City of Adelanto

January 28th, 2011

Mr. Harold J. Singer, Executive Officer
California Regional Water Quality Control Board
Lahontan Region
2501 Lake Tahoe Blvd
South Lake Tahoe, CA 96150

Attention: Mr. Eric Taxer, P.E

Subject: Proposed Cease and Desist Order (CDO NO. R6V-2011) for Adelanto Public Utility Authority's Wastewater Facility, Adelanto, San Bernardino County, and WDID NO. 6B369805001

Dear Mr. Singer and Members of the Board:

The Adelanto Public Utility Authority ("APUA") is in receipt of the December 23, 2010 Proposed Cease and Desist Order ("CDO") and the January 13,2011 revisions for the Adelanto Public Utility Authority's Wastewater Treatment Plant.

The APUA appreciates the opportunity to review the Proposed CDO and provide comments which are included as a supplement to this cover letter. Although we feel that the time allowed for addressing a CDO that contains complex issues like the proposed connection ban provision was insufficient, we have made a concerted effort to provide comments and additional information to demonstrate that the APUA is in compliance with both the current CDO and the Waste Discharge Requirements (WDRs) with the exception of the freeboard level for disposal pond No. 4-south.

The current CDO was issued to the APUA for exceeding flow and BOD requirements. As you will see from the attached Response Report that the APUA is in compliance with BOD requirements for at least the last 90-days and the flow has been reduced to the old plant design capacity. The recent freeboard violation of disposal ponds was exacerbated due to the deluge that occurred in late last year and early this year. All of the ponds with the exception of pond 4-south have more than the required free board as of January 24th, 2011. The pond 4-south has about 18-inches of freeboard which will be within the

11600 Air Expressway / Air Base Road • P.O. Box 10 • Adelanto, CA 92301 • (760) 246-2300 • FAX (760) 246-8421

specified limit as the actions that have been implemented and/or proposed take hold . Therefore, the actions proposed in the CDO NO. R6V-2011 are not warranted. Based on the detailed information contained in the Response Report (attached), the APUA respectfully requests that the proposed CDO action not be adopted. Alternately, the APUA requests that the proposed CDO be postponed and kept in abeyance for at least 120-days. During the next 120-days the APUA will demonstrate that it is continuing to make significant progress and is capable of maintaining consistent compliance with the current CDO and the WDRs.

The APUA has been and currently is committed to making its best efforts to comply with the Board requirements consistent with our mutual goal of protection of water quality and the environment.

APUA staff will closely work with the Board staff to keep them apprised of APUA staff's unrelenting efforts to stay on the path of full compliance with the Board Orders. Staff of the APUA requests a meeting with the Regional Board staff to review the plan of action that we have proposed to bring the discharge into full compliance. We hope to convince your staff that the adoption of proposed CDO by the Regional Board is unnecessary. Please contact me to facilitate such a meeting as soon as our schedules allow. The APUA appreciates the assistance and the cooperation the Board staff have extended to APUA staff in complying with the CDO and the WDRs.

Sincerely Yours,

D. James Hart, PhD.
City Manager

cc:
Todd Litfin, City Attorney
John Sponsler, APUA Director
Wilson F. So. P.E., City Engineer
Adelanto City Council

Adelanto Public Utility Authority Report and Response to the Lahontan Regional Water Board

Proposed Cease and Desist Order (CDO No. R6V-2011)

There Are Four WDRs At Issue In the CDO

There are approximately four substantive items of the Waste Discharge Requirements ("WDRs") that were issued by the Regional Water Quality Control Board pursuant to Board Order Nos. R6V-2002-050 & R6V-2009-0036 which are the subject of this proposed Cease and Desist Order No. R6V-2011 ("CDO") against the Adelanto Public Utility Authority ("APUA"). These items are:

1. Average Biological Oxygen Demand ("BOD");
2. Average daily volume;
3. Maintenance of freeboard in the ponds; and
4. Disposal of wastewater to be maintained on the APUA's property.

The applicable requirements of the Board Orders are as follows. The Waste Discharge Specifications of Order No R6V-2002-050 in part state:

- I.A.1. "The total volume of flow to the Adelanto wastewater treatment facility, during a 24-hour period, shall not exceed 1.5 million gallons [1.5 mgd]."

- I.A.5. "All wastewater discharged to the authorized disposal sites shall not contain concentrations of parameter in excess of the following limits:

  BOD: 30–day mean of 15 mg/l and daily maximum of 30 mg/l."

- I.D.2. "Surface flow or visible discharge of sewage or sewage effluent at or from the authorized disposal sites to adjacent land or surface waters is prohibited."

- I.D.3. "The vertical distance between the liquid surface elevation and the lowest point of a pond dike or the invert of an overflow structure [freeboard] shall not be less than two feet."

- I.D.5. ". . . The discharge of wastewater except to the authorized disposal site is prohibited."

The APUA Is In Compliance Or Moving Toward Compliance With The WDRs At Issue In The CDO

1) The APUA is in compliance with the volume limitation requirements. As stated above, specification I.A.1 states: "The total volume of flow to the Adelanto wastewater treatment facility, during a 24-hour period, shall not exceed 1.5 million gallons [1.5 mgd]."

As can be seen from the information contained in Table 1, the APUA is in compliance with flow limitations since it commenced diversion of a portion of its influent and a portion of its treated effluent to the Victor Valley Wastewater Reclamation Authority ("VVWRA") in September 2010. Although for brevity we have provided a daily flow from the monthly averages, the detailed report on daily influent volumes can be found in APUA files and/or in Regional Board staff files and is incorporated herein by reference. These reports are routinely provided to the Regional Board's Victorville Office.

The APUA intends to continue the diversion of its influent and some effluent in excess of 1.5 mgd as long as it is necessary or until it has upgraded and expanded its own facilities (via the currently progressing Micromedia/M2R system being constructed) and its facilities are capable of complying with the WDRs issued by this Board.

2) The APUA is in compliance with BOD requirements. As stated above, specification I.A.5 states: "All wastewater discharged to the authorized disposal sites shall not contain concentrations of parameter in excess of the following limits: BOD – 30–day mean of 15 mg/l and daily maximum of 30 mg/l."

The discharge of waste (treated effluent) to the disposal ponds is in compliance with the effluent limitations issued by the Board in I.A.5. Table 1 contains BOD data for the last quarter of 2010 since the diversion of influent and some effluent to the VVWRA commenced. The APUA has been consistently complying with the 30-day mean and daily maximum BOD limits.

The average 30-day BOD and daily maximum BOD concentrations, prior to September 2010, were at times in excess of the limits specified by the Board. The APUA, beginning September 2010, under contract with VVWRA started to send some of its influent and some treated effluent to the VVWRA wastewater facility. On an average the influent diverted to VVWRA is between 0.8 mgd to 0.9 mgd. The APUA also diverts approximately 0.3 mgd of its treated effluent to the VVWRA facility. The diversion of influent and some effluent to VVWRA is being done at great expense to the APUA but was undertaken to enable the APUA to operate its Biolac plant at the designed capacity of 1.5 mgd and maintain the integrity of its disposal ponds. Since that time (as depicted in Table 1) the APUA's wastewater facility has consistently produced effluent well below 15 mg/l 30-day average BOD and daily maximum BOD has been below the specified limit of 30 mg/l. The effluent quality to the disposal ponds far exceeds the minimum secondary treatment standards established by the United States Environmental Protection Agency (US EPA) for discharges of waste to surface waters throughout the country. The

average cost of diverting the raw sewage to VVWRA facilities is projected to be approximately $750,000 per year. From the information provided above, it is concluded that the APUA is in consistent compliance with the BOD requirements.

3) The APUA is undertaking actions toward compliance to resolve freeboard issues and the severe weather induced discharge. As stated above, specification I.D.2 states: "Surface flow or visible discharge of sewage or sewage effluent at or from the authorized disposal sites to adjacent land or surface waters is prohibited;" specification I.D.3 states: "The vertical distance between the liquid surface elevation and the lowest point of a pond dike or the invert of an overflow structure [freeboard] shall not be less than two feet;" and specification I.D.5 states: ". . . The discharge of wastewater except to the authorized disposal site is prohibited."

The discharge of treated effluent from the APUA wastewater facility is made to four existing disposal ponds. These ponds have been satisfactorily handling the disposal of effluent for quite some time. However, starting around August 2010 some of the ponds began to experience reduced percolation rates. The APUA discovered that a coagulant was accidentally discharged into some of the ponds. There are no water quality impacts of the coagulant because it is routinely utilized by many municipalities in their domestic water treatment. The deluge of storms which occurred in December 2010 and early January 2011 further exacerbated the situation. As a result of these extenuating circumstances the freeboard in some of the ponds was over taxed.

When the level of treated effluent in disposal ponds began to rise, the APUA's operations staff began a vigilant daily 24-hour monitoring of the ponds. Pond #4, which has 2 segments 4-S and 4-N, started to violate the free board requirement of minimum 2-feet. Immediately in early October the APUA Director of Utilities put the required contingency actions into motion. The WDRs require when adverse conditions are noted, that may affect compliance with the WDRs, the Discharger must contact the Regional Board staff and propose corrective actions to bring the discharge into compliance. Mr. Sponsler discussed various options with Mr. Morales of the Regional Board staff on or about October 8th, 2010. Options which were discussed included but were not limited to:

- Diversion of influent to VVWRA at a higher rate;
- Installation of seepage pits, located to the immediate west of percolation ponds #1 and #2;
- Proposed construction of Pits within the APUA's property. If constructed these pits were to be rotated; and
- Dredging ponds and similar actions.

After discussion with Mr. Morales (who was consulting with Mr. Taxer and other staff of Board's Tahoe office), it was mutually agreed that the APUA can proceed with installation of 6-trenches in 4-South pond and 7-trenches in 4-North pond.

The proposed CDO in section 5(d) states: "In addition to the violations of effluent, low, and freeboard limitations, . . . The Discharger has been continuously violating these requirements as a result of constructing 13 trenches through Percolation

Pond No. 4's berm as part of the Discharger's efforts to prevent an uncontrolled and unauthorized release from the percolation ponds . . .." However, for some reason the APUA was only allowed to construct 6-trenches in 4-South pond and not 13 trenches as described in the proposed CDO.

APUA staff was in constant contact with the Board staff to implement the most effective emergency measure(s) that had the potential of causing minimal adverse impacts. After discussion with the Regional Board staff, APUA staff instituted the construction of trenches into the sides of pond #4-South. Although the APUA recognizes that the discharge of effluent via the trenches was a deviation from the requirements specified in I.D.2 and I.D.5, the trenches were effective in preventing the breach of the disposal ponds and the controlled discharge of treated effluent to the trenches occurred. These trenches are within the property owned and controlled by the APUA.

The discharge of treated effluent from Percolation Pond No. 4 S on December 23, 2010 to adjacent land was an unfortunate incident. This over flow was a direct result of increased inflows to the treatment plant from the major storms that affected many publicly owned and operated wastewater facilities in Southern California. President Obama even recently declared San Bernardino County a disaster area because of the winter storms. Although the APUA recognizes that the discharge of treated effluent to the adjacent desert was an unauthorized discharge, it did not enter into any surface water ways. There were no discernable water quality impacts or nuisance conditions observed. In contrast, it is the APUA's understanding that there were far more major impacts to wastewater facilities in Southern California that were adversely affected by these major storms. During the major storm event of December 2010, APUA actually had to reduce or stop the diversion of effluent-flow to VVWRA when VVWRA's operations staff discovered an unusual increase of influent flow. Indeed, there were unauthorized discharges of untreated wastewater and/or inadequately treated effluents to surface waters from other facilities.

In short, the measures taken by the APUA were effective in addressing the emergency situation at hand and if the APUA did not implement the actions it took, the consequences would have been much more severe.

The APUA Is Taking Both Short Term And Long Term Measures To Resolve Any And All Matters At Issue In The CDO

Proposed Short Term Corrective Measures:

The APUA sincerely appreciates the suggestions and cooperation the Regional Board staff extended to APUA staff in facilitating the implementation of measures to respond to the unfortunate situation that arose. The following actions have been taken and/or proposed to address the disposal ponds capacity:

A. All ponds would be scarified/ripped by an in-situ method. This method of percolation pond scarification has successfully been used by other wastewater facilities in California under similar situations. Some ponds are

already currently undergoing dredging and scarification process, others will have scarification completed within the next 90-days.

B. The APUA will explore irrigation of a portion of newly acquired 18-acres parcel for pasture or Bermuda grass. The WDRs do allow the use of treated effluent for irrigation within the plant. The effluent will however, need to be disinfected. APUA staff will discuss this option with Board staff as it is further developed.

Proposed Longer Term Proposed Measures:

A. Since the WDRs issued by the Regional Board already recognize the construction of an additional disposal pond, the fifth pond (described as pond no.6 in Figure 1), the APUA has commenced the CEQA process for an expedited construction of the fifth disposal pond. The APUA is planning to complete the design and construction of the fifth pond within 90 days of this report.

B. Design and construction of over 12 additional ponds to be completed in phases (for ultimate capacity) as shown in Figure 1 (attached to this report) will concurrently be completed on an additional 18 acres of land recently acquired by the APUA. The CEQA process for construction of these additional ponds has been put on a fast track. As these additional disposal ponds become operational and come on line the disposal issues will be resolved.

C. The disposal ponds will be rotated to alternate flows, dried and scarified/ripped on a regular schedule to maintain their percolation and disposal capabilities.

D. Implementation of recycled water use whenever and wherever it is feasible. The APUA will make efforts to utilize its treated effluent for beneficial uses. The Adelanto wastewater treatment plant produces effluent that can be beneficially used for various recycled water uses. The APUA already has a chlorine contact chamber as a part of the expanded portion of the plant that can be utilized to deactivate pathogens to meet the California Department of Health Services ("CDPH") criteria required for application of recycled water for certain uses. The APUA intends to apply to the Regional Board and the CDPH to request authorization of recycled water use during emergencies and on a longer-term basis. The short-term recycled water use would be for dust control, compaction at construction sites and irrigation of potential pasture land to be considered by the City of Adelanto. The APUA intends to submit a Title 22 engineering report to the CDPH to initiate the recycled water use process.

The Proposed Connection Ban In The CDO Is Unwarranted And Fails To Meet Legal Requirements

The proposed CDO in Section 1 "Orders", paragraph A, in part states:

"**Effective immediately** and continuing until the Discharger can demonstrate its ability to consistently maintain compliance with the WDRs described in Order Nos. R6V-2002-050 and RGV-2009-0036, the Discharger shall not permit nor allow additional discharges (as defined in Finding No.8 of this Order) to its facility or it's Community Sewer System (also known as connection ban). The Discharger's ability to consistently maintain compliance with the above referenced waste discharge requirements will be demonstrated by Discharger maintaining compliance with the waste discharge requirements for six consecutive months."

The proposed connection ban is not legally warranted. Title 23 of the California Code of Regulations, Section 2244 states in pertinent part:

(a) The purpose of prohibitions or restrictions on additional discharges is to prevent an increase in violation or likelihood of violation of waste discharge requirements during a period of violation or threatened violations of requirements and thereby prevent an increase in unreasonable impairment of water quality or an increase in nuisance.

(b) Prohibitions or appropriate restrictions on additional discharges should be included in a cease and desist order if the further addition in volume, type, or concentration of waste entering the sewer system would cause an increase in violation of waste discharge requirements or increase the likelihood of violation of requirements.

(c) Additional discharges should not be restricted or prohibited when violation of requirements can be immediately corrected.

(d) Prohibitions or restrictions are not to be used as a punitive measure for past failure to comply.

As the evidence shows as detailed above, the connection ban does not meet the necessary legal requirements. The flow limitation and BOD requirements are being met and there is no evidence that a connection ban would threaten compliance with such requirements or threaten additional discharges because the overage is being sent to VVWRA. The APUA is already working with Board staff to remediate recent discharge issues which were primarily caused by a huge storm event. Even in the proposed CDO, the primary purported justification as "special circumstances" for the connection ban in Section 7(c) includes past violations as the primary impetus for the ban. However, Section 2244(d) specifically prohibits the punitive use of past violations as the reason for such a ban.

Additionally, Title 23, Section 2244.3, which deals with removal of connection bans, states in pertinent part:

(a) Prohibitions or restrictions on additional discharges shall not be removed until the violations of requirements which were the basis for imposing the prohibitions

or restrictions have ceased and consistent compliance with those requirements has been achieved.

(b) As an exception to (a), prohibitions or restrictions on additional discharges may be removed, at the discretion of the Board, if the Board finds (1) that consistent compliance with requirements can be achieved only by construction of a facility which will take a substantial period of time to complete, and (2) that the discharger has the capacity, authority and financial resources to complete the corrective measures necessary to achieve compliance and is currently proceeding with such corrective measures, and (3) that the corrective measures necessary to achieve compliance with requirements will be completed and placed into operation by the discharged in the shortest practicable time, and (4) that during the interim period of time until compliance with requirements can be fully achieved the treatment process of the discharges will be so managed, operated, maintained and repaired as to reduce to a minimum the violations which resulted in the imposition of the prohibitions or restrictions, and that such minimum violations for the interim period of time involved will not significantly impair water quality or beneficial uses.

As the Board knows, the APUA is actively moving forward with the Micromedia/M2R upgrade to its facility as a long term fix to any and all purported issues with the plant. The APUA is also purchasing neighboring property to construct additional ponds. This construction effort takes time. The APUA has substantially raised water and sewer rates, in the face of vocal community concern about such rates, so that it has the available funds to make the necessary improvements. These improvements are being put into place as fast as logistically and legally possible. During the interim, the APUA is working with the Board to resolve any potential outstanding issues. Therefore, if there were a connection ban in place now, the APUA would meet the requirements to have such ban removed. It short, it makes no sense to now impose a ban when it does not meet the legal requirements to be imposed, but does meet the legal requirements to be removed.

Additionally, the imposition of the proposed connection ban of additional developments as contained in the proposed CDO will have a severe adverse economic impact on the City in serving its citizens. Although the APUA recognizes that economic concerns in the abstract by themselves are only one consideration, the current economic downturn has reached devastating levels in the High Desert. There are at least four major developments which potentially may be affected by the connection ban. These developments include, but are not limited to:

1. Approximately 100 homes by D.R. Horton;
2. The Super Target departmental store (that is sorely needed by the underserved local community);
3. Expansion of existing the Geo Prison (with the creation of hundreds of local jobs, including former prison guards recently laid off by the City); and
4. A proposed County prison expansion to house State inmates (which will contain approximately 3000 beds).

This is by no means a complete list of developments that would potentially be affected by the connection ban. A sample of the developments described above is very critical to the economic viability and survival of the City. Developments like these will provide the City significant revenue from property and sales taxes. Developments will also create needed jobs which are an integral part of Federal and State government efforts to reduce unemployment. The City of Adelanto has an extremely high unemployment rate which far exceeds the State's unemployment rate of approximately 12.5%. The City of Adelanto's unemployment rate varies between 18% to 20% which is well above the State's average. The above mentioned projects will potentially create over thousand permanent jobs and many construction jobs that will be very beneficial to the local economy.

Although the Regional Board may not intend the connection ban as a punitive measure, the reality is that connection ban for the APUA would have disasterous effects which would for all practical purposes act as a punitive action. The impending connection ban of the proposed CDO undoubtedly could adversely affect potential bond and credit ratings. Indeed, the loss of revenue from a connection ban would hamper the APUA's and City's ability to provide funds for addressing the wastewater issues.

It is respectfully requested that the Board not adopt the connection ban or the proposed CDO in its entirety. Alternately, the APUA requests that the proposed CDO be kept in abeyance for a period of at least 120 days from the date of this report. If the APUA is unable to show consistent compliance with the waste discharge requirements by June 15, 2011, this matter can then be brought before the Board for its consideration.

During the next 120 days the APUA intends on implementing the short and long term measures identified in this report to bring the discharge into full compliance with the Board Orders.

Attachments:
Table 1- Contains BOD and daily flow data
Table 2- Contains Freeboard data
Figure 1- Contains schematics for layout of ponds

Table 1

MONTH	BOD (30-day average)	FLOW (average daily)
August	16 mg/l	1.087 mgd
September	5 mg/l	1.008 mgd
October	5mg/l	1.2807 mgd
November	7 mg/l	1.2906 mgd
December	6 mg/l	1.3196 mgd

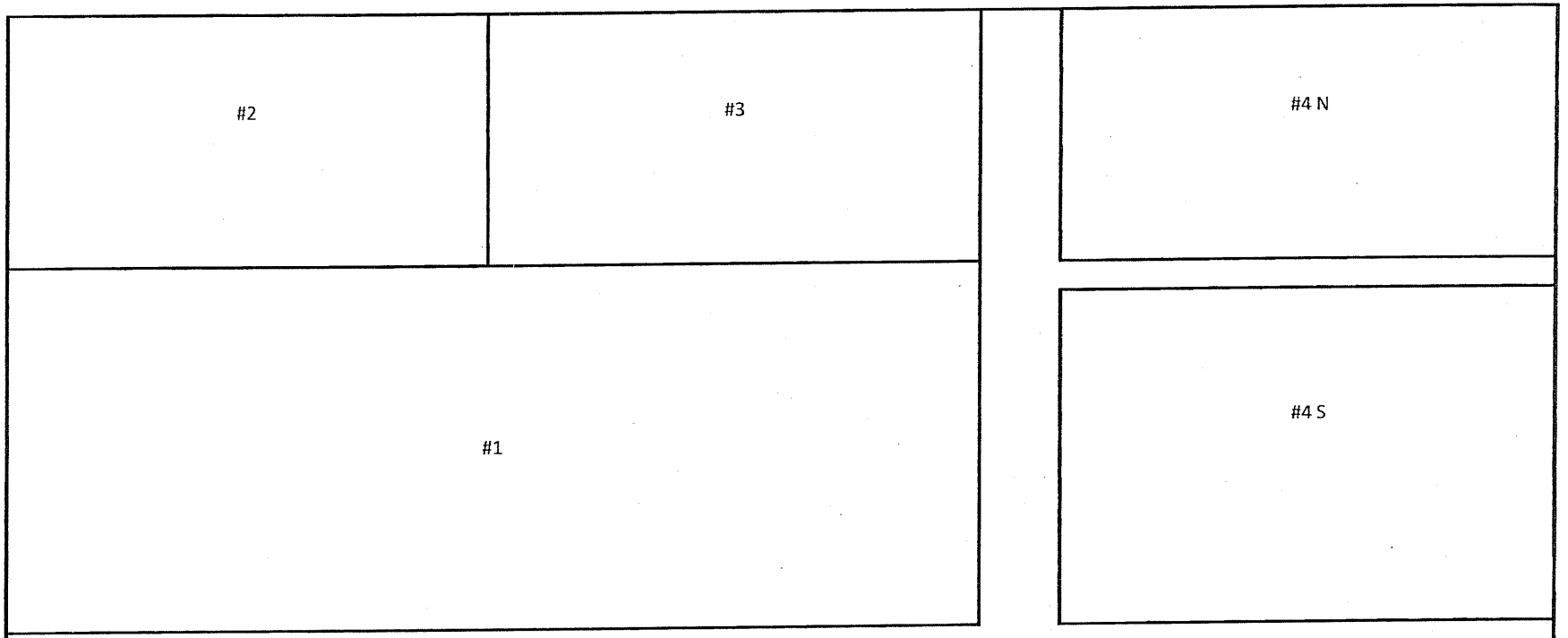
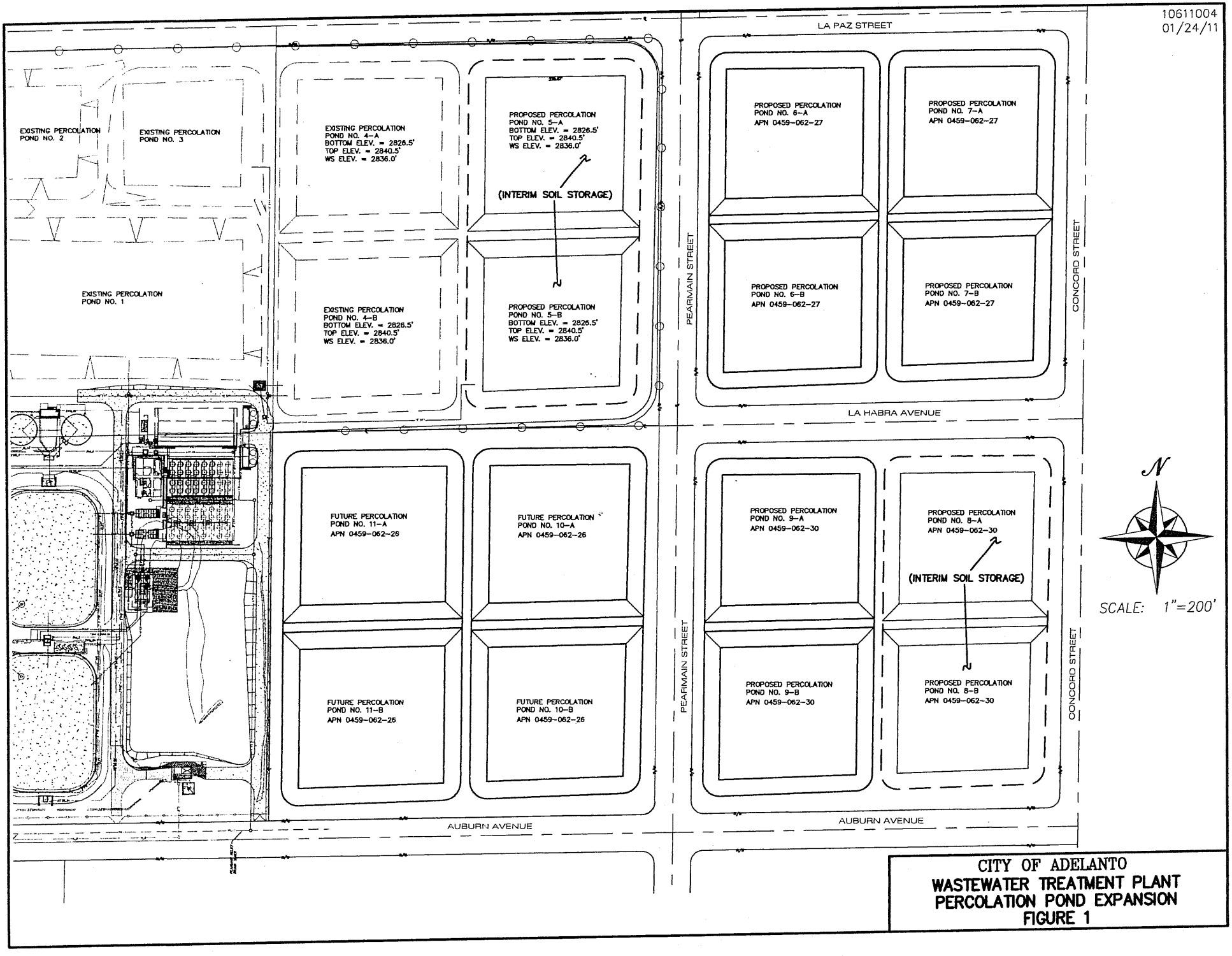


