exceeded in an aquifer at the time of permit issuance, that no additional degradation of the aquifer relative to that pollutant and as determined at the applicable POC occurs as a result of the discharge from the facility.

1.1 PERMITTEE INFORMATION

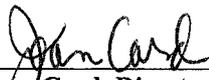
Facility Name: Pecan Water Reclamation Plant (WRP)
Facility Address: 38539 N. Gantzel Road (≈ 1/2 mile north of Combs Rd., southeast of Queen Creek)
Pinal County

Permittee: Johnson Utilities, L.L.C.
Permittee Address: 5230 E. Shea Blvd.
Phoenix, Arizona 85254

Facility Contact: Brian Thompsett, P.E., Johnson Utilities, L.L.C.
Emergency Phone No.: (480) 987-9870

Latitude/Longitude: 33°13' 43" N/ 111°33' 46" W
Legal Description: Township 02S, Range 8E, Section 29, NW¼, SW¼, SW¼ of the Gila and Salt River Baseline and Meridian

1.2 AUTHORIZING SIGNATURE



Joan Card, Director
Water Quality Division
Arizona Department of Environmental Quality

Signed this 4th day of February, 2008

THIS AMENDMENT SUPERCEDES TEXT IN ALL PREVIOUS PERMITS

2.0 SPECIFIC CONDITIONS [A.R.S. §§ 49-203(4), 49-241(A)]**2.1 Facility / Site Description [A.R.S. § 49-243(K)(8)]**

The Pecan Water Reclamation Plant (WRP) has the capacity to collect and treat a maximum average monthly flow of 4.0 million gallons per day (MGD). The WRP will be constructed in four phases. Each phase is designed to treat 1.0 MGD. The 4.0 MGD of raw wastewater enters the influent lift station, and is pumped to the headworks with barscreen, where it is diverted to each of the four treatment trains. Each treatment train process consists of extended aeration with nitrification-denitrification, clarifiers, filters, ultraviolet (UV) disinfection, sludge digesters, sludge dewatering belt filter press, and an effluent pump station. Chlorine disinfection may also be used as a back-up. All the WRP units are constructed of either reinforced concrete or steel. All the odor and noise producing units which include the influent pump station, headworks, the extended aeration process including the blower room, and the sludge dewatering belt filter press are enclosed inside a metal building with odor control scrubbers installed on all vents. The entire WRP is surrounded by an aesthetic, 6 foot tall, chain link or concrete block wall fence. Effluent will be disposed via reuse and effluent disposal to the subsurface using a combination of a subsurface leach disposal facility, vadose zone recharge wells, and aquifer injection recharge wells. No discharge to the recharge basins is permitted under this permit. The sludge, including the screenings, grit, and scum, is hauled off site for disposal at a landfill. Depth to groundwater at the WRP site is approximately 377 feet below land surface and the direction of groundwater flow is to the northwest.

The WRP will produce reclaimed water meeting Class A+ Reclaimed Water Standards (A.A.C. R18-11, Article 3) and may be delivered for beneficial use under a valid reclaimed water permit under A.A.C. R18-9 Article 7.

All industrial hookups and other non-residential hookups to the treatment system shall conform to Section 307 of the Federal Water Pollution Control Act and shall be authorized according to the federal pretreatment program, or as otherwise approved by federal, state or local regulations.

The site includes the following permitted discharging facilities:

Well ID	Descriptive Location	Latitude ¹	Longitude
WRP	Center of WRP at build-out	33°13'48.198" N	111°33'44.630" W
Aquifer Injection Well #1	NE corner of Pecan Orchard	33°13'49.993" N	111°33'38.902" W
Aquifer Injection Well #2	SE corner of Pecan Orchard	33°13'43.316" N	111°33'38.998" W
Aquifer Injection Well #3	SW corner of Pecan Orchard	33°13'43.316" N	111°33'38.835" W
Aquifer Injection Well #4	~400' West of the NW corner of WRP site	33°13'49.141" N	111°33'50.706" W
Vadose Zone Recharge Well #1	~50' east of Phase II WRP	33°13'47.365" N	111°33'42.451" W
Vadose Zone Recharge Well #2	~50 east of Phase IV WRP	33°13'48.750" N	111°33'42.451" W
Vadose Zone Recharge Well #3	~100' east of the NE corner of their along the northern boundary of the Pecan Orchard	33°13'49.829" N	111°33'41.458" W
Vadose Zone Recharge Well #4	~200' east of the NE corner of their along the northern boundary of the Pecan Orchard	33°13'49.904" N	111°33'40.201" W
Vadose Zone Recharge Well #5	~150' south of the NE corner of the Pecan Orchard along the eastern boundary of the Orchard	33°13'48.750" N	111°33'38.998" W

¹ Estimated locations; actual location required to be identified upon installation.

Well ID	Descriptive Location	Latitude ¹	Longitude
Vadose Zone Recharge Well #6	~300' south of the NE corner of the Pecan Orchard along the eastern boundary of the Orchard	33°13'47.365" N	111°33'38.998" W
Vadose Zone Recharge Well #7	~450' south of the NE corner of the Pecan Orchard along the eastern boundary of the Orchard	33°13'45.980" N	111°33'38.998" W
Vadose Zone Recharge Well #8	~600' south of the NE corner of the Pecan Orchard along the eastern boundary of the Orchard	33°13'44.559" N	111°33'38.998" W
Vadose Zone Recharge Well #9	~150' west of the SE corner of the Pecan Orchard along the southern boundary of the Orchard	33°13'43.316" N	111°33'40.087" W
Vadose Zone Recharge Well #10	~300' west of the SE corner of the Pecan Orchard along the southern boundary of the Orchard	33°13'43.316" N	111°33'41.512" W
Vadose Zone Recharge Well #11	~450' west of the SE corner of the Pecan Orchard along the southern boundary of the Orchard	33°13'43.316" N	111°33'43.146" W
Vadose Zone Recharge Well #12	~600' west of the SE corner of the Pecan Orchard along the southern boundary of the Orchard	33°13'43.316" N	111°33'44.571" W
AZPDES Outfall	AZPDES Outfall	33°13'51.106" N	111°33'42.686" W
Subsurface Recharge Facility	Beneath Queen Creek Wash	33°13'54.151" N	111°33'38.806" W

Annual Registration Fee [A.R.S. § 49-242]

The Annual Registration Fee for this permit is established by A.R.S. § 49-242(E) and is payable to ADEQ each year. The design flow is 4.0 million gallons per day.

Financial Capability [A.R.S. § 49-243(N) and A.A.C. R18-9-A203]

The permittee has demonstrated financial capability under A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The permittee shall maintain financial capability throughout the life of the facility. The estimated dollar amount demonstrated for financial capability is \$22,500. The financial capability was demonstrated through R18-9 A203 (A) and (D)(1)(d).

2.2 Best Available Demonstrated Control Technology [A.R.S. § 49-243(B) and A.A.C. R18-9-A202(A)(5)]

The Water Reclamation Plant shall be designed, constructed, operated, and maintained to meet the treatment performance criteria for new facilities as specified in Arizona Administrative Code R18-9-B204.

The facility shall meet the requirements for pretreatment by conducting monitoring as per R18-9-B204(B)(6)(b)(iii):

All industrial hookups and other non-residential hookups to the treatment system shall be authorized according to the applicable federal, state or local regulations.

2.2.1 Engineering Design

The WRP was designed as per the design report prepared by Terry Moore, P.E., Moore and Associates, Inc., dated September 26, 2003 and finalized by Gregory H. Brown, P.E., Sunbelt Utility Services, L.L.C.

Aquifer Injection wells: Each injection well, if installed, may be equipped with a water level transducer, a down hole flow control valve and a submersible pump for back flushing and/or recovery. Injection rates are predicted to be variable ranging from 50 gpm to ~700 gpm. The projected build-out would likely be 4 injection wells, if the recharge capacity per well is 700 gpm, giving the facility an approximate recharge capacity of 2800 gpm or 4.0 MGD. The final type and number of wells shall be based on the recharge capacity of the initial wells constructed at the site.

Vadose Zone Wells: Each vadose zone well, if installed, shall be constructed to a depth of approximately 180 feet. Recharge rates are anticipated to be between 250-300 gpm per vadose well. The actual recharge rates will depend on site and time-specific conditions, including geological conditions, the availability of water, and the amount of well plugging that occurs. A filtration system utilizing a 10 micron screen shall be used to filter effluent, removing 96% of the suspended solids to prolong the recharge capacity and longevity of the wells.

Subsurface Recharge Facility: The subsurface recharge facility shall be constructed in four phases of approximately 0.25 miles each. Each phase shall consist of six parallel trenches constructed a minimum of two feet below the active channel of ephemeral Queen Creek. Each trench shall be approximately 1100 feet long and consist of 3-foot wide trenches spaced 20 feet apart with 4-inch diameter perforated pipe placed in the center. Each trench shall be set at a slope of ~0.003 feet/feet. Half the trench length (1st 550') shall consist of 8" perforated pipe designed to convey 1 MGD of effluent. The last 550' shall consist of 6" perforated pipe to convey 0.5 MGD. The perforated pipe shall be laid over one foot of washed gravel with another one foot of washed gravel cover. The trenches shall be covered with geotextile fabric to protect against soil infiltration.

To ensure that this facility does not discharge to the surface of Queen Creek Wash, the following BADCT Observation wells shall be installed and monitored.

Well ID	Descriptive Location	Latitude ²	Longitude
BADCT Observation Well 1A	in Queen Creek; ~150' north of the NE corner of the WRP site; downstream end of Phase I disposal field.	33°13'54.546" N	111°33'38.835" W
BADCT Observation Well 1B		33°13'54.348" N	111°33'38.821" W
BADCT Observation Well 1C		33°13'54.151" N	111°33'38.806" W
BADCT Observation Well 1D		33°13'53.953" N	111°33'38.792" W
BADCT Observation Well 1E		33°13'53.756" N	111°33'38.777" W
BADCT Observation Well 1F		33°13'53.558" N	111°33'38.763" W
BADCT Observation Well 2	~0.25 miles east of BADCT Observation Well 1	33°13'55.232" N	111°33'25.831" W
BADCT Observation Well 3	~0.25 miles east of BADCT Observation Well 2	33°13'56.578" N	111°33'12.916" W
BADCT Observation Well 4	~0.25 miles east of BADCT Observation Well 3	33°13'58.320" N	111°33'00.064" W

The BADCT Observation wells shall be designed to monitor the level of reclaimed water within the subsurface recharge facility. If the water level within the recharge facility rises to within six

² Estimated locations; actual location required to be identified upon installation.

inches of the land surface in any of the wells, the permittee shall be required to implement contingency actions in accordance with Section 2.6.2 of the permit or cease discharge to prevent discharge of reclaimed water to the surface of Queen Creek Wash.

2.2.2 Site-specific Characteristics

Site specific characteristics was not included as part of the BADCT demonstration for the WRP design which is designed to meet the treatment performance standards for presumptive BADCT as defined by A.A.C. R18-9-B204. Presumptive BADCT meets AWQS for all parameters listed in A.A.C. R18-11-406(B) through (E). For pathogens, BADCT requires non-detect in four of seven daily samples with a single sample maximum concentration of 23 colony forming units per 100 milliliters (cfu/100 ml).

The size, number, and proposed operation of the injection wells, vadose zone wells, and subsurface recharge facility used site specific data for soil type and infiltration rates to ensure that disposed reclaimed water will not negatively impact the aquifer or surface in Queen Creek Wash.

2.2.3 Pre-Operational Requirements

The permittee shall submit a signed, dated, and sealed Engineer's Certificate of Completion in a format approved by the Department per Compliance Schedule in Section 3.0.

2.2.4 Operational Requirements

1. The permittee shall maintain a copy of the new O & M manual at the WRP site at all times and shall be available upon request during inspections by ADEQ personnel.
2. The pollution control structures shall be inspected for the items listed in Section 4.0, Table III - FACILITY INSPECTION (OPERATIONAL MONITORING).
3. If any damage of the pollution control structures is identified during inspection, proper repair procedures shall be performed. All repair procedures and material(s) used shall be documented on the Self-Monitoring Report Form submitted quarterly to the ADEQ Water Quality Compliance Section.

2.2.5 Wastewater Treatment Plant Classification

A.A.C. R18-9-703(C)(2)(a), A.A.C. R18-11-303 THROUGH 307]

The WRP will produce reclaimed water meeting Class A+ Reclaimed Water Quality Standards and can be used for any allowable use in that class under a valid reclaimed water permit (A.A.C. R18-9, Article 7).

2.3 Discharge Limitations [A.R.S. §§ 49-201(14), 49-243 and A.A.C. R18-9-A205(B)]

1. The permittee is authorized to operate the WRP with a maximum average annual flow of 4.0 MGD. Four tables are listed for discharge monitoring. These are Phase I, Table 1A, Phase II, Table 1A, Phase III, Table 1A and Phase IV, Table 1A. The facility shall only monitor the appropriate Table for monitoring that is commensurate with phases already constructed. Upon construction of each phase, the facility shall discontinue monitoring required in the previous phase(s). No monitoring is required for any phase that is not yet constructed. Phase I and II have been constructed, therefore, monitoring is no longer required for phase I.
2. The permittee shall notify all users that the materials authorized to be disposed of through the WRP are typical household sewage and shall not include motor oil, gasoline, paints, varnishes, hazardous wastes, solvents, pesticides, fertilizers or other materials not generally associated with toilet flushing, food preparation, laundry facilities and personal hygiene.

3. The permittee shall operate and maintain all permitted facilities to prevent unauthorized discharges pursuant to A.R.S. § 49-201(12) resulting from failure or bypassing of BADCT pollutant control technologies including liner failure³, uncontrollable leakage, overtopping (e.g., exceeding the maximum storage capacity, defined as a fluid level exceeding the crest elevation of a permitted impoundment), of basins, lagoons, impoundments or sludge drying beds, berm breaches, accidental spills, or other unauthorized discharges.
4. Specific discharge limitations are listed in Section 4.0, Table I.

2.4 Point of Compliance (P.O.C.) [A.R.S. § 49-244]

The Points of Compliance are established by the following designated locations:

P.O.C. #	P.O.C. Locations	Latitude	Longitude
1	Northwest corner of the WRP- No well	33°13'50" N	111°33'46" W
2	MW-1 located downstream of AZPDES outfall for the subsurface recharge facility	33°13'49" N	111°33'42" W

The Director may amend this permit to designate additional points of compliance if information on groundwater gradients or groundwater usage indicates the need.

2.5 Monitoring Requirements [A.R.S. § 49-243(K)(1), A.A.C. R18-9-A206(A)]

All monitoring required in this permit shall continue for the duration of the permit, regardless of the status of the facility. All sampling, preservation and holding times shall be in accordance with currently accepted standards of professional practice. Trip blanks, equipment blanks and duplicate samples shall also be obtained, and chain of custody procedures shall be followed, in accordance with currently accepted standards of professional practice. The permittee shall consult the most recent version of the ADEQ Quality Assurance Project Plan (QAPP) and EPA 40 CFR PART 136 for guidance in this regard. Copies of laboratory analyses and chain of custody forms shall be maintained at the permitted facility. Upon request these documents shall be made immediately available for review by ADEQ personnel.

2.5.1 Discharge Monitoring

The permittee shall monitor the wastewater according to Section 4.2, Table IA and IB. A representative sample of the wastewater shall be collected at the point of discharge from the effluent pump station.

2.5.1.1 Reclaimed Water Monitoring

The permittee shall monitor the parameters listed under Table 1B in addition to the routine discharge monitoring parameters listed in Table 1A.

2.5.2 Facility / Operational Monitoring

Operational monitoring inspections shall be conducted according to Section 4.2, Table III.

2.5.2.1 Facility Inspection

- a. If any damage of the pollution control structures is identified during inspection, proper repair procedures shall be performed. All repair procedures and materials used shall be documented

³Liner failure in a single-lined impoundment is any condition that would result in leakage exceeding 550 gallons per day per acre.

on the Self-Monitoring Report Form (SMRF) submitted quarterly to the ADEQ Water Quality Compliance. If none of the conditions occur, the report shall say "no event" for a particular reporting period. If the facility is not in operation, the permittee shall indicate this on the SMRF.

- b. The permittee shall submit data required in Section 4.0, Table III regardless of the operating status of the facility unless otherwise approved by the Department or allowed in this permit.