Table 2

Date	Pond Number		Pond Freeboard Level (remaining feet)
1/25/2011 , 12PM	#1		3
	#2		2
	#3		3
	#4 N		2
	#4 S		1.5

10611004
01/24/11



CITY OF ADELANTO
WASTEWATER TREATMENT PLANT
PERCOLATION POND EXPANSION
FIGURE 1

List of Witnesses

James Hart, Ph.D, City Manager of City of Adelanto and Executive Director of Adelanto Public Utility Authority

John Sponsler, Director, Adelanto Public Utility Authority

Wilson So, City Engineer, City of Adelanto

Roger Veseley, United Water, Plant Manager of APUA Wastewater Treatment Facility

List of Potential Witnesses

Cari Thomas, Mayor of Adelanto and President of Adelanto Public Utility Authority

Todd Litfin, City Attorney of Adelanto and General Counsel to Adelanto Public Utility Authority

Mike Perales, United Water

Gerhard Forstner or other representative, M2R Renewables

Carlos Rodriquez or other representative, CEO BIA Baldy View Chapter

Barbara Murakami or other representative, DR Horton

Ken Fortier or other representative, GEO Group

Hisam Baqai, P.E., G.E., Baqai & Associates

John Morales, Water Resource Control Engineer, Regional Water Quality Control Board, Lahontan Region

The APUA envisions using the entirety of time available per the hearing procedures of one hour, and potentially will seek additional time.

Summary of Testimony of James Hart, John Sponsler, Wilson So, Roger Veseley, Cari Thomas Todd Litfin, Mike Perales, Gerhard Forstner, Carlos Rodriquez, Barbara Murakami, Ken Fortier, and Hisam Baqai

- History of the Adelanto Public Utility Authority's ("APUA") wastewater collection, treatment, and disposal facility ("Facility");
- The waste discharge requirements for the Facility, specifically Board Order Nos. R6V-2002-050 and R6-2009-0036, Cease and Desist Order No. R6V-2007-24, and Cleanup and Abatement Order No. R6V-2010-0054;
- Evidence supporting the APUA's compliance with, or substantial progress towards compliance with, the applicable waste discharge requirements, including BOD, average daily volume, maintenance of freeboard, and discharge of waste;
- Evidence pertaining to APUA's communications and efforts working with Regional Board staff pertaining to addressing issues raised by the Regional Board previously and in the proposed Cease and Desist Order concerning the Facility;
- Evidence pertaining to APUA's increase of water and sewer rates in order to have the financial means to make necessary Facility improvements;
- Evidence pertaining to APUA's diversion of influent and some effluent to the Victor Valley Wastewater Reclamation Authority ("VVWRA") and the costs thereof;
- Evidence pertaining to APUA's ongoing project with Micromedia/M2R Renewables pertaining to improvements to the Facility and the costs thereof;
- Evidence pertaining to APUA's purchase of additional property next to the Facility in order to expand operations at the Facility and the costs thereof;
- Evidence pertaining to APUA's dredging of the ponds and the costs thereof;
- Evidence pertaining to APUA's trenching of certain ponds;
- Evidence pertaining to the major winter storm event of December, 2010, its effect on the high desert of San Bernardino County and the Facility, and the APUA's response thereto;
- The devastating impact of a connection ban on the finances of the APUA and the City of Adelanto, local development projects, and the economy as a whole in the City and the greater Victor Valley;
- The APUA's efforts moving forward to address matters pertaining to the Facility; and
- The lack of evidence to support the proposed Cease and Desist Order and connection ban.

EXHIBITS		
No.	**Bates Number**	**Subject**
1	1-16.1	Documents Pertaining To BOD, Influent and Effluent, and Freeboard Commencing In May, 2010
2	17-46	Documents Pertaining To Diversion To VVWWRA
3	47-59	Documents Pertaining To Dredging of Wastewater Percolation Ponds
4	60-79	APUA Report Pertaining To Weather Induced December 23, 2010 Spill Overflow
5	80-95	Documents Pertaining To Purchase of Land Adjacent to APUA Facility
6	96-193	APUA Quarterly Reports
7	194-281	Documents Pertaining To APUA Increase Of Water and Sewer Rates
8	282-289	Various September through November, 2010, Email Correspondence Between John Sponsler and Regional Board
9	290-294	November 4 and November 11 Correspondence between APUA and Regional Board
10	295-451	Contract Between APUA and Micromedia
11	455-455.1	Correspondence From DR Horton and BIA Pertaining To Impact Of Connection Ban
12	456-466	Newspaper Articles Pertaining To Impact Of December 2010 Storms
13	467-478	Spreadsheets Pertaining To Financial Impact Of Connection Ban

In order to reduce paperwork, the APUA incorporates by reference the documents submitted by the Regional Board Prosecution Team in its evidence package.

Adelanto Wastewater Treatment Plant May 2010
Monitoring and Reporting Program No. R6V-2002-050
WDID No. 6B369805001
Plant Influent and Effluent Monitoring

INFLUENT	Units	Frequency	4-May	11-May	18-May	25-May	Average
BOD	mg/l	Weekly	430.0	310.0	410.0	440.0	398
TSS	mg/l	Weekly	480.0	78.0	320.0	340.0	305
Methylene Blue Active	mg/l	Monthly	13.0				13.0
Total Phenols	mg/l	Annual	NRTP				
VOC	mg/l	Annual	NRTP				
SVOC	mg/l	Annual	NRTP				
Heavy Metals	mg/l	Annual	NRTP				
TPH 418.1	mg/l	Annual	NRTP				

EFFLUENT	Units	Frequency	4-May	11-May	18-May	25-May	Average
BOD	mg/l	Weekly	98.00	39.00	58.00	92.00	71.8
COD	mg/l	Weekly	260.0	140.0	200.0	250.0	212.5
DO	mg/l	Weekly	4.21	4.88	4.46	4.77	4.58
PH	Ph units	Weekly	7.58	7.58	7.61	7.51	7.57
Methylene Blue Active	mg/l	Bi-month	2.6		6.3		4.45
Oil and Grease	mg/l	Bi-month	6.8		5.0		5.9
Kjeldahl Nitrogen	mg/l as N	Monthly	48.0				48.0
Nitrate Nitrogen	mg/l as N	Monthly	0.2				
Ammonia Nitrogen	mg/l as N	Monthly	37		Exceded compliance limit		
TDS	mg/l	Quarterly	NRTP				
TH	mg/l as Caco3	Quarterly	NRTP		See note 1		
Boron	ug/l	Quarterly	NRTP				
Fluoride	mg/l	Quarterly	NRTP		Lab error		
Chloride	mg/l	Quarterly	NRTP				
Sodium	mg/l	Quarterly	NRTP		#Meter malfunction		
Sulfate	mg/l	Quarterly	NRTP				
Sulfide	mg/l	Quarterly	NRTP		In house tests		
Total Cyanide	mg/l	Quarterly	NRTP				
Total Phenols	mg/l	Quarterly	NRTP				
Total Chromium	ug/l	Quarterly	NRTP				
Hexavalent Chromium +	ug/l	Quarterly	NRTP				
VOC	ug/l	Quarterly	NRTP				
SVOC	ug/l	Quarterly	NRTP		ND = Not Detected		
Heavy Metals	ug/l	Quarterly	NRTP		NRTP = Not required this period		
TPH 418.1	mg/l	Quarterly	NRTP		SLS = See lab sheet data		

000001

Plant flows Pond freeboard levels

Month *MAY* Year *2010*

	Influent Flow Read	Flow Total MGD	Effluent Flow Read	Flow Total MGD	WAS Flow Read	RAS Flow Read	Sludge Flow Read	Pond No. 1 Level	Pond No. 2 Level	Pond No.3 Level	Pond No.4 Level	
Last Read	1663073		1542768		7987282	1079720	24975097	4	3	3	5	
1	1683495	2.0422	1601444	5.8676	7987282	1045480	25019554	4.5	3.5	3.5	5	
2	1704700	2.1205	1651030	4.9586	7987282	1079420	25041291	4.5	3	3	5	
3	1726180	2.1480	1699590	4.8560	7987282	1093300	25068814	4	3	3	5	
4	1747604	2.1424	1751129	5.1539	7987282	1115760	25111255	4	3	3	5	
5	1768758	2.1154	1801599	5.0470	7987282	1101470	25147459	4	3	3	6	
6	1790141	2.1383	1847728	4.6129	7987282	1130840	25165662	4	2.5	2.5	5	
7	1811289	2.1148	1892792	4.5064	7987282	1082720	25210239	4	2	2	5	
8	1831680	2.0391	1932906	4.0114	7987282	1081580	25259826	4.5	2	2	5	
9	1852831	2.1151	1971412	3.8506	7987282	1102030	25296428	4	2.5	2.5	5	
10	1873601	2.0770	2018444	4.7032	7987282	1091420	25320605	4	2.5	2.5	5	
11	1895383	2.1782	2068739	5.0295	7987282	1118730	25365334	4	2.5	2.5	5	
12	1917000	2.1617	2124947	5.6208	7987282	1132190	25415296	4	2	2	5	
13	1937979	2.0979	2181702	5.6755	7987282	1150430	25466493	4	2	2	3.5	
14	1959104	2.1125	2239807	5.8105	7987282	1152430	25513519	4	2	2	4	
15	1982847	2.3743	2311390	7.1583	7987282	1337358	25562223	4	2.5	2.5	4	
16	2002720	1.9873	2372356	6.0966	7987282	1153618	25562223	4	2.5	2.5	5	
17	2021921	1.9201	2415280	4.2924	7987282	1022500	25562223	4	2.5	2.5	4	
18	2044050	2.2129	2469321	5.4041	7987282	1153140	25622125	4	2.5	2.5	5	
19	2065705	2.1655	2529432	6.0111	7987282	1146800	25672569	4	2.5	2.5	4	
20	2087196	2.1491	2589393	5.9961	7987282	1154660	25723722	4	3	3	4	
21	2108344	2.1148	2646616	5.7223	7987282	1175200	25747553	3	3	3	5	
22	2128873	2.0529	2705770	5.9154	7987282	1171520	25771472	3	3	3	5	
23	2149055	2.0182	2760881	5.5111	7987282	1189670	25771472	3	2.5	2.5	6	
24	2170077	2.1022	2810600	4.9719	7987282	1180920	25771472	4	2	2	6	
25	2191582	2.1505	2870888	6.0288	7987282	1169780	25803141	4	2	2	6	
26	2212150	2.0568	2931640	6.0752	7987282	1174580	25827496	4	2	2	5	
27	2233851	2.1701	2993015	6.1375	7987282	1183810	25865776	4	2	2	5	
28	2255346	2.1495	3057834	6.4819	7987282	1174590	25887024	3	2	2	4	
29	2275964	2.0618	3119242	6.1408	7987282	1189750	25912350	3	2.5	2.5	5	
30	2296432	2.0468	3173828	5.4586	7987282	1176970	25912350	3	2.5	2.5	5	
31	2315986	1.9554	3224385	5.0557	7987282	1187420	25912350	3	2.5	2.5	5	
Total		65.2913		168.1617								
Average		2.1062		5.4246								
High Flow		2.3743		7.1583								

Adelanto Wastewater Treatment Plant June 2010
Monitoring and Reporting Program No. R6V-2002-050
WDID No. 6B369805001
Plant Influent and Effluent Monitoring

INFLUENT	Units	Frequency	1-Jun	8-Jun	15-Jun	22-Jun	29-Jun	Average
BOD	mg/l	Weekly	280.0	250.0	290.0	330.0	350.0	300
TSS	mg/l	Weekly	330.0	110.0	200.0	140.0	200.0	196
Methylene Blue Active	mg/l	Monthly	16.00					16.00
Total Phenols	mg/l	Annual	SLS					
VOC	mg/l	Annual	SLS					
SVOC	mg/l	Annual	SLS					
Heavy Metals	mg/l	Annual	SLS					
TPH 418.1	mg/l	Annual	1.1					

EFFLUENT	Units	Frequency	1-Jun	8-Jun	15-Jun	22-Jun	29-Jun	Average
BOD	mg/l	Weekly	120.00	88.00	100.00	87.00	65.0	92
COD	mg/l	Weekly	290.0	250.0	270.0	210.0	250.0	254
DO	mg/l	Weekly	4.5	4.89	4.96	4.54		4.7
PH	Ph units	Weekly	7.52	7.79	7.73	7.80	7.62	7.7
Methylene Blue Active	mg/l	Bi-month	9.5		4			6.75
Oil and Grease	mg/l	Bi-month	5.0		5.4			5.2
Kjeldahl Nitrogen	mg/l as N	Monthly	57.0					57.0
Nitrate Nitrogen	mg/l as N	Monthly	0.2					
Ammonia Nitrogen	mg/l as N	Monthly	34					
TDS	mg/l	Quarterly	640					
TH	mg/l as Caco3	Quarterly	150					
Boron	ug/l	Quarterly	730					
Fluoride	mg/l	Quarterly	1.3					
Chloride	mg/l	Quarterly	110					
Sodium	mg/l	Quarterly	160					
Sulfate	mg/l	Quarterly	160					
Sulfide	mg/l	Quarterly	0.1					
Total Cyanide	mg/l	Quarterly	0.005					
Total Phenols	mg/l	Quarterly	0.028					
Total Chromium	ug/l	Quarterly	20					
Hexavalent Chromium +	ug/l	Quarterly	10					
VOC	ug/l	Quarterly	SLS					
SVOC	ug/l	Quarterly	SLS					
Heavy Metals	ug/l	Quarterly	SLS					
TPH 418.1	mg/l	Quarterly	1.0					

Exceeded compliance limit

Sample Time Error

Lab error

Meter malfunction

In house tests

ND = Not Detected
NRTP = Not required this period
SLS = See lab sheet data

Plant flows Pond freeboard levels Month *JUN.* Year *2010*

	Influent Flow Read	Flow Total MGD	Effluent Flow Read	Flow Total MGD	WAS Flow Read	RAS Flow Read	Sludge Flow Read	Pond No. 1 Level	Pond No. 2 Level	Pond No.3 Level	Pond No.4 Level	Bypass Flow
Last Read	2315986		3224385		7987282	1187420	25912350	3	2.5	2.5	5	
1	2337645	2.1659	3271666	4.7281	7987282	1202080	25912350	3.5	2.5	2.5	5	
2	2358820	2.1175	3329406	5.7740	7987282	1177240	25957828	3.5	2.5	2.5	5	
3	2380081	2.1261	3389019	5.9613	7987282	1181960	25985582	3.5	2.5	2.5	5	
4	2401881	2.1800	3451144	6.2125	7987282	1190700	26013230	3.5	2.5	2.5	5	
5	2423667	2.1786	3518745	6.7601	7987282	1244211	26035486	3.5	2.5	2.5	5	
6	2446657	2.2990	3582032	6.3287	7987282	1385478	26035486	3.5	2.5	2.5	4	
7	2465379	1.8722	3627840	4.5808	7987282	1033533	26035486	3.5	2.5	2.5	4	
8	2487003	2.1624	3676345	4.8505	7987282	1170518	26093040	3.7	2.2	2.2	5	
9	2509260	2.2257	3731126	5.4781	7987282	1180853	26141073	3.5	2	2	6	
10	2529867	2.0607	3781446	5.0320	7987282	1161788	26177736	4.5	2.2	2.2	5	
11	2550664	2.0797	3839983	5.8537	7987282	1170189	26207619	4.5	2.2	2.2	4	
12	2571922	2.1258	3902553	6.2570	7987282	1172869	26237779	4	2.5	2.5	4	
13	2594732	2.2810	3958592	5.6039	7987282	1374172	26237779	4	2.5	2.5	4	
14	2612559	1.7827	4003671	4.5079	7987282	1006720	26237779	3	2.5	2.5	4	
15	2632806	2.0247	4054350	5.0679	7987282	1079550	26274765	4.5	3	3	5	
16	2653597	2.0791	4098154	4.3804	7987282	1178910	26309856	4	3	3	5	
17	2674799	2.1202	4149582	5.1428	7987282	1164100	26341499	4	3	3	6	
18	2699713	2.4914	4208772	5.9190	7987282	1181350	26372740	4	2.5	2.5	7	
19	2719902	2.0189	4275571	6.6799	7987282	1173080	26403346	4	2.5	2.5	7	
20	2739327	1.9425	4326565	5.0994	7987282	1190040	26403346	4	2	2	8	
21	2758717	1.9390	4387308	6.0743	7987282	1190640	26403346	4	2	2	6	
22	2779308	2.0591	4442211	5.4903	7987282	1175730	26443468	4	2	2	5	
23	2800050	2.0742	4491743	4.9532	7987282	1181250	26468864	4	3	3	6	
24	2820608	2.0558	4545358	5.3615	7987282	1177770	26511316	4	3	3	7	
25	2841030	2.0422	4597787	5.2429	7987282	1150570	26536885	4	3	3	6	
26	2863815	2.2785	4655486	5.7699	7987282	1278256	26567027	4	3	3	6	
27	2883001	1.9186	4698621	4.3135	7987282	1125528	26567027	4	3	3	5	
28	2901043	1.8042	4731071	3.2450	7987282	971740	26567027	4	3	3	4	
29	2921359	2.0316	4770499	3.9428	7987282	1060420	26609497	4	3	3	5	
30	2941993	2.0634	4818418	4.7919	7987282	1079150	26619617	4	3	3	6	
Total		62.6007		159.4033								
Average		2.0867		5.3134								
High Flow		2.4914		6.7601								

Adelanto Wastewater Treatment Plant July 2010
Monitoring and Reporting Program No. R6V-2002-050
WDID No. 6B369805001
Plant Influent and Effluent Monitoring

INFLUENT	Units	Frequency	6-Jul	13-Jul	20-Jul	27-Jul	Average
BOD	mg/l	Weekly	380.0	280.0	350.0	140.0	288
TSS	mg/l	Weekly	230.0	240.0	220.0	150.0	210
Methylene Blue Active	mg/l	Monthly	15.0				15.0
Total Phenols	mg/l	Annual	NRTP				
VOC	mg/l	Annual	NRTP				
SVOC	mg/l	Annual	NRTP				
Heavy Metals	mg/l	Annual	NRTP				
TPH 418.1	mg/l	Annual	NRTP				

EFFLUENT	Units	Frequency	6-Jul	13-Jul	20-Jul	27-Jul	Average
BOD	mg/l	Weekly	56.00	80.00	47.00	72.00	64
COD	mg/l	Weekly	280.0	290.0	150.0	260.0	245
DO	mg/l	Weekly	5.56	3.15	4.50	4.66	4.47
PH	Ph units	Weekly	7.59	7.68	7.60	7.67	7.66
Methylene Blue Active	mg/l	Bi-month	0.5		0.18		0.34
Oil and Grease	mg/l	Bi-month	5.0		5.0		5.0
Kjeldahl Nitrogen	mg/l as N	Monthly	48.0				48.0
Nitrate Nitrogen	mg/l as N	Monthly	0.2				
Ammonia Nitrogen	mg/l as N	Monthly	34		Exceded compliance limit		
TDS	mg/l	Quarterly	NRTP				
TH	mg/l as Caco3	Quarterly	NRTP				
Boron	ug/l	Quarterly	NRTP				
Fluoride	mg/l	Quarterly	NRTP				
Chloride	mg/l	Quarterly	NRTP				
Sodium	mg/l	Quarterly	NRTP				
Sulfate	mg/l	Quarterly	NRTP				
Sulfide	mg/l	Quarterly	NRTP		In house tests		
Total Cyanide	mg/l	Quarterly	NRTP				
Total Phenols	mg/l	Quarterly	NRTP				
Total Chromium	ug/l	Quarterly	NRTP				
Hexavalent Chromium +	ug/l	Quarterly	NRTP				
VOC	ug/l	Quarterly	NRTP				
SVOC	ug/l	Quarterly	NRTP		ND = Not Detected		
Heavy Metals	ug/l	Quarterly	NRTP		NRTP = Not required this period		
TPH 418.1	mg/l	Quarterly	NRTP		SLS = See lab sheet data		