2.5.2 BADCT Observation Well Monitoring

Monitoring of the BADCT Observation Wells in the subsurface recharge facility is required to ensure that this facility does not discharge reclaimed water to the land surface of Queen Creek Wash. If the water level in any BADCT Observation Well rises to within six inches of the land surface or less, the permittee shall implement contingency actions listed in Section 2.6 or cease discharge to the facility.

2.5.3 Groundwater Monitoring and Sampling Protocols

The permittee shall monitor the groundwater according to Section 4.2, Table II.

Static water levels shall be measured and recorded prior to sampling. Wells shall be purged of at least three borehole volumes (as calculated using the static water level) or until field parameters (pH, temperature, conductivity) are stable, whichever represents the greater volume. If evacuation results in the well going dry, the well shall be allowed to recover to 80% of the original borehole volume, or for 24 hours, whichever is shorter, prior to sampling. If after 24 hours there is not sufficient water for sampling, the well shall be recorded as "dry" for the monitoring event. An explanation for reduced pumping volumes, a record of the volume pumped, and modified sampling procedures shall be reported and submitted with the Self-Monitoring Report Form (SMRF).

2.5.3.1 POC Well Replacement

In the event that one or more of the designated POC wells should become unusable or inaccessible due to damage, a decrease in water levels for more than two (2) sampling events, or any other event, a replacement POC well shall be constructed and installed upon approval by ADEQ. If the replacement well is fifty feet or less from the original well, the ALs and AQLs established for the previously designated POC well shall apply to the replacement well.

2.5.4 Surface Water Monitoring and Sampling Protocols

Routine surface water monitoring is not required under the terms of this permit.

2.5.5 Analytical Methodology

All samples collected for compliance monitoring shall be analyzed using Arizona state approved methods. If no state approved method exists, then any appropriate EPA approved method shall be used. Regardless of the method used, the detection limits must be sufficient to determine compliance with the regulatory limits of the parameters specified in this permit. Analyses shall be performed by a laboratory licensed by the Arizona Department of Health Services, Office of Laboratory Licensure and Certification. For results to be considered valid, all analytical work shall meet quality control standards specified in the approved methods. A list of Arizona State certified laboratories can be obtained at the address below:

Arizona Department of Health Services
Office of Laboratory Licensure and Certification
250 North 17th Ave.
Phoenix, AZ 85007

Phone: (602) 364-0720

2.5.6 Installation and Maintenance of Monitoring Equipment

Monitoring equipment required by this permit shall be installed and maintained so that representative samples required by the permit can be collected. If new groundwater wells are determined to be necessary, the construction details shall be submitted to the ADEQ Groundwater Section for approval prior to installation and the permit shall be amended to include any new points.

2.6 Contingency Plan Requirements

[A.R.S. § 49-243(K)(3), (K)(7) and A.A.C. R18-9-A204 and R18-9-A205]

2.6.1 General Contingency Plan Requirements

At least one copy of the approved contingency and emergency response plan(s) submitted in the application shall be maintained at the location where day-to-day decisions regarding the operation of the facility are made. The permittee shall be aware of and follow the contingency and emergency plans.

Any alert level (AL) exceedance, or violation of an aquifer quality limit (AQL), discharge limit (DL), or other permit condition shall be reported to ADEQ following the reporting requirements in Section 2.7.3.

Some contingency actions involve verification sampling. Verification sampling shall consist of the first follow-up sample collected from a location that previously indicated a violation or the exceedance of an AL. Collection and analysis of the verification sample shall use the same protocols and test methods to analyze for the pollutant or pollutants that exceeded an AL or violated an AQL. The permittee is subject to enforcement action for the failure to comply with any contingency actions in this permit. Where verification sampling is specified in this permit, it is the option of the permittee to perform such sampling. If verification sampling is not conducted within the timeframe allotted, ADEQ and the permittee shall presume the initial sampling result to be confirmed as if verification sampling has been conducted. The permittee is responsible for compliance with contingency plans relating to the exceedance of an AL or violation of a DL, AQL or any other permit condition.

2.6.1.1. Specific Contingencies

- a. The permittee shall inspect the facility for on-site fissures. Visual inspections shall be performed by personnel trained in identification of surficial features of earth fissures. Inspections shall be made of the buffer zone surrounding the wastewater recharge site to a distance of 300 feet from the recharge site, where practicable. Earth fissure monitoring is required monthly. If the surficial features that could indicate the presence of earth fissures are observed, the observations shall be confirmed by a third party professional engineer or geologist. If the third party inspection confirms the possibility that the surficial features indicate a fissure, the features shall be documented with sketches, maps and photographs as appropriate, indicating the nature of the feature, dimensions, and orientation. Documentation shall also include any incremental changes in a feature previously documented. All this information shall be submitted in a report to the ADEQ consisting of observations and interpretations and potential endangerment of pollutant contamination to the environment and public health.
- b. The permittee shall inspect the BADCT Observation Wells located in the subsurface recharge facility to ensure that reclaimed wastewater does not discharge to the land surface in Queen Creek Wash. In addition to the requirements stipulated in Section

2.6.2.1, if the performance level listed under Table III for any of the observation wells is exceeded in Table III, the facility shall initiate the following contingency action(s).

Item	Conditions	Action
1	Performance level exceeded in one or more effluent disposal lines of Phase I of the Recharge Facility.	Reduce flow to specific disposal line and/or reduce flow to Phase I and/or construct additional phase/s.
2	Performance level monitoring shows Phase I has reached disposal capacity with discharges to all six disposal lines.	Construct and operate additional phases II through IV.
3	Performance level shows all phases and disposal lines of the Recharge Facility are at capacity.	Obtain a significant amendment proposing to construct additional recharge lines to each phase and/or construct permitted vadose zone or direct injection wells.

2.6.2 Exceeding of Alert Levels/Performance Levels

2.6.2.1 Exceeding of Performance Levels (PL) Set for Operational Conditions

1. If the operational PL set in Section 4.0, Table III has been exceeded (permit condition violated) the permittee shall:
 - a. Notify the ADEQ Water Quality Compliance Section within five (5) days of becoming aware of an exceedance of any permit condition in Table III.
 - b. Submit a written report within thirty (30) days after becoming aware of an exceedance of a permit condition. The report shall document all of the following:
 - (1) A description of the exceedance and its cause;
 - (2) the period of the exceedance, including exact date(s) and time(s), if known, and the anticipated time period during which the exceedance is expected to continue;
 - (3) any action taken or planned to mitigate the effects of the exceedance or spill, or to eliminate or prevent recurrence of the exceedance or spill;
 - (4) any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an Aquifer Water Quality Standard; and
 - (5) any malfunction or failure of pollution control devices or other equipment or process.
2. The facility is no longer on alert status once the operational indicator no longer indicates that a PL is being exceeded. The permittee shall, however, complete all tasks necessary to return the facility to its pre-alert operating condition.

2.6.2.2 Exceeding of Alert Levels (ALs) Set for Discharge Monitoring

1. If an AL set in Section 4.0, TABLE IA and IB have been exceeded, the permittee shall immediately investigate to determine the cause of the exceedance. The investigation shall include the following:
 - a. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the exceedance.
 - b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences;
 - c. Pretreatment source control for industrial pollutants.
2. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 5.0 and specific contingency measures identified in Section 2.6 to resolve any problems identified by the investigation which may have led to an AL exceedance. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6.
3. Within thirty (30) days of an AL exceedance, the permittee shall submit the laboratory results to the ADEQ Water Quality Compliance Section, Enforcement Unit, along with a summary of the findings of the investigation, the cause of the exceedance, and actions taken to resolve the problem.
4. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.

2.6.2.2.1. Exceeding Permit Flow Limit

1. If the AL for average monthly flow in Section 4.0, Table IA is exceeded, the permittee shall submit an application for an APP amendment to expand the WRP or submit a report detailing the reasons that an expansion is not necessary.
2. Acceptance of the report instead of an application for expansion requires ADEQ approval.

2.6.2.3 Exceeding of Alert Levels in Groundwater Monitoring

2.6.2.3.1 Alert Levels for Indicator Parameters

Not required at time of permit issuance.

2.6.2.3.2 Alert Levels for Pollutants with Numeric Aquifer Water Quality Standards

1. If an AL for a pollutant set in Section 4.0, Table II has been exceeded, the permittee may conduct verification sampling within five (5) days of becoming aware of the exceedance. The permittee may use results of another sample taken between the date of the last sampling event and the date of receiving the result as verification.
2. If verification sampling confirms the AL exceedance or if the permittee opts not to perform verification sampling, then the permittee shall increase the frequency of monitoring to Daily', 'Weekly', and 'Monthly' for constituents that have a permit monitoring frequency of

'Weekly', 'Monthly', and 'Quarterly', 'Semi-Annual', or 'Annual' respectively. In addition, the permittee shall immediately initiate an investigation of the cause of the AL exceedance, including inspection of all discharging units and all related pollution control devices, review of any operational and maintenance practices that might have resulted in an unexpected discharge, and hydrologic review of groundwater conditions including upgradient water quality.

3. The permittee shall initiate actions identified in the approved contingency plan referenced in Part 5.0 and specific contingency measures identified in Part 2.6 to resolve any problems identified by the investigation which may have led to an AL exceedance. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6. Alternatively, the permittee may submit a technical demonstration, subject to written approval by the Groundwater Section, that although an AL is exceeded, pollutants are not reasonably expected to cause a violation of an AQL. The demonstration may propose a revised AL or monitoring frequency for approval in writing by the Groundwater Section.
4. Within thirty (30) days after confirmation of an AL exceedance, the permittee shall submit the laboratory results to the Water Quality Compliance Section, Data Unit along with a summary of the findings of the investigation, the cause of the exceedance, and actions taken to resolve the problem.
5. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.
6. The increased monitoring required as a result of an AL exceedance may be reduced to the monitoring frequency in Section 4.0, Table II if the results of four sequential sampling events demonstrate that no parameters exceed the AL.

2.6.2.3.3 Alert Levels to Protect Downgradient Users from Pollutants Without Numeric Aquifer Water Quality Standards

Not required at time of issuance.

2.6.3 Discharge Limit (DL) Violations

1. If a DL set in Section 4.0, Tables IA and IB has been violated, the permittee shall immediately investigate to determine the cause of the violation. The investigation shall include the following:
 - a. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the violation;
 - b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences;
 - c. Sampling of individual waste streams composing the wastewater for the parameters in violation.

The permittee also shall submit a report according to Section 2.7.3, which includes a summary of the findings of the investigation, the cause of the violation, and actions taken to resolve the problem. The permittee shall consider and ADEQ may require corrective action that may include control of the source of discharge, cleanup of affected soil, surface water or groundwater, and mitigation of the impact of pollutants on existing uses of the aquifer. Corrective actions shall either be specifically identified in this permit, included in an ADEQ approved contingency plan, or separately approved according to Section 2.6.6.

2. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions, or other actions.

2.6.4 Aquifer Quality Limit (AQL) Violation

1. If an AQL set in Section 4.0, Table II has been exceeded, the permittee may conduct verification sampling within 5 days of becoming aware of an AQL being exceeded. The permittee may use results of another sample taken between the date of the last sampling event and the date of receiving the result as verification.
2. If verification sampling confirms that the AQL is violated for any parameter or if the permittee opts not to perform verification sampling, then, the permittee shall increase the frequency of monitoring to 'Daily', 'Weekly', and 'Monthly' for constituents that have a permit monitoring frequency of 'Weekly', 'Monthly', and 'Quarterly', 'Semi-Annual' or 'Annual' respectively. In addition, the permittee shall immediately initiate an evaluation for the cause of the violation, including inspection of all discharging units and all related pollution control devices, and review of any operational and maintenance practices that might have resulted in unexpected discharge.

The permittee also shall submit a report according to Section 2.7.3, which includes a summary of the findings of the investigation, the cause of the violation, and actions taken to resolve the problem. A verified exceedance of an AQL will be considered a violation unless the permittee demonstrates within 30 days that the exceedance was not caused or contributed to by pollutants discharged from the facility. Unless the permittee has demonstrated that the exceedance was not caused or contributed to by pollutants discharged from the facility, the permittee shall consider and ADEQ may require corrective action that may include control of the source of discharge, cleanup of affected soil, surface water or groundwater, and mitigation of the impact of pollutants on existing uses of the aquifer. Corrective actions shall either be specifically identified in this permit, included in an ADEQ approved contingency plan, or separately approved according to Section 2.6.6.

3. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.

2.6.5 Emergency Response and Contingency Requirements for Unauthorized Discharges pursuant to A.R.S. § 49-201(12) and pursuant to A.R.S. § 49-241

2.6.5.1 Duty to Respond

The permittee shall act immediately to correct any condition resulting from a discharge pursuant to A.R.S. § 49-201(12) if that condition could pose an imminent and substantial endangerment to public health or the environment.

2.6.5.2 Discharge of Hazardous Substances or Toxic Pollutants

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of suspected hazardous substances (A.R.S. § 49-201(18)) or toxic pollutants (A.R.S. § 49-243(I)) on

the facility site, the permittee shall promptly isolate the area and attempt to identify the discharged material. The permittee shall record information, including name, nature of exposure and follow-up medical treatment, if necessary, on persons who may have been exposed during the incident. The permittee shall notify the ADEQ Water Quality Field Service Unit at (602) 771-4841 within 24 hours upon discovering the discharge of hazardous material which: a) has the potential to cause an AWQS or AQL exceedance; or b) could pose an endangerment to public health or the environment.

2.6.5.3 Discharge of Non-hazardous Materials

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of non-hazardous materials from the facility, the permittee shall promptly attempt to cease the discharge and isolate the discharged material. Discharged material shall be removed and the site cleaned up as soon as possible. The permittee shall notify the ADEQ Water Quality Field Services Unit at (602) 771-4841, within 24 hours upon discovering the discharge of non-hazardous material which: a) has the potential to cause an AQL exceedance; or b) could pose an endangerment to public health or the environment.

2.6.5.4 Reporting Requirements

The permittee shall submit a written report for any unauthorized discharges reported under Sections 2.6.5.2 and 2.6.5.3 to the ADEQ Water Quality Field Services Unit, Mail Code 5415B-1, 1110 West Washington Street, Phoenix, Arizona, 85007, within thirty days of the discharge or as required by subsequent ADEQ action. The report shall summarize the event, including any human exposure, and facility response activities and include all information specified in Section 2.7.3. If a notice is issued by ADEQ subsequent to the discharge notification, any additional information requested in the notice shall also be submitted within the time frame specified in the notice. Upon review of the submitted report, ADEQ may require additional monitoring or corrective actions.

2.6.6 Corrective Actions

Specific contingency measures identified in Section 2.6 have already been approved by ADEQ and do not require written approval to implement.

With the exception of emergency response actions taken under Section 2.6.5, the permittee shall obtain written approval from the Groundwater Section prior to implementing a corrective action to accomplish any of the following goals in response to exceedance of an AL or violation of an AQL, DL, or other permit condition:

1. Control of the source of an unauthorized discharge;
2. Soil cleanup;
3. Cleanup of affected surface waters;
4. Cleanup of affected parts of the aquifer;
5. Mitigation to limit the impact of pollutants on existing uses of the aquifer.

Within 30 days of completion of any corrective action, the operator shall submit to the ADEQ Water Quality Compliance Section, a written report describing the causes, impacts, and actions taken to resolve the problem.

2.7 Reporting and Recordkeeping Requirements [A.R.S. § 49-243(K)(2) and A.A.C. R18-9-A206(B) and R18-9-A207]

2.7.1 Self Monitoring Report Forms (SMRF)

1. The permittee shall complete the SMRFs provided by ADEQ, and submit them to the Water Quality Compliance Section, Data Unit.

2. The permittee shall complete the SMRF to the extent that the information reported may be entered on the form. If no information is required during a quarter, the permittee shall enter "not required" on the SMRF and submit the report to ADEQ. The permittee shall use the format devised by ADEQ.
3. The tables contained in Section 4.0 list the parameters to be monitored and the frequency for reporting results for compliance monitoring. Monitoring and analytical methods shall be recorded on the SMRFs. The permittee reserves the right to request a relaxation of the monitoring frequency for metals and volatile organic compounds if the data indicate that water quality standards are being achieved.
4. In addition to the SMRF, the information contained in A.A.C. R18-9-A206(B)(1) shall be included for exceeding an AL or violation of an AQL, DL, or any other permit condition being reported in the current reporting period.

2.7.2 Operation Inspection / Log Book Recordkeeping

A signed copy of this permit shall be maintained at all times at the location where day-to-day decisions regarding the operation of the facility are made. A log book (paper copies, forms, or electronic data) of the inspections and measurements required by this permit shall be maintained at the location where day-to-day decisions are made regarding the operation of the facility. The log book shall be retained for ten years from the date of each inspection, and upon request, the permit and the log book shall be made immediately available for review by ADEQ personnel. The information in the log book shall include, but not be limited to, the following information as applicable:

1. Name of inspector
2. Date and shift inspection was conducted
3. Condition of applicable facility components
4. Any damage or malfunction, and the date and time any repairs were performed
5. Documentation of sampling date and time
6. Any other information required by this permit to be entered in the log book

Monitoring records for each measurement shall comply with R18-9-A206(B)(2).

2.7.3 Permit Violation and Alert Level Status Reporting

1. The permittee shall notify the Water Quality Compliance Section, Enforcement Unit in writing within five (5) days (except as provided in Section 2.6.5) of becoming aware of a violation of any permit condition, discharge limitation, or of an AL exceedance.
2. The permittee shall submit a written report to the Water Quality Compliance Section, Enforcement Unit within 30 days of becoming aware of the violation of any permit condition or discharge limitation. The report shall document all of the following:
 - a. Identification and description of the permit condition for which there has been a violation and a description of the cause;
 - b. The period of violation including exact date(s) and time(s), if known, and the anticipated time period during which the violation is expected to continue;
 - c. Any corrective action taken or planned to mitigate the effects of the violation, or to eliminate or prevent a recurrence of the violation;
 - d. Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an Aquifer Water Quality Standard;

- e. Proposed changes to the monitoring which include changes in constituents or increased frequency of monitoring; and
- f. Description of any malfunction or failure of pollution control devices or other equipment or processes.

2.7.4 Operational, Other or Miscellaneous Reporting

The permittee shall complete the Self-Monitoring Report Form provided by the Department to reflect facility inspection requirements designated in Section 4.2, Table III and submit to the ADEQ Water Quality Compliance Section quarterly along with other reports required by this permit. Facility inspection reports shall be submitted no less frequently than quarterly, regardless of operational status.

If the treatment facility is classified for reclaimed water under this permit, the permittee shall submit the reclaimed water monitoring results as required in Table IA and flow volumes to any of the following in accordance with A.A.C. R18-9-703(C)(2)(c):

1. any reclaimed water agent who has contracted for delivery of reclaimed water from the permittee;
2. any end user who has not waived interest in receiving this information.

2.7.5 Reporting Location

All SMRFs shall be submitted to:

Arizona Department of Environmental Quality
Water Quality Compliance Section, Data Unit
Mail Code: 5415B-1
1110 W. Washington Street
Phoenix, Arizona 85007
Phone (602) 771-4681

All documents required by this permit to be submitted to the Water Quality Compliance Section shall be directed to the following address:

Arizona Department of Environmental Quality
Water Quality Compliance Section, Enforcement Unit
Mail Code: 5415B-1
1110 W. Washington Street
Phoenix, Arizona 85007
Phone (602) 771-4614

All documents required by this permit to be submitted to the Groundwater Section shall be directed to:

Arizona Department of Environmental Quality
Groundwater Section
Mail Code: 5415B-3
1110 W. Washington Street
Phoenix, Arizona 85007
Phone (602) 771-4428

2.7.6 Reporting Deadline

The following table lists the quarterly report due dates:

Monitoring conducted during quarter:	Quarterly Report due by:
January-March	April 30
April-June	July 30
July-September	October 30
October-December	January 30

2.7.7 Changes to Facility Information in Section 1.0

The Groundwater Section and Water Quality Compliance Section shall be notified within 10 days of any change of facility information including Facility Name, Permittee Name, Mailing or Street Address, Facility Contact Person, or Emergency Telephone Number.

2.8 Temporary Cessation [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A209(A)]

The permittee shall give written notice to the Water Quality Compliance before ceasing operation of the facility for a period of 60 days or greater. The permittee shall take the following measures upon temporary cessation:

1. If applicable, direct the wastewater flows from the facility to another state-approved wastewater treatment facility.
2. Correct the problem that caused the temporary cessation of the facility.
3. Notify ADEQ with a monthly facility status report describing the activities conducted on the treatment facility to correct the problem.

At the time of notification the permittee shall submit for ADEQ approval a plan for maintenance of discharge control systems and for monitoring during the period of temporary cessation. Immediately following ADEQ approval, the permittee shall implement the approved plan. If necessary, ADEQ shall amend permit conditions to incorporate conditions to address temporary cessation. During the period of temporary cessation, the permittee shall provide written notice to the Water Quality Compliance Section of the operational status of the facility every three (3) years. If the permittee intends to permanently cease operation of any facility, the permittee shall submit closure notification, as set forth in Section 2.9 below.

2.9 Closure [A.R.S. §§ 49-243(K)(6), 49-252 and A.A.C. R18-9-A209(B)]

For a facility addressed under this permit, the permittee shall give written notice of closure to the Water Quality Compliance Section of the intent to cease operation without resuming activity for which the facility was designed or operated.

2.9.1 Closure Plan

Within 90 days following notification of closure, the permittee shall submit for approval to the Groundwater Section, a Closure Plan which meets the requirements of A.R.S. § 49-252 and A.A.C. R18-9-A209(B)(1)(a).

If the closure plan achieves clean closure immediately, ADEQ shall issue a letter of approval to the permittee. If the closure plan contains a schedule for bringing the facility to a clean closure configuration at a future date, ADEQ may incorporate any part of the schedule as an amendment to this permit.

2.9.2 Closure Completion

Upon completion of closure activities, the permittee shall give written notice to the Groundwater Section indicating that the approved Closure Plan has been implemented fully and providing supporting documentation to demonstrate that clean closure has been achieved (soil sample results, verification sampling results, groundwater data, as applicable). If clean closure has been achieved, ADEQ shall issue a letter of approval to the permittee at that time. If any of the following conditions apply, the permittee shall follow the terms of Post Closure stated in this permit:

1. Clean closure cannot be achieved at the time of closure notification or within one year thereafter under a diligent schedule of closure actions;
2. Further action is necessary to keep the facility in compliance with the Aquifer Water Quality Standards at the applicable point of compliance;
3. Continued action is required to verify that the closure design has eliminated discharge to the extent intended;
4. Remedial or mitigative measures are necessary to achieve compliance with Title 49, Ch. 2;
5. Further action is necessary to meet property use restrictions.

2.10 Post-Closure [A.R.S. §§ 49-243(K)(6), 49-252 and A.A.C. R18-9 A209(C)]

Post-closure requirements shall be established based on a review of facility closure actions and will be subject to review and approval by the Groundwater Section.

In the event clean closure cannot be achieved pursuant to A.R.S. § 49-252, the permittee shall submit for approval to the Groundwater Section a Post-Closure Plan that addresses post-closure maintenance and monitoring actions at the facility. The Post-Closure Plan shall meet all requirements of A.R.S. §§ 49-201(29) and 49-252 and A.A.C. R18-9-A209(C). Upon approval of the Post-Closure Plan, this permit shall be amended or a new permit shall be issued to incorporate all post-closure controls and monitoring activities of the Post-Closure Plan.

2.10.1 Post-Closure Plan

A specific post-closure plan may be required upon the review of the closure plan.

2.10.2 Post-Closure Completion

Not required at the time of permit issuance.

3.0 COMPLIANCE SCHEDULE [A.R.S. § 49-243(K)(5) and A.A.C. R18-9-A208]

For each compliance schedule item listed below, the permittee shall submit the required information, including a cover letter that lists the compliance schedule items, to the Groundwater Section. A copy of the cover letter must also be submitted to the Water Quality Compliance Section, Enforcement Unit.

Description	Deadline
STATUS REPORTS	
Submit a report by January 30 of the next year for the previous year indicating the actual flow through WRP for the last month of previous year and number of phases in operation by the end of that year. This report shall identify total flows through the WRP, total reuse capacity, and total recharge capacity. This report may also propose construction of additional WRP phases, subsurface recharge facility phases II, III and IV, if not already completed, vadose zone wells, or direct injection wells. This report shall be submitted yearly till all phases of the WRP, all phases of the subsurface recharge facility, all permitted vadose zone wells, and all permitted direct injection wells are constructed.	Annually by January 30 th .
WASTEWATER RECLAMATION PLANT – PHASED CONSTRUCTION	
Notify ADEQ of the start-up and completion of construction of Phases 3 or 4 of the WRP.	Within 15 days of start up.
Submit an Engineer’s Certificate of Completion for Phases 3 or 4 of the WRP.	Prior to commencing operation of Phases 3 or 4.
Notify ADEQ upon commencing operation of the completed Phase 3 or 4 of the WRP. The facility shall increase flows from 2.0 MGD to 3.0 or 4.0 MGD only upon the construction of additional treatment and disposal phases and only after notifying ADEQ by certified mail that additional treatment and disposal phases have been constructed.	Within 15 days of commencing operation.
Upon completion of all WRP phases the facility may request an “other” amendment to delete the monitoring Tables in section 4.0 that are no longer applicable.	Within 90 days of completion of construction of all WRP Phases.
POC MONITORING WELL	
Install monitoring well at MW-1, which is POC #2.	Within 30 days of issuance of the permit.
The permittee shall begin sampling groundwater for the parameters listed in Section 4.0, Table II.	Within 7 days after monitor well completion.
Submit a Well Installation Report to ADEQ for review. This report shall include the ADWR well completion records, drillers’ logs, actual latitude and longitude, results of testing, and an “other” amendment request to establish AQLs, as applicable, in Table II or a proposed upgradient monitoring well location.	Within 30 days after receiving results of the initial sampling event at the POC #2.
UPGRADIENT MONITORING WELL	
If any AWQS are exceeded in the initial groundwater sample collected from POC #2, an upgradient well, outside of the zone of influence of the recharge should be installed to determine existing groundwater conditions.	Determination based on initial sample collected from POC #2.
If an upgradient groundwater monitoring well is required based on the initial groundwater quality sampling data from POC #2, the applicant shall propose a location and well design.	Within 30 days after receiving notification of the initial sampling event at the POC #2.
Install upgradient monitor well	Within 90 days after receipt of ADEQ’s written approval of the well design and location from ADEQ.
Submit a Well Installation Report to ADEQ.	Within 30 days after monitor well completion.

Description	Deadline
The permittee shall begin conducting 8 monthly rounds of ambient groundwater quality sampling for the parameters listed in Section 4.0, Table II.	Within 30 days after monitor well completion.
The permittee shall submit an Ambient Groundwater Monitoring Report to the Water Permits Section. The permittee may propose ALs and AQLs based on statistical evaluation of all eight rounds of groundwater data collected.	Within one year after collection of ambient groundwater quality data.
POC LOCATIONS AND GROUNDWATER FLOW DIRECTION EVALUATION	
Assess groundwater flow conditions, recharge and groundwater monitoring to evaluate the adequacy of POC locations, identify data gaps, if any, and propose wells as needed to satisfy data gaps. Include an updated water level elevation map with the assesment based on data from wells located within one mile of the recharge facilities.	Annually
DIRECT AQUIFER INJECTION RECHARGE WELLS	
Notify ADEQ in writing of the installation and testing of each direct aquifer injection recharge well.	Within 15 days of installation.
Submit a Well Installation Report to ADEQ for review. Include the well driller's logs and results of testing necessary to determine the available recharge rates and a map showing location of the well(s) installed, including the latitudes and longitudes for each well. The report will indicate if additional permitted direct aquifer injection recharge wells will be required.	Within 60 days after installation and completion of recharge testing.
Construct additional permitted direct aquifer injection recharge wells.	When actual flows exceed 80% of existing well capacity or earlier based on Well Installation Report submitted above.
VADOSE ZONE RECHARGE WELLS	
Notify ADEQ in writing of the installation and testing of each vadose zone recharge well.	Within 15 days of installation.
Submit a Well Installation Report to ADEQ for review. Include the well driller's logs and results of testing necessary to determine the available recharge rates and a map showing location of the well(s) installed, including the latitudes and longitudes for each well. The report will indicate if additional permitted vadose zone wells will be required.	Within 60 days after installation and completion of recharge testing.
Construct additional permitted vadose zone recharge wells.	When actual flows exceed 80% of existing well capacity or earlier based on Well Installation Report submitted above.
SUBSURFACE RECHARGE FACILITY	
Notify ADEQ of completion of construction of Phases I, II, III and/or IV of the disposal facility including the installation of BADCT Observation Ports.	Within 15 days of completion of each phase and prior to discharge of reclaimed water.
Test at least one ¼ mile leach disposal trench in Phase I to determine the recharge rate for a period of not less than 2 weeks.	Within 90 days of completion of Phase I.
Submit report to ADEQ documenting the results of testing and determination of the recharge rates and capacity. This report may propose construction of additional subsurface recharge facilities (Phases II through IV), if not already constructed.	Within 30 days after test completion.

4.0 TABLES OF MONITORING REQUIREMENTS

4.1 PRE-OPERATIONAL MONITORING – NOT REQUIRED

4.2 COMPLIANCE MONITORING

PHASE I (for flows 1.0 MGD or less)
TABLE IA
ROUTINE DISCHARGE MONITORING

As Phase II has been constructed monitoring under this Table is no longer required.

4.2 COMPLIANCE MONITORING REQUIREMENTS

PHASE II (for flows 2.0 MGD or less)

**TABLE IA
ROUTINE DISCHARGE MONITORING**

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
1	Effluent Pump Station			33° 13' 43" N	111° 33' 46" W
Parameter	AL ⁴	DL ⁵	Units	Sampling Frequency	Reporting Frequency
Total Flow: Daily ⁶	Not Established ⁷	Not Established	MGD ⁸	Daily ⁹	Quarterly
Total Flow: Average Monthly	1.90	2.0	MGD	Monthly ¹⁰	Quarterly
Fecal Coliform: Single sample maximum	Not established	23	CFU or MPN ¹¹	Daily ¹²	Quarterly
Fecal Coliform: four (4) of seven (7) samples in a week ¹³	Not established	Non-detect ¹⁴	CFU or MPN	Daily	Quarterly
Total Nitrogen ¹⁵ : 5-sample rolling geometric mean	8.0	10.0	mg/l	Monthly ¹⁶	Quarterly

⁴AL = Alert Level

⁵DL = Discharge Limit

⁶Total flow is measured in million gallons per day (MGD).

⁷Not established = Monitoring required but no limits have been specified at time of permit issuance.

⁸MGD = Million Gallons per Day

⁹Flow shall be measured using a continuous recording flow meter which totals the flow daily.

¹⁰Monthly = Monthly average of daily flow values (calculated value)

¹¹CFU = Colony Forming Units / 100 ml sample. MPN = Most Probable Number / 100 ml sample. For CFU, a value of <1 shall be considered to be non-detect. For MPN, a value of <2.2 shall be considered to be non-detect.

¹²Daily means at least four (4) samples per week must be analyzed.

¹³Week means a seven-day period starting on Sunday and ending on the following Saturday.

¹⁴If at least four (4) of the daily samples are non-detect, report "yes" in the appropriate space on the SMRF (indicating that the standard has been met). If at least four (4) of the daily samples have detections of fecal coliform, report "no" in the appropriate space on the SMRF (indicating that the standard has not been met).