000005

Plant flows Pond freeboard levels

Month *JUL.* Year *2010*

	Influent Flow Read	Flow Total MGD	Effluent Flow Read	Flow Total MGD	WAS Flow Read	RAS Flow Read	Sludge Flow Read	Pond No. 1 Level	Pond No. 2 Level	Pond No.3 Level	Pond No.4 Level	Bypass Flow Read	Flow Total MGD
Last Read	2941993		4818418		7987282	1079150	26619617	4	3	3	6		
1	2961965	1.9972	4867348	4.8930	7987282	1072880	26651807	4	3	3	6		
2	2982110	2.0145	4912132	4.4784	7987282	1068740	26651807	4	3	3	5		
3	3003273	2.1163	4953216	4.1084	7987282	1077850	26651807	4	3	3	5		
4	3024325	2.1052	4995368	4.2152	7987282	1075770	26651807	4	3	3	5		
5	3045727	2.1402	5046874	5.1506	7987282	1144550	26651807	4	2.5	2.5	5		
6	3066954	2.1227	5106403	5.9529	7987282	1146370	26651807	4	2.5	2.5	6		
7	3088168	2.1214	5172566	6.6163	7987282	1171400	26651807	4	2.5	2.5	7		
8	3109059	2.0891	5224751	5.2185	7987282	1210080	26651807	3	2.5	2.5	8		
9	3129851	2.0792	5288301	6.3550	7987282	1202270	26651807	3	2.5	2.5	7		
10	3152751	2.2900	5359080	7.0779	7987282	1344438	26685817	3	2.5	2.5	8		
11	3172563	1.9812	5414737	5.5657	7987282	1116468	26685817	3	2.5	2.5	7		
12	3192378	1.9815	5470394	5.5657	7987282	1053850	26685817	3	2.5	2.5	6		
13	3213613	2.1235	5525704	5.5310	7987282	1101890	26723852	3	2.5	2.5	5		
14	3234839	2.1226	5587155	6.1451	7987282	1103010	26723852	3	3	3	5		
15	3256395	2.1556	5647407	6.0252	7987282	1070310	26723852	3	3	3	4		
16	3277806	2.1411	5707128	5.9721	7987282	1082910	26723852	3	3	3	4		
17	3300011	2.2205	5767326	6.0198	7987282	1036990	26723852	3	3	3	4		
18	3320795	2.0784	5823181	5.5855	7987282	1148390	26723852	3	3	3	5		
19	3339771	1.8976	5873691	5.0510	7987282	1205960	26723852	3.5	3	3	5		
20	3360936	2.1165	5924701	5.1010	7987282	1238950	26723852	3.5	3	3	5		
21	3382346	2.1410	5982710	5.8009	7987282	1212890	26723852	3.5	2.5	2.5	6		
22	3403129	2.0783	6049686	6.6976	7987282	1209340	26723852	3.5	2.5	2.5	7		
23	3423908	2.0779	6108138	5.8452	7987282	1151800	26723852	3	2.5	2.5	7		
24	3444612	2.0704	6161543	5.3405	7987282	1139980	26723852	3	2.5	2.5	6		
25	3464349	1.9737	6226336	6.4793	7987282	1137770	26723852	3	2	2	6		
26	3484227	1.9878	6285387	5.9051	7987282	1134260	26723852	3.5	2	2	6		
27	3504953	2.0726	6338622	5.3235	7987282	1132860	26723852	3.5	2	2	5		
28	3525741	2.0788	6382284	4.3662	7987282	1132060	26723852	3.5	2.5	2.5	5	31.000	
29	3546766	2.1025	6427302	4.5018	7987282	1136390	26723852	3.5	2.5	2.5	6	31.556	0.556
30	3567198	2.0432	6483914	5.6612	7987282	1142900	26723852	3.5	2.5	2.5	7	32.378	0.822
31	3588224	2.1026	6547930	6.4016	7987282	1246238	26731032	3.5	2.5	2.5	8	33.199	0.821
Total		64.6231		172.9512									2.199
Average		2.0846161		5.579071									0.733
High Flow		2.29		7.0779									0.822

900006

Adelanto Wastewater Treatment Plant August 2010
Monitoring and Reporting Program No. R6V-2002-050
WDID No. 6B369805001
Plant Influent and Effluent Monitoring

INFLUENT	Units	Frequency	3-Aug	10-Aug	17-Aug	24-Aug	31-Aug	Average
BOD	mg/l	Weekly	660.0	190.0	290.0	320.0	310.0	354
TSS	mg/l	Weekly	440.0	230.0	360.0	270.0	220.0	304
Methylene Blue Active	mg/l	Monthly	12.00					12.00
Total Phenols	mg/l	Annual	NRTP					
VOC	ug/l	**	SLS					
SVOC	mg/l	Annual	NRTP					
Heavy Metals	ug/l	**	SLS					
TPH 418.1	mg/l	**	2.2					

EFFLUENT	Units	Frequency	3-Aug	10-Aug	17-Aug	24-Aug	31-Aug	Average
BOD	mg/l	Weekly	35.00	20.00	10.00	10.00	5.0	16.0
COD	mg/l	Weekly	98.0	44.0	44.0	40.0	35.0	52
DO	mg/l	Weekly	5.55	5.77	5.80	5.91		5.76
PH	Ph units	Weekly	7.46	7.43	7.29	7.27		7.36
Methylene Blue Active	mg/l	Bi-month	0.14		0.09			0.12
Oil and Grease	mg/l	Bi-month	5.0		5.0			5.00
Kjeldahl Nitrogen	mg/l as N	Monthly	12.0					12.0
Nitrate Nitrogen	mg/l as N	Monthly	1.7					
Ammonia Nitrogen	mg/l as N	Monthly	5.1		Exceeded compliance limit			
TDS	mg/l	Quarterly	NRTP					
TH	mg/l as Caco3	Quarterly	NRTP					
Boron	ug/l	Quarterly	NRTP					
Fluoride	mg/l	Quarterly	NRTP					
Chloride	mg/l	Quarterly	NRTP					
Sodium	mg/l	Quarterly	NRTP					
Sulfate	mg/l	Quarterly	NRTP					
Sulfide	mg/l	Quarterly	NRTP		In house tests			
Total Cyanide	mg/l	Quarterly	NRTP					
Total Phenols	mg/l	Quarterly	NRTP					
Total Chromium	ug/l	Quarterly	NRTP					
Hexavalent Chromium +	ug/l	Quarterly	NRTP					
VOC	ug/l	Quarterly	NRTP					
SVOC	ug/l	Quarterly	NRTP		ND = Not Detected			
Heavy Metals	ug/l	Quarterly	NRTP		NRTP = Not required this period			
TPH 418.1	mg/l	Quarterly	NRTP		SLS = See lab sheet data			
					** Extra for VVWRA			

000007

Plant flows Pond freeboard levels Month *AUG.* Year *2010*

	Influent Flow Read	Flow Total MGD	Effluent Flow Read	Flow Total MGD	ACTUAL FLOW READINGS	RAS Flow Read	Sludge Flow Read	Pond No. 1 Level	Pond No. 2 Level	Pond No.3 Level	Pond No.4 Level	Bypass Flow Read	Flow Total MGD
Last Read	3588224		6547930		C-N	1246238	26731032	3.5	2.5	2.5	8	0.0000	
1	3608091	1.9867	6601488	5.3558	1.1498	1116298	26731032	3	2.5	2.5	7	836947	0.8369
2	3627444	1.9353	6653738	5.2250	0.9859	1059160	26731032	3.5	3	3	6	1786362	0.9494
3	3648641	2.1197	6702316	4.8578	1.1497	1145810	26731032	3.5	3	3	4	2756344	0.9700
4	3669380	2.0739	6745852	4.3536	1.0668	1130600	26731032	4	3	3	5	3763464	1.0071
5	3690448	2.1068	6796598	5.0746	1.5788	1163120	26731032	3	2.5	2.5	6	4291441	0.5280
6	3711656	2.1208	6854413	5.7815	1.1016	1055910	26731032	2.5	2.5	2.5	6	5310595	1.0192
7	3733782	2.2126	6913624	5.9211	1.0478	1165283	26736892	2.5	2.5	2.5	6	6475439	1.1648
8	3755036	2.1254	6972726	5.9102	0.9131	2245357	26736892	3	3	3	5	7687699	1.2123
9	3773773	1.8737	7022251	4.9525	0.8981	933490	26736892	3.5	3	3	6	8663303	0.9756
10	3794800	2.1027	7076444	5.4193	0.9443	1111360	26736892	3.5	2.5	2.5	6	9821740	1.1584
11	3816326	2.1526	7133130	5.6686	1.0377	1124660	26736892	3.5	3	3	6	10936643	1.1149
12	3837779	2.1453	7190904	5.7774	1.0361	1109140	26736892	3	2.5	2.5	7	12045802	1.1092
13	3859261	2.1482	7246444	5.5540	1.0064	1124160	26736892	3	2	2	7	13187639	1.1418
14	3880326	2.1065	7303523	5.7079	0.9597	1116060	26736892	3	2	2	7	14334410	1.1468
15	3901201	2.0875	7351749	4.8226	0.9885	1144720	26736892	3	2.5	2.5	6	15433432	1.0990
16	3922483	2.1282	7389303	3.7554	1.0891	1107310	26736892	3.5	2.5	2.5	5	16472582	1.0392
17	3944163	2.1680	7425243	3.5940	1.1053	1128090	26736892	3.5	2.5	2.5	5	17535251	1.0627
18	3966399	2.2236	7465877	4.0634	1.1326	1127320	26736892	3.5	3	3	5	18626278	1.0910
19	3988695	2.2296	7512511	4.6634	1.1456	1113040	26736892	3.5	3	3	5	19710251	1.0840
20	4011605	2.2910	7571666	5.9155	1.0658	1200368	26749805	3.5	2.5	2.5	5	20935419	1.2252
21	4032870	2.1265	7627379	5.5713	1.1662	1076945	26749805	3.5	2.5	2.5	5	21895695	0.9603
22	4053600	2.0730	7680118	5.2739	0.9873	1066050	26749805	3	3	3	6	22981402	1.0857
23	4075570	2.1970	7734936	5.4818	1.1528	1083180	26749805	3	2	2	7	24025580	1.0442
24	4097616	2.2046	7791333	5.6397	1.1254	1076850	26749805	3	2.5	2.5	6	25104745	1.0792
25	4119398	2.1782	7844796	5.3463	1.0874	1101250	26749805	3	2.5	2.5	6	26195572	1.0908
26	4142868	2.3470	7899583	5.4787	1.2313	1104700	26749805	3	2	2	4	27311321	1.1157
27	4166037	2.3169	7955837	5.6254	1.2629	1114940	26749805	3	3	3	4	28365339	1.0540
28	4188048	2.2011	8014839	5.9002	1.0100	1153585	26755878	3	3	3	4	29556448	1.1911
29	4209730	2.1682	8067790	5.2951	1.0477	1066250	26755878	3	2.5	2.5	5	30676915	1.1205
30	4232447	2.2717	8123600	5.581	1.1366	1109420	26755878	3	2.5	2.5	5	31811999	1.1351
31	4254828	2.2381	8179682	5.6082	1.0713	1110840	26755878	3	2.5	2.5	5	32978823	1.1668
Total		66.6604		163.1752	33.6816								32.9788
Average		2.1503		5.2637	1.0865								1.0638
High Flow		2.3470		5.9211	1.5788								1.2252

800008

Adelanto Wastewater Treatment Plant September 2010
Monitoring and Reporting Program No. R6V-2002-050
WDID No. 6B369805001
Plant Influent and Effluent Monitoring

INFLUENT	Units	Frequency	7-Sep	14-Sep	21-Sep	28-Sep		Average
BOD	mg/l	Weekly	320.0	250.0	240.0	230.0		260
TSS	mg/l	Weekly	330.0	230.0	270.0	230.0		265
Methylene Blue Active	mg/l	Monthly	12.0	[redacted]	[redacted]	[redacted]	[redacted]	12.0
Total Phenols	mg/l	Annual	**NRTP**	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
VOC	mg/l	**	**SLS**	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SVOC	mg/l	Annual	**NRTP**	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Heavy Metals	mg/l	**	**SLS**	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
TPH 418.1	mg/l	**	**5.6**	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

EFFLUENT	Units	Frequency	7-Sep	14-Sep	21-Sep	28-Sep		Average
BOD	mg/l	Weekly	5.00	5.00	5.00	5.00		5
COD	mg/l	Weekly	24.0	29.0	29.0	29.0		28
DO	mg/l	Weekly	[redacted]	[redacted]	[redacted]	[redacted]		6.7
PH	Ph units	Weekly	[redacted]	[redacted]	[redacted]	[redacted]		7.7
Methylene Blue Active	mg/l	Bi-month	0.2	[redacted]	0.05	[redacted]	[redacted]	0.13
Oil and Grease	mg/l	Bi-month	5.0	[redacted]	5.0	[redacted]	[redacted]	5.0
Kjeldahl Nitrogen	mg/l as N	Monthly	2.0	[redacted]	[redacted]	[redacted]	[redacted]	2
Nitrate Nitrogen	mg/l as N	Monthly	6.7					
Ammonia Nitrogen	mg/l as N	Monthly	0.16		Exceeded compliance limit			
TDS	mg/l	Quarterly	**700**					
TH	mg/l as Caco3	Quarterly	**120**		[redacted]			
Boron	ug/l	Quarterly	**810**					
Fluoride	mg/l	Quarterly	**1.6**		[redacted]			
Chloride	mg/l	Quarterly	**31**					
Sodium	mg/l	Quarterly	**160**		[redacted]			
Sulfate	mg/l	Quarterly	**48**					
Sulfide	mg/l	Quarterly	**0.1**		In house tests			
Total Cyanide	mg/l	Quarterly	**0.005**					
Total Phenols	mg/l	Quarterly	**0.02**					
Total Chromium	ug/l	Quarterly	**20**					
Hexavalent Chromium +	ug/l	Quarterly	**10**					
VOC	ug/l	Quarterly	**SLS**					
SVOC	ug/l	Quarterly	**SLS**		**ND** = Not Detected			
Heavy Metals	ug/l	Quarterly	**SLS**		**NRTP** = Not required this period			
TPH 418.1	mg/l	Quarterly	**1**		**SLS** = See lab sheet data			
					** **Extra for VVWRA**			

600000

Plant flows Pond freeboard levels Month *SEP.* Year *2010*

	Influent Flow Read	Flow Total MGD	Effluent Flow Read	Flow Total MGD	ACTUAL FLOW READINGS	RAS Flow Read	Sludge Flow Read	Pond No. 1 Level	Pond No. 2 Level	Pond No.3 Level	Pond No.4 Level N/S	Bypass Flow Read	Flow Total MGD
Last Read	4254828		8179682	163.1752	C-N	1110840	26755878	3	2.5	2.5	5	32978823	
1	4276746	2.1918	8231019	5.1337	1.0641	1113070	26755878	3	2.5	2.5	5	34106510	1.1277
2	4298213	2.1467	8287575	5.6556	0.9758	1106020	26755878	3	2	2	6	35277411	1.1709
3	4321045	2.2832	8349160	6.1585	1.0625	1161038	26755878	3	2	2	6	36498111	1.2207
4	4342016	2.0971	8402579	5.3419	0.9582	1082415	26755878	3	2	2	6	37637030	1.1389
5	4362807	2.0791	8454611	5.2032	0.9868	1052240	26755878	3	2.5	2.5	5	38729290	1.0923
6	4383285	2.0478	8509075	5.4464	0.9493	1083768	26759703	3	2.25	2.25	5	39827832	1.0985
7	4406409	2.3124	8566879	5.7804	1.2270	1104852	26759703	3	2.5	2.5	5	40913229	1.0854
8	4428814	2.2405	8623777	5.6898	1.1484	1032330	26759703	3	2	2	4	42005370	1.0921
9	4451240	2.2426	8686420	6.2643	1.1344	1009920	26759703	3	3	3	4	43113620	1.1083
10	4473565	2.2325	8746256	5.9836	1.1689	1013348	26759703	3	3	3	4	44177255	1.0636
11	4495142	2.1577	8808640	6.2384	1.0316	1020315	26759703	3	3	3	5	45303367	1.1261
12	4516227	2.1085	8863658	5.5018	1.0543	913690	26759703	3	3	3	5	46357548	1.0542
13	4538507	2.2280	8922546	5.8888	1.1435	975810	26759703	3	3	3	4	47442064	1.0845
14	4561214	2.2707	8984414	6.1868	1.1348	969600	26759703	3	3	3	5	48578012	1.1359
15	4583280	2.2066	9042877	5.8463	1.0718	960900	26759703	3	3	3	3	49712828	1.1348
16	4605354	2.2074	9088088	4.5211	1.2348	959250	26759703	3	3	3	3	50685423	0.9726
17	4628182	2.2828	9146054	5.7966	1.0828	1060546	26759703	3	2	2	4	51885387	1.2000
18	4648530	2.0348	9196104	5.0050	1.0156	903085	26759703	3	2	2	3	52904564	1.0192
19	4669680	2.1150	9253400	5.7296	1.0451	1014350	26759703	2.5	2	2	3	53974437	1.0699
20	4691265	2.1585	9308612	5.5212	1.1430	992140	26759703	3	2.5	2.5	3	54989935	1.0155
21	4713512	2.2247	9365147	5.6535	1.1408	1005880	26759703	3	2	2	4	56073876	1.0839
22	4735962	2.2450	9426618	6.1471	1.1957	997310	26759703	3	2	2	4	57123211	1.0493
23	4758328	2.2366	9487143	6.0525	1.2021	999710	26759703	3	2	2	4	58157741	1.0345
24	4781104	2.2776	9543529	5.6386	1.0845	1066437	26759703	3	2	2	3	59350848	1.1931
25	4802443	2.1339	9576465	3.2936	0.9513	978352	26759703	3	2	2	3	60533490	1.1826
26	4823350	2.0907	9615888	3.9423	1.0526	952480	26759703	3	2.5	2.5	3	61571579	1.0381
27	4844992	2.1642	9660699	4.4811	1.0466	1007030	26759703	3	2	2	3	62689133	1.1176
28	4869150	2.4158	9709064	4.8365	1.1244	1114510	26759703	3	2	2	3	63980580	1.2914
29	4891129	2.1979	9762545	5.3481	1.0451	988678	26759703	3	2	8 IN.	2in/4	65133428	1.1528
30	4912006	2.0877	9813900	5.1355	1.0216	952742	26759703	3	2	2	4	66199541	1.0661
Total		65.7178		163.4218	32.4971								33.2207
Average		2.1906		5.4474	1.0832								1.1074
High Flow		2.4158		6.2643	1.2348								1.2914

Adelanto Wastewater Treatment Plant October 2010
Monitoring and Reporting Program No. R6V-2002-050
WDID No. 6B369805001
Plant Influent and Effluent Monitoring

INFLUENT	Units	Frequency	5-Oct	12-Oct	19-Oct	26-Oct	Average
BOD	mg/l	Weekly	220.0	260.0	290.0	480.0	313
TSS	mg/l	Weekly	260.0	280.0	240.0	520.0	325
Methylene Blue Active	mg/l	Monthly	7.5				7.5
Total Phenols	mg/l	Annual	NRTP				
VOC	mg/l	**	SLS				
SVOC	mg/l	Annual	NRTP				
Heavy Metals	mg/l	**	SLS				
TPH 418.1	mg/l	**	1.9				

EFFLUENT	Units	Frequency	5-Oct	12-Oct	19-Oct	26-Oct	Average
BOD	mg/l	Weekly	5.00	5.00	5.00	5.00	5
COD	mg/l	Weekly	26.0	20.0	29.0	26.0	25
DO	mg/l	Weekly	6.81	6.16	5.69	6.28	6.24
PH	Ph units	Weekly	7.81	7.60	7.66	7.78	7.71
Methylene Blue Active	mg/l	Bi-month	0.12		0.1		0.11
Oil and Grease	mg/l	Bi-month	5.0		5.0		5.0
Kjeldahl Nitrogen	mg/l as N	Monthly	1.4				1.4
Nitrate Nitrogen	mg/l as N	Monthly	17				
Ammonia Nitrogen	mg/l as N	Monthly	0.22				
TDS	mg/l	Quarterly	NRTP				
TH	mg/l as Caco3	Quarterly	NRTP				
Boron	ug/l	Quarterly	NRTP				
Fluoride	mg/l	Quarterly	NRTP				
Chloride	mg/l	Quarterly	NRTP				
Sodium	mg/l	Quarterly	NRTP				
Sulfate	mg/l	Quarterly	NRTP				
Sulfide	mg/l	Quarterly	NRTP				
Total Cyanide	mg/l	Quarterly	NRTP				
Total Phenols	mg/l	Quarterly	NRTP				
Total Chromium	ug/l	Quarterly	NRTP				
Hexavalent Chromium +	ug/l	Quarterly	NRTP				
VOC	ug/l	Quarterly	NRTP				
SVOC	ug/l	Quarterly	NRTP				
Heavy Metals	ug/l	Quarterly	NRTP				
TPH 418.1	mg/l	Quarterly	NRTP				

Exceded compliance limit

Lab error

In house tests

ND = Not Detected
NRTP = Not required this period
SLS = See lab sheet data
** Extra for VVWRA

000011

United Water

United Water Environmental Services

Adalanto Wastewater Treatment Facility

Plant flows Pond freeboard levels

October, 2010

		Influent Flow Read	Flow Total MGD	Effluent Flow Read	Flow Total MGD	ACTUAL FLOW READINGS	RAS Flow Read	Sludge Flow Read	Pond No. 1 Level	Pond No. 2 Level	Pond No.3 Level	Pond No.4 N Level	Pond No.4 S Level	Influent Bypass Flow Read	8am-12midn Flow Total MGD	0030-7am Effluent Total MGD	VVWRA Inf + Eff Total flow MGD
		4912006		9,813,900			952,742							66199541			
Fri	01	4933916	2.21000	9,858,180	6.3982	0.97595	1,007,068	26759703	2.50	2.00	8.00	0.50	4.00	67327246	1.12771		1.23405
Sat	02	4956016	2.09110	9,922,162	5.2207	1.01310	1,104,828	26759703	3.00	2.50	0.90	0.66	2.50	68561292	1.23405		1.07800
Sun	03	4976927	2.19030	9,974,369	6.3531	1.06915	975,330	26759703	3.00	2.00	1.00	0.80	3.00	69639295	1.07800		1.12115
Mon	04	4998830	2.21600	10,037,900	5.6073	1.06423	1,034,120	26759703	2.00	2.00	1.00	1.00	1.50	70760445	1.12115		1.15178
Tue	05	5020990	2.36260	10,093,973	5.8864	1.30543	1,034,420	26759703	2.00	2.00	1.00	1.20	2.50	71912220	1.15178		1.05717
Wed	06	5044616	2.28640	10,152,837	6.4776	1.18604	1,057,810	26759703	2.00	2.00	1.00	1.30	2.70	72969389	1.05717		1.10036
Thu	07	5067480	2.25010	10,217,613	6.5350	1.09241	1,074,900	26759703	2.00	2.00	2.00	1.50	2.00	74069745	1.10036		1.15769
Fri	08	5089981	2.12470	10,282,963	6.5292	1.03942	1,275,298	26759703	2.20	2.00	2.00	1.00	2.00	75227435	1.15769		1.08528
Sat	09	5111228	2.02160	10,348,255	5.2300	0.98525	1,155,555	26759703	2.20	2.00	2.00	1.20	2.00	76312715	1.08528		1.03635
Sun	10	5131444	2.06280	10,400,555	5.6782	1.02787	965,420	26759703	2.50	1.80	1.80	1.50	2.00	77349063	1.03635		1.03493
Mon	11	5152072	2.25160	10,457,337	5.6208	1.18679	1,007,070	26759703	2.50	1.30	1.30	0.80	2.00	78383997	1.03493		1.06481
Tue	12	5174588	2.12250	10,513,545	5.8664	1.04745	1,000,220	26775445	3.00	1.30	1.30	1.00	2.30	79448803	1.06481		1.07505
Wed	13	5195813	2.16850	10,572,209	5.7534	1.08792	987,420	26775445	3.00	1.40	1.40	1.30	2.00	80523853	1.07505		1.08058
Thu	14	5217498	2.31580	10,629,743	5.8015	1.11051	980,080	26777950	2.50	1.50	1.50	2.00	1.50	81604434	1.08058		1.20529
Fri	15	5240656	1.98420	10,687,758	5.0220	1.20161	1,064,078	26779683	2.20	2.00	1.00	2.00	2.00	82809727	1.20529		0.78259
Sat	16	5260498	2.04260	10,737,978	5.9043	1.22180	969,238	26779683	2.20	2.00	1.00	0.50	2.00	83592315	0.78259		0.82080
Sun	17	5280924	2.21210	10,797,021	5.9956	1.38875	985,760	26779683	2.30	1.50	1.50	1.00	2.00	84413119	0.82080		0.82335
Mon	18	5303045	2.20740	10,856,977	4.1744	1.37688	1,010,960	26779683	2.00	1.50	1.50	1.00	2.00	85236466	0.82335		0.83052
Tue	19	5325119	2.40220	10,898,721	4.0527	1.57343	993,810	26784981	1.50	1.00	0.50	1.50	1.00	86066989	0.83052		0.82877
Wed	20	5349141	2.33070	10,939,248	4.1676	1.49723	1,004,190	26784981	1.50	1.00	0.50	1.50	1.00	86895759	0.82877		0.83347
Thu	21	5372448	2.33180	10,980,924	4.3460	1.49599	9,900,100	26786946	1.50	1.00	0.50	0.50	1.00	87729228	0.83347		0.83581
Fri	22	5395766	2.07330	11,024,384	3.7755	1.23820	1,063,176	26786946	1.00	1.00	0.50	0.50	1.00	88565042	0.83581		0.83511
Sat	23	5416499	2.25690	11,062,139	4.2132	1.42607	873,065	26786946	1.00	1.00	0.50	0.50	1.20	89400147	0.83511	0.02376	0.85459
Sun	24	5439068	2.27000	11,104,271	4.1018	1.44865	960,810	26786946	1.50	0.50	3.00	1.00	1.00	90230979	0.83083	0.08996	0.91131
Mon	25	5461768	2.19620	11,145,289	4.0141	1.36504	938,520	26786946	1.00	0.50	3.00	0.50	1.00	91052328	0.82135	0.09192	0.92308
Tue	26	5483730	2.16900	11,185,430	4.1928	1.33592	1,083,720	26786946	1.30	1.00	0.50	0.50	1.00	91883484	0.83116	0.10014	0.93323
Wed	27	5505420	2.15250	11,227,358	4.4311	1.31875	1,071,920	26786946	1.20	1.00	0.50	0.50	1.00	92716569	0.83309	0.08722	0.92097
Thu	28	5526945	2.19020	11,271,669	4.9996	1.35656	1,066,030	26788165	1.00	1.50	0.50	1.00	1.50	93550322	0.83375	0.08873	0.92237
Fri	29	5548847	2.03460	11,321,665	3.8724	1.20441	1,501,288	26788165	1.00	1.20	2.00	1.00	1.00	94383960	0.83364	0.08667	0.91686
Sat	30	5569193	2.04220	11,360,389	6.1668	1.99851	1,024,298	26788165	1.00	1.50	1.20	0.50	1.00	95214150	0.83019	0.09003	0.13372
Sun	31	5589615	2.06390	11,422,057	4.8117	2.06390	932,230	26788165	1.50	1.00	0.80	1.00	0.91	95257842	0.04369	0.09529	0.09529
Total			67.63		161.1994	39.70320									29.0583	0.7537	28.6843
Average			2.18		5.2000	1.28075			1.91	1.48	1.46	0.99	1.73		0.9374	0.0837	0.7346