¹⁵Total Nitrogen = Nitrate as N + Nitrite as N + Total Kjeldahl Nitrogen

¹⁶A 5-Month Geometric Mean of the results of the 5 most recent samples

4.2 COMPLIANCE MONITORING REQUIREMENTS

TABLE 1A
ROUTINE DISCHARGE MONITORING (continued)

Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
Metals (Total):					
Antimony	0.0048	0.006	mg/l	Quarterly	Quarterly
Arsenic	0.04	0.05	mg/l	Quarterly	Quarterly
Barium	1.60	2.00	mg/l	Quarterly	Quarterly
Beryllium	0.0032	0.004	mg/l	Quarterly	Quarterly
Cadmium	0.004	0.005	mg/l	Quarterly	Quarterly
Chromium	0.08	0.1	mg/l	Quarterly	Quarterly
Cyanide (as free cyanide)	0.16	0.2	mg/l	Quarterly	Quarterly
Fluoride	3.2	4.0	mg/l	Quarterly	Quarterly
Lead	0.04	0.05	mg/l	Quarterly	Quarterly
Mercury	0.0016	0.002	mg/l	Quarterly	Quarterly
Nickel	0.08	0.1	mg/l	Quarterly	Quarterly
Selenium	0.04	0.05	mg/l	Quarterly	Quarterly
Thallium	0.0016	0.002	mg/l	Quarterly	Quarterly

4.2 COMPLIANCE MONITORING REQUIREMENTS

TABLE 1A
ROUTINE DISCHARGE MONITORING (continued)

Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
Volatile Organic Compounds (VOCs):					
Benzene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Carbon tetrachloride	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
o-Dichlorobenzene	0.48	0.6	mg/l	Semi-Annually	Semi-Annually
para-Dichlorobenzene	0.06	0.075	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,1-Dichloroethylene	0.0056	0.007	mg/l	Semi-Annually	Semi-Annually
cis-1,2-Dichloroethylene	0.05	0.07	mg/l	Semi-Annually	Semi-Annually
trans-1,2-Dichloroethylene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Dichloromethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloropropane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Ethylbenzene	0.56	0.7	mg/l	Semi-Annually	Semi-Annually
Hexachlorobenzene	0.0008	0.001	mg/l	Semi-Annually	Semi-Annually
Hexachlorocyclopentadiene	0.04	0.05	mg/l	Semi-Annually	Semi-Annually
Monochlorobenzene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Styrene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Tetrachloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Toluene	0.8	1.0	mg/l	Semi-Annually	Semi-Annually
Trihalomethanes (total) ¹⁷	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
1,1,1-Trichloroethane	0.16	0.2	mg/l	Semi-Annually	Semi-Annually
1,2,4 - Trichlorobenzene	0.056	0.07	mg/l	Semi-Annually	Semi-Annually
1,1,2 - Trichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Trichloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Vinyl Chloride	0.0016	0.002	mg/l	Semi-Annually	Semi-Annually
Xylenes (Total)	8.0	10.0	mg/l	Semi-Annually	Semi-Annually

¹⁷ Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

4.2 COMPLIANCE MONITORING REQUIREMENTS

PHASE III - Flows 3.0 MGD or less
TABLE 1A
ROUTINE DISCHARGE MONITORING

Sampling Point Number	Sampling Point Identification		Latitude		Longitude
1	Effluent pump station		33° 13' 43" N		111° 33' 46" W
Parameter	AL ¹⁸	DL ¹⁹	Units	Sampling Frequency	Reporting Frequency
Total Flow: Daily ²⁰	Not Established ²¹	Not Established	MGD ²²	Daily ²³	Quarterly
Total Flow: Average Monthly	2.85	3.0	MGD	Monthly ²⁴	Quarterly

Sampling Point Number	Sampling Point Identification		Latitude		Longitude
1	Effluent pump station		33° 13' 43" N		111° 33' 46" W
Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
Fecal Coliform Single sample maximum	Not established	23	CFU or MPN ²⁵	Daily ²⁶	Quarterly
Fecal Coliform: four (4) of seven (7) samples in a week ²⁷	Not established	2.2	CFU or MPN	Daily	Quarterly
Total Nitrogen ²⁸ : 5-sampling rolling geometric mean	8.0	10.0	mg/l	Monthly ²⁹	Quarterly

¹⁸AL = Alert Level.¹⁹DL = Discharge Limit.²⁰Total flow is measured in million gallons per day (MGD)²¹Reserved = Monitoring required but no limits have been specified at time of permit issuance.²²MGD = Million Gallons per Day.²³Flow shall be measured using a continuous recording flow meter which totals the flow daily.²⁴Monthly = Calculated value = Average of daily flows in a month.²⁵CFU = Colony Forming Units / 100 ml sample. MPN = Most Probable Number / 100 ml sample²⁶Daily means at least four (4) samples per week must be analyzed.²⁷Week means a seven-day period starting on Sunday and ending on the following Saturday.²⁸Total Nitrogen = Nitrate as N + Nitrite as N + Total Kjeldahl Nitrogen.²⁹A 5-Month Geometric Mean of the results of the 5 most recent samples.

4.2 COMPLIANCE MONITORING REQUIREMENTS

TABLE 1A
ROUTINE DISCHARGE MONITORING (continued)

Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
Metals (total):					
Antimony	0.0048	0.006	mg/l	Quarterly	Quarterly
Arsenic	0.04	0.05	mg/l	Quarterly	Quarterly
Barium	1.60	2.00	mg/l	Quarterly	Quarterly
Beryllium	0.0032	0.004	mg/l	Quarterly	Quarterly
Cadmium	0.004	0.005	mg/l	Quarterly	Quarterly
Chromium	0.08	0.1	mg/l	Quarterly	Quarterly
Cyanide (As free cyanide)	0.16	0.2	mg/l	Quarterly	Quarterly
Fluoride	3.2	4.0	mg/l	Quarterly	Quarterly
Lead	0.04	0.05	mg/l	Quarterly	Quarterly
Mercury	0.0016	0.002	mg/l	Quarterly	Quarterly
Nickel	0.08	0.1	mg/l	Quarterly	Quarterly
Selenium	0.04	0.05	mg/l	Quarterly	Quarterly
Thallium	0.0016	0.002	mg/l	Quarterly	Quarterly

4.2 COMPLIANCE MONITORING REQUIREMENTS

TABLE 1A
ROUTINE DISCHARGE MONITORING (continued)

Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
Volatile Organic Compounds (VOCs):					
Benzene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Carbon tetrachloride	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
o-Dichlorobenzene	0.48	0.6	mg/l	Semi-Annually	Semi-Annually
para-Dichlorobenzene	0.06	0.075	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,1-Dichloroethylene	0.0056	0.007	mg/l	Semi-Annually	Semi-Annually
cis-1,2-Dichloroethylene	0.05	0.07	mg/l	Semi-Annually	Semi-Annually
trans-1,2-Dichloroethylene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Dichloromethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloropropane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Hexachlorobenzene	0.0008	0.001	mg/l	Semi-Annually	Semi-Annually
Hexachlorocyclopentadiene	0.04	0.05	mg/l	Semi-Annually	Semi-Annually
Ethylbenzene	0.56	0.7	mg/l	Semi-Annually	Semi-Annually
Monochlorobenzene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Styrene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Tetrachloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Toluene	0.8	1.0	mg/l	Semi-Annually	Semi-Annually
Trihalomethanes (total) ³⁰	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
1,1,1-Trichloroethane	0.16	0.2	mg/l	Semi-Annually	Semi-Annually
1,2,4 - Trichlorobenzene	0.056	0.07	mg/l	Semi-Annually	Semi-Annually
1,1,2 - Trichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Trichloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Vinyl Chloride	0.0016	0.002	mg/l	Semi-Annually	Semi-Annually
Xylenes (Total)	8.0	10.0	mg/l	Semi-Annually	Semi-Annually

³⁰Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

4.2 COMPLIANCE MONITORING REQUIREMENTS

PHASE IV (For Flows 4.0 MGD or less)
TABLE 1A
ROUTINE DISCHARGE MONITORING

Sampling Point Number	Sampling Point Identification		Latitude	Longitude	
1	Effluent pump station		33° 13' 43" N	111° 33' 46" W	
Parameter	AL ³¹	DL ³²	Units	Sampling Frequency	Reporting Frequency
Total Flow: Daily ³³	Not Established ³⁴	Not Established	MGD ³⁵	Daily ³⁶	Quarterly
Total Flow: Average Monthly	3.8	4.0	MGD	Monthly ³⁷	Quarterly

Sampling Point Number	Sampling Point Identification		Latitude	Longitude	
1	Effluent pump station		33° 13' 43" N	111° 33' 46" W	
Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
Fecal Coliform Single sample maximum	Not Established	23	CFU or MPN ³⁸	Daily ³⁹	Quarterly
Fecal Coliform: four (4) of seven (7) samples in a week ⁴⁰	Not Established	Non-detect ⁴¹	CFU or MPN	Daily	Quarterly
Total Nitrogen ⁴² : 5-sampling rolling geometric mean.	8.0	10.0	mg/l	Monthly ⁴³	Quarterly

³¹AL = Alert Level.³²DL = Discharge Limit.³³Total flow is measured in million gallons per day (MGD)³⁴Reserved = Monitoring required but no limits have been specified at time of permit issuance.³⁵MGD = Million Gallons per Day.³⁶Flow shall be measured using a continuous recording flow meter which totals the flow daily.³⁷Monthly = Calculated value = Average of daily flows in a month.³⁸CFU = Colony Forming Units / 100 ml sample. MPN = Most Probable Number / 100 ml sample³⁹Daily means at least four (4) samples per week must be analyzed.⁴⁰Week means a seven-day period starting on Sunday and ending on the following Saturday.⁴¹If at least four (4) of the daily samples analyzed per week are non-detect, report "yes" in the appropriate space on the SMRF (indicating that the standard has been met). If at least four (4) of the daily samples have detections of fecal coliform, report "no" in the appropriate space on the SMRF (indicating that the standard has not been met).⁴²Total Nitrogen = Nitrate as N + Nitrite as N + Total Kjeldahl Nitrogen.⁴³A 5-Month Geometric Mean of the results of the 5 most recent samples.

4.2 COMPLIANCE MONITORING REQUIREMENTS

TABLE 1A
ROUTINE DISCHARGE MONITORING (continued)

Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
Metals (Total):					
Antimony	0.0048	0.006	mg/l	Quarterly	Quarterly
Arsenic	0.04	0.05	mg/l	Quarterly	Quarterly
Barium	1.60	2.00	mg/l	Quarterly	Quarterly
Beryllium	0.0032	0.004	mg/l	Quarterly	Quarterly
Cadmium	0.004	0.005	mg/l	Quarterly	Quarterly
Chromium	0.08	0.1	mg/l	Quarterly	Quarterly
Cyanide (as free cyanide)	0.16	0.2	mg/l	Quarterly	Quarterly
Fluoride	3.2	4.0	mg/l	Quarterly	Quarterly
Lead	0.04	0.05	mg/l	Quarterly	Quarterly
Mercury	0.0016	0.002	mg/l	Quarterly	Quarterly
Nickel	0.08	0.1	mg/l	Quarterly	Quarterly
Selenium	0.04	0.05	mg/l	Quarterly	Quarterly
Thallium	0.0016	0.002	mg/l	Quarterly	Quarterly

4.2 COMPLIANCE MONITORING REQUIREMENTS

TABLE 1A
ROUTINE DISCHARGE MONITORING (continued)

Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
Volatile Organic Compounds (VOCs):					
Benzene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Carbon tetrachloride	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
o-Dichlorobenzene	0.48	0.6	mg/l	Semi-Annually	Semi-Annually
para-Dichlorobenzene	0.06	0.075	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,1-Dichloroethylene	0.0056	0.007	mg/l	Semi-Annually	Semi-Annually
cis-1,2-Dichloroethylene	0.05	0.07	mg/l	Semi-Annually	Semi-Annually
trans-1,2-Dichloroethylene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Dichloromethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloropropane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Hexachlorobenzene	0.0008	0.001	mg/l	Semi-Annually	Semi-Annually
Hexachlorocyclopentadiene	0.04	0.05	mg/l	Semi-Annually	Semi-Annually
Ethylbenzene	0.56	0.7	mg/l	Semi-Annually	Semi-Annually
Monochlorobenzene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Styrene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Tetrachloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Toluene	0.8	1.0	mg/l	Semi-Annually	Semi-Annually
Trihalomethanes (total) ⁴⁴	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
1,1,1-Trichloroethane	0.16	0.2	mg/l	Semi-Annually	Semi-Annually
1,2,4 - Trichlorobenzene	0.056	0.07	mg/l	Semi-Annually	Semi-Annually
1,1,2 - Trichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Trichloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Vinyl Chloride	0.0016	0.002	mg/l	Semi-Annually	Semi-Annually
Xylenes (Total)	8.0	10.0	mg/l	Semi-Annually	Semi-Annually

⁴⁴Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

4.2 COMPLIANCE MONITORING REQUIREMENTS

TABLE 1B
RECLAIMED WATER MONITORING TABLE - CLASS A+⁴⁵

Sampling Point Number	Sampling Point Identification		Latitude	Longitude
1	Effluent Pump Station		33° 13' 43" N	111° 33' 46" W
Parameter	DL	Units	Sampling Frequency	Reporting Frequency
Flow: Daily	Reserved	MGD ⁴⁶	Everyday ⁴⁷	Quarterly
Flow: Total monthly flow provided for reuse	Reserved	MGD	Monthly Calculation	Quarterly
Total Nitrogen ⁴⁸ : Five-sample rolling geometric mean	10.0	mg/l	Monthly	Quarterly
Fecal Coliform: Single-sample maximum	23	CFU or MPN ⁴⁹	Daily ⁵⁰	Quarterly
Fecal Coliform: Four (4) of last seven (7) samples	Non-detect ⁵¹	CFU or MPN	Daily	Quarterly
Turbidity ⁵² : Single reading	5.0	NTU ⁵³	Everyday ⁵⁴	Quarterly
Turbidity: 24-hour average	2.0	NTU	Everyday	Quarterly

⁴⁵ Reclaimed water monitoring is in addition to routine discharge monitoring.

⁴⁶ Million Gallons per Day

⁴⁷ Flow rate shall be measured using a continuously recording flow meter which totals the flow daily.

⁴⁸ Nitrate N, plus Nitrite N, plus Total Kjeldahl Nitrogen (TKN)

⁴⁹ CFU = Colony Forming Units per 100 ml; MPN = Most Probable Number per 100 ml. For CFU, a value of <1 shall be considered to be non-detect. For MPN, a value of <2.2 shall be considered to be non-detect.

⁵⁰ For fecal coliform, "daily" sampling means every day in which a sample can practicably be obtained and delivered in sufficient time for proper analysis, provided that no less than four (4) samples in each calendar week are obtained and analyzed.

⁵¹ If at least four (4) of the last seven (7) samples are non-detect, report "yes" in the appropriate space on the SMRF (indicating that the standard has been met). If at least four (4) of the last seven (7) samples have detections of fecal coliform, report "no" in the appropriate space on the SMRF (indicating that the standard has not been met).

⁵² Turbidimeter shall have a signal averaging time not exceeding 120 seconds. Occasional spikes due to back-flushing or instrument malfunction shall not be considered an exceedance. All exceedances must be explained and submitted to the Department with the corresponding quarterly SMRF.

⁵³ Nephelometric Turbidity Units

⁵⁴ For the single turbidity reading, "everyday" means the maximum reading during the 24-hour period.

4.2 COMPLIANCE MONITORING REQUIREMENTS

TABLE II
GROUNDWATER MONITORING

Sampling Point Number	Sampling Point Identification		Latitude		Longitude
2	MW #1		33° 13' 51" N		111° 33' 46" W
Parameter	AL ⁵⁵	AQL ⁵⁶	Units	Sampling Frequency	Reporting Frequency
Total Nitrogen ⁵⁷ :	Not Established ⁵⁸	Not Established	mg/l	Monthly	Quarterly
Nitrate-Nitrite as N	Not Established	Not Established	mg/l	Monthly	Quarterly
Total Kjeldahl Nitrogen (TKN)	Not Established	Not Established	mg/l	Monthly	Quarterly
Total Coliform	Absence	Absence ⁵⁹	CFU or MPN ⁶⁰	Monthly	Quarterly
Metals (Total):					
Antimony	0.0048	0.006	mg/l	Quarterly	Quarterly
Arsenic	0.04	0.05	mg/l	Quarterly	Quarterly
Barium	1.60	2.00	mg/l	Quarterly	Quarterly
Beryllium	0.0032	0.004	mg/l	Quarterly	Quarterly
Cadmium	0.004	0.005	mg/l	Quarterly	Quarterly
Chromium	0.08	0.1	mg/l	Quarterly	Quarterly
Cyanide (as free cyanide)	0.16	0.2	mg/l	Quarterly	Quarterly
Fluoride	3.2	4.0	mg/l	Quarterly	Quarterly
Lead	0.04	0.05	mg/l	Quarterly	Quarterly
Mercury	0.0016	0.002	mg/l	Quarterly	Quarterly
Nickel	0.08	0.1	mg/l	Quarterly	Quarterly
Selenium	0.04	0.05	mg/l	Quarterly	Quarterly
Thallium	0.0016	0.002	mg/l	Quarterly	Quarterly

⁵⁵AL = Alert Level⁵⁶AQL = Aquifer Quality Limit⁵⁷Total Nitrogen is equal to nitrate as N plus nitrite as N plus TKN.⁵⁸Not Established = Monitoring required, but no limits have been established at this time.⁵⁹A positive result for total coliform may be verified with an analysis for fecal coliform. A positive result for fecal coliform shall be considered an exceedance of the AQL for total coliform.⁶⁰CFU = Colony Forming Units per 100 ml, MPN = Most Probable Number per 100 ml.

4.2 COMPLIANCE MONITORING REQUIREMENTS

TABLE II
GROUNDWATER MONITORING (continued)

Parameter	AL	AQL	Units	Sampling Frequency	Reporting Frequency
Volatile Organic Compounds (VOCs):					
Benzene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Carbon tetrachloride	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
o-Dichlorobenzene	0.48	0.6	mg/l	Semi-Annually	Semi-Annually
para-Dichlorobenzene	0.06	0.075	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,1-Dichloroethylene	0.0056	0.007	mg/l	Semi-Annually	Semi-Annually
cis-1,2-Dichloroethylene	0.05	0.07	mg/l	Semi-Annually	Semi-Annually
trans-1,2-Dichloroethylene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Dichloromethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloropropane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Ethylbenzene	0.56	0.7	mg/l	Semi-Annually	Semi-Annually
Hexachlorobenzene	0.0008	0.001	mg/l	Semi-Annually	Semi-Annually
Hexachlorocyclopentadiene	0.04	0.05	mg/l	Semi-Annually	Semi-Annually
Monochlorobenzene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Styrene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Tetrachloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Toluene	0.8	1.0	mg/l	Semi-Annually	Semi-Annually
Trihalomethanes (total) ⁶¹	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
1,1,1-Trichloroethane	0.16	0.2	mg/l	Semi-Annually	Semi-Annually
1,2,4 - Trichlorobenzene	0.056	0.07	mg/l	Semi-Annually	Semi-Annually
1,1,2 - Trichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Trichloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Vinyl Chloride	0.0016	0.002	mg/l	Semi-Annually	Semi-Annually
Xylenes (Total)	8.0	10.0	mg/l	Semi-Annually	Semi-Annually

⁶¹Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

4.2 COMPLIANCE MONITORING REQUIREMENTS

**TABLE III
FACILITY INSPECTION (Operational Monitoring)**

Pollution Control Structures/Parameter	Performance Levels	Inspection Frequency
Pump Integrity	Good working condition	Weekly
Treatment Plant Components	Good working condition	Weekly
Effects of Land Subsidence and Earth Fissures on Treatment Plant Components, Sludge Drying Beds, Effluent Holding Ponds and Disposal Sites	Not to exceed a leakage rate of 550 gpd/acre	Monthly
Water elevation in subsurface disposal facility observation wells, except during flooding of wash. List of observation wells is shown below	6 inches below the land surface.	Daily
During flooding of Queen Creek wash	Identify periods of flooding and sources of "flooding".	Daily

Sampling Point Number	Descriptive Location	Latitude	Longitude
3	BADCT Observation Well 1A	33°13'54.546 N	111°33'38.835" W
4	BADCT Observation Well 1B	33°13'54.348 N	111°33'38.821" W
5	BADCT Observation Well 1C	33°13'54.151 N	111°33'38.806" W
6	BADCT Observation Well 1D	33°13'53.953 N	111°33'38.792" W
7	BADCT Observation Well 1E	33°13'53.756 N	111°33'38.777" W
8	BADCT Observation Well 1F	33°13'53.558 N	111°33'38.763" W
9	BADCT Observation Well 2	33°13'55.232 N	111°33'25.831" W
10	BADCT Observation Well 3	33°13'56.578 N	111°33'12.916" W
11	BADCT Observation Well 4	33°13'58.320 N	111°33'00.064" W

5.0 REFERENCES AND PERTINENT INFORMATION

The terms and conditions set forth in this permit have been developed based upon the information contained in the following, which are on file with the Department:

1. APP Application dated: 12/11/2003 (orig. APP), 11/29/2004 (sig. amend.), 9/26/05 (sig. amend)
2. Contingency Plan, dated: 12/11/2003
3. Final Hydrologist Report dated: 6/21/2004 (orig. APP), 4/27/05 (sig. amend), 7/25/2007 (sig. amend)
4. Final Engineering Report dated: 11/16/2004 (orig. APP), 4/26/05 (sig. amend.)
5. Public Notice dated: 4/7/04 (orig. APP), 4/30/05 (sig. amend), 11/29/2007(sig. amend)
6. Public Hearing, dated: N/A
7. Responsiveness Summary, dated: N/A

6.0 NOTIFICATION PROVISIONS

6.1 Annual Registration Fees

The permittee is notified of the obligation to pay an Annual Registration Fee to ADEQ. The Annual Registration Fee is based upon the amount of daily influent or discharge of pollutants in gallons per day as established by A.R.S. § 49-242(D).

6.2 Duty to Comply [A.R.S. §§ 49-221 through 263]

The permittee is notified of the obligation to comply with all conditions of this permit and all applicable provisions of Title 49, Chapter 2, Articles 1, 2 and 3 of the Arizona Revised Statutes, Title 18, Chapter 9, Articles 1 through 4, and Title 18, Chapter 11, Article 4 of the Arizona Administrative Code. Any permit non-compliance constitutes a violation and is grounds for an enforcement action pursuant to Title 49, Chapter 2, Article 4 or permit amendment, suspension, or revocation.

6.3 Duty to Provide Information [A.R.S. §§ 49-243(K)(2) and 49-243(K)(8)]

The permittee shall furnish to the Director, or an authorized representative, within a time specified, any information which the Director may request to determine whether cause exists for amending or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

6.4 Compliance with Aquifer Water Quality Standards [A.R.S. §§ 49-243(B)(2) and 49-243(B)(3)]

The permittee shall not cause or contribute to a violation of an Aquifer Water Quality Standard at the applicable point of compliance for the facility. Where, at the time of issuance of the permit, an aquifer already exceeds an Aquifer Water Quality Standard for a pollutant, the permittee shall not discharge that pollutant so as to further degrade, at the applicable point of compliance for the facility, the water quality of any aquifer for that pollutant.

6.5 Technical and Financial Capability [A.R.S. §§ 49-243(K)(8) and 49-243(N) and A.A.C. R18-9-A202(B) and R18-9-A203(E) and (F)]

The permittee shall have and maintain the technical and financial capability necessary to fully carry out the terms and conditions of this permit. Any bond, insurance policy, trust fund, or other financial assurance mechanism provided as a demonstration of financial capability in the permit application, pursuant to A.A.C. R18-9-A203(D), shall be in effect prior to any discharge authorized by this permit and shall remain in effect for the duration of the permit.

6.6 Reporting of Bankruptcy or Environmental Enforcement [A.A.C. R18-9-A207(C)]

The permittee shall notify the Director within five days after the occurrence of any one of the following:

1. the filing of bankruptcy by the permittee;
2. the entry of any order or judgment not issued by the Director against the permittee for the enforcement of any environmental protection statute or rule.

6.7 Monitoring and Records [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A206]

The permittee shall conduct any monitoring activity necessary to assure compliance with this permit, with the applicable water quality standards established pursuant to A.R.S. §§ 49-221 and 49-223 and §§ 49-241 through 49-252.

6.8 Inspection and Entry [A.R.S. §§ 49-1009, 49-203(B), and 49-243(K)(8)]

In accordance with A.R.S. §§ 41-1009 and 49-203(B), the permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to enter and inspect the facility as reasonably necessary to ensure compliance with Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, and Title 18, Chapter 9, Articles 1 through 4 of the Arizona Administrative Code and the terms and conditions of this permit.

6.9 Duty to Modify [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A211]

The permittee shall apply for and receive a written amendment before deviating from any of the designs or operational practices authorized by this permit.

6.10 Permit Action: Amendment, Transfer, Suspension, and Revocation [A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]

This permit may be amended, transferred, suspended, or revoked for cause, under the rules of the Department. The permittee shall notify the Groundwater Section in writing within 15 days after any change in the owner or operator of the facility. The notification shall state the permit number, the name of the facility, the date of property transfer, and the name, address, and phone number where the new owner or operator can be reached. The operator shall advise the new owner or operators of the terms of this permit and the need for permit transfer in accordance with the rules.

7.0 ADDITIONAL PERMIT CONDITIONS**7.1 Other Information [A.R.S. § 49-243(K)(8)]**

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, the permittee shall promptly submit the correct facts or information.

7.2 Severability [A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby. The filing of a request by the permittee for a permit action does not stay or suspend the effectiveness of any existing permit condition.

7.3 Permit Transfer

This permit may not be transferred to any other person except after notice to and approval of the transfer by the Department. No transfer shall be approved until the applicant complies with all transfer requirements as specified in A.A.C. R18-9-A212(B) and (C).



Fact Sheet

Aquifer Protection Permit #P-105324
 Place ID #18583, LTF #37771
 Johnson Utilities, LLC
 Pecan Water Reclamation Plant
 Significant Amendment

The Arizona Department of Environmental Quality (ADEQ) proposes to issue an aquifer protection permit for the subject facility that covers the life of the facility, including operational, closure, and post-closure periods unless suspended or revoked pursuant to A.A.C. R18-9-A213. This document gives pertinent information concerning the issuance of the permit. The requirements contained in this permit will allow the permittee to comply with the two key requirements of the Aquifer Protection Program: 1) meet Aquifer Water Quality Standards at the Point of Compliance; and 2) demonstrate Best Available Demonstrated Control Technology (BADCT). The purpose of BADCT is to employ engineering controls, processes, operating methods or other alternatives, including site-specific characteristics (i.e., local subsurface geology) to reduce discharge of pollutants to the greatest degree achievable before they reach the aquifer, or to keep pollutants from reaching the aquifer.

I. FACILITY INFORMATION

Name and Location

Name of Permittee	Johnson Utilities, LLC
Mailing Address:	5230 East Shea Blvd., Suite 200 Scottsdale, Arizona 85254
Facility Name and Location:	Pecan Water Reclamation Plant 38539 North Gantzel Road Queen Creek, Arizona, (Pinal County)

Regulatory Status

4/1/03 APP Permit Application; APP Permit issued on May 7, 2004

The facility was issued an individual Aquifer Protection Permit (APP) on May 7, 2004, for operation of the Phase 1 facility with a design flow of 0.999,998 MGD. All effluent was proposed to meet Reclaimed Water Class A+ and was proposed to be consumptively reused on the Links Estates Golf Course, the Apache Sun Golf Course and a grove of pecan trees adjacent to the WRP. However, this permit limited the effluent discharge flow to 0.475 MGD because the facility was unable to show that they had sufficient disposal capacity for all Phase 1 effluent at the approved golf courses including a minimum of 5-day effluent storage capacity (in the event that effluent cannot be reused consumptively) within the golf course lakes. The permit included a compliance schedule that required the facility submit documentation that they had sufficient disposal capacity for the design flow of 0.999,998 MGD.

Type 2 Class A+ Reclaimed Water General Permit, Inventory #R105491; Issued on May 21, 2004

The permit authorized the use of Class A+ reclaimed water derived from the Pecan WRP on a pecan orchard consisting of approximately 8.5 acres and 312 trees located adjacent to the Pecan WRP. During the winter months, the site may be over-seeded with rye grass for grazing purposes. This permit was inactivated with issuance of a Type 3 Class A+ Reclaimed Water General Permit, Inventory #R105412 issued on July 19, 2006.

7/6/04 Significant Amendment Application; withdrawn on February 8, 2005

A significant amendment request was received on July 6, 2004. This amendment indicated that the permittee will be constructing two 0.5 MGD recharge basins on the site designated for future expansion of the WRP. The application also requested re-classification of effluent from Reclaimed Water Class A+ to Reclaimed Water Class B+. This application was deemed incomplete and a letter was sent to the permittee on August 31, 2004, requesting additional information. A response was received to this request for additional information on December 1, 2004, which included an additional amendment application. This application was withdrawn on February 8, 2004, and incorporated into the November 29, 2004, Significant Amendment application.

11/29/04 Significant Amendment Application; Amendment issued on June 1, 2005

A second significant amendment request was received on November 29, 2004. The amendment proposed to expand the WRP to 4.0 MGD and dispose of effluent from the first 1 MGD via two on-site recharge basins and all 4.0 MGD, in the future, via up to 4 recharge wells and/or 12 vadose zone wells.

The second significant amendment application was found to be administratively complete on January 31, 2005. By default the first significant amendment was also determined to be administratively complete on January 31, 2005, since the amendment request had been incorporated into the second amendment. The permit was amended on June 1, 2005. The permit allowed Reclaimed Class B+ for reuse but required large facility BADCT for pathogen reduction of non-detect and 23 cfu/100ml.

ADWR Recharge Permit Applications dated June 20, 2005:

Applications for an Underground Storage Facility (USF) and a Water Storage Facility signed on June 20, 2005, were submitted to ADWR. The USF is proposed to be comprised of 12 vadose zone recharge wells, 1 monitor well and 4 contingency injection wells designed to recharge Class B+ effluent. Up to 4480 acre-feet of effluent per year will be recharged with a maximum recharge volume of 89,600 acre-feet to be stored over the 20-year duration of the permits. The mounding analysis projected a 54-foot mound height after 20-years of recharge. The maximum area of impact (AOI) of the 1-foot water level rise was calculated to extend

approximately 11-miles from the center of the recharge site which was modeled as a point source. These applications are still in process at ADWR.

09/06/2005 AZPDES Permit Application

An AZPDES application was received on September 6, 2005, proposing to add a surface water discharge point to Queen Creek. This application was amended on June 12, 2006, changing the proposed effluent discharge method from a surface discharge to a subsurface leach disposal field located beneath the active stream channel of Queen Creek due to Pinal County requirements. The subsurface leach disposal field was also determined to need an AZPDES permit.

09/26/05 Significant Amendment Application

A significant amendment application was received on September 26, 2005, proposing to add a surface water discharge of effluent to Queen Creek with a valid AZPDES permit. This application was re-submitted on June 12, 2006, changing the proposed effluent discharge method to a subsurface leach disposal field located within the active channel of Queen Creek. This subsurface recharge facility is proposed to be constructed in four phases and is designed to dispose, at build-out, between 0.18 MGD (ADEQ Engineering calculations) and 4 MGD (Specific Engineering calculations). The built-out constructed subsurface recharge facility will be approximately one mile long and 120 feet wide.

Type 3 Agent Class B+ Reclaimed Water General Permit, Inventory #105412; Issued on July 19, 2006.

The Type 3 Class B+ Reclaimed Water General Permit, Inventory #R105412 was originally issued on October 1, 2003, to use reclaimed water derived from the Section 11 Wastewater Treatment Plant (WWTP), Inv. #103081, at the Oasis Golf Course. This permit was amended on July 19, 2006, to include effluent derived from the Pecan WRP (Inv. #105324) and Precision Golf Course WRP (Inv. #105004). The effluent was originally proposed to be used at the Oasis Golf Course, Anthem at Merrill Ranch Golf Course, Pecan South subdivision, pecan orchard adjacent to the Pecan WRP, Johnson Farms subdivision, and Precision Golf Course. Additional reclaimed water sites could be added based on supplemental documentation to be submitted annually. This permit is effective for five years and expires, unless inactivated on July 19, 2011.

08/26/2006 Other Amendment Application; Amendment Issued on 11/20/06

An Other Amendment was received on August 26, 2006, to change the reclaimed water classification from B+ to A+. This amendment was issued on November 20, 2006.

Type 3 Agent Class A+ Reclaimed Water General Permit, Inventory #105778; Issued on November 27, 2006.

The Type 3 Class B+ Reclaimed Water General Permit, Inventory #R105412 was originally issued on July 19, 2006, to use reclaimed water derived from the San Tan WRP (Inv. #103081) and Anthem at Merrill Ranch WRP (Inv. #105646) at various sites. The Type 3 Class A+ Reclaimed Water General Permit, Inventory #R105778 was issued to use reclaimed water derived from the San Tan WRP (Inv. #105325), Pecan WRP (Inv. #105324) and Anthem at Merrill Ranch WRP (Inv. #105646) at the following sites: Johnson Ranch Golf Course, San Tan HOA, Pecan South subdivision, pecan orchard adjacent to the Pecan WRP, Johnson Farms subdivision, Anthem at Merrill Ranch Golf Course, and Anthem at Merrill Ranch HOA. Additional reclaimed water sites could be added based on supplemental documentation to be submitted annually. This permit is effective for five years and expires, unless inactivated on November 27, 2011.

WRP components, recharge facilities, and wells

The following tables identify the WRP components, recharge facilities and proposed wells for the facility.