000012

Adelanto Wastewater Treatment Plant November 2010
Monitoring and Reporting Program No. R6V-2002-050
WDID No. 6B369805001
Plant Influent and Effluent Monitoring

INFLUENT	Units	Frequency	2-Nov	9-Nov	16-Nov	23-Nov	30-Nov	Average
BOD	mg/l	Weekly	360.0	460.0	260.0	210.0	430.0	344
TSS	mg/l	Weekly	380.0	480.0	450.0	770.0	460.0	508
Methylene Blue Active	mg/l	Monthly	5.1					5.1
Total Phenols	mg/l	Annual	NRTP					
VOC	mg/l	**	SLS					
SVOC	mg/l	Annual	NRTP					
Heavy Metals	mg/l	**	SLS					
TPH 418.1	mg/l	**	1.8					

EFFLUENT	Units	Frequency	2-Nov	9-Nov	16-Nov	23-Nov	30-Nov	Average
BOD	mg/l	Weekly	13.0	7.0	5.0	5.0	5.0	7
COD	mg/l	Weekly	38.0	31.0	29.0	22.0	17.0	27.4
DO	mg/l	Weekly	5.04	5.22	5.52	6.89	6.53	5.84
PH	Ph units	Weekly	7.67	7.69	7.65	7.68	7.54	7.65
Methylene Blue Active	mg/l	Bi-month	0.15		0.09			0.12
Oil and Grease	mg/l	Bi-month	5.0		5.0			5.0
Kjeldahl Nitrogen	mg/l as N	Monthly	10.0					10.0
Nitrate Nitrogen	mg/l as N	Monthly	0.36					
Ammonia Nitrogen	mg/l as N	Monthly	9.4					
TDS	mg/l	Quarterly	NRTP					
TH	mg/l as Caco3	Quarterly	NRTP					
Boron	ug/l	Quarterly	NRTP					
Fluoride	mg/l	Quarterly	NRTP					
Chloride	mg/l	Quarterly	NRTP					
Sodium	mg/l	Quarterly	NRTP					
Sulfate	mg/l	Quarterly	NRTP					
Sulfide	mg/l	Quarterly	NRTP					
Total Cyanide	mg/l	Quarterly	NRTP					
Total Phenols	mg/l	Quarterly	NRTP					
Total Chromium	ug/l	Quarterly	NRTP					
Hexavalent Chromium +	ug/l	Quarterly	NRTP					
VOC	ug/l	Quarterly	NRTP					
SVOC	ug/l	Quarterly	NRTP					
Heavy Metals	ug/l	Quarterly	NRTP					
TPH 418.1	mg/l	Quarterly	NRTP					

Exceeded compliance limit

[redacted]

Lab error

[redacted]

In house tests

ND = Not Detected
NRTP = Not required this period
SLS = See lab sheet data
**** Extra for VVWRA**

000013

United Water

United Water Environmental Services

Adalanto Wastewater Treatment Facility

Plant flows Pond freeboard levels

November, 2010

		Influent Flow Read	Flow Total MGD	Effluent Flow Read	Flow Total MGD	ACTUAL FLOW READINGS	RAS Flow Read	Sludge Flow Read	Pond No. 1 Level	Pond No. 2 Level	Pond No.3 Level	Pond No.4 N Level	Pond No.4 S Level	Influent Bypass Flow Read	8am-12midn Flow Total MGD	0030-7am Effluent Total MGD	VVWRA Inf + Eff Total flow MGD
		5589615		11,422,057			932,230							95257842			
Mon	01	5610254	2.12750	11,470,174	3.8087	1.26703	1,023,760	26788165	2.00	1.00	0.50	0.50	1.50	95257842	0.00000	0.10034	0.96081
Tue	02	5631529	2.15100	11,508,261	3.4349	1.32494	1,019,510	26788165	1.00	1.00	0.50	0.91	0.91	96118308	0.86047	0.09350	0.91956
Wed	03	5653039	2.09140	11,542,610	3.7900	1.26443	1,024,710	26795500	1.50	1.30	0.66	0.16	2.00	96944364	0.82606	0.09266	0.91963
Thu	04	5673953	2.29390	11,580,510	4.9875	1.35471	1,024,220	26800406	1.50	1.00	1.00	1.91	2.00	97771336	0.82697	0.09692	1.03611
Fri	05	5696892	2.16370	11,630,385	3.6613	1.29792	1,278,808	26810620	1.50	1.00	1.00	2.00	2.00	98710525	0.93919	0.09851	0.96429
Sat	06	5718529	2.15820	11,666,998	3.8623	1.35220	967,698	26810620	1.00	1.00	1.00	2.30	2.00	99576309	0.86578	0.09417	0.90017
Sun	07	5740111	2.31030	11,705,621	5.3554	1.72576	920,670	26810620	1.50	0.50	1.00	1.50	2.00	100382312	0.80600	0.08849	0.67303
Mon	08	5763214	2.24320	11,759,175	4.5920	1.33476	1,015,480	26810620	2.00	0.66	1.00	1.00	1.50	100966852	0.58454	0.09266	1.00110
Tue	09	5785646	2.20990	11,805,095	4.3162	1.33728	1,006,630	26816028	2.00	1.00	1.50	1.00	1.50	101875294	0.90844	0.09524	0.96786
Wed	10	5807745	2.23150	11,848,257	4.2754	1.34218	1,017,140	26831250	2.00	0.50	1.00	1.50	1.00	102747916	0.87262	0.09311	0.98243
Thu	11	5830060	2.35710	11,891,011	4.4279	1.36836	1,097,138	26836416	2.00	0.50	1.00	2.00	1.00	103637238	0.88932	0.08263	1.07137
Fri	12	5853631	2.16520	11,935,290	6.4891	1.20755	1,012,058	26836416	3.00	0.20	0.50	1.00	2.00	104625978	0.98874	0.06852	1.02617
Sat	13	5875283	2.11190	12,000,181	4.6055	1.13411	1,016,928	26836416	3.00	0.20	0.50	0.70	2.00	105583628	0.95765	0.06854	1.04633
Sun	14	5896402	2.32380	12,046,236	3.7323	1.35635	911,122	26836416	3.00	1.00	1.00	1.00	1.50	106561422	0.97779	0.04588	1.01333
Mon	15	5919640	2.26370	12,083,559	3.8225	1.29825	1,001,190	26838007	3.00	1.50	1.50	1.00	1.50	107528871	0.96745	0.04691	1.01237
Tue	16	5942277	2.27220	12,121,784	3.6254	1.30515	997,070	26851954	2.50	1.50	2.00	1.50	2.00	108494326	0.96546	0.07300	1.04005
Wed	17	5964999	2.23000	12,158,038	4.1316	1.27100	983,060	26868413	2.50	1.50	2.00	2.50	2.00	109461376	0.96705	0.07323	1.03223
Thu	18	5987299	2.27210	12,199,354	3.9223	1.31436	959,180	26875253	2.50	1.50	2.00	3.00	2.00	110420373	0.95900	0.06060	1.01834
Fri	19	6010020	2.33260	12,238,577	4.3001	1.37862	948,600	26892567	2.00	1.50	2.00	2.00	2.00	111378112	0.95774	0.06060	1.01458
Sat	20	6033346	2.13740	12,281,578	3.4623	1.18806	1,043,148	26894990	2.50	1.50	2.20	1.00	2.00	112332096	0.95398	0.06060	1.00994
Sun	21	6054720	2.09290	12,316,201	4.1927	1.15902	964,872	26894990	3.00	1.00	2.00	1.50	2.00	113281434	0.94934	0.05908	0.99296
Mon	22	6075649	2.14780	12,358,128	3.2327	1.19701	988,700	26901785	3.00	1.00	1.75	2.00	2.25	114215314	0.93388	0.06422	1.01501
Tue	23	6097127	2.23170	12,390,455	5.1345	1.27153	1,032,990	26901785	3.00	1.50	2.00	2.00	2.00	115166104	0.95079	0.06174	1.02191
Wed	24	6119444	2.28590	12,441,800	5.2333	1.32071	1,012,490	26901785	3.00	1.00	1.50	2.50	2.00	116126272	0.96017	0.06119	1.02638
Thu	25	6142303	2.19170	12,494,133	4.9256	1.23006	1,099,228	26904659	2.00	0.70	1.70	3.00	2.30	117091463	0.96519	0.05539	1.01703
Fri	26	6164220	1.98890	12,543,389	4.0835	1.03771	983,864	26904659	2.00	0.80	1.80	2.00	2.00	118053107	0.96164	0.06906	1.02025
Sat	27	6184109	2.16810	12,584,224	3.8261	1.23299	943,398	26904659	2.00	1.00	1.90	2.50	2.00	119004298	0.95119	0.08504	1.02015
Sun	28	6205790	2.26530	12,622,485	4.8585	1.33785	897,900	26904659	2.50	1.50	2.50	2.50	2.00	119939410	0.93511	0.06986	0.99731
Mon	29	6228443	2.19040	12,671,070	3.2792	1.25947	918,270	26904659	2.50	1.50	2.00	1.50	2.00	120866856	0.92745	0.06986	1.00080
Tue	30	6250347	2.19030	12,703,862	4.2012	1.24982	910,530	26904659	2.00	1.50	2.00	1.50	2.00	121797791	0.93094	0.06986	1.01034
Total			66.20		127.5700	38.71917									26.5399	0.5420	29.7318
Average			2.21		4.2523	1.29064			2.23	1.05	1.43	1.65	1.83		0.8847	0.0678	1.0143

000014

Plant flows Pond freeboard levels				Month	DEC.	Year	2010						0005-0300 -- 0800-2359		0300-8am	VVWRA
	Influent Flow Read	Flow Total MGD	Effluent Flow Read	Flow Total MGD	ACTUAL FLOW READINGS	RAS Flow Read	Sludge Flow Read	Pond No. 1 Level	Pond No. 2 Level	Pond No.3 Level	Pond No.4-N Level	Pond No.4-S Level	Bypass Flow Read	Flow Total MGD	Effluent Total MGD	Inf + Eff Total flow MGD
Last Read	6250347		12703862		C-N	910530	26904659	2	1.5	2	1.5	2	121797791			
1	6272250	2.1903	12745874	4.2012	1.2498	913850	26904659	2.5	1	2	1	2	122738272	0.940481	0.28470	1.22518
2	6293591	2.1341	12789861	4.3987	1.2027	953310	26904659	2	1	2	2.5	2	123669694	0.931422	0.22600	1.15742
3	6315467	2.1876	12837068	4.7207	0.8971	1130348	26904659	2.5	1	2	1.9	2	124960149	1.290455	0.22210	1.51256
4	6335873	2.0406	12879001	4.1933	1.4703	978220	26904659	2.7	1.5	2.5	1	2	125530428	0.570279	0.22080	0.79108
5	6356813	2.0940	12921870	4.2869	1.1612	932930	26904659	3	2	2.5	1.5	1.5	126463266	0.932838	0.22290	1.15574
6	6379742	2.2929	12966982	4.5112	1.3782	948640	26904659	3	1.5	2.5	1.5	1.5	127377993	0.914727	0.22750	1.14223
7	6401054	2.1312	13011037	4.4055	1.1975	953350	26904659	3	1.8	2.3	1.8	2	128311720	0.933727	0.22930	1.16303
8	6422376	2.1322	13054169	4.3132	1.1456	988420	26908654	3	2	2.5	2	1.8	129298293	0.986573	0.23350	1.22007
9	6444150	2.1774	13097611	4.3442	1.1265	1008140	26930022	3	2.2	2.7	2.2	1.5	130349222	1.050929	0.22470	1.27563
10	6466366	2.2216	13141396	4.3785	1.2407	986660	26948929	2.5	2.5	3	2.5	2	131330147	0.980925	0.23020	1.21113
11	6487656	2.1290	13191578	5.0182	1.1988	1013898	26948929	3	1.8	2.8	1.8	2	132260355	0.930208	0.23300	1.16321
12	6508103	2.0447	13230177	3.8599	1.1078	942315	26948929	3	2	3	2	1.5	133197236	0.936881	0.23040	1.16728
13	6528964	2.0861	13277047	4.6870	1.1706	876420	26948929	3	2	2.8	2.5	1.5	134112721	0.915485	0.22470	1.14019
14	6550381	2.1417	13324224	4.7177	0.5955	923670	26965857	3	2.5	2.8	2.5	1.5	135658912	1.546191	0.21760	1.76378
15	6572397	2.2016	13382338	5.8114	1.7871	920170	26965857	3	2.5	3	3	1.5	136073420	0.414508	0.22470	0.63921
16	6594018	2.1621	13442637	6.0299	1.1966	922570	26987340	3	2.5	3	3	2	137038956	0.965536	0.21630	1.18184
17	6615444	2.1426	13501840	5.9203	1.1860	928870	26987340	3	2.5	3	4	2	137995575	0.956619	0.21130	1.16792
18	6637496	2.2052	13555127	5.3287	1.2857	926720	26987340	3	2.5	3	4	1.5	138915065	0.919490	0.21520	1.13469
19	6659280	2.1784	13606687	5.1560	1.2570	927541	26987340	3	2.5	3	4	1.5	139836452	0.921387	0.21190	1.13329
20	6684266	2.4986	13652953	4.6266	1.5807	923496	26987340	3	2.5	3	4	2	140754326	0.917874	0.22460	1.14247
21	6714796	3.0530	13706592	5.3639	2.1515	904000	27007713	3	2	3	4	1.5	141655788	0.901462	0.22850	1.12996
22	6746668	3.1872	13774821	6.8229	2.2648	913728	27007713	2.5	1	2	3.00	0.50	142578232	0.922444	0.00000	0.92244
23	6774611	2.7943	13810871	3.6050	1.9856	1907992	27007713	2.5	1.5	2	3.00	0.00	143386979	0.808747	0.00000	0.80875
24	6796809	2.2198	13853369	4.2498	1.2889	974300	27007713	2.5	0.5	2	3.00	0.00	144317907	0.930928	0.24000	1.17093
25	6820024	2.3215	13898339	4.4970	1.3405	1062618	27007713	2.5	1	2	2.00	0.50	145298905	0.980998	0.23870	1.21970
26	6840220	2.0196	13938751	4.0412	1.1616	906874	27007713	2.5	1	2	1.00	0.50	146156936	0.858031	0.23680	1.09483
27	6860563	2.0343	13980294	4.1543	1.1383	895990	27007713	3	1.5	2	1.00	0.50	147052917	0.895981	0.23620	1.13218
28	6881951	2.1388	14025037	4.4743	1.2158	975360	27007713	3	1.5	2.5	1.50	1.00	147975893	0.922976	0.23650	1.16948
29	6903775	2.1824	14068897	4.3860	1.2661	955762	27007713	2.5	2	2.5	2.00	2.00	148892237	0.916344	0.23410	1.15044
30	6926873	2.3098	14111331	4.2434	1.3874	967575	27007713	3	1.5	2.5	2.00	1.50	149814622	0.922385	0.23660	1.15899
31	6948784	2.1911	14153379	4.2048	1.2706	954160	27007713	3	1.5	2.5	2.00	1.50	150736135	0.920513	0.23790	1.15841
Total		69.8437		144.9517	40.9064									28.0168	6.6567	35.5940
Average		2.2530		4.6759	1.3196									0.9339	0.2147	1.1482
High Flow		3.1872		6.8229	2.2648									1.5462	0.2847	1.7638

United Water

United Water Environmental Services

Adalanto Wastewater Treatment Facility

December, 2010

Plant flows Pond freeboard levels

		Influent Flow Read	Flow Total MGD	Effluent Flow Read	Flow Total MGD	ACTUAL FLOW READINGS	RAS Flow Read	Sludge Flow Read	Pond No. 1 Level	Pond No. 2 Level	Pond No.3 Level	Pond No.4 N Level	Pond No.4 S Level	Influent Bypass Flow Read	8am-12midn Flow Total MGD	0030-7am Effluent Total MGD	VVWRA Inf + Eff Total flow MGD
		6250347		12,703,862			910,530							121797791			
Wed	01	6272250	2.13410	12,745,874	4.3987	1.20268	913,850	26904659	2.50	1.00	2.00	1.00	2.00	122738272	0.94048	0.28470	1.21612
Thu	02	6293591	2.18760	12,789,861	4.7207	0.89715	953,310	26904659	2.00	1.00	2.00	2.50	2.00	123669694	0.93142	0.22600	1.51646
Fri	03	6315467	2.04060	12,837,068	4.1933	1.47032	1,130,348	26904659	2.50	1.00	2.00	1.90	2.00	124960149	1.29046	0.22210	0.79238
Sat	04	6335873	2.09400	12,879,001	4.2869	1.16116	978,220	26904659	2.70	1.50	2.50	1.00	2.00	125530428	0.57028	0.22080	1.15364
Sun	05	6356813	2.29290	12,921,870	4.5112	1.37817	932,930	26904659	3.00	2.00	2.50	1.50	1.50	126463266	0.93284	0.22290	1.13763
Mon	06	6379742	2.13120	12,966,982	4.4055	1.19747	948,640	26904659	3.00	1.50	2.50	1.50	1.50	127377993	0.91473	0.22750	1.16123
Tue	07	6401054	2.13220	13,011,037	4.3132	1.14563	953,350	26904659	3.00	1.80	2.30	1.80	2.00	128311720	0.93373	0.22930	1.21587
Wed	08	6422376	2.17740	13,054,169	4.3442	1.12647	988,420	26908654	3.00	2.00	2.50	2.00	1.80	129298293	0.98657	0.23350	1.28443
Thu	09	6444150	2.22160	13,097,611	4.3785	1.24068	1,008,140	26930022	3.00	2.20	2.70	2.20	1.50	130349222	1.05093	0.22470	1.20563
Fri	10	6466366	2.12900	13,141,396	5.0182	1.19879	986,660	26948929	2.50	2.50	3.00	2.50	2.00	131330147	0.98093	0.23020	1.16041
Sat	11	6487656	2.04470	13,191,578	3.8599	1.10782	1,013,898	26948929	3.00	1.80	2.80	1.80	2.00	132260355	0.93021	0.23300	1.16988
Sun	12	6508103	2.08610	13,230,177	4.6870	1.17062	942,315	26948929	3.00	2.00	3.00	2.00	1.50	133197236	0.93688	0.23040	1.14589
Mon	13	6528964	2.14170	13,277,047	4.7177	0.59551	876,420	26948929	3.00	2.00	2.80	2.50	1.50	134112721	0.91549	0.22470	1.77089
Tue	14	6550381	2.20160	13,324,224	5.8114	1.78709	923,670	26965857	3.00	2.50	2.80	2.50	1.50	135658912	1.54619	0.21760	0.63211
Wed	15	6572397	2.16210	13,382,338	6.0299	1.19656	920,170	26965857	3.00	2.50	3.00	3.00	1.50	136073420	0.41451	0.22470	1.19024
Thu	16	6594018	2.14260	13,442,637	5.9203	1.18598	922,570	26987340	3.00	2.50	3.00	3.00	2.00	137038956	0.96554	0.21630	1.17292
Fri	17	6615444	2.20520	13,501,840	5.3287	1.28571	928,870	26987340	3.00	2.50	3.00	4.00	2.00	137995575	0.95662	0.21130	1.13079
Sat	18	6637496	2.17840	13,555,127	5.1560	1.25701	926,720	26987340	3.00	2.50	3.00	4.00	1.50	138915065	0.91949	0.21520	1.13659
Sun	19	6659280	2.49860	13,606,687	4.6266	1.58073	927,541	26987340	3.00	2.50	3.00	4.00	1.50	139836452	0.92139	0.21190	1.12977
Mon	20	6684266	3.05300	13,652,953	5.3639	2.15154	923,496	26987340	3.00	2.50	3.00	4.00	2.00	140754326	0.91787	0.22460	1.12606
Tue	21	6714796	3.18720	13,706,592	6.8229	2.26476	904,000	27007713	3.00	2.00	3.00	4.00	1.50	141655788	0.90146	0.22850	1.15094
Wed	22	6746668	2.79430	13,774,821	3.6050	1.98555	913,728	27007713	2.50	1.00	2.00	3.00	0.50	142578232	0.92244	0.00000	0.80875
Thu	23	6774611	2.21980	13,810,871	4.2498	1.28887	1,907,992	27007713	2.50	1.50	2.00	3.00	0.00	143386979	0.80875	0.00000	0.93093
Fri	24	6796809	2.32150	13,853,369	4.4970	1.34050	974,300	27007713	2.50	0.50	2.00	3.00	0.00	144317907	0.93093	0.24000	1.22100
Sat	25	6820024	2.01960	13,898,339	4.0412	1.16157	1,062,618	27007713	2.50	1.00	2.00	2.00	0.50	145298905	0.98100	0.23870	1.09673
Sun	26	6840220	2.03430	13,938,751	4.1543	1.13832	906,874	27007713	2.50	1.00	2.00	1.00	0.50	146156936	0.85803	0.23680	1.13278
Mon	27	6860563	2.13880	13,980,294	4.4743	1.21582	895,990	27007713	3.00	1.50	2.00	1.00	0.50	147052917	0.89598	0.23620	1.15918
Tue	28	6881951	2.18240	14,025,037	4.3860	1.26606	975,360	27007713	3.00	1.50	2.50	1.50	1.00	147975893	0.92298	0.23650	1.15284
Wed	29	6903775	2.30980	14,068,897	4.2434	1.38742	955,762	27007713	2.50	2.00	2.50	2.00	2.00	148892237	0.91634	0.23410	1.15649
Thu	30	6926873	2.19110	14,111,331	4.2048	1.27059	967,575	27007713	3.00	1.50	2.50	2.00	1.50	149814622	0.92239	0.23660	1.15711
Fri	31	6948784	2.21470	14,153,379	4.1846	1.30941	954,160	27007713	3.00	1.50	2.50	2.00	1.50	150735135	0.92051	0.23790	1.14319
Total			69.87		144.9351	40.96594									28.9373	1.8968	35.5589
Average			2.25		4.6753	1.32148			2.81	1.77	2.53	2.36	1.45		0.9335	0.2108	1.1278

000016

Adelanto Wastewater Treatment Plant December 2010
Monitoring and Reporting Program No. R6V-2002-050
WDID No. 6B369805001
Plant Influent and Effluent Monitoring

INFLUENT	Units	Frequency	7-Dec	14-Dec	21-Dec	28-Dec		Average
BOD	mg/l	Weekly	430.0	370.0	330.0	430.0		390
TSS	mg/l	Weekly	410.0	460.0	480.0	540.0		473
Methylene Blue Active	mg/l	Monthly	14.0					14.0
Total Phenols	mg/l	Annual	NRTP					
VOC	mg/l	**	SLS					
SVOC	mg/l	Annual	NRTP					
Heavy Metals	mg/l	**	SLS					
TPH 418.1	mg/l	**	NRTP					

EFFLUENT	Units	Frequency	7-Dec	14-Dec	21-Dec	28-Dec		Average
BOD	mg/l	Weekly	5.00	5.00	5.00	10.00		6
COD	mg/l	Weekly	10.0	22.0	11.0	10.0		13
DO	mg/l	Weekly	[redacted]	[redacted]	[redacted]	[redacted]		6.0
PH	Ph units	Weekly	[redacted]	[redacted]	[redacted]	[redacted]		7.60
Methylene Blue Active	mg/l	Bi-month	0.07		0.14			0.11
Oil and Grease	mg/l	Bi-month	5.0		5.0			5.0
Kjeldahl Nitrogen	mg/l as N	Monthly	1.4					1.4
Nitrate Nitrogen	mg/l as N	Monthly	0.72					
Ammonia Nitrogen	mg/l as N	Monthly	0.75		Exceeded compliance limit			
TDS	mg/l	Quarterly	560					
TH	mg/l as Caco3	Quarterly	130		[redacted]			
Boron	ug/l	Quarterly	450					
Fluoride	mg/l	Quarterly	0.8		[redacted]			
Chloride	mg/l	Quarterly	110					
Sodium	mg/l	Quarterly	160		[redacted]			
Sulfate	mg/l	Quarterly	130					
Sulfide	mg/l	Quarterly	ND		[redacted]			
Total Cyanide	mg/l	Quarterly	ND					
Total Phenols	mg/l	Quarterly	ND					
Total Chromium	ug/l	Quarterly	ND					
Hexavalent Chromium +	ug/l	Quarterly	ND					
VOC	ug/l	Quarterly	SLS					
SVOC	ug/l	Quarterly	SLS		ND = Not Detected			
Heavy Metals	ug/l	Quarterly	SLS		NRTP = Not required this period			
TPH 418.1	mg/l	Quarterly	1.0		SLS = See lab sheet data			
					** Extra for VVWRA			

City of Adelanto

May 20, 2010

Logan Olds
General Manager
Victor Valley Wastewater Reclamation Authority

RE: Request to Pump Raw Influent

Dear Mr. Olds,

The City of Adelanto desires to pump approximately 800,000 gallons per day of raw influent into the VVWRA treatment facility. We ask to continue this pumping for an initial time period of 15 months from date of first pumpage.