Table of WRP Components

Component	Latitude	Longitude	Component Material	Component Thickness	Cover Material	Cover Thickness
Center of Facility at build-out	33°13'48.198"N	111°33'44.630"W				
Center of Phase I Facility	33°13'48.645" N	111°33'44.316" W				
Center of Phase II Facility	33°13'50.020" N	111°33'42.385" W				
Center of Phase III Facility	33°13'49.198" N	111°33'42.508" W				
Center of Phase IV Facility	33°13'48.312" N	111°33'42.294" W				
Effluent Pump Station (effluent sampling point)	33°13'47.671" N	111°33'43.778" W				
AZPDES Outfall	33°13'51.106" N	111°33'42.686" W				

Conceptual/actual pond designs:

Pond Type	Recharge Pond #1	Recharge Pond #2
Descriptive Location	North Pond	South Pond
Latitude	33°13'47.574" N	33°13'46.280" N
Longitude	111°33'42.670" W	111°33'42.470" W
Storage Volume (gallons)		
Storage Volume (ft ³)		
Length (feet)	142	142

Width (feet)	127.5	127.5
Total Depth (feet)	7	7
Operational Depth (feet)	5	5
Freeboard (feet)	2	2
Liner Material	unlined	unlined
	Discharge to recharge basins ceased June 24, 2005, with construction of Phase II of the WRP. Phase II of the WRP began operation on July 25, 2006.	

Actual and Conceptual Well Designs

Well Type	On-site Production Well	Monitor Wells	Vadose Zone Wells	Direct Injection Wells	BADCT Observation Wells
Cadastral	D(2-8) 29bcb	To be determined (TBD)	TBD	TBD	TBD
ADWR Registration ID #	55-599386	TBD	TBD	TBD	Not applicable (N/A)
Date Completed	8/14/03	TBD	TBD	TBD	TBD
Boring Depth (feet) and width (inches)	0-20': 10" 20-560': 8"	0-20': 12" 20-400': 7"	0-80': 48" 80-180': 30"	0-600': 30"	minimum 3': 4"
Completed Well Depth (feet)	560	400	180	600	minimum 3': 4"
Well Diameter (inches)	6.625	4	12	30	4
Casing Material	steel	PVC	PVC	steel	PVC
Casing Depth (feet)	+18" - 560'	+18" - 400'	+18" - 180'	+18" - 600'	minimum 3
Casing Width (inches)	6.625	4	12	18	4"
Perforated Interval (feet)		340 - 400	80-180	400 - 600	10", extending from perforated leach pipe to top of gravel fill
Surface Elevation (feet amsl)		TBD	TBD	TBD	TBD
Depth to Groundwater (feet amsl)	358 (8/20/03)	~358 (8/20/03)	~358 (8/20/03)	~358 (8/20/03)	N/A

Well Type	On-site Production Well	Monitor Wells	Vadose Zone Wells	Direct Injection Wells	BADCT Observation Wells
Groundwater Elevation (feet amsl)					TBD after installation of leach field

Facility Description

The Pecan Water Reclamation Plant (WRP) has the capacity to collect and treat a maximum average monthly flow of 4.0 million gallons per day (MGD). The WRP will be constructed in four phases. Each phase is designed to treat 1.0 MGD. The 4.0 MGD of raw wastewater enters the influent lift station, and is pumped to the headworks with barscreen, where it is diverted to each of the four treatment trains. Each treatment train process consists of extended aeration with nitrification-denitrification, clarifiers, filters, ultraviolet (UV) disinfection, sludge digesters, sludge dewatering belt filter press, and an effluent pump station. The facility has stand-by chemical feed capability, and chlorine disinfection may be used as a back-up. All the WRP units are constructed of either reinforced concrete or steel. All the odor and noise producing units which include the influent pump station, headworks, the extended aeration process including the blower room, and the sludge dewatering belt filter press are enclosed inside a building with odor control scrubbers installed on all vents. The entire WRP is surrounded by an aesthetic, 6 foot tall, chain link or concrete block wall fence. All the effluent generated may be disposed by either recharge using vadose zone wells, direct injection wells, or the subsurface leach field in Queen Creek as regulated in accordance with AZPDES Permit Number AZ0025445; or reused as regulated under valid Reclaimed Water Permits. The sludge, including the screenings, grit, and scum, is hauled off site for disposal at a landfill. The WRP will produce reclaimed water meeting Class A+ Reclaimed Water Standards (A.A.C. R18-11, Article 3) and may be delivered for beneficial use under a valid reclaimed water permit under A.A.C. R18-9, Article 7.

All industrial hookups and other non-residential hookups to the treatment system shall conform to Section 307 of the Federal Water Pollution Control Act and shall be authorized according to the federal pretreatment program, or as otherwise approved by federal, state or local regulations.

In addition to the APP conditions pertaining to treatment and disposal of sewage sludge, the permittee must also comply with the requirements for any sewage sludge disposal in 18 A.A.C. Ch. 9, Art. 10, 40 Code of Federal Regulations (CFR) Part 503, 40 CFR 258: for biosolids disposed of in municipal solid waste landfills; and 40CFR 257: for all biosolids use and disposal practices not covered under 40 CFR 258 or 503.

The site includes the following permitted discharging facilities:

Well ID	Descriptive Location	Latitude ¹	Longitude
WRP	Center of WRP at build-out	33°13'48.198"N	111°33'44.630"W

¹ Estimated locations; actual location required to be identified upon installation.

Well ID	Descriptive Location	Latitude ¹	Longitude
Aquifer Injection Well #1	NE corner of Pecan Orchard	33°13'49.993" N	111°33'38.902" W
Aquifer Injection Well #2	SE corner of Pecan Orchard	33°13'43.316" N	111°33'38.998" W
Aquifer Injection Well #3	SW corner of Pecan Orchard	33°13'43.316" N	111°33'38.835" W
Aquifer Injection Well #4	~400' West of the NW corner of WRP site	33°13'49.141" N	111°33'50.706" W
Vadose Zone Recharge Well #1	~50' east of Phase II WRP	33°13'47.365" N	111°33'42.451" W
Vadose Zone Recharge Well #2	~50 east of Phase IV WRP	33°13'48.750" N	111°33'42.451" W
Vadose Zone Recharge Well #3	~100' east of the NE corner of their along the northern boundary of the Pecan Orchard	33°13'49.829" N	111°33'41.458" W
Vadose Zone Recharge Well #4	~200' east of the NE corner of their along the northern boundary of the Pecan Orchard	33°13'49.904" N	111°33'40.201" W
Vadose Zone Recharge Well #5	~150' south of the NE corner of the Pecan Orchard along the eastern boundary of the Orchard	33°13'48.750" N	111°33'38.998" W
Vadose Zone Recharge Well #6	~300' south of the NE corner of the Pecan Orchard along the eastern boundary of the Orchard	33°13'47.365" N	111°33'38.998" W
Vadose Zone Recharge Well #7	~450' south of the NE corner of the Pecan Orchard along the eastern boundary of the Orchard	33°13'45.980" N	111°33'38.998" W
Vadose Zone Recharge Well #8	~600' south of the NE corner of the Pecan Orchard along the eastern boundary of the Orchard	33°13'44.559" N	111°33'38.998" W
Vadose Zone Recharge Well #9	~150' west of the SE corner of the Pecan Orchard along the southern boundary of the Orchard	33°13'43.316" N	111°33'40.087" W
Vadose Zone Recharge Well #10	~300' west of the SE corner of the Pecan Orchard along the southern boundary of the Orchard	33°13'43.316" N	111°33'41.512" W
Vadose Zone Recharge Well #11	~450' west of the SE corner of the Pecan Orchard along the southern boundary of the Orchard	33°13'43.316" N	111°33'43.146" W
Vadose Zone Recharge Well #12	~600' west of the SE corner of the Pecan Orchard along the southern boundary of the Orchard	33°13'43.316" N	111°33'44.571" W
AZPDES Outfall	AZPDES Outfall	33°13'51.106" N	111°33'42.686" W
Subsurface Recharge Facility	Beneath Queen Creek Wash	33°13'54.151" N	111°33'38.806" W

Amendment Description

Section 2.1 - Facility/Site Description: Add language describing the authorization to discharge via subsurface under the Queen Creek wash.

Section 2.4 – Change the location of the point of compliance (POC) well.

Section 2.6.1.1. Add monitoring for fissures.

Section 3.0 - Compliance Schedule: Added compliance schedule for constructing and operating the subsurface system. Also added a time frame to complete the construction of a well at POC # 2.

Section 4.0 - Tables of Monitoring Requirements. Added language in Table III to allow the water level monitoring of the observation wells located downstream of the leach lines, and for reporting information when flooding of Queen Creek occurs.

Section 5.0 - References and Pertinent Information: Added the application date of the ‘other’ permit amendment, and added the issue dates for the original APP, the significant amendment, and the ‘other’ amendment.

In addition, the permit format has been updated to reflect non-substantive changes made to the format since the last permit amendment.

II. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY (BADCT)

The WRP treatment process consists of an influent lift station, headworks with barscreen, extended aeration with nitrification-denitrification, clarifiers, filters, ultraviolet (UV) disinfection, sludge digesters, sludge dewatering belt filter press, and an effluent pump station.

All the odor and noise producing units which include the headworks, the extended aeration process including the blower room, and the sludge dewatering belt filter press are enclosed inside a building with odor control scrubbers installed on all vents. The entire WRP is surrounded by an aesthetic, 6 foot tall chain link fence or concrete block wall. The influent lift station will also be provided with covers and odor control.

The WRP meets the required setback requirements by providing 350 feet setback (three sides) and waiver (one side), for the full build-out WRP design capacity of 4.0 MGD.

The WRP is designed to meet the treatment performance criteria for new facilities as specified in A.A.C. R18-9-B204.

Site specific characteristics was not included as part of the BADCT demonstration for the WRP design which is designed to meet the treatment performance standards for presumptive BADCT as defined by A.A.C. R18-9-B204. Presumptive BADCT meets AWQS for all parameters listed in A.A.C. R18-11-406(B) through (E). For pathogens, BADCT requires non-detect in four of seven daily samples with a single sample maximum concentration of 23 colony forming units per 100 milliliters (cfu/100 ml).

The size, number, and proposed operation of the vadose zone wells, injection wells, and subsurface recharge facility used site specific data for soil type and infiltration rates to ensure that disposed reclaimed water will not negatively impact the aquifer or surface in Queen Creek Wash. Based on the site geology, approximately one mile of subsurface disposal leach trenches, 12 vadose wells and/or 4 aquifer injection wells may be needed to infiltrate all 4.0 MGD effluent into the subsurface. The specific BADCT designs for each proposed recharge method are identified below.

Aquifer Injection wells: Each injection well, if installed, may be equipped with a water level transducer, a down hole flow control valve and a submersible pump for back flushing and/or recovery. Injection rates are predicted to be variable ranging from 50 gpm to ~700 gpm. The projected build-out would likely be 4 injection wells, if the recharge capacity per well is 700 gpm, giving the facility an approximate recharge capacity of 2800 gpm or 4.0 MGD. The final type and number of wells will be based on the recharge capacity of the initial wells constructed at the site.

Vadose Zone Wells: Each vadose zone well, if installed, will be constructed to a depth of approximately 180 feet. Recharge rates are anticipated to be between 250-300 gpm per vadose well. The actual recharge rates will depend on site and time-specific conditions, including geological conditions, the availability of water, and the amount of well plugging that occurs. A filtration system utilizing a 10 micron screen will be used to filter effluent, removing 96% of the suspended solids to prolong the recharge capacity and longevity of the wells.

Subsurface Recharge Facility: The subsurface recharge facility will be constructed in four phases of approximately 0.25 miles each. Each phase will consist of six parallel trenches constructed a minimum of two feet below the active channel of ephemeral Queen Creek. Each trench will be approximately 1100 feet long and consist of 3-foot wide trenches spaced 20 feet apart with 4-inch diameter perforated pipe placed in the center. Each trench will be set at a slope of ~0.003 feet/feet. Half the trench length (1st 550') will consist of 8" perforated pipe designed to convey 1 MGD of effluent. The last 550' will consist of 6" perforated pipe to convey 0.5 MGD. The perforated pipe will be laid over one foot of washed gravel with another one foot of washed gravel cover. The trenches will be covered with geotextile fabric to protect against soil infiltration.

To ensure that this facility does not discharge to the surface of Queen Creek Wash, the following BADCT Observation wells will be installed and monitored.

Well ID	Descriptive Location	Latitude ²	Longitude
BADCT Observation Well 1A	in Queen Creek; ~150' north of the NE corner of the WRP site; downstream end of Phase I disposal field.	33°13'54.546" N	111°33'38.835" W
BADCT Observation Well 1B		33°13'54.348" N	111°33'38.821" W

² Estimated locations; actual location required to be identified upon installation.

Well ID	Descriptive Location	Latitude ²	Longitude
BADCT Observation Well 1C		33°13'54.151" N	111°33'38.806" W
BADCT Observation Well 1D		33°13'53.953" N	111°33'38.792" W
BADCT Observation Well 1E		33°13'53.756" N	111°33'38.777" W
BADCT Observation Well 1F		33°13'53.558" N	111°33'38.763" W
BADCT Observation Well 2	~0.25 miles east of BADCT Observation Well 1	33°13'55.232" N	111°33'25.831" W
BADCT Observation Well 3	~0.25 miles east of BADCT Observation Well 2	33°13'56.578" N	111°33'12.916" W
BADCT Observation Well 4	~0.25 miles east of BADCT Observation Well 3	33°13'58.320" N	111°33'00.064" W

The BADCT Observation wells will be designed to monitor the level of reclaimed water within the subsurface recharge facility. If the water level within the recharge facility rises to within six inches of the land surface or less in any of the wells, the permittee will be required to implement contingency actions in accordance with Section 2.6 of the permit or to cease discharge to prevent discharge of reclaimed water to the land surface of Queen Creek Wash.

III. COMPLIANCE WITH AQUIFER WATER QUALITY STANDARDS

Monitoring and Reporting Requirements

The Pecan Wastewater Reclamation Plant (WRP) is located over alluvium in East Salt River Valley Basin within the Basin and Range Physiographic Province which is defined by uplifted blocks or mountain ranges with intervening alluvial basins or valleys, created by extensional (pull apart) faulting. The elongated basins and ranges typically trend northwest-southeast and parallel one another. The basin is bounded on the south-southwest by the Santan Mountains and the north-northwestern boundary is defined by the Utery and Goldfield Mountains. Alluvium filling the basin is typically subdivided into the Upper Alluvial Unit, Middle Alluvial Unit and the Lower Alluvial Unit. The Upper and Lower Alluvial Units typically consist of silt, sand and gravel whereas the Middle Alluvial Unit consists mainly of clay, silt, mudstone, and gypsiferous mudstone with interbedded sand and gravel.

Two percolation tests (one in each basin) were performed on 6/7/04 within the proposed recharge basins. The tests identified soils as silty sand to sandy silt with some clay. The percolation rate for these tests was 9 minutes/inch and 4 minutes/inch, respectively.

Test borings/percolation tests were performed at eight locations along the length of the subsurface disposal facility on April 9 and 10, 2007. Percolation tests were conducted at

depths of 4, 8, and 11 feet, respectively. In general the site surface and near-surface soils consisted of silty sand containing some gravel from the surface and extending from 2 to 7 feet in depth. These soils were loose to medium dense, had non-plastic to low plasticity fines and were interbedded with clayey sand and sandy clay. Underlying these soils to the bottom of the borings was clayey sand to sandy clay containing trace to some gravel. These soils were medium dense to dense (clayey sand), firm to stiff (sandy clay), had medium to high plasticity and were interbedded with sandy silty clay. These soils were underlain by silty sandy soils which were described as very moist to wet at boring sites located adjacent to the standing water located at the western end of the project site. The percolation test results ranged from 4.3 to 120 mpi with an average value of 14.7 mpi.

The WRP is also in the East Salt River Valley groundwater sub-basin of the Phoenix Active Management Area within the Middle Gila River Watershed. Groundwater is present in the alluvial units beneath the facility. Historically, the groundwater was probably flowing, westerly in alignment with Queen Creek beneath the facility. However, the area has experienced extensive groundwater pumping altering the groundwater flow direction. It is believed that groundwater is now flowing northwesterly at a depth of about 350 feet below the land surface although a southwesterly groundwater flow direction is possible due to the influence of localized groundwater pumping.