The reason behind this request is to comply with the City's WDR influent flow limit of 1.5 million gallons per day. The City is currently receiving approximately 2.2 million gallons per day.

Should you have any questions concerning this request, please contact me at (760)246-2300 ext. 3006 or jsponsler@ci.adelanto.ca.us. You may also contact Roger Vesely, Chief Plant Operator at 951-505-9234.

Sincerely,

John Sponsler
Director of Public Utilities
City of Adelanto

11600 Air Expressway / Air Base Road • P.O. Box 10 • Adelanto, CA 92301 • (760) 246-2300 • Fax: (760) 246-8421

John Sponsler

From: Logan Olds [lolds@vvwra.com]
Sent: Wednesday, September 22, 2010 10:17 AM
To: John Sponsler
Cc: Gilbert Perez; Wade Specht; Troy Minnick; Jome Navarat
Subject: RE: Effluent Bypass Request

HI John,

We are here to help as long as the pipeline is not overflowing I am okay with it. You will likely have to reduce your raw flows. Staff has informed me that the pipeline cannot handle more than 1.2 or 1.3 mgd. Also please understand that the agreement does not differentiate flow types so it will all have to be billed at the same rate.

Thank You

Logan Olds

General Manager
Victor Valley Wastewater Reclamation Authority
15776 Main Street Suite 3
Hesperia, CA 92345

From: John Sponsler [mailto:jsponsler@ci.adelanto.ca.us]
Sent: Wednesday, September 22, 2010 8:15 AM
To: Logan Olds
Subject: Effluent Bypass Request

Good morning Logan,

We are working to reduce the flows into our percolation ponds in order to clean and work them. We have modified a pump in our traveling bridge sand filter that would allow us to bypass secondary effluent from that structure.

We would like to send up to 300 gpm of secondary to your facility, in addition to the raw that we are currently sending you. The time settings would be the same as for the raw time settings.

Is this something you would consider allowing? Thanks,

John R. Sponsler
Director of Public Utilities
City of Adelanto
11600 Air Expressway
Adelanto, CA 92311
(760)246-2300 x 3006
(760)578-4297 cell
(760)246-3242 fax

City Hall is open Monday - Thursday from 7:00 a.m. until 6:00 p.m. City Hall is closed every Friday and Holidays.

John Sponsler

From: Gilbert Perez [GilbertPerez@vvwra.com]
Sent: Wednesday, August 04, 2010 3:05 PM
To: Logan Olds
Cc: JMMorales@waterboards.ca.gov; John Sponsler
Subject: RE: Raw Influent Bypass Pump

Hello, Logan

The plant can definitely handle the additional flow no problem. I would however limit to 1.3 MGD max from Adelanto due to current discharge from VVIWWTP. I received an update from Martinez on Monday they are discharging .35 to .45 MGD. If the need was to arise and Adelanto increased to 1.3 MGD with VVIWWTP flowing at the current rate we can then visually inspect the collection system and verify if the system can handle more.

Thanks

Gilbert Perez
Director of Operations
Victor Valley Wastewater Reclamation Authority WWTP Office Address: 20111 Shay Road Victorville, CA 92394
Mailing Address: 15776 Main St. Suite #3 Hesperia, CA 92345
Phone: 760/246-8638 X282
Cell: 760-927-1321
Email:gperez@vvwra.com

****
This email and any files transmitted with it may contain privileged or otherwise confidential information. If you are not the intended recipient, or believe that you may have received this communication in error, please advise the sender via reply email and delete the email you received.
****

-----Original Message-----
From: Logan Olds
Sent: Wednesday, August 04, 2010 2:45 PM
To: Gilbert Perez; 'John Sponsler'
Cc: 'JMMorales@waterboards.ca.gov'
Subject: RE: Raw Influent Bypass Pump

HI Gilbert,

Since we are no longer accepting high strength waste from Dr. Pepper do you think the plant could handle a full pipe from Adelanto? If I recall correctly that is something like 1.5 mgd. That is not part of the agreement but might help Adelanto if needed at some point.

Thank You

Logan Olds
General Manager
Victor Valley Wastewater Reclamation Authority

760-948-9849

Hesperia Administration Office
15776 Main Street, Suite 3
Hesperia, CA 92345

****
This email and any files transmitted with it may contain privileged or otherwise confidential information. If you are not the intended recipient, or believe that you may have received this communication in error, please advise the sender via reply email and delete the email you received.
****

-----Original Message-----
From: Gilbert Perez
Sent: Wednesday, August 04, 2010 2:42 PM
To: 'John Sponsler'
Cc: 'JMMorales@waterboards.ca.gov'; Logan Olds
Subject: RE: Raw Influent Bypass Pump

Hello, John

There is no issues on our end to accept additional flow if you need to catch up.

Thanks

Gilbert Perez
Director of Operations
Victor Valley Wastewater Reclamation Authority WWTP Office Address: 20111 Shay Road Victorville, CA 92394
Mailing Address: 15776 Main St. Suite #3 Hesperia, CA 92345
Phone: 760/246-8638 X282
Cell: 760-927-1321
Email:gperez@vvwra.com

****
This email and any files transmitted with it may contain privileged or otherwise confidential information. If you are not the intended recipient, or believe that you may have received this communication in error, please advise the sender via reply email and delete the email you received.
****

-----Original Message-----
From: Logan Olds
Sent: Wednesday, August 04, 2010 2:37 PM
To: John Sponsler
Cc: 'JMMorales@waterboards.ca.gov'; Gilbert Perez
Subject: RE: Raw Influent Bypass Pump

HI John,

That is fine, your flows are not really impacting the plant that much so check with Gilbert if you need to pump a little extra to get caught up. I see it as an average of 800k per day per month.

Thank You

Logan Olds
General Manager
Victor Valley Wastewater Reclamation Authority

760-948-9849

Hesperia Administration Office
15776 Main Street, Suite 3
Hesperia, CA 92345

****
This email and any files transmitted with it may contain privileged or otherwise confidential information. If you are not the intended recipient, or believe that you may have received this communication in error, please advise the sender via reply email and delete the email you received.
****

-----Original Message-----
From: John Sponsler [mailto:jsponsler@ci.adelanto.ca.us]
Sent: Wednesday, August 04, 2010 2:26 PM
To: Logan Olds
Cc: 'JMMorales@waterboards.ca.gov'
Subject: Re: Raw Influent Bypass Pump

Thanks Logan,
It looks like Rain for Rent will be installing a trash pump at the headworks to be tied into the bypass piping before the meter. They should be putting that in today and we'll resume pumping after installation.

The only trouble is that the pump will operate manually until the pit pump is repaired. We will have to operate the trash pump at low RPM's to avoid going over the 800k.

The bypass pump will be removed tomorrow and repaired/reinstalled as quickly as possible. I just don't have a good ETA on its repair.

Thanks,
-John Sponsler

**Sent from my BlackBerry

----- Original Message -----
From: Logan Olds <lolds@vvwra.com>
To: John Sponsler; James Hart; Wilson So (External); John Morales <JMMorales@waterboards.ca.gov>; Cindi Mitton <cmitton@waterboards.ca.gov>
Cc: Roger.Vesely@unitedwater.com <Roger.Vesely@unitedwater.com>; mike.perales@unitedwater.com <mike.perales@unitedwater.com>; Gilbert Perez <GilbertPerez@vvwra.com>
Sent: Wed Aug 04 13:22:08 2010

Subject: RE: Raw Influent Bypass Pump

HI John,

Anything we can do to help? My understanding is that Adelanto can no longer send us secondary effluent per the new agreement. If the condition worsens let me know and I will see what I can do.

Thank You

Logan Olds
General Manager
Victor Valley Wastewater Reclamation Authority

760-948-9849

Hesperia Administration Office
15776 Main Street, Suite 3
Hesperia, CA 92345

****
****
This email and any files transmitted with it may contain privileged or otherwise confidential information. If you are not the intended recipient, or believe that you may have received this communication in error, please advise the sender via reply email and delete the email you received.
****
****

-----Original Message-----
From: John Sponsler [mailto:jsponsler@ci.adelanto.ca.us]
Sent: Wednesday, August 04, 2010 11:20 AM
To: James Hart; Wilson So (External); Logan Olds; 'John Morales'; Cindi Mitton
Cc: Roger.Vesely@unitedwater.com; Mike Perales
(mike.perales@unitedwater.com)
Subject: Raw Influent Bypass Pump

Good morning All,

Just received word from United Water that the raw influent bypass pump shorted out. There was an SCE power outage this morning that caused the entire plant to go down for a short period (the backup generator automatically came on to supply power). When power was restored, the bypass pump shorted out.

United Water is immediately notifying Rain for Rent to supply a backup pump to continue the diversion, but at this time we are unable to divert the influent flow to VVWRA. Also at this time, I do not have an estimated time as to when we will be able to restart the diversion.
Once I hear back from United Water I will be able provide additional information.

Thanks,

John R. Sponsler
Director of Public Utilities
City of Adelanto

P.O. Box 10
Adelanto, CA 92301
(760) 246-2300 x 3006
(760) 578-4297 cell
(760) 246-3242 Fax

City Hall is open from 7:00 a.m. until 6:00 p.m. City Hall is closed every Friday and Holidays.

AGENDA REPORT

City of Adelanto

Adelanto Governmental Center
11600 AIR EXPRESSWAY
ADELANTO, CALIFORNIA 92301

DATE: June 9, 2010

TO: Honorable Mayor and City Council Members

FROM: D. James Hart, City Manager

By: John Sponsler, Director of Public Utilities

SUBJECT: APPROVAL OF TEMPORARY WASTEWATER TREATMENT AGREEMENT BETWEEN THE CITY OF ADELANTO AND VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY

RECOMMENDATION:

Staff recommends approval of a temporary wastewater treatment agreement between the City of Adelanto and Victor Valley Wastewater Reclamation Authority.

BACKGROUND:

The City of Adelanto is in violation of its Waste Discharge Requirement; specifically exceedance of influent flow and effluent Biochemical Oxygen Demand (BOD). The City has been in violation in excess of 4 years. The WDR allows a maximum influent flow of 1.5 million gallons per day (mgd) and effluent BOD of 30 milligrams per Liter (mg/L), 15 mg/L mean. The City's influent flows are currently averaging 2.2 mgd and effluent BOD levels in excess of 15 mg/L mean.

The State Water Resources Control Board, Lahontan Region is promising regulatory action against the City if these excesses are not soon brought into compliance. This action could be in the form of monetary penalties for each day of non-compliance, possibly dating back to the first day of non-compliance; as much as $5,000.00 for each day.

Discussions were held with VVWRA to divert a portion of the City's raw influent for a period of 15 months into their treatment system at a rate not to exceed 800,000 gallons per day, in order to bring the City's influent limitation to the required 1.5 mgd. By so doing, this will allow the City's waste treatment system to function as designed and

reduce the effluent BOD to within limits as well. The 15 month time starts upon the first day of diversion.

This agreement was discussed and approved on Thursday, May 27, 2010 at the Meeting of the Board of Commissioners Victor Valley Wastewater Reclamation Authority.

FISCAL IMPACT:

Diverting the City's raw influent into the VVWRA treatment system for a period of 15 months (approximately 465 days) will cost $2,080 per 800,000 gallons. This is a cost of approximately $967,200.00 to VVWRA.

ATTACHMENTS:

(1) Copy, Temporary Wastewater Treatment Agreement between VVWRA and the City of Adelanto

COPY

WASTEWATER TREATMENT AGREEMENT BETWEEN THE ADELANTO PUBLIC UTILITY AUTHORITY AND THE VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY

This Wastewater Treatment Agreement ("Agreement") is made and entered into as of June 9, 2010, by and between the Adelanto Public Utility Authority ("APUA"), a Municipal Corporation, organized and existing under the laws of the State of California and Victor Valley Wastewater Reclamation Authority ("VVWRA"), a joint powers authority organized and existing under the laws of the State of California, and APUA and VVWRA are sometimes individually referred to as a "party" and collectively as the "parties".

RECITALS

(A) VVWRA is a joint powers authority which is engaged in the business of managing, treating and disposing of domestic strength municipal wastewater which is generated by its member agencies at facilities owned and operated by VVWRA.

(B) The APUA is a former member of VVWRA which now operates its own municipal wastewater treatment facility ("Adelanto Facility");

(C) VVWRA and APUA are parties to that certain Standby Wastewater Treatment Agreement ("Standby Agreement") whereby VVWRA has agreed to treat secondary wastewater effluent through the interceptor between the APUA and VVWRA's Westside Wastewater Treatment Plant ("WWTP) in the event of an emergency or operational necessity.

(D) The Adelanto Facility is currently treating raw untreated sewage influent ("Raw Influent") in excess of its current operating capacity of 1,500,000 gallons per day and APUA has requested that VVWRA agree to take and treat up to 800,000 gallons of excess Raw Influent per day.

(E) VVWRA and APUA desire to expand the arrangement set forth in the Standby Agreement by entering into an agreement for the treatment of Raw Influent subject to the terms and conditions set forth herein.

NOW, THEREFORE, in consideration of the mutual agreements hereinafter set forth, and for other good and sufficient consideration given, the receipt of all of which is hereby acknowledged, the parties hereto agree as follows:

1. Term of Agreement. The Effective Date of this Agreement shall be the first date upon which Raw Influent is delivered to VVWRA. The term of this Agreement shall commence on the Effective Date and continue for a period of fifteen (15) months from the Effective Date unless renewed by the Parties hereto pursuant to a written instrument executed by both the APUA and VVWRA or terminated in accordance with the terms of Section 9.

COPY

2. Delivery of Raw Influent and Permit Requirements

(a) Subject to the quality and quantity limitation set forth herein, VVWRA shall receive, process and dispose of Raw Influent which is delivered from APUA to the WWTP through the Adelanto interceptor. APUA shall notify VVWRA, in writing and telephonically, seventy-two (72) hours prior to the commencement of delivery of Raw Influent. APUA shall notify VVWRA, in writing and telephonically, forty-eight (48) hours prior to any anticipated material reduction in volume or cessation of the diversion of Raw Influent.

(b) APUA shall be solely responsible for determining whether the delivery of Raw Influent to the WWTP is in compliance with APUA's waste discharge requirements ("WDR") and all state and federal permits applicable to the operation of the Adelanto Facility. APUA shall indemnify, defend and hold harmless VVWRA (in accordance with the terms of Section 8) with respect to any federal or state regulatory action in connection with VVWRA's acceptance of the Raw Influent for treatment and any violation of the WDR and any other permit or requirement applicable to APUA, including without limitation, all costs, expenses, fines or penalties (including legal fees and expenses) which are incurred by VVWRA as a result.

(c) Except as set forth in Section 7(c), VVWRA shall own all reclaimed water and byproducts which are generated as a result of the treatment of the Raw Influent and shall have the right to discharge, sell, transfer or dispose of such reclaimed water and byproducts as determined by VVWRA in its sole discretion.

3. Quantity of Effluent. The quantity of Effluent delivered by the APUA to the WWTP shall not exceed eight hundred thousand (800,000) gallons per day ("Maximum Quantity"). The treatment of the Maximum Quantity is subject to the availability of excess capacity at the WWTP and the regulatory requirements which are applicable to the treatment of Raw Influent by VVWRA. In the event that VVWRA does not have sufficient excess capacity, as determined in its sole discretion, to treat the Maximum Quantity of Raw Influent for any reason, then VVWRA shall have the right at any time during the term of this Agreement to reduce the Maximum Quantity upon thirty (30) days written notice to APUA. At the request of APUA, VVWRA may agree, in its sole discretion, to accept higher volumes of Raw Influent for treatment at the WWTP.

4. Quality of Raw Influent. The Raw Influent to be delivered pursuant to this Agreement shall be raw untreated effluent and shall strictly comply with the quality standards which are set forth in Ordinance 001 of VVWRA, as the same may be amended from time to time, including without limitation, the pretreatment requirements with respect to any industrial wastewater ("Quality Standards"). A current copy of Ordinance 001 has been provided to APUA. APUA shall further obtain all permits required pursuant to Ordinance 001 prior to delivering any Raw Influent. VVWRA shall not be obligated to accept any Raw Influent which is not in compliance with the Quality Standards.

5. Cost of Treatment.

(a) In consideration of VVWRA's treatment and disposal of the Raw Influent at the WWTP, the APUA shall pay VVWRA a treatment fee equal to Two Thousand Six Hundred Dollars ($2,600.00) for each one million gallons of Raw Influent delivered to the WWTP during the term of this Agreement. The foregoing fee shall be subject to change in the event of a general rate increase adopted by VVWRA during the term of this Agreement, provided, however, that VVWRA shall give APUA with no less than thirty (30) days prior written notice of any such increase.

(b) During the initial term of this Agreement, the fee for treatment and disposal identified in Paragraph 5(a) above shall be inclusive of all costs and expenses which are expected to be incurred by VVWRA and no additional fees and charges shall be payable by APUA for the treatment and discharge of Raw Influent which is in compliance with the quantity and quality limitations set forth in this Agreement. In the event that the expected cost of treatment increases as a result of unforeseen circumstances or the imposition of additional regulatory requirements associated with the treatment of Raw Influent pursuant to this Agreement, then VVWRA shall provide APUA with no less than thirty (30) days prior written notice of such additional costs, which notice shall set forth the cause and calculation of such costs in reasonable detail.

(c) APUA acknowledges that any renewal of this Agreement beyond the initial term specified in Section 1 will subject APUA to the payment of connection fees and charges at the then current rates adopted by VVWRA and will further require the negotiation of additional terms, including without limitation, the terms upon which APUA might be re-admitted as a member of VVWRA, how the Adelanto Facility would be incorporated within the VVWRA system and whether the contribution of the Adelanto Facility and other infrastructure could be offset against connection fees and other charges. All such terms and conditions shall be subject to mutual negotiation and approval of any long term arrangement will be in the sole discretion of VVWRA.

6. Billing and Payment. VVWRA shall invoice the APUA for the costs described in Section 5 on a weekly basis and the APUA shall pay such invoice within fifteen (15) business days of the invoice date.

7. Non-Conforming Raw Influent.

(a) Suspension of Raw Influent. VVWRA shall have the right to meter and test the Raw Influent which is delivered to VVWRA for compliance with the terms of this Agreement and to suspend acceptance of Raw Influent at any time if the Raw Influent is non-conforming with the quantity limitation set forth in Section 3 or the Quality Standards ("Non-Conforming Raw Influent"), provided, however, that VVWRA shall immediately notify the

manager of the Adelanto Facility of its intent to suspend delivery and shall reasonably cooperate with the APUA to perform an orderly shutdown of delivery of Raw Influent.

(b) Responsibility for Non-Conforming Raw Influent. The APUA shall be solely responsible for any additional cost or expense incurred by VVWRA in connection with Non-Conforming Raw Influent that is delivered to VVWRA prior to suspension of delivery and for any costs, expenses, fines or penalties (including legal fees and expenses) which are incurred by VVWRA as a result of any violation of Environmental Laws due to the delivery of Non-Conforming Raw Influent by the APUA. The APUA shall further be responsible for all costs of remediation, whether or not there is a formal claim or investigation against VVWRA, associated with the further treatment of Non-Conforming Raw Influent. Upon written demand by VVWRA, the APUA shall promptly advance all such costs and expenses that have not already been paid by VVWRA and shall promptly reimburse VVWRA for all costs and expenses already incurred upon presentation of an invoice from VVWRA which sets forth such costs and expenses in reasonable detail.

(c) Ownership of Non-Conforming Raw Influent. In no event shall VVWRA be deemed to have taken ownership of any Non-Conforming Raw Influent or of any hazardous materials or hazardous wastes, as defined by federal, state or local law, which are contained in any Non-Conforming Raw Influent.

8. Indemnity and Liability Provisions.

(a) Indemnity by APUA. APUA hereby agrees, at its sole cost and expense, to indemnify, protect, hold harmless and defend VVWRA, its commissioners, officers, employees, agents, successors and assigns from and against any and all claims, demands, damages, losses, liabilities, obligations, penalties, fines, actions, causes of action, judgments, suits, proceedings, costs, disbursements and expenses (including, without limitation, fees, disbursements and cost of attorneys, consultants and experts) (collectively "Losses") which may at any time be imposed upon, incurred, or suffered by, or asserted or awarded against, any Indemnified Party directly or indirectly relating to or arising from the acceptance and treatment of the Raw Influent by VVWRA, including without limitation, the violation of any permit described in Section 2(b) and/or the violation of any Environmental Laws applicable to the treatment and discharge of wastewater by VVWRA. This indemnity shall not apply to any Losses or Third Party Claims which result from a claim for which VVWRA is responsible pursuant to Section 8(b).

(b) VVWRA shall indemnify, protect, hold harmless and defend the APUA, its officers, employees, and agents from and against any and all Losses resulting from any third party claim resulting from (i) the sole negligence or willful misconduct of VVWRA; or (ii) the failure of VVWRA to properly treat and discharge Raw Influent which strictly conforms with the terms of this Agreement.

(c) Defense of Third Party Claims. Promptly following receipt of any written claim or legal proceeding asserted by a person or entity which is not a party to this Agreement (a

"Third Party Claim"), the party entitled to indemnification pursuant to this Section 8 (the "Indemnified Party") shall notify the party responsible for providing indemnification ("Indemnifying Party") of such claim in writing. The Indemnifying Party shall have a period of 30 days (or such lesser period as may be required to timely respond to a Third Party Claim) following the receipt of such notice to undertake and diligently pursue the defense of the Third Party Claim with legal counsel which is reasonable acceptable to the Indemnified Party. The Indemnifying Party shall reimburse the Indemnified Party for any legal expense reasonably incurred by the Indemnified Party to timely respond to a Third Party Claim prior to the Indemnifying Party assuming the defense thereof. The Indemnifying Party shall not consent to entry of judgment or enter into any settlement agreement, without the consent of the Indemnified Party, which does not include a complete and unconditional release of the Indemnified Party or which imposes injunctive or other equitable relief against the Indemnified Party. The Indemnified Party shall have final authority with respect to all decisions made in connection with the defense of the Third Party Claim. If the Indemnifying Party fails to assume and diligently pursue the defense of a Third Party Claim, the Indemnified Party may defend against such Third Party Claim in such manner as it may deem appropriate, including without limitation settlement thereof on such terms as the Indemnified Party may deem appropriate, and to pursue such remedies as may be available to the Indemnified Party against the Indemnifying Party.

(d) Definitions.

(i) "Environmental Law(s)" means any federal, state or local law whether common law, court or administrative decision, ordinance, regulation, permit condition, rule, court order or decree, or administrative order or any administrative policy or guideline concerning of a governmental authority relating to the environment, public health, any Hazardous Material (as hereinafter defined) or the treatment of wastewater, in effect from time to time, including, but not limited to (i) the Federal Water Pollution Control Act, as amended (33 U.S.C. §1251 et seq.); (ii) the Resource Conservation and Recovery Act, as amended (42 U.S.C. §6901 et seq.); (iii) the Comprehensive Environmental Response, Compensation and Liability Act, as amended (42 U.S.C. §9601 et seq.); (iv) the Federal Clean Air Act, as amended (42 U.S.C. §7401 et seq.); (v) the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (7 U.S.C. §136 et seq.); (vi) the Toxic Substances Control Act, as amended (15 U.S.C. §2601 et seq.); (vii) the Emergency Planning and Community Right-to-Know Act, as amended (42 U.S.C. §11001 et seq.); (viii) the Occupational Safety and Health Act, as amended (29 U.S.C. §650 et seq.); (ix) Chapter 6 of the California Health and Safety Code; California Health and Safety Code Sections 25100 et seq. and Sections 25280 et seq.; (x) the Safe Drinking Water and Toxic Enforcement Act of 1986, as amended (Proposition 65); (xi) Title 22 of the California Code of Regulations (Division 4, Chapter 30); and (xii) all regulations or guidelines promulgated pursuant to all of the foregoing, as same may be amended from time to time.

(ii) "Hazardous Material(s)" means any petroleum or petroleum products and any hazardous or toxic material, substance, pollutant, allergen, irritant, mold, fungus, bacteria, contaminant, waste, or terms similar to the forgoing, any of which are (a) defined by or

regulated as such under any Environmental Laws, or (b) determined by a final court ruling or order to be hazardous or toxic.

9. Termination.

(a) This Agreement shall terminate automatically at the end of the term set forth in Section 1.

(b) VVWRA shall have the right to terminate this Agreement on ten (10) days written notice in the event that the APUA is in material violation of its obligations under this Agreement or VVWRA determines, in its sole discretion, that the further acceptance of Raw Influent would be a violation of any Environmental Laws, permit requirements, court or administrative orders or other legal obligations applicable to VVWRA.

(c) The APUA shall further have the right to terminate this Agreement on ten (10) days written notice to VVWRA in the event that VVWRA is in material violation of its obligations under this Agreement.

(d) Following termination of this Agreement for any reason, all obligations of VVWRA to accept delivery of Raw Influent shall terminate and be of no further force and effect. The obligations of APUA pursuant to Sections 5, 7(b) and 8 shall survive termination of this Agreement. The obligations of VVWRA pursuant to Section 8 shall survive termination of this Agreement.

10. Limitation on Damages.

Except for the obligation of APUA pursuant to Section 7(b), neither party shall be liable to the other party for any special, indirect or consequential damages of any kind resulting from a breach of this Agreement, whether or not such damages were reasonably foreseeable by the other party.

11. Entire Agreement. This Agreement constitutes the entire agreement and understanding of the parties hereto with respect to the subject matter hereof and supersedes all prior agreements and understandings, both written and verbal, between the parties with respect to the subject matter hereof.

12. Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties thereto and their successors and assigns. The Agreement may not be assigned by either party without the prior written consent of the other party.

13. Amendments. This Agreement may not be amended, altered or modified except in writing signed by the parties hereto. No waiver by either party of any breach by the other party of any provisions of this Agreement shall be construed as a waiver of any subsequent breach, whether of the same or of any different provision of this Agreement. No course of conduct or series of dealings shall constitute a waiver hereunder.

14. Notice. In the event that written notice must or may be given hereunder, such notice shall be sent via a commercial overnight courier such as Federal Express or UPS to the other party at the following address or such other address as a party may notify the other in writing:

If to VVWRA:	Logan Olds, General Manager 15776 Main St. Hesperia, CA 92345
With a copy to:	Best Best & Krieger LLP Attn: Piero Dallarda 3750 University Avenue Riverside, CA 92501
If to APUA:	City of Adelanto Attn: City Clerk 11600 Air Expressway Adelanto, CA 92301
With a copy to:	Rutan & Tucker, LLP Attn: Todd Litfin 611 Anton Blvd, 14th Floor Costa Mesa, CA 92626

Notice shall be sent to the above referenced persons unless the parties are otherwise notified in writing of a change in the name or address of the person to be notified.

15. Governing Law. This Agreement shall be governed by and construed under the laws of the State of California and venue for any action arising out of this Agreement shall be in the County of San Bernardino.

16. Attorney's Fees and Costs. The prevailing party in any action brought to enforce the terms of this Agreement in court or arbitration shall be entitled to an award of its reasonable attorney's fees and costs, including without limitation, the costs of discovery and expert witnesses in connection with any such action.

17. Nature of Agreement. The parties acknowledge that the sole purpose of this Agreement is to provide standby treatment capacity for Raw Influent from the Adelanto Facility and that in no event shall this Agreement be deemed to constitute a request for admission by the APUA to be a member of VVWRA or for VVWRA to annex any portion of the service area of the APUA.

18. Effect on Standby Agreement. Upon the execution of this Agreement, the Standby Agreement with respect to the delivery of secondary effluent shall remain in effect, provided, however, that the maximum volume of secondary effluent that may be delivered pursuant to Section 3 of the Standby Agreement shall be reduced by the actual quantity of Raw Influent delivered pursuant to this Agreement.

[signature page follows]

IN WITNESS WHEREOF, the parties hereto have by their duly authorized officers or representatives executed this Agreement all on the day and year first above written.

VICTOR VALLEY WASTEWATER

RECLAMATION AUTHORITY

By: _____

Name: LOGAN OLDS

Title: General Manager

ADELANTO PUBLIC UTILITY AUTHORITY

By: _____

Name: Charley B. Glasper

Title: Mayor

VVWRA.COM

Invoice

Invoice Date	Invoice No.
11/17/2010	25274

Victor Valley Wastewater Reclamation Authority
15776 Main Street, Suite 3
Hesperia, CA 92345
(760) 948-9849

Billing Address

CITY OF ADELANTO
ATTEN: JOHN SPONSLER
PO BOX 10
ADELANTO, CA 92301

Service Address

CITY OF ADELANTO
11600 AIR EXPRESS WAY
ADELANTO, CA923001

STANDBY WASTEWATER TREATMENT

Charge Date	Charge Code	Description	Amount
11/14/2010	TRMFEEADEL	TREATMENT FEES - $2200.00/MG - WE 11/14/10	14,695.78

Payment Terms: Net 15 Days

Total: $14,695.78

Please Remit With Payment

Customer ID ADE010
Customer Name CITY OF ADELANTO

Invoice ID 25274
Invoice Date 11/17/2010

Payment Terms: Net 15 Days

Total: $14,695.78

STANDBY WASTEWATER TREATMENT

Victor Valley Wastewater Reclamation Authority
Weekly Flow Billing
Summary of Charges

Per Adelanto Agreement Board Approved October 22, 2009	
2 year agreement	$754.00
Raw Influent	$2,200.00

BILLING MONTH: **November 2010**

Day

			Flow in MG		Charges Billed
Monday	11/8/2010		0.6772	$	1,489.84
Tuesday	11/9/2010		1.0037	$	2,208.14
Wednesday	11/10/2010		0.9657	$	2,124.54
Thursday	11/11/2010		0.972	$	2,138.40
Friday	11/12/2010		1.0573	$	2,326.06
Saturday	11/13/2010		1.0262	$	2,257.64
Sunday	11/14/2010		0.9778	$	2,151.16
	Week Ending	**11/14/10**	**6.6799**	**$**	**14,695.78**

11/17/2010 2:45 PM

VVWRA.COM

Invoice

Invoice Date	Invoice No.
12/2/2010	25277

Victor Valley Wastewater Reclamation Authority
15776 Main Street, Suite 3
Hesperia, CA 92345
(760) 948-9849

Billing Address

CITY OF ADELANTO
ATTEN: JOHN SPONSLER
PO BOX 10
ADELANTO, CA 92301

Service Address

CITY OF ADELANTO
11600 AIR EXPRESS WAY
ADELANTO, CA923001

STANDBY WASTEWATER TREATMENT

Charge Date	Charge Code	Description	Amount
11/21/2010	TRMFEEADEL	TREATMENT FEES - $2200.00/MG - WE 11/21/10	15,738.91

Payment Terms: Net 15 Days

Total: $15,738.91

Please Remit With Payment

Customer ID ADE010
Customer Name CITY OF ADELANTO

Invoice ID 25277
Invoice Date 12/2/2010

Payment Terms: Net 15 Days

Total: $15,738.91

STANDBY WASTEWATER TREATMENT

Victor Valley Wastewater Reclamation Authority
Weekly Flow Billing
Summary of Charges

Per Adelanto Agreement Board Approved October 22, 2009	
2 year agreement	$754.00
Raw Influent	$2,200.00

BILLING MONTH: **November 2010**

Day

			Flow in MG		Charges Billed
Monday	11/15/2010		1.01436	$	2,231.59
Tuesday	11/16/2010		1.03846	$	2,284.61
Wednesday	11/17/2010		1.04028	$	2,288.62
Thursday	11/18/2010		1.0196	$	2,243.12
Friday	11/19/2010		1.01834	$	2,240.35
Saturday	11/20/2010		1.01459	$	2,232.10
Sunday	11/21/2010		1.00842	$	2,218.52
	Week Ending	**11/21/10**	**7.1541**	**$**	**15,738.91**

12/2/2010 2:39 PM

VVWRA.COM

Invoice

Invoice Date	Invoice No.
12/2/2010	25278

Victor Valley Wastewater Reclamation Authority
15776 Main Street, Suite 3
Hesperia, CA 92345
(760) 948-9849

Billing Address

CITY OF ADELANTO
ATTEN: JOHN SPONSLER
PO BOX 10
ADELANTO, CA 92301

Service Address

CITY OF ADELANTO
11600 AIR EXPRESS WAY
ADELANTO, CA923001

STANDBY WASTEWATER TREATMENT

Charge Date	Charge Code	Description	Amount
11/28/2010	TRMFEEADEL	TREATMENT FEES - $2200.00/MG - WE 11/28/10	15,673.86

Payment Terms: Net 15 Days

Total: $15,673.86

Please Remit With Payment

Customer ID ADE010
Customer Name CITY OF ADELANTO

Invoice ID 25278
Invoice Date 12/2/2010

Payment Terms: Net 15 Days

Total: $15,673.86

STANDBY WASTEWATER TREATMENT

Victor Valley Wastewater Reclamation Authority
Weekly Flow Billing
Summary of Charges

Per Adelanto Agreement Board Approved October 22, 2009	
2 year agreement	$754.00
Raw Influent	$2,200.00

BILLING MONTH: **November 2010**

Day

			Flow in MG		Charges Billed
Monday	11/22/2010		0.9981	$	2,195.82
Tuesday	11/23/2010		1.01253	$	2,227.57
Wednesday	11/24/2010		1.02136	$	2,246.99
Thursday	11/25/2010		1.02059	$	2,245.30
Friday	11/26/2010		1.0307	$	2,267.54
Saturday	11/27/2010		1.03623	$	2,279.71
Sunday	11/28/2010		1.00497	$	2,210.93
	Week Ending	**11/28/10**	**7.1245**	**$**	**15,673.86**

12/2/2010 2:42 PM

VVWRA.COM

Invoice

Invoice Date	Invoice No.
12/16/2010	25341

Victor Valley Wastewater Reclamation Authority
15776 Main Street, Suite 3
Hesperia, CA 92345
(760) 948-9849

Billing Address

CITY OF ADELANTO
ATTEN: JOHN SPONSLER
PO BOX 10
ADELANTO, CA 92301

Service Address

CITY OF ADELANTO
11600 AIR EXPRESS WAY
ADELANTO, CA923001

STANDBY WASTEWATER TREATMENT

Charge Date	Charge Code	Description	Amount
12/5/2010	TRMFEEADEL	TREATMENT FEES - $2200.00/MG - WE 12/05/10	17,248.15

Payment Terms: Net 15 Days

Total: $17,248.15

Please Remit With Payment

Customer ID ADE010
Customer Name CITY OF ADELANTO

Invoice ID 25341
Invoice Date 12/16/2010

Payment Terms: Net 15 Days

Total: $17,248.15

STANDBY WASTEWATER TREATMENT

Victor Valley Wastewater Reclamation Authority
Weekly Flow Billing
Summary of Charges

Per Adelanto Agreement Board Approved October 22, 2009	
2 year agreement	$754.00
Raw Influent	$2,200.00

BILLING MONTH: **December 2010**

Day			Flow in MG		Charges Billed
Monday	11/29/2010		0.9973	$	2,194.06
Tuesday	11/30/2010		1.00079	$	2,201.74
Wednesday	12/1/2010		1.22518	$	2,695.40
Thursday	12/2/2010		1.15742	$	2,546.32
Friday	12/3/2010		1.51256	$	3,327.63
Saturday	12/4/2010		0.79108	$	1,740.38
Sunday	12/5/2010		1.15574	$	2,542.63
	Week Ending	**12/5/10**	**7.8401**	**$**	**17,248.15**

12/16/2010 8:42 AM

VVWRA.COM

Invoice

Invoice Date	Invoice No.
12/16/2010	25342

Victor Valley Wastewater Reclamation Authority
15776 Main Street, Suite 3
Hesperia, CA 92345
(760) 948-9849

Billing Address

CITY OF ADELANTO
ATTEN: JOHN SPONSLER
PO BOX 10
ADELANTO, CA 92301

Service Address

CITY OF ADELANTO
11600 AIR EXPRESS WAY
ADELANTO, CA923001

STANDBY WASTEWATER TREATMENT

Charge Date	Charge Code	Description	Amount
12/5/2010	TRMFEEADEL	TREATMENT FEES - $2200.00/MG - WE 12/12/10	18,353.68

Payment Terms: Net 15 Days

Total: $18,353.68

Please Remit With Payment

Customer ID ADE010
Customer Name CITY OF ADELANTO

Invoice ID 25342
Invoice Date 12/16/2010

Payment Terms: Net 15 Days

Total: $18,353.68

STANDBY WASTEWATER TREATMENT

Victor Valley Wastewater Reclamation Authority
Weekly Flow Billing
Summary of Charges

Per Adelanto Agreement Board Approved October 22, 2009	
2 year agreement	$754.00
Raw influent	$2,200.00

BILLING MONTH: **December 2010**

Day

			Flow in MG		Charges Billed
Monday	12/6/2010		1.14223	$	2,512.91
Tuesday	12/7/2010		1.16303	$	2,558.67
Wednesday	12/8/2010		1.22007	$	2,684.15
Thursday	12/9/2010		1.27563	$	2,806.39
Friday	12/10/2010		1.21113	$	2,664.49
Saturday	12/11/2010		1.16321	$	2,559.06
Sunday	12/12/2010		1.16728	$	2,568.02
	Week Ending	**12/12/10**	**8.3426**	**$**	**18,353.68**

12/16/2010 8:45 AM

Customer Statement

Victor Valley Wastewater Reclamation Authority
15776 Main Street, Suite 3
Hesperia, CA 92345
(760) 948-9849

Customer ID	Statement Date	Statement #
ADE010	12/16/2010	1

Billing Address

CITY OF ADELANTO
ATTEN: JOHN SPONSLER
PO BOX 10
ADELANTO, CA 92301

Service Address

CITY OF ADELANTO
11600 AIR EXPRESS WAY
ADELANTO, CA 923001

Document ID	Date	Due Date	Description	Charges	Payments/Credits
24820	04/15/2010	04/30/2010	WE 4-11-10	6,234.22	0.00
24985	07/20/2010	08/04/2010	ADEL FLOW WE 6-27-10	6,450.47	0.00
24987	07/20/2010	08/04/2010	ADEL FLOW WE 7-11-10	6,040.29	0.00
25044	08/31/2010	09/15/2010	ADEL FLOW WE 7-18-10	5,771.12	0.00
25045	08/31/2010	09/15/2010	ADEL FLOW WE 7-25-10	6,420.31	0.00
25128	10/01/2010	10/16/2010	ADEL WE 9-26-10	16,697.56	0.00
25229	11/03/2010	11/18/2010	ADEL WE10-10-10	16,961.78	0.00
25230	11/03/2010	11/18/2010	ADEL WE10-17-10	15,541.02	0.00
25231	11/03/2010	11/18/2010	ADEL WE10-24-10	12,799.16	0.00
25232	11/03/2010	11/18/2010	ADEL WE10-31-10	11,059.14	0.00
25270	11/17/2010	12/02/2010	Adelanto Flow WE 11-07-10	12,736.02	0.00
25277	12/02/2010	12/17/2010	Adelanto Flow 11-21-10	15,738.91	0.00

CONTINUED ON NEXT STATEMENT

$183,725.69

Please Remit With Payment

Customer ID	Statement Date	Statement #
ADE010	12/16/2010	1

CITY OF ADELANTO
ATTEN: JOHN SPONSLER
PO BOX 10
ADELANTO, CA 92301

$ $183,725.69 Balance Due

$ _____ Amount Remitted

MAIL PAYMENTS TO:
Victor Valley Wastewater Reclamation Authority
15776 Main Street, Suite 3
Hesperia, CA 92345

Customer Statement

Victor Valley Wastewater Reclamation Authority
15776 Main Street, Suite 3
Hesperia, CA 92345
(760) 948-9849

Customer ID	Statement Date	Statement #
ADE010	12/16/2010	1

Billing Address

CITY OF ADELANTO
ATTEN: JOHN SPONSLER
PO BOX 10
ADELANTO, CA 92301

Service Address

CITY OF ADELANTO
11600 AIR EXPRESS WAY
ADELANTO, CA 923001

Document ID	Date	Due Date	Description	Charges	Payments/Credits
25278	12/02/2010	12/17/2010	Adelanto Flow 11-28-10	15,673.86	0.00
25341	12/16/2010	12/31/2010	Adelanto Flow - WE 12-05-10	17,248.15	0.00
25342	12/16/2010	12/31/2010	Adelanto Flow - WE 12-12-10	18,353.68	0.00

Previous Balance		Charges		Payments/Credits		New Balance
0.00		183,725.69		0.00		$183,725.69
Current	35,601.83	30 Days	44,148.79	60 Days	56,361.10	90+ Days	47,613.97

Please Remit With Payment

Customer ID	Statement Date	Statement #
ADE010	12/16/2010	1

CITY OF ADELANTO
ATTEN: JOHN SPONSLER
PO BOX 10
ADELANTO, CA 92301

$ $183,725.69 Balance Due

$ _____ Amount Remitted

MAIL PAYMENTS TO:
Victor Valley Wastewater Reclamation Authority
15776 Main Street, Suite 3
Hesperia, CA 92345

COPY

Request for Proposals (RFP)
Dredging of Wastewater Percolation Ponds

A. INTRODUCTION

The City of Adelanto is soliciting quotations to dredge three (3) secondary effluent wastewater percolation ponds located at 19101 Jonathan Street in Adelanto, California. The City, through United Water/ Suez, operates and maintains a 1.5 million gallon per day (mgd) activated sludge plant. The plant disposes of its secondary effluent in four (4) percolation ponds of varying sizes and depths. The plant is currently exceeding its operating permit by daily receiving in excess of its 1.5 mgd influent flow limit. This has a negative impact on the plants ability to satisfactorily treat the waste flows which in turn affects the ponds ability to satisfactorily percolate the effluent flows. Solids have accumulated at the bottom of the ponds effectively "blinding" the soil to percolation. In order to remain in compliance with our operating permit, the percolation ponds cannot exceed its "freeboard" of two (2) feet within the top of the ponds.

The City requests interested professional firms to submit a cost proposal to include statements of professional and technical qualifications for the dredging of each of the three percolation ponds for a total of 3 proposals. The proposal shall also contain a description of how the ponds are to be dredged and how the sludge will be disposed of. Based on the total cost of the project, the City will decide whether to dredge all 3 of the ponds or selected ponds.

B. PRE-PROPOSAL MEETING

A mandatory pre-proposal meeting is scheduled for September 2, 2010 at 9:00 a.m. at which time the City's representatives (APUA Director and United Water/Suez representative) will conduct a field tour of the existing wastewater reclamation plant and receive questions. Due to United Water/Suez safety requirements, it is requested that individuals bring their own hard hats. At the pre-proposal meeting, the City will provide a copy of the site plan and general design information of the existing percolation ponds and sludge disposal area. The location of the meeting is at the City of Adelanto Wastewater Treatment Facility at 19101 Jonathan Street, Adelanto, CA 92301.

To confirm attendance at the mandatory pre-proposal meeting, please contact Ms. Espie Murray (APUA Sr. Administrative Assistant) at (760)246-2300 x 3059 or emurray@ci.adelanto.ca.us.

C. SUBMISSION OF PROPOSALS

The proposals must be received in the office of the Director, Adelanto Public Utilities Authority, City of Adelanto at 11600 Air Expressway, Adelanto, California 92301 no later than September 8, 2010. A total of three (3) copies of the proposal will be required and shall be delivered or mailed to:

City of Adelanto
Attn: Director, APUA
11600 Air Expressway
Adelanto, CA 92301

Mark clearly on the envelope, the proposal project and the date of opening.

All requests for information and clarification of proposal requirements must be submitted in writing to the attention of John Sponsler, Director APUA at the same address indicated above no later than ten (10) calendar days prior to the due date for receiving the proposals.

D. SCOPE OF SERVICES

The successful candidate will be required to dredge these three ponds removing the solids to allow the ponds to successfully percolate. The scope of services required of this job include, but are not limited to:

- Upon successful award of the job, within 48 hours mobilize and set up equipment at jobsite.
- In keeping with the constraints of the job, dredge percolation ponds #1, #2 and #3. Remove solids from the bottom of the ponds. Ponds will be considered clean when clean soil is present and percolation takes place. Solids may be deposited on site at the sludge drying pad and/or other designated area. Solids will be deposited in an orderly fashion.
- Place shaker plates at entrance to the wastewater plant to prevent excess tracking of solids off plant site.
- Contain and cleanup all Hazardous Materials/Waste spills as a result of contractors work or negligence.
- Within 5 days of physical completion of the job, restore jobsite to as-before condition.

Percolation pond information is as follows:

	Size (acre)	Approximate depth
- Pond #1:	2.43	28' below ground surface (bgs)
- Pond #2:	1.28	21' bgs
- Pond #3:	1.05	20' bgs

Constraints to job performance include:

- 18" effluent lines and valves are located approximately fifteen feet from the south edge of, and parallel to, percolation pond #1 at a depth of approximately72" top of pipe.

- 20" effluent line is located approximately thirty feet from the edge of, and parallel to, percolation pond #1 at a depth of approximately 60" top of pipe. This line is located on the west end of the pond. A single 20" effluent line lies perpendicular to this line towards, and into, the pond at a depth of approximately 60" top of pipe.
- 20" effluent line is located between percolation ponds #1 and #2 at a depth of approximately 60" top of pipe.
- The distance between percolation ponds #2 and #3 and the north boundary fence is approximately 22' from edge of ponds.
- Soil between percolation ponds #1 and #4 is considered to be unstable for extremely heavy equipment.
- Work hours/days are limited to the following: Monday through Friday from 7:00 a.m. until 4:00 p.m.

E. PROPOSAL FORMAT:

The City of Adelanto requests that the Proposal be prepared to include the information outlined below. While the City encourages each firm to thoroughly address each of the Proposal requirements, brevity and conciseness will be appreciated. The total proposal shall be limited to 25 pages.

(1) Provide evidence of the following insurances:

- General Liability and property damage and automobile liability insurances of not less than $2,000,000; combined single limits for bodily injury and/or property damage.
- Worker's compensation insurance as required by the State of California.
- Builder's All Risk Insurance of not less than $1,000,000.

(2) Other Requirements: Each firm responding to this RFP shall include a response to the following questions:

- Has the firm ever been terminated, replaced, or failed to complete work awarded under any contract operation? If so, name client and describe the circumstances.
- Has the firm been named as a defendant in any litigation brought on as a result of any contract operations? If so, name client and describe the circumstances and outcome.
- Has the firm or agency ever been fined or subjected to other enforcement actions by any agency having jurisdiction over health, safety/welfare issues? If so, describe the circumstances.
- Does the firm have any past or pending environmental violations? Please provide a candid description. If so, could these past violations have any adverse impact on the ability of the firm to perform contract services for the City?