The area is experiencing subsidence and fissuring due to groundwater withdrawal as documented by Pinal County. The estimated subsidence near the WRP ranges between 0 and 3.1 feet. The nearest known fissures are located approximately 3.5 miles southwest of the WRP, near the northern corner of the Santan Mountains, trending northeast-southwest adjacent to the west side and east-west along the north side of the Hunt Highway. The WRP has been designed and sited to reduce differential settlement from subsidence.

The permittee is required to show that pollutants discharged will not cause or contribute to a violation of aquifer water quality standards at the POC. The location of the points of compliance (POCs) which show compliance with aquifer water quality standards is determined by an analysis of the pollutant management area (PMA), the discharge impact area (DIA), and locations and uses of groundwater wells in the area. The POC locations are selected to protect off-site uses of groundwater, to verify BADCT performance, and to allow early detection of potential impact from the WRP discharges.

The pollutant management area (PMA) is described in A.R.S. §49-244 as the limit projected in the horizontal plane of the area on which pollutants are or will be placed. The PMA includes horizontal space taken up by any liner, dike or other barrier designed to contain pollutants in the facility. If the facility contains more than one discharging activity, the PMA is described by an imaginary line circumscribing the several discharging activities. The PMA for this facility is defined by a line circumscribing the WRP, the proposed direct injection and vadose recharge wells, and the approximately one mile long subsurface disposal field within Queen Creek Wash. The PMA within the channelized portion of Queen Creek Wash between Gantzel and Kenworthy Roads is approximately 120 feet wide and one mile long. This portion of the PMA is adjacent to the parcel containing the WRP and proposed recharge wells located on the southern bank of Queen Creek near Gantzel Road. (western end of the PMA).

The portion of the PMA containing the WRP and proposed recharge wells is approximately 650 feet wide by 700 feet long.

The discharge impact area (DIA) is defined by A.R.S. §49-201.13. The DIA means the potential areal extent of pollutant migration, as projected on the land surface, as the result of a discharge from a facility. The DIA analysis typically evaluates the distance a particle of a "pollutant" may travel in a specified timeframe (typically 20 years) from the point of recharge. In the event that effluent meets AWQS at the point of discharge from the WRP, the "pollutant" is defined as a particle of "water". The discharge impact area analysis indicates that a particle could move up to 12,493 feet (2.37 miles) during the 20-year time frame.

A groundwater mound or Area of Impact (AOI) measures the changes in water levels due to the recharge with the extent generally defined by a rise in the water table of one foot or more. Changes in water level may or may not be similar to the distance a particle [of a pollutant] may travel depending on site conditions. The Area of Impact (AOI) was determined analytically using the computer program THWells for the ADWR recharge permit application. The AOI was used to estimate the maximum increase in water levels if recharge were to occur continuously for 20 years at the maximum disposal capacity for this WRP. The model estimates at the end of the 20-year modeled period that the overall rise in the groundwater level will be 54 feet and the one-foot rise has an ~11 mile radius if all 4.0 MGD of effluent are recharged.

Fourteen wells are located within 0.5 miles of the WRP and recharge sites. Ten of the wells located within 0.5 miles are used for domestic drinking water sources, 3 for irrigation, and the on-site well is used for non-potable (industrial) water uses at the WRP although it is listed as an exempt domestic well with ADWR. The nearest off-site domestic well is located approximately 500 feet west-southwest of the proposed location of an aquifer injection well near the southwest corner of the Pecan Orchard site.

Discharge monitoring is required for Reclaimed Water Class A+ for which the WRP is classified. Nitrogen, coliform, metals and Volatile Organic Compounds (VOCs) discharge monitoring tables are also included in the permit. Groundwater will be monitored for similar parameters. AQLs for nitrates in groundwater have not been established at this time. AQLs will be established once the facility submits the information in Section 3.4. Only one round of sampling has been requested, as the permittee has already submitted the ambient water quality data from the surrounding wells. This data showed no exceedance of the AWQS. However due the proximity of Queen Creek, and past land use, the same may not be true for the new POC well. Therefore the facility is being asked to submit one round of sampling from the new POC well to confirm that the ambient water quality meets the AWQS. If it does not, then the facility will have to drill an up-gradient well to determine ambient conditions as required in Section 3.4

Due to the depth of groundwater being 350 feet, and the facility producing tertiary treated denitrified effluent, and groundwater monitoring required at the point of compliance well (POC), the facility is expected to meet the AWQS at the POC.

Point of Compliance (POC)

Two hazardous/non-hazardous POCs have been designated for this facility as follows:

POC #	Descriptive Location	Latitude	Longitude
1	designated at the northwest corner of the WRP site	33°13'49.585" N	111°33'46.160" W
2	designated approximately 275' downstream (west) of the AZPDES outfall within Queen Creek Wash and 130' north of the POC #1.	33°13'51.059" N	111°33'46.121" W

The June 1, 2005 Significant Amendment (and 11/20/06 Other Amendment) required that the existing on-site non-potable well be converted into a monitor well (MW #1). The permit compliance schedule required notification be sent to ADEQ within 15-days of the conversion but did not specify a specific timeframe for completion of this compliance item. This conversion required perforating the existing blank casing at the appropriate interval near the water table (generally 20 feet above and 40 feet below the water table). This on-site well is located on the northeastern edge of the WRP site, downgradient of the recharge basins and within the area of impact determined for the proposed recharge wells. However, this well has not been converted to a monitor well and the latest amendment application requests that it be deleted from the permit as a POC well. Instead a monitor well will be installed downstream of the AZPDES outfall at the newly designated location for POC #2. This new well is required to be installed within 30 days of issuance of the permit. A monitor well is not required to be installed at POC #1 except as a contingency action. The design of this well, if required to be installed, will be similar to POC #2.

The Director may designate additional points of compliance if information on groundwater gradients or groundwater usage indicates the need.

Monitoring and Reporting Requirements

Effluent and groundwater monitoring are required to ensure that the site operations do not negatively impact the groundwater; the facility will be required to meet the AWQS in the discharge. Effluent will be monitored at the effluent pump station prior to discharge for reuse at the agronomic rate or recharge via the subsurface recharge facility, vadose zone recharge wells and/or aquifer injection recharge wells. Groundwater will be monitored at a new monitor well to be installed at POC #2, downgradient (west) of the subsurface recharge facility, within 30 days of issuance of the permit.

Sampling Point Number	Descriptive Location	Latitude	Longitude
1	Effluent pump station	33°13'46.883" N	111°33'45.096" W
2	POC #2	33°13'51.059" N	111°33'46.121" W

Parameter	Effluent / Recharge	Reuse	Groundwater
Flow	daily; calculate monthly average	daily; calculate monthly average	
pathogens: Effluent: fecal coliform Reuse: fecal coliform Groundwater: total coliform	monthly	daily	monthly
nutrients: Effluent: total nitrogen Reuse: total nitrogen Groundwater: nitrate-nitrite, TKN, total nitrogen	monthly	monthly	monthly
inorganic chemicals: metals, cyanide, fluoride as listed in A.A. C R18-11-406.B	quarterly		quarterly
VOCs and semi-VOCs per A.A.C. R-18-11- 406.C	semi-annually		semi-annually

In addition, the permittee will be required to install the following BADCT Observation Wells within the subsurface recharge facility.

Sampling Point Number	Descriptive Location	Latitude	Longitude
3	BADCT Observation Well 1A	33°13'54.546 N	111°33'38.835" W
4	BADCT Observation Well 1B	33°13'54.348 N	111°33'38.821" W
5	BADCT Observation Well 1C	33°13'54.151 N	111°33'38.806" W
6	BADCT Observation Well 1D	33°13'53.953 N	111°33'38.792" W
7	BADCT Observation Well 1E	33°13'53.756 N	111°33'38.777" W
8	BADCT Observation Well 1F	33°13'53.558 N	111°33'38.763" W
9	BADCT Observation Well 2	33°13'55.232 N	111°33'25.831" W
10	BADCT Observation Well 3	33°13'56.578 N	111°33'12.916" W
11	BADCT Observation Well 4	33°13'58.320 N	111°33'00.064" W

BADCT Observation Well	Performance Levels	Inspection Frequency
Water elevation in subsurface disposal facility observation wells, except during flooding of wash.	6" below the land surface .	Daily
During flooding of wash	Identify periods of flooding and sources of "flooding".	Daily

If a performance level is exceeded implementation of a specific contingency action will be required in accordance with the permit (Section 2.6). This section defines the following contingency actions relating to operation of the subsurface recharge facility.

	Conditions	Action
1	Performance level exceeded in one or more effluent disposal lines of Phase I of the Recharge Facility.	Reduce flow to specific disposal line and/or reduce flow to Phase I and/or construct additional phase/s.
2	Performance level monitoring shows Phase I has reached disposal capacity with discharges to all six disposal lines.	Construct and operate additional phases II through IV.
3	Performance level shows all phases and disposal lines of the Recharge Facility are at capacity.	Obtain a significant amendment proposing to construct additional recharge lines to each phase and/or construct permitted vadose zone or direct injection wells.

The facility is located in an area of subsidence and potential fissuring, therefore, this permit requires inspections to check for effects of subsidence and fissuring on the facility structures.

IV. STORM WATER and SURFACE WATER CONSIDERATIONS

Storm water / surface water considerations included whether the facility was located within the 100-year flood plain and whether the discharge had the potential to impact the adjacent surface water drainage.

The facility is located immediately south of ephemeral Queen Creek, a tributary to the Gila River located in the Middle Gila surface water basin. Queen Creek generally flows in a westerly direction near the facility only in response to rainfall events. Portions of the WRP are located within the 100-year flood plain for the creek, but are bermed for protection from flooding. The proposed direct injection and vadose zone wells will also be protected from flooding. The Pecan WRP has been approved by the Pinal County Flood Control Office for operating inside the 100-year floodplain.

The proposed subsurface recharge disposal facility is located within the 100-year flood plain and the active channel for Queen Creek. The portion of Queen Creek (between Gantzel and Kenworthy Roads) proposed for the subsurface leach field has been partially excavated by a gravel operation. The current channel is between approximately 18 and 38 feet below the natural channel based on the unexcavated stream bed west of Gantzel Road and east of Kenworthy Road. As such, surface water flow from storm events and other sources (i.e., irrigation return flow) will potentially pond in the area rather than flow downstream.

However, the facility will be buried a minimum of two feet beneath the surface of the active channel of Queen Creek (Depth varies between 2 and 14 feet based on existing channel elevation and slope of piping.). The facility will be designed, operated and maintained to prevent discharges of effluent to the surface which is not allowed per Pinal County requirements.

Queen Creek has designated surface water quality uses of ephemeral Aquatic and Wildlife (A&W_e) and partial body contact (PBC). Monitoring of nearby drainages was not originally

included as a permit condition because the facility did not discharge to any surface water. With approval of the subsurface disposal field beneath the active channel of Queen Creek, BADCT monitoring of observation wells located in the subsurface disposal field will be required with this amendment to ensure that effluent from the disposal field will not surface in violation of Pinal County requirements. Surface water quality and discharges will be regulated in accordance with the valid AZPDES Permit No. AZ0025445.

V. COMPLIANCE SCHEDULE

Description	Deadline
STATUS REPORTS	
Submit a report by January 30 of the next year for the previous year indicating the actual flow through WRP for the last month of previous year and number of phases in operation by the end of that year. This report shall identify total flows through the WRP, total reuse capacity, and total recharge capacity. This report may also propose construction of additional WRP phases, subsurface recharge facility phases II, III and IV, if not already completed, vadose zone wells, or direct injection wells. This report shall be submitted yearly till all phases of the WRP, all phases of the subsurface recharge facility, all permitted vadose zone wells, and all permitted direct injection wells are constructed.	Annually by January 30 th .
WASTEWATER RECLAMATION PLANT – PHASED CONSTRUCTION	
Notify ADEQ of the start-up and completion of construction of Phases 3 or 4 of the WRP.	Within 15 days of start up.
Submit an Engineer’s Certificate of Completion for Phases 3 or 4 of the WRP.	Prior to commencing operation of Phases 3 or 4.
Notify ADEQ upon commencing operation of the completed Phase 3 or 4 of the WRP. The facility shall increase flows from 2.0 MGD to 3.0 or 4.0 MGD only upon the construction of additional treatment and disposal phases and only after notifying ADEQ by certified mail that additional treatment and disposal phases have been constructed.	Within 15 days of commencing operation.
Upon completion of all WRP phases the facility may request an “other” amendment to delete the monitoring Tables in section 4.0 that are no longer applicable.	Within 90 days of completion of construction of all WRP Phases.
POC MONITORING WELL	
Install monitoring well at POC #2.	Within 30 days of issuance of the permit.
The permittee shall begin sampling groundwater for the parameters listed in Section 4.0, Table II.	Within 7 days after monitor well completion.
Submit a Well Installation Report to ADEQ for review. This report shall include the ADWR well completion records, drillers’ logs, actual latitude and longitude, results of testing, and an “other” amendment request to establish AQLs, as applicable, in Table II or a proposed upgradient monitoring well location.	Within 30 days after receiving results of the initial sampling event at the POC #2.
UPGRADIENT MONITORING WELL	

**Fact Sheet - APP #105324 -Significant Permit Amendment
Pecan Water Reclamation Plant - Page 17 of 20**

Description	Deadline
If any AWQS are exceeded in the initial groundwater sample collected from POC #2, an upgradient well, outside of the zone of influence of the recharge should be installed to determine existing groundwater conditions.	Determination based on initial sample collected from POC #2.
If an upgradient groundwater monitoring well is required based on the initial groundwater quality sampling data from POC #2, the applicant shall propose a location and well design.	Within 30 days after receiving notification of the initial sampling event at the POC #2.
Install upgradient monitor well	Within 90 days after receipt of ADEQ's written approval of the well design and location from ADEQ.
Submit a Well Installation Report to ADEQ.	Within 30 days after monitor well completion.
The permittee shall begin conducting 8 monthly rounds of ambient groundwater quality sampling for the parameters listed in Section 4.0, Table II.	Within 30 days after monitor well completion.
The permittee shall submit an Ambient Groundwater Monitoring Report to the Water Permits Section. The permittee may propose ALs and AQLs based on statistical evaluation of all eight rounds of groundwater data collected.	Within one year after collection of ambient groundwater quality data.
POC LOCATIONS AND GROUNDWATER FLOW DIRECTION EVALUATION	
Assess groundwater flow conditions, recharge and groundwater monitoring to evaluate the adequacy of POC locations, identify data gaps, if any, and propose wells as needed to satisfy data gaps. Include an updated water level elevation map with the assesment based on data from wells located within one mile of the recharge facilities.	Annually
DIRECT AQUIFER INJECTION RECHARGE WELLS	
Notify ADEQ in writing of the installation and testing of each direct aquifer injection recharge well.	Within 15 days of installation.
Submit a Well Installation Report to ADEQ for review. Include the well driller's logs and results of testing necessary to determine the available recharge rates and a map showing location of the well(s) installed, including the latitudes and longitudes for each well. The report will indicate if additional permitted direct aquifer injection recharge wells will be required.	Within 60 days after installation and completion of recharge testing.
Construct additional permitted direct aquifer injection recharge wells.	When actual flows exceed 80% of existing well capacity or earlier based on Well Installation Report submitted above.
VADOSE ZONE RECHARGE WELLS	
Notify ADEQ in writing of the installation and testing of each vadose zone recharge well.	Within 15 days of installation.
Submit a Well Installation Report to ADEQ for review. Include the well driller's logs and results of testing necessary to determine the available recharge rates and a map showing location of the well(s) installed, including the latitudes and longitudes for each well. The report will indicate if additional permitted vadose zone wells will be required.	Within 60 days after installation and completion of recharge testing.
Construct additional permitted vadose zone recharge wells.	When actual flows exceed 80% of existing well capacity or earlier based on Well Installation Report submitted above.
SUBSURFACE RECHARGE FACILITY	

Description	Deadline
Notify ADEQ of completion of construction of Phases I, II, III and/or IV of the disposal facility including the installation of BADCT Observation Ports.	Within 15 days of completion of each phase and prior to discharge of reclaimed water.
Test at least one ¼ mile leach disposal trench in Phase I to determine the recharge rate for a period of not less than 2 weeks.	Within 90 days of completion of Phase I.
Submit report to ADEQ documenting the results of testing and determination of the recharge rates and capacity. This report may propose construction of additional subsurface recharge facilities (Phases II through IV), if not already constructed.	Within 30 days after test completion.