A. Contractor to provide:

- Three (3) references for similar work performed.
- Proposed project staff resumes/qualifications.
- Listing of equipment necessary to complete the project.
- Copy of company safety plan to be utilized during the project.
- Daily reports on work performed to include volume of removed material, hours worked signed by authorized company representative.
- If required, provide U.S. Department of Labor Form WH-347 Payroll.
- Performance Bond of 100% of proposal amount.

The City of Adelanto Public Utilities Authority reserves the right to reject any or all proposals submitted and no representation is made that any contract will be awarded in response to this Request for Proposal. All costs incurred in the preparation of the proposal, in the submission of additional information, the participation in an oral interview and/or in any other aspect of the proposal prior to the award of a written contract will be borne by the respondent.

F. PROPOSAL REVIEW AND SELECTION CRITERIA

The proposals will be received on the date and time as set forth in Section C of the Request for Proposal. The City reserves the right, after reviewing and evaluating the submittals, to reject any or all submittals, or to accept those submittals that best serve the interest of the City. The City reserves the right to use ideas, concepts, and suggestions presented in any submittal made in response to this RFP; the submitting firm or agency waives any right to object to the use of such information by the City. Any portion of the submittal that infringes on trade secrets or is proprietary in nature shall be clearly marked as proprietary or submitted under separate cover marked "Proprietary." The following criteria will be used to evaluate the proposals that best serve the City's needs:

- Comprehensive understanding of the general scope of work to be performed, and technical approach to the project.
- Responsiveness to the RFP
- Cost

The City will appoint a "Review Committee" consisting of the APUA Director and City Engineer. The committee will review the proposals submitted and will make a recommendation to the City Council. Final selection of a firm (if one is to be considered) for further negotiations will be jointly considered by the Council and Committee. The City reserves the right to reject any or all of the proposals.

Those firms not selected will be timely notified. Following approval by the Council, the final selected firm will be appropriately notified. It is anticipated that the proposal review, screening and firm selection process will take about 5 business days.

The City of Adelanto appreciates in advance those firms that are interested in responding to this Request for Proposal. The City's Committee members look forward to meeting with interested firms at the Pre-proposal meeting.

By: _____

Director, Adelanto Public Utilities Authority
City of Adelanto

CITY OF ADELANTO
ADELANTO PUBLIC UTILITY AUTHORITY
WASTEWATER RECLAMATION FACILITY
PHASE 2-A EXPANSION
POND LAYOUT
10606102
08/11/09
SCALE: 1"=70'
PERCOLATION POND NO. 5
BOTTOM ELEV. = 2826.5'
TOP ELEV. = 2840.5'
MSF ELEV. = 2836.0'
PERCOLATION POND NO. 4
BOTTOM ELEV. = 2826.5'
TOP ELEV. = 2840.5'
MSF ELEV. = 2836.0'
57,780 sq.ft.
1.33 Ac.
#4N
210'
295'
81,125 sq.ft.
1.86 Ac.
#4S
275'
EXISTING
PERCOLATION POND NO. 3
458.25 sq.ft.
1.05 Ac.
195'
235'
EXISTING
PERCOLATION POND NO. 1
TOP ELEV. = 2840.00
MSF ELEV. = 2836.50
105,750 sq.ft.
2.43 Ac.
#3
470'
235'
EXISTING
PERCOLATION POND NO. 2
55,575 sq.ft.
1.28 Ac.
#2
285'
195'
DIRT PATH
DIRT PATH
EXISTING
DRYING BEDS
EXISTING
FLARE
EXISTING
DIGESTER
EXISTING
DIGESTER
EXISTING
DIGESTER

AGENDA REPORT

City of Adelanto

Adelanto Governmental Center
11600 AIR EXPRESSWAY
ADELANTO, CALIFORNIA 92301

DATE: October 27, 2010

TO: Honorable Mayor and City Council Members

FROM: D. James Hart, PhD., City Manager
BY: John R. Sponsler, Director of Public Utilities

SUBJECT: RATIFICATION OF CITY MANAGER'S APPROVAL TO AWARD CONTRACT TO RDS UNDERWATER WORKS FOR THE DREDGING OF THREE WASTEWATER PERCOLATION PONDS.

STAFF RECOMMENDATION:

Staff recommends the City Council ratify the City Manager's approval to award a contract to RDS Underwater Works for the dredging of three wastewater percolation ponds.

BACKGROUND:

The City's wastewater percolation ponds exceed the freeboard of two feet as required by the State Water Quality Control Board and as contained within the City's operating permit for the facility. Exceeding this level means the ponds are full with no additional capacity. This will lead to spillage of secondary effluent which will be a violation of the operating permit.

In September, Staff solicited bids on this job. Three companies were located; two participated in the job walk and only one submitted a proposal. The proposal amount was for $124,000 per pond plus $31,622 for transportation costs (total cost = $402,622). This amount was considered to be excessive.

In late September, a bid was received from RDS Underwater Works for a total of $220,000. This includes dredging and on site sludge containment. Staff considers this to be a more acceptable cost.

Staff considers this request to be of an emergency nature. In addition to the above explanation, the recent rains have added water to the ponds which necessitated Staff's urgency in moving forward with the dredging project.

ATTACHMENTS:

1). Signed RDS Underground Works Work Authorization documents
2) October 20, 2010 Photos of Percolation Ponds #'s 1, 2 and 3

Form **W-9** (Rev. October 2007)
Department of the Treasury Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give form to the requester. Do not send to the IRS.

Print or type See Specific Instructions on page 2.

Name (as shown on your income tax return)
DRG UNDERWATER WORKS

Business name, if different from above
RDS UNDERWATER WORKS

Check appropriate box: ☐ Individual/Sole proprietor ☑ Corporation ☐ Partnership
☐ Limited liability company. Enter the tax classification (D=disregarded entity, C=corporation, P=partnership) ▶ .....
☐ Other (see instructions) ▶

☐ Exempt payee

Address (number, street, and apt. or suite no.)
15592 COMPUTER LANE

Requester's name and address (optional)

City, state, and ZIP code
HUNTINGTON BEACH, CALIFORNIA 92649

List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on Line 1 to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number

or

Employer identification number
27 3748162

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
3. I am a U.S. citizen or other U.S. person (defined below).

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the Certification, but you must provide your correct TIN. See the instructions on page 4.

Sign Here Signature of U.S. person ▶ Date ▶ 10/25/10

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

Note. If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.

The person who gives Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States is in the following cases:

- The U.S. owner of a disregarded entity and not the entity,

RDS Underwater Works

A Division of RDS International, Inc.

15592 Computer Lane
Huntington Beach, California 92649
PHONE: (800) 870-4737 FAX: (888) 870-4737
Website: www.rdsservices.com email: greg@rdsservices.com
Structural Inspection and Repair Experts

Estimate

License #686582

This Quote is Valid for 90 Days From 10/5/2010

QUOTE NO: 5596

CUSTOMER INFORMATION

Owner/ Contact: CITY OF ADELANTO (JOHN SPONSLER)

Structure Location: 11600 AIR EXPRESSWAY
ADELANTO CA 92301

Contact Phone: (760) 246-2300 **Contact FAX:** (760) 246-3242

BILLING INFORMATION

Name: SAME **Company Name:**

Billing Address:

CA

Telephone: **Contact FAX:**

SCOPE OF WORK

Demolition/Excavation	$0.00
Packaging and Materials	$0.00
Equipment	$0.00
Testing/Survey/Lab	$0.00
Dredging/Substance Remov	$125,000.00
Total Estimate:	**$125,000.00**

Remarks: Dredge, scarify and disposal of bottom sediments of Percolation Pond #2 up to 9' deep = $125,000.00. Disposal of all debris to be done at a specified location on project site. RDS requires this signed and returned agreement before any work can begin. Cost of project of $125,000 due at time of signing of contract. Thank you.

AUTHORIZATION OF WORK AND AGREEMENT TO TERMS

* Evening and night work may be arranged at extra cost. A per diem rate will apply.
* TERMS: Payment is due in full upon completion of work. DRG Underwater Works reserves the right to file a Mechanics' Lien for non payment
* DRG Underwater Works cannot be held responsible for delays or additional costs incurred by damage caused by acts of nature, i.e. earthquakes, tornados, etc. Change orders shall be paid upon completion of that specific scope of work, regardless if the original scope of work has been completed. A progress payment schedule must be paid as each item task has been completed and approved as satisfactory. Should any disagreement arise from the project, it shall be handled in arbitration and DRG will not be held responsible for attorney fees.
* DRG Underwater Works carries General Liability coverage.

Date: 10/05/10 **Authorizing Agent:** CITY OF ADELANTO D. James Hart, P.E. City Manager

(Print Name)

(Sign Here)

RDS Underwater Works
A Division of RDS International, Inc.
15592 Computer Lane
Huntington Beach, California 92649
PHONE: (800) 870-4737 FAX: (888) 870-4737
Website: www.rdsservices.com email: greg@rdsservices.com
Structural Inspection and Repair Experts

Estimate

License #686582

This Quote is Valid for 90 Days From 10/5/2010

QUOTE NO: 5597

CUSTOMER INFORMATION

Owner/ Contact: CITY OF ADELANTO (JOHN SPONSLER)

Structure Location: 11600 AIR EXPRESSWAY
ADELANTO CA 92301

Contact Phone: (760) 246-2300 **Contact FAX:**

BILLING INFORMATION

Name: SAME **Company Name:**

Billing Address:

CA

Telephone: **Contact FAX:**

SCOPE OF WORK

Demolition/Excavation	$0.00
Packaging and Materials	$0.00
Equipment	$0.00
Testing/Survey/Lab	$0.00
Dredging/Substance Remov	$95,000.00
Total Estimate:	**$95,000.00**

Remarks: In addition to quote #5596, to be cost effective, dredge, scarify and disposal of bottom sediments of Percolation Pond #1 and Percolation Pond #3 concurrently with Pond #2 = $95,000.00. Disposal of all debris to be done at a specified location on project site. RDS requires this signed and returned agreement before this work will begin. Payment for this project will be due in full July 1, 2011 to meet the 2011 - 2012 fiscal budget year. Thank you.

AUTHORIZATION OF WORK AND AGREEMENT TO TERMS

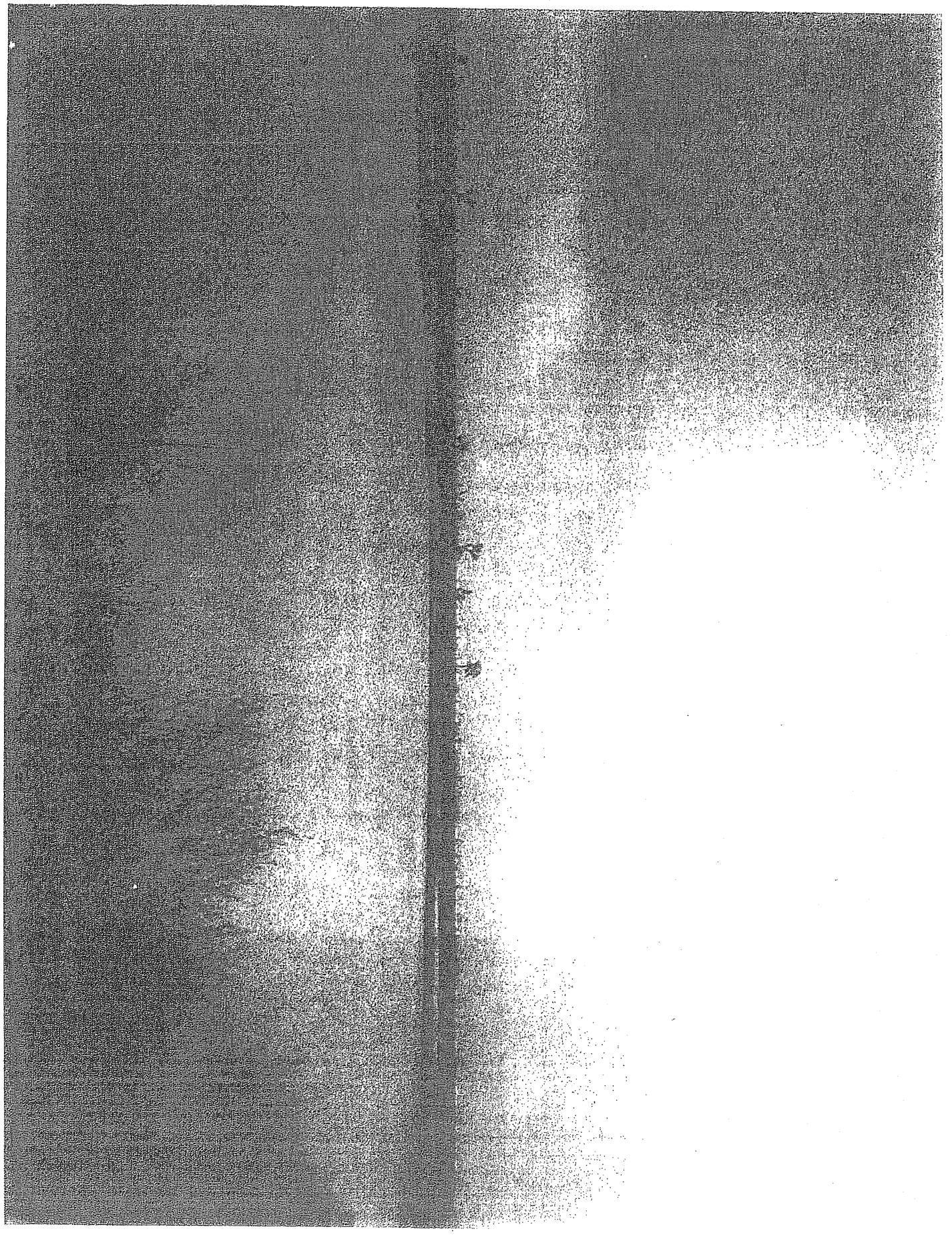
* Evening and night work may be arranged at extra cost. A per diem rate will apply.
* TERMS: Payment is due in full upon completion of work. DRG Underwater Works reserves the right to file a Mechanics' Lien for non payment
* DRG Underwater Works cannot be held responsible for delays or additional costs incurred by damage caused by acts of nature, i.e. earthquakes, tornados, etc. Change orders shall be paid upon completion of that specific scope of work, regardless if the original scope of work has been completed. A progress payment schedule must be paid as each item task has been completed and approved as satisfactory. Should any disagreement arise from the project, it shall be handled in arbitration and DRG will not be held responsible for attorney fees.
* DRG Underwater Works carries General Liability coverage.

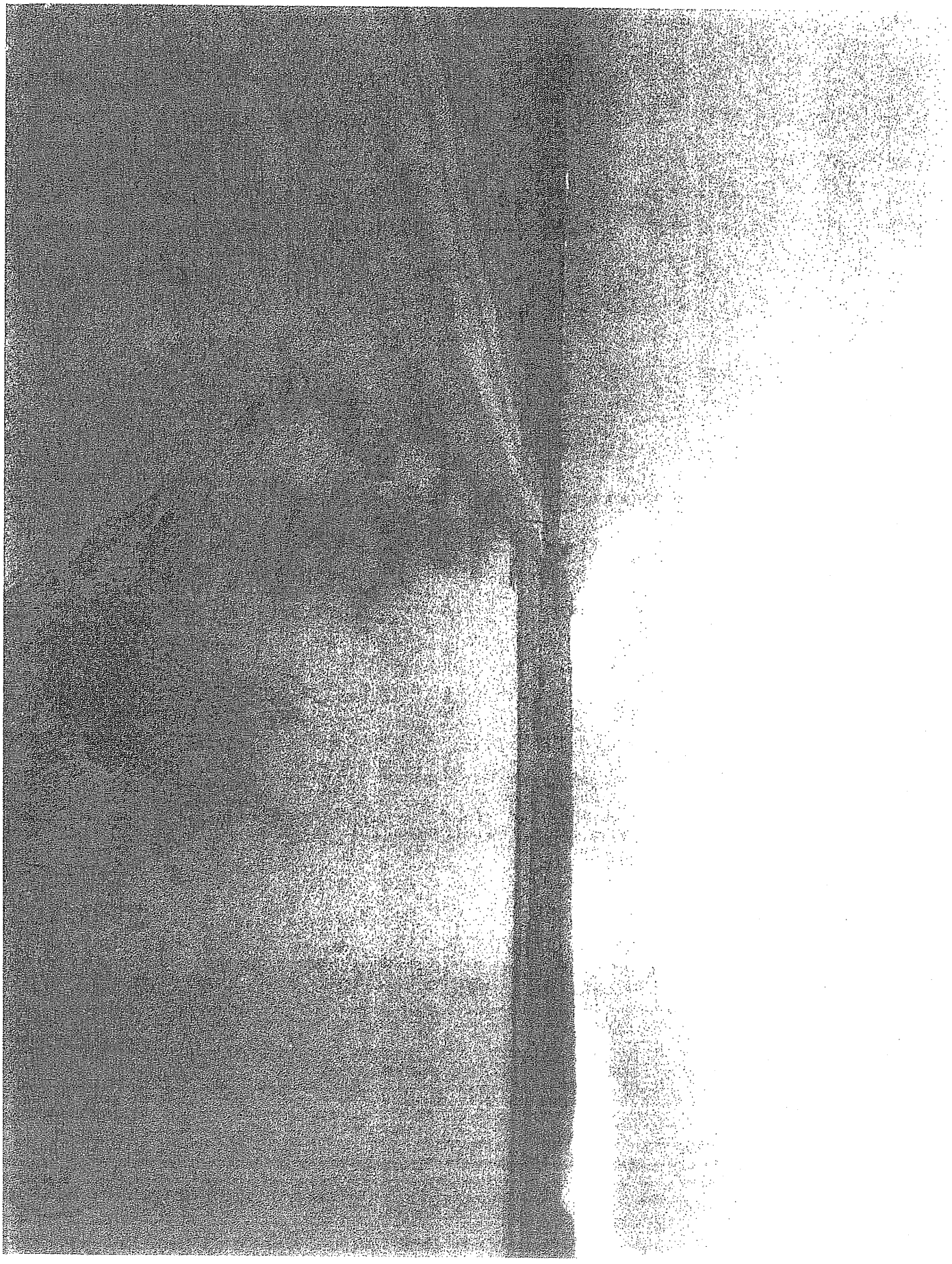
Date: 10/05/10 **Authorizing Agent:** CITY OF ADELANTO D. James Hart, Ph.D. City Manager

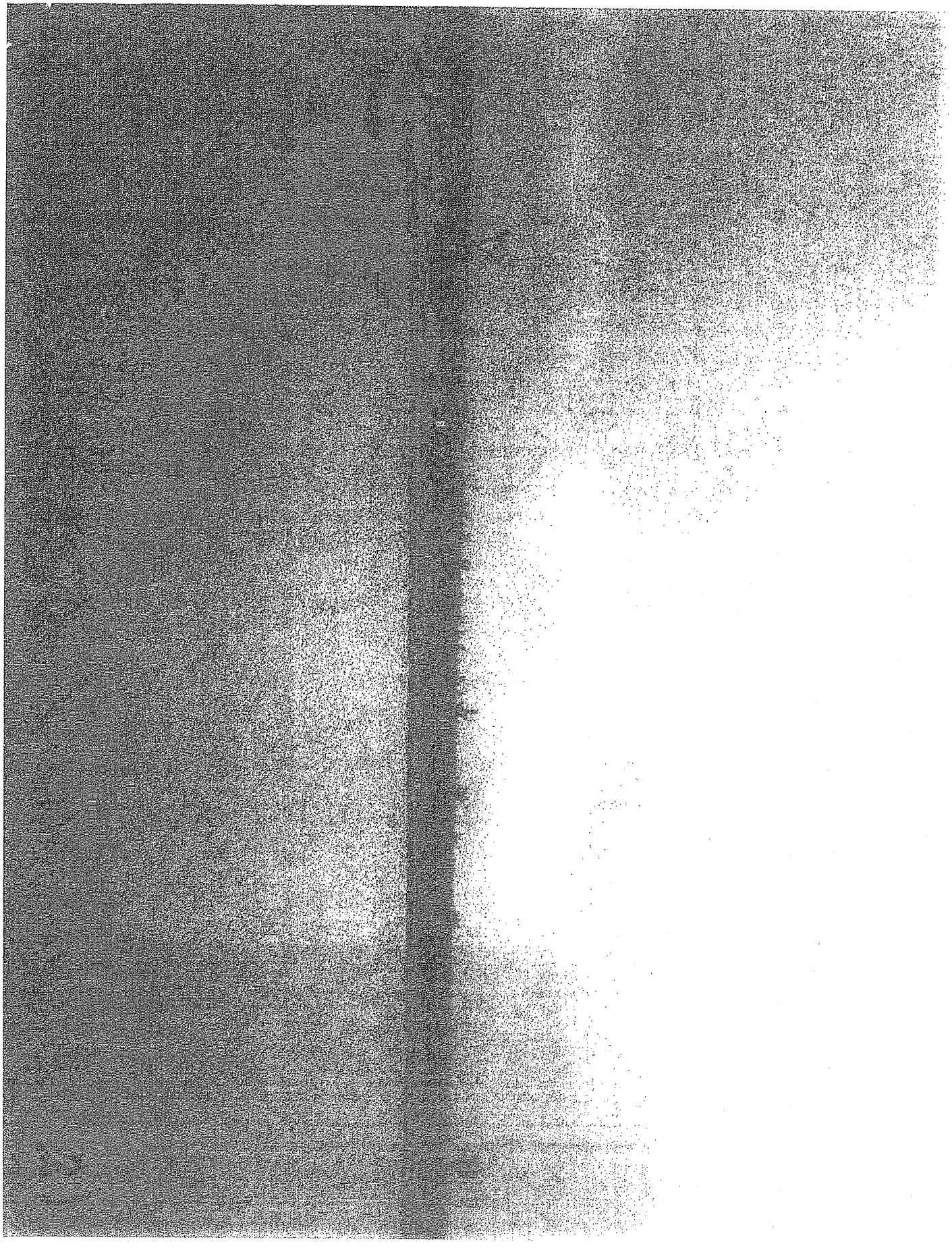
(Print Name)

(Sign Here)

1)
000056







City of Adelanto

City of Adelanto

December 23, 2010

WWTP Pond # 4 South

Spill Overflow

Report

City of Adelanto

January 4, 2011

Attention: John Morales, P.E.
State of California
California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392

Subject: **City of Adelanto WWTP Pond #4 south December 23, 2010 Spill Report**

Mr. Morales:

Attached for your review is the completed report for the spill that occurred at the Adelanto WWTP on December 23, 2010. United Water the city's wastewater operations contractor, responded to the spill and performed all required notifications of regulatory agencies as well as disinfection of the spill site.

The volume of pond water spilled to the ground is estimated at 188, 500 gallons, this is based on measurements and observations at the spill site. Additional information on how the spill volume was calculated is included in this report.

All required regulatory agencies were notified in a timely manner. The time-line for these notifications is included in this report.

The spill was determined to be caused by the three excessive daily Influent flows. A more detailed explanation of the events and proposed solutions are included in this report.

11600 Air Expressway / Air Base Road • P.O. Box 10 • Adelanto, CA 92301 • (760) 246-2300 • Fax: (760) 246-8421

If you have any questions or comments regarding this report please contact Roger Vesely. Roger may be reached at (951) 505-9234.

Sincerely,

John Sponsler
City of Adelanto Utilities Director

Discharger City of Adelanto

Company: United water

Contact Person: Roger A. Vesely

Physical Address: 19101 Jonathan St.; Adelanto Ca. 92301

Mailing Address: Adelanto WWTP ; PO Box 771; Adelanto, Ca. 92301

Telephone No.: (760) 246-1149

Date and Time of Occurrence: 12-23-10; 5:00AM

Location of Discharge "Use one or more of the following locator methods as appropriate":

Address: 19101 Jonathan St.; Adelanto Ca. 92301

Section/Township/Range:

Assessor's Parcel Number:

Map showing general site location attached? (Yes or No) Yes

Map showing aerial and vertical extent of affected soil and water,

including sampling locations, attached? (Yes or No) Yes

Person Reporting Discharge

Name: Roger A. Vesely

Agency Name: United Water

Address: Adelanto WWTP ; PO Box 771; Adelanto, Ca. 92301

Telephone No.: (760) 246-1149

Initial Verbal Notification to Regional Board

Person Notified: John Morales / (RWQCB)

Date 12/23/2010

Time 05:23am

Person who made notification: Roger Vesely

Other Agencies Notified: California Office of Emergency Services/SB County Environmental Health

Indicate agencies, dates, times, and persons notified; OES @ 5: 05:23AM

Material Discharged: Treated wastewater from Pond #4 south.