VI. OTHER REQUIREMENTS FOR ISSUING THIS PERMIT

Technical Capability

Johnson Utilities, L.L.C. has demonstrated the technical competence necessary to carry out the terms and conditions of the permit in accordance with A.R.S. § 49-243(N) and A.A.C. R18-9-A202(B).

The WRP was designed as per the design report prepared and stamped, dated, and signed (sealed) by Terry L. Moore, P.E. (Professional Engineer), Moore and Associates, Inc., dated September 26, 2003, and subsequent sealed submittals that served as additions to the design report. The design was finalized as per the design report prepared and stamped, dated, and signed (sealed) by Gregory H. Brown, P.E., Specific Engineering, LLC., dated January 13, 2005, and subsequent sealed submittals that served as additions to the design report.

The permit requires that appropriate documents be sealed by an Arizona registered geologist or professional engineer. This requirement is a part of an on-going demonstration of technical capability. The permittee is expected to maintain technical capability throughout the life of the facility.

Financial Capability

Johnson Utilities, LLC has demonstrated the financial responsibility necessary to carry out the terms and conditions of the permit in accordance with A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The National Bank of Arizona provided an Irrevocable Standby Letter of Credit to Johnson Utilities, LLC to operate, maintain, and if necessary, close the WRP. The permittee is expected to maintain financial capability throughout the life of the facility.

Zoning Requirements

The WRP has been properly zoned for the permitted use and the permittee has complied with all Pinal County zoning ordinances in accordance with A.R.S. § 49-243(O) and A.A.C. R18-9-A201(A)(2)(c).

VII. ADMINISTRATIVE INFORMATION

Public Notice (A.A.C. R18-9-108(A))

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft permit or other significant action with respect to a permit or application. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit. This permit will be public noticed in a local newspaper after a pre-notice review by the applicant and other affected agencies.

Public Comment Period (A.A.C. R18-9-109(A))

The aquifer protection program rules require that permits be public noticed in a newspaper of general circulation within the area affected by the facility or activity and provide a minimum of 30 calendar days for interested parties to respond in writing to ADEQ. After the closing of the public comment period, ADEQ is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

Public Hearing (A.A.C R18-9-109(B))

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if the Director determines there is a significant amount of interest expressed during the 30-day public comment period, or if significant new issues arise that were not considered during the permitting process.

VIII. ADDITIONAL INFORMATION

Additional information relating to this permit may be obtained from:

Arizona Department of Environmental Quality
Water Quality Division - Wastewater APP and Reuse Unit, Attn: Asif Majeed
1110 West Washington Street, Mail Code 5415B-3
Phoenix, Arizona 85007
Phone: (602) 771-4683

ATTACHMENT

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Janet Napolitano
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.adeq.state.az.us



Stephen A. Owens
Director

March 10, 2008

Johnson Utilities Company
Mr. Daniel Hodges
5230 E. Shea Blvd, Suit 200
Scottsdale, AZ 85254

RE: Compliance Status for Anthem and Merrill Ranch WRP, inventory number 105646, Permit number 36819.

Dear Mr. Hodges;

Your request for evaluation of compliance status for the above facility is completed. Our records indicate that Anthem and Merrill Ranch WRP has Aquifer Protection Permit number 36819 issued on 6/30/2006.

The Aquifer Protection Permit reporting requirements and monitoring results which have been submitted indicate the facility **is in compliance** based on the current information that is available to ADEQ. No enforcement actions are pending.

It should be understood that the compliance status of a facility may change from time to time based upon monitoring results or a facility inspection. Therefore this is based on the most current information available.

Sincerely,

Fred Vakili, EHS II
Water Quality Data Unit
Water Quality Compliance Section
FAV@AZDEQ.GOV

Northern Regional Office
1515 East Cedar Avenue • Suite F • Flagstaff, AZ
86004

Southern Regional Office
400 West Congress Street • Suite 433 • Tucson, AZ
85701



Janet Napolitano
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.adeq.state.az.us



Stephen A. Owens
Director

March 10, 2008

Johnson Utilities Company
Mr. Daniel Hodges
5230 E. Shea Blvd, Suit 200
Scottsdale, AZ 85254

RE: Compliance Status for Pecan Water Reclamation Plant, inventory number
105324, Permit number 41570.

Dear Mr. Hodges;

Your request for evaluation of compliance status for the above facility is completed. Our records indicate that Pecan Water Reclamation has Aquifer Protection Permit number 41570.

The Aquifer Protection Permit reporting requirements and monitoring results which have been submitted indicate the facility **is in compliance** based on the current information that is available to ADEQ. No enforcement actions are pending.

It should be understood that the compliance status of a facility may change from time to time based upon monitoring results or a facility inspection. Therefore this is based on the most current information available.

Sincerely,

Fred Vakili, EHS II
Water Quality Data Unit
Water Quality Compliance Section
FAV@AZDEQ.GOV

Northern Regional Office
1515 East Cedar Avenue • Suite F • Flagstaff, AZ
86004

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Janet Napolitano
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.adeq.state.az.us



Stephen A. Owens
Director

March 10, 2008

Johnson Utilities Company
Mr. Daniel Hodges
5230 E. Shea Blvd, Suit 200
Scottsdale, AZ 85254

RE: Compliance Status for San Tan WWTP, Inventory number P-105325,
Place Id: 18584, Permit number: 34792.

Dear Mr. Hodges;

Your request for evaluation of compliance status for the above facility is completed. Our records indicate that San Tan WWTP has Aquifer Protection Permit number 34792.

The Aquifer Protection Permit reporting requirements and monitoring results which have been submitted indicate the facility **is in compliance** based on the current information that is available to ADEQ. No enforcement actions are pending.

It should be understood that the compliance status of a facility may change from time to time based upon monitoring results or a facility inspection. Therefore this is based on the most current information available.

Sincerely,

Fred Vakili, EHS II
Water Quality Data Unit
Water Quality Compliance Section
FAV@AZDEQ.GOV

Northern Regional Office
1515 East Cedar Avenue • Suite F • Flagstaff, AZ
86004

Southern Regional Office
400 West Congress Street • Suite 433 • Tucson, AZ
85701



Janet Napolitano
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.adeq.state.az.us



Stephen A. Owens
Director

April 28, 2008

Johnson Utilities Company
Mr. Daniel Hodges
5230 E. Shea Blvd, Suit 200
Scottsdale, AZ 85254

RE: Compliance Status for Johnson Utilities section 11 WWTP, Inventory number P-103081, Place Id: 142, Permit number: 35634.

Dear Mr. Hodges;

Your request for evaluation of compliance status for the above facility is completed. Our records indicate that Section 11 WWTP has Aquifer Protection Permit number 35634 issued on 10/4/2006.

The Aquifer Protection Permit reporting requirements and monitoring results which have been submitted indicate the facility **is in compliance** based on the current information that is available to ADEQ and no enforcement actions are pending.

It should be understood that the compliance status of a facility may change from time to time based upon monitoring results or a facility inspection. Therefore this is based on the most current information available.

Sincerely,

Fred Vakili, EHS II
Water Quality Data Unit
Water Quality Compliance Section

Northern Regional Office
1515 East Cedar Avenue • Suite F • Flagstaff, AZ
86004

Southern Regional Office
400 West Congress Street • Suite 433 • Tucson, AZ
85701

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
1110 W. Washington Street, 5415B-2
Phoenix, AZ 85007

Drinking Water Compliance Status Report

Public Water System Name: Johnson Utilities

Public Water System ID #: 11-128

Public Water System Type: Community Non-transient Non-community Transient Non-community

Overall Compliance Status: No Major Deficiencies Major Deficiencies

Monitoring and Reporting Status: No Major Deficiencies Major Deficiencies

Comments: *None*

Operation and Maintenance Status: No Major Deficiencies Major Deficiencies

Comments: *None*

Major unresolved/ongoing operation and maintenance deficiencies:

- | | |
|---|---|
| <input type="checkbox"/> unable to maintain 20psi | <input type="checkbox"/> inadequate storage |
| <input type="checkbox"/> cross connection/backflow problems | <input type="checkbox"/> surface water treatment rule |
| <input type="checkbox"/> treatment deficiencies | <input type="checkbox"/> approval of construction |
| <input type="checkbox"/> certified operator | <input type="checkbox"/> other |

Date of last inspection / sanitary survey: 7-6-07

Administrative Orders:

Is an ADEQ administrative order in effect? Yes No

Comments: *None*

System information:

Number of Entry Points to the Distribution System 8 Number of Sources 12

Population Served 47947 Service Connections 17124 Initial Monitoring Year 2000

Evaluation completed by: Donna Calderon, Manager, Drinking Water Monitoring and Protection Unit

Phone: 602-771-4641

Date: March 21, 2008

Based upon data submitted by the water system, ADEQ has determined that this system is currently delivering water that meets water quality standards required by Arizona Administrative Code, Title 18, Chapter 4. This compliance status report does not guarantee the water quality for this system in the future. This compliance status report does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
1110 W. Washington Street, 5415B-2
Phoenix, AZ 85007

Drinking Water Compliance Status Report

Public Water System Name: ANTHEM AT MERRILL RANCH

Public Water System ID #: 11-136

Public Water System Type: Community Non-transient Non-community Transient Non-community

Overall Compliance Status: No Major Deficiencies Major Deficiencies

Monitoring and Reporting Status: No Major Deficiencies Major Deficiencies

Comments: *None*

Operation and Maintenance Status: No Major Deficiencies Major Deficiencies

Comments: *None*

Major unresolved/ongoing operation and maintenance deficiencies:

- | | |
|---|---|
| <input type="checkbox"/> unable to maintain 20psi | <input type="checkbox"/> inadequate storage |
| <input type="checkbox"/> cross connection/backflow problems | <input type="checkbox"/> surface water treatment rule |
| <input type="checkbox"/> treatment deficiencies | <input type="checkbox"/> approval of construction |
| <input type="checkbox"/> certified operator | <input type="checkbox"/> other |

Date of last inspection / sanitary survey: 6-22-07

Administrative Orders:

Is an ADEQ administrative order in effect? Yes No

Comments: *None*

System information:

Number of Entry Points to the Distribution System 1 Number of Sources 2

Population Served 804 Service Connections 300 Initial Monitoring Year 2008

Evaluation completed by: Donna Calderon, Manager, Drinking Water Monitoring and Protection Unit

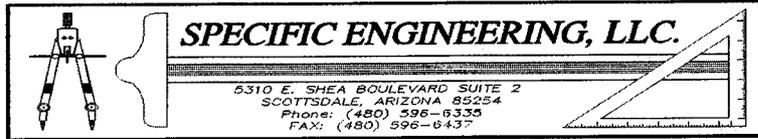
Phone: 602-771-4641

Date: March 21, 2008

Based upon data submitted by the water system, ADEQ has determined that this system is currently delivering water that meets water quality standards required by Arizona Administrative Code, Title 18, Chapter 4. This compliance status report does not guarantee the water quality for this system in the future. This compliance status report does not reflect the status of any other water system owned by this utility company.

ATTACHMENT

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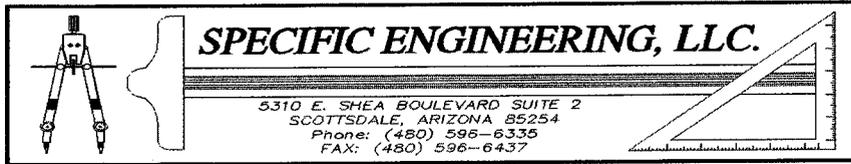


ENGINEER'S OPINION OF PROBABLE COST
 PROJECT: Quail Run Development-Onsite Sewer
 09-May-08
 ON-SITE SEWER -QUAIL RUN

PROJECT NO. Concept Estimate
 NO. of LOTS: N.A.
 BY: Johnson Utilities

Description	Unit	Approximate Quantity	Unit Price	TOTAL
8" SDR35 PVC PIPE	LF	22161	\$20.00	\$443,220.00
4' DIA. MANHOLE	EA	57	2,200.00	\$125,400.00
5' DIA MANHOLE	EA	13	3,200.00	\$41,600.00
FORCE MAIN CLEANOUTS	EA	8	400.00	\$3,200.00
SEWER SERVICE	EA	532	400.00	\$212,800.00
TESTING-CAMERA	LF	22,161	0.80	\$17,728.80
HYDRO-VAC TESTING-LOW PRESSURE AIR	LF	22,161	0.80	\$17,728.80
MANHOLE VACUUM TESTING	LS	1	5,000.00	\$5,000.00
		SUBTOTAL		\$866,677.60

Note: Specific Engineering LLC has no control over the costs of labor, materials or equipment or over any contractor's method of determining prices or over competitive bidding or market conditions. Consequently, the estimates of cost contained herein represent Specific Engineering, LLC's opinions of probable cost and are made solely on the basis of experience and qualifications and represent only a best judgement as a design professional familiar with the construction industry. Specific Engineering, LLC cannot and does not guarantee that proposals, bids or final construction costs will not vary from opinions of probable cost prepared by Specific Engineering, LLC.

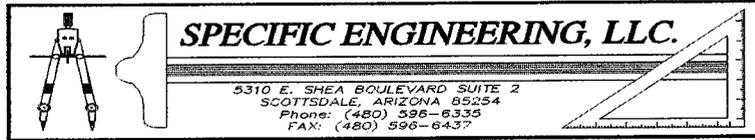


ENGINEER'S OPINION OF PROBABLE COST
 PROJECT: Combs School Lift Station & Force Main
 25-Sep-07
 SEWER -THE Combs School Lift Station & Force Main

PROJECT NO. 65-0366
 NO. of LOTS: N.A.
 BY: Johnson Utilities

Description	Unit	Approximate Quantity	Unit Price	TOTAL
MAIN PUMP STATION	EA	1	\$250,000.00	\$250,000.00
GRIT CHAMBER	EA	1	\$2,500.00	\$2,500.00
WASH PAD	EA	1	\$1,000.00	\$1,000.00
VALVE VAULT (ROUND)	EA	1	\$2,200.00	\$2,200.00
8' CMU WALL	LF	184	35.00	\$6,440.00
16' SLIDING GATE	EA	1	1,800.00	\$1,800.00
LIFT STATION ELECTRICAL	LS	1	25,000.00	\$25,000.00
DESEIL OR GAS GENERATOR	LS	1	50,000.00	\$50,000.00
4" C-900 FORCE MAIN	LF	8,332	9.00	\$74,988.00
4" GATE VALVE W/ V.B. & C	EA	8	300.00	\$2,400.00
	TOTAL			\$416,328.00

Note: Specific Engineering LLC has no control over the costs of labor, materials or equipment or over any contractor's method of determining prices or over competitive bidding or market conditions. Consequently, the estimates of cost contained herein represent Specific Engineering, LLC's opinions of probable cost and are made solely on the basis of experience and qualifications and represent only a best judgement as a design professional familiar with the construction industry. Specific Engineering, LLC cannot and does not guarantee that proposals, bids or final construction costs will not vary from opinions of probable cost prepared by Specific Engineering, LLC.



ENGINEER'S OPINION OF PROBABLE COST
 PROJECT: Skyline Estates Development-Offsite Sewer
 09-May-08
 OFFSITE SEWER -SKYLINE ESTATES FORCE MAIN

PROJECT NO: Concept Estimate
 NO. of LOTS: N.A.
 BY: Johnson Utilities

Description	Unit	Approximate Quantity	Unit Price	TOTAL
8" C-900 PVC PIPE	LF	23800	\$22.00	\$523,600.00
8" GATE VALVE W/ V.B.&C	EA	23	600.00	\$13,800.00
FORCE MAIN CLEANOUTS	EA	30	400.00	\$12,000.00
LOCATOR TAPE	LF	23,800	0.75	\$17,850.00
PIPE PRESSURE TESTING	LF	23,800	0.80	\$19,040.00
TRAFFIC CONTROL	LS	1	15,000.00	\$15,000.00
A.C. PAVEMENT REMOVE AND REPLACE	LS	1	10,000.00	\$10,000.00
	SUBTOTAL			\$611,290.00

Note: Specific Engineering LLC has no control over the costs of labor, materials or equipment or over any contractor's method of determining prices or over competitive bidding or market conditions. Consequently, the estimates of cost contained herein represent Specific Engineering, LLC's opinions of probable cost and are made solely on the basis of experience and qualifications and represent only a best judgement as a design professional familiar with the construction industry. Specific Engineering, LLC cannot and does not guarantee that proposals, bids or final construction costs will not vary from opinions of probable cost prepared by Specific Engineering, LLC.