Description: Pond #4 south overflow

Hazardous discharge? (Yes or No) No

Volume of discharge: Approximately 178,000 gallons

Discharged To: Mojave Desert area

Ground/Soil? (Yes or No) Yes

How determined: Measured the spill area

Ground Water? (Yes , No or Unknown) No

Surface Water?: (Yes , No or Unknown) No

Name of water body: N/A

Other?: (Describe)

Description of Incident: Excessive rainfall to treatment plant for 3 days

Equipment involved: None

Description of events: Overflowing perculation pond observed

Cause: Operator error: (Yes /No) No

Equipment failure: (Yes /No) No

te design: No

Observed Effects of Incident or Release (Provide details for any Yes responses)

Any injuries or human exposure? (Yes or No) No

Evacuations required? (Yes or No) No

Any water system(s) shut down? (Yes or No) No

Any fish or wildlife killed, or adversely affect? (Yes or No -- include estimated number killed.) N/A

Any odors or gases (Yes or No): No

Any vegetation damaged? (Yes or No) No

Any other adverse effects on the environment, e.g., discolored water, oil sheen, explosion, etc.? (Yes or No -- describe) No

Any photographs taken? (Yes or No – if yes, indicate number, and attach (Yes) copies or indicate where copies can be inspected.) pictures attached

Samples

Samples collected? (Yes or No) Yes

If Yes, provide details on type(s) of samples, sampling locations, dates collected, etc.

Sampling locations shown on attached map? (Yes or No) Yes

Chain-of-Custody forms for samples attached? (Yes or No) Yes

Samples analyzed by a California certified laboratory? (Yes or No) Yes

Samples tested to appropriate detection levels? (Yes or No) Yes

Sample Identification Nos.: N/A

Parameters Analyzed: Fecal Coliform

Copies of all laboratory reports attached? (Yes or No) Yes

Discharge Stoppage

Describe how and when discharge was stopped. Stopped flow to pond #4 south

Containment At site

How? Water running away from pond #4S into the desert

When? That morning at 5 am

Where? Adelanto Wastewater Treatment Plant

What material? Earth

Remedial Actions (Completed and Proposed)

Decontamination/Disinfection details: Applied CL-2 Tablets (6 each)

Equipment and facility repairs: Repaired Berm to pond #4 south

Soil and water cleanup: Hold for lime addition.

Other corrective action: Secured area with caution tape and signs.

Temporary Storage of Removed Material

Where? N/A

For how long?

How stored?

Permanent Disposal

Site location:

When?

Report Of Unauthorized Waste Discharge

Information Form

Preventing Incident Recurrence (See attached sheet)

Changes proposed: See attached sheet

Time Schedule for Completing Above-Describe Work: To be determined

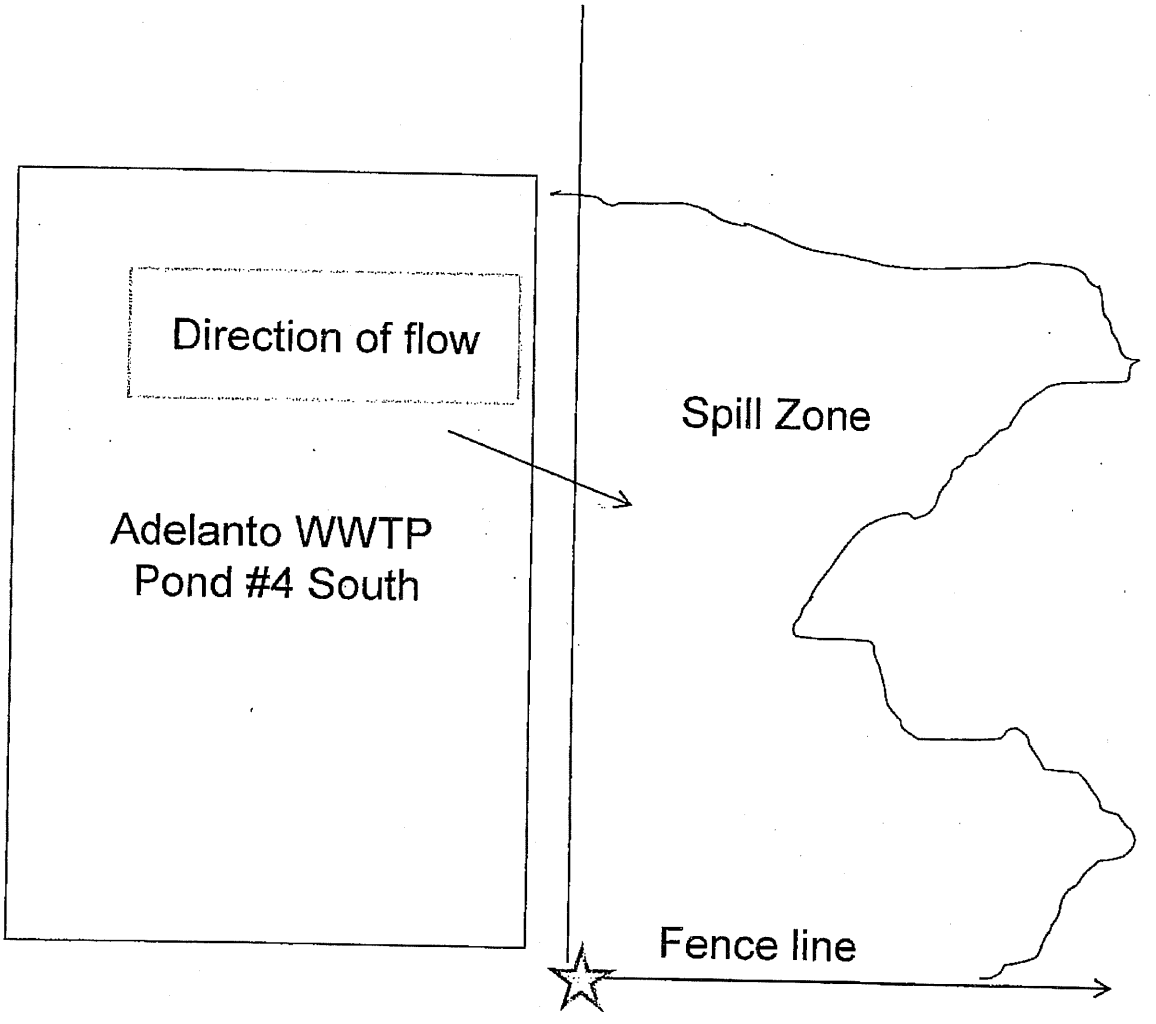
Other Comments (Attach additional sheets as needed)

Ryan a Kenly 1-4-11

Signature Date

City of Adelanto WWTP Pond #4 South Overflow December 23, 2010 Spill Site Map

GPS Coordinates: 34 35' 43.93" Lat.
117 24' 34.25" Long.



City of Adelanto WWTP Pond #4 south, December 23, 2010 Spill Regulatory Agencies Notification Time-line

State of California Office of Emergency Services

Time notified: 12-23-2010 @ 5:23 am

Lahontan Regional Water Quality Control Board

Time notified: 12-23-2010 @ 5:36 am

San Bernardino Department of Environmental Health Services

Time notified: 12-23-2010 @ 5:40 am

All notifications were made by Roger Vesely, Project Manager Adelanto Wastewater Treatment Facility.

City of Adelanto WWTP Pond #4 South
December 23, 2010 Spill Incident Report

On December 23,2010 at approximately 5:00 am United Water staff reported a pond overflow at the Adelanto Wastewater Plant. Upon arrival it was observed that treated pond water was discharging from the treatment pond, just southeast of the plant. After reviewing the operation, it was determined that the pond was overflowing the bank. The excessive Influent flow for over 3 days allowed too much water to enter the pond area. The spill site was allowed to percolate into the ground and lime will be broadcast throughout the spill site at a later date. The area east of pond #4 south was further excavated to allow for more percolation as a precautionary measure. Disinfection was with 6 each 3 " chlorine tablets placed around the water area to be treated.

City of Adelanto WWTP Pond #4 South December 23, 2010 Spill. Measures proposed to help prevent future spills

1. N/A

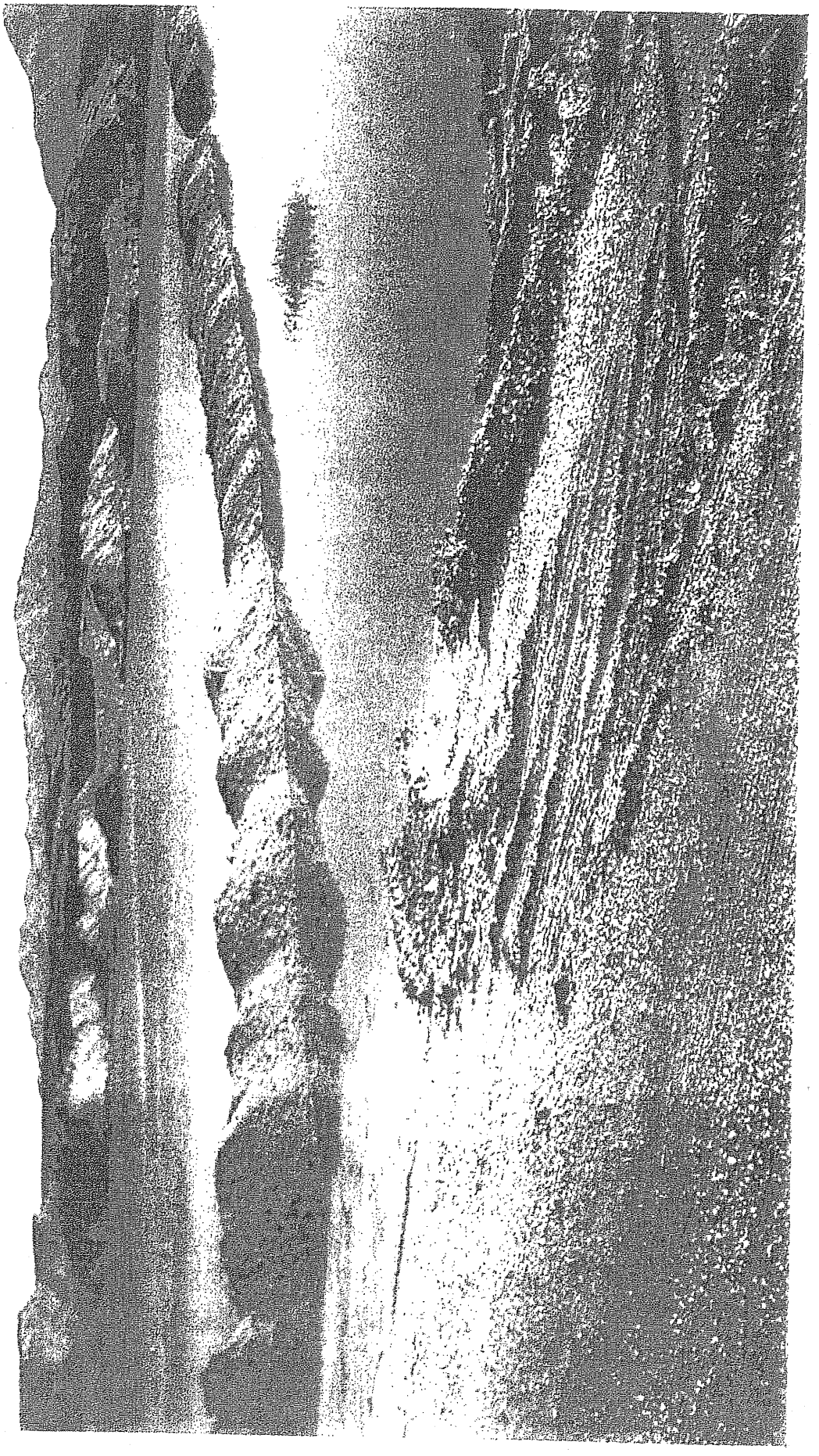
City of Adelanto WWTP Pond #4 South December 23, 2010 Spill. How Spill Volume was estimated

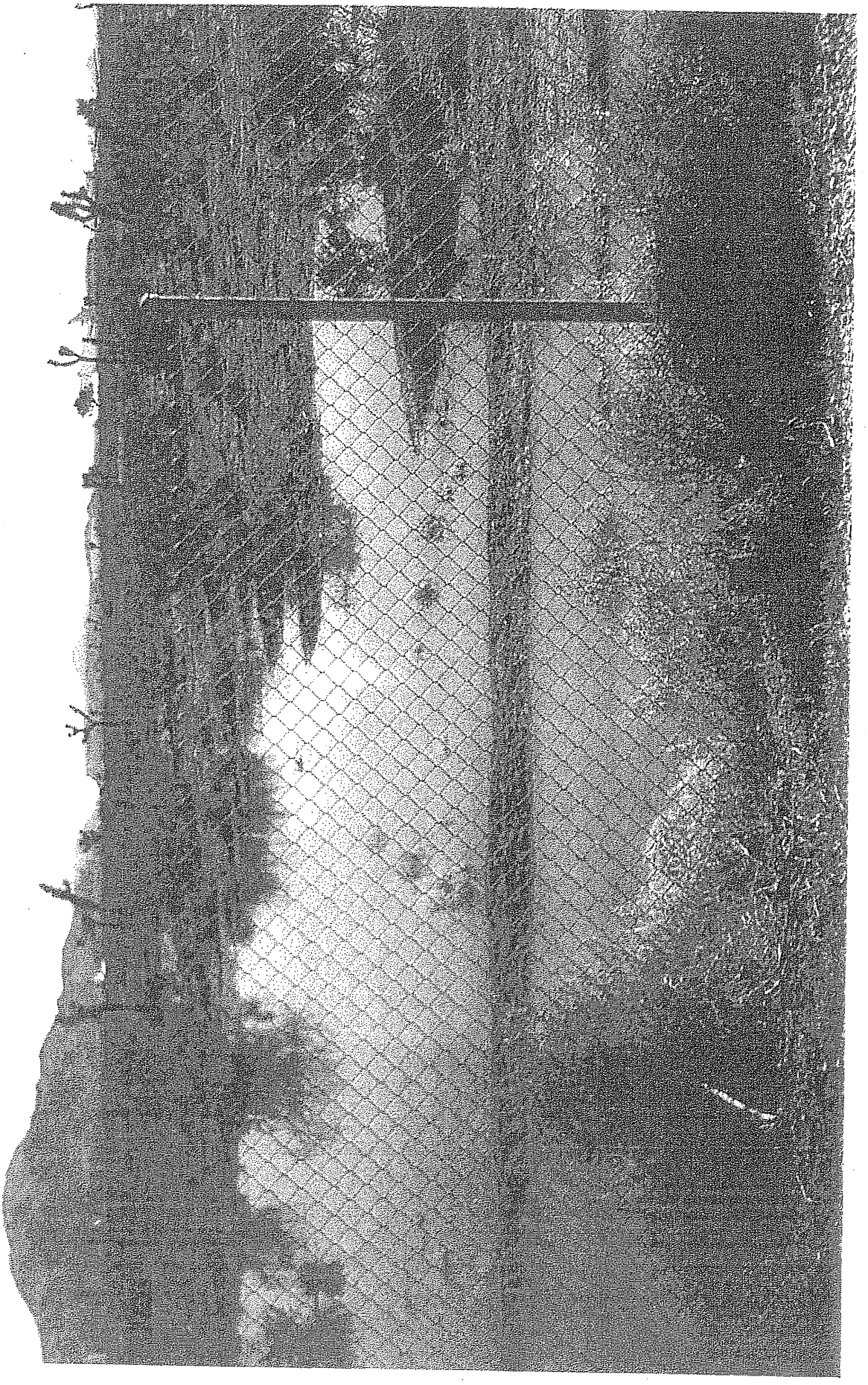
The 188,500 gallon spill volume was estimated by measuring the length of the spill and the width. The spill length was measured at 210 feet with a width average of 160 feet. The depth was determined to be not more than 8 inches deep.

210 feet X 160 feet = 33,600 sq feet

33,600 sq feet X 0.75 ft. = 25,200 cu feet

25,200 cu feet X 7.48 gal/ cu ft = **188,500 gallons**





2008-08-08 10:05:53

Clinical Laboratory of San Bernardino, Inc.

Adelanto, City of 11600 Air Expressway (P.O. Box 10) Adelanto CA, 92301	Project: Routine Sub Project: Adelanto WWTP Project Manager: John Sponsler	Work Order: 10L1675 Received: 12/23/10 17:00 Reported: 12/28/10

Pond 4 South Spill **10L1675-01 (Waste Water)** **Sample Date:** 12/23/10 10:30 **Sampler:** Roger Vesely

Analyte	Method	Result	Units	Rep. Limit	Prepared	Analyzed	Batch	Qualifier
Microbiology Analyses								
Total Coliform (15 Tube)	SM 9221	> 1600	MPN/100 mL	2	12/23/10	12/25/10	1053014	HT-06
Fecal Coliform (15 Tube)	SM 9221	> 1600	MPN/100 mL	2	12/23/10	12/25/10	1053014	HT-06

HT-06 Sample was received and analyzed outside of recommended hold time.

ND Analyte NOT DETECTED at or above the reporting limit

Nancy Benart

Nancy Benart

Admin Assistant/Project Manager

Post Office Box 329 San Bernardino, CA 92402 (909) 825-7693 Fax (909) 825-7696 ELAP Number 1088

E.S.BABCOCK&Sons,Inc.
Environmental Laboratories est 1906

Clinical Labs

6100 Quail Valley Court Riverside, CA 92507
(951) 653-3351 • FAX (951) 653-1662
www.babcocklabs.com

Chain of Custody & Sample Information Record

B526 10L1675

Client: Adelanto	Contact: Roger Vesely	Fax No.	Additional Reporting Requests
Phone No. 760 220 9345	email:		Include QC Data Package: ☒ Yes ☐ No
Project Name: Adelanto WWTP	Turn Around Time: Routine *72 Hour Rush *48 Hour Rush *24 Hour Rush		FAX Results: ☐ Yes ☐ No
Project Location: Adelanto Ca	*Lab TAT Approval: By:	*Additional Charges Apply	Email Results: ☐ Yes ☐ No
			State EDT: ☐ Yes ☐ No
			(Include Source Number in Notes)

Sampler Information

Name: Roger Vesely
Employer: United Water
Signature: Roger Vesely

Sample ID	Date	Time	# of Containers & Preservatives: Unpreserved	H_2SO_4	HCl	HNO_3	$Na_2S_2O_3$	NaOH	NaOH/Zn Acetate	NH_4Cl	MCAA	Total # of Containers	Sample Type: Routine	Resample	Special	Analysis Requested: Total & Fecal Coliform	Matrix	Notes
Pond #4 South Spill	12/23/10	10:30					X					1				X	WW	

Matrix: DW = Drinking Water; WW = Waste Water; GW = Ground Water; S = Source; SG = Sludge; L = Liquid; M = Miscellaneous

Relinquished By (sign)	Print Name / Company	Date / Time	Received By (sign)	Print Name / Company
Roger Vesely	ROGER A. VESELY / UW	12-23-10/10:37	Leslie Walker 10:37	Leslie Walker United Water
Leslie Walker	Leslie Walker UW	12/23/10 11:25		TIM Good Monitor
K. Palmer	K. Palmer	12/23/10 1700	TIRAN	CLSB.

(For Lab Use Only) Sample Integrity Upon Receipt/Acceptance Criteria

Sample(s) Submitted on Ice?	Yes	No		Sample meets laboratory acceptance criteria?	Yes	No
Custody Seal(s) Intact?	Yes	No	NA	Permission to continue:	Yes	No
Sample(s) Intact?	Yes	No		Deviation/Notes:		
Temperature: ____ °C	☐ Cooler Blank			Signature/Date:		

Lab No. ____

Logged in By/Date: ____

Page ____ of ____

Rev 3/09

000079

DEC 13 2010

First American Title Company
323 Court Street
San Bernardino, CA 92401
(909)380-8776
Fax - (866)232-4615

Adelanto Public Utility Authority
ATTN: D. JAMES HART
11600 Air Expressway
Adelanto, CA 92301

December 09, 2010

Escrow No.: SSB-3641177 (CZJR)

Re: Seller: Don W. Lee and Huncha Lee Revocable Trus and Young Hee Lee
Buyer: Adelanto Public Utility Authority
Property: VACANT LAND APN# 0459-062-27 & 30
Adelanto, CA

Dear Valued Customer:

The above referenced transaction was recorded on **December 07, 2010**. Enclosed please find the following for your records:
*(Keep these instruments in a safe place as some of them **cannot** be replaced.)*

- Our Check in the amount of **$1,098.28** representing your refund
- Final Closing Statement
- C/C of recorded docs

PLEASE TAKE THE TIME TO READ THE FOLLOWING INFORMATION REGARDING PROPERTY TAXES.

The fiscal year begins July 1 and ends June 30 of the following year. The first installment of taxes is due November 1, and is delinquent December 10. The second installment of taxes is due February 1, and is delinquent April 10. If you do not receive a TAX BILL one (1) month prior to the delinquency date, a written request for same should be made to the County Tax Collector. Be sure to include the Property Address and/or Assessors Parcel Number with your request. Where lenders impound funds for payment of taxes, they usually secure the Tax Bill.

Should you have any questions or need further assistance, please contact the undersigned. ***If checks are included in this package, please negotiate as soon as possible.***

Sincerely,

Cheryl Zanini/Jeannie Rouse
Escrow Officer
czanini@firstam.com

CZJR/CZ

First American Title Company

323 Court Street • San Bernardino, CA 92401

Buyer's Final Settlement Statement

Property: VACANT LAND APN# 0459-062-27 & 30, Adelanto, CA

File No: SSB-3641177
Officer: Cheryl Zanini/ Jeannie Rouse/CZ
New Loan No:
Settlement Date: 12/07/2010
Disbursement Date: 12/07/2010
Print Date: 12/9/2010, 4:04 PM

Buyer: Adelanto Public Utility Authority
Address: 11600 Air Expressway, Adelanto, CA 92301
Seller: Don W. Lee and Huncha Lee Revocable Trus; Young Hee Lee
Address:

Charge Description	Buyer Charge	Buyer Credit
Consideration:		
Total Consideration	425,000.00	
Deposits in Escrow:		
Receipt No. 1291110692 on 12/01/2010 by Adelanto Public Utility Authority		428,883.59
Prorations:		
County Taxes APN#0459-062-27 12/07/10 to 01/01/11 @$1349.00/yr	92.40	
County Taxes- APN#0459-062-30 12/07/10 to 01/08/11 @$1618.64/yr	141.91	
Title/Escrow Charges to:		
Escrow Fee to First American Title Company	1,100.00	
ALTA Std Owner Policy 1402.06 (6-17-06) to First American Title Company	1,216.00	
Document Preparation- Interspousal Grant Deed to First American Title Company	50.00	
Document Prep. G/Deed- Young Ok Cho- oung Hee Lee to First American Title Company	50.00	
Escrow Fee (Additional) to First American Title Company	90.00	
Record Deed - Young Ok Cho - Young Hee Lee	24.00	
Record Interspousal Grant Deed	21.00	
Cash (From) (X To) Borrower	1,098.28	
Totals	428,883.59	428,883.59

Electronically Recorded in Official Records, County of San Bernardino 12/07/2010 10:08 AM AC

LARRY WALKER
Auditor/Controller - Recorder
838 First American Title Company

Doc #: 2010-0518168 Titles: 1 Pages: 4

Fees	24.00
Taxes	.00
Other	.00
PAID	24.00

RECORDING REQUESTED BY
First American Title Company
Mail Tax Bill to:
AND WHEN RECORDED MAIL DOCUMENT TO:
Young Hee Lee
528 N. Hobart Blvd. #11
Los Angeles, CA 90004

Space Above This Line for Recorder's Use Only

3641177-22
A.P.N.: 0459-062-27-0-000

File No.: SSB-3641177 (CZJR)

GRANT DEED

The Undersigned Grantor(s) declare(s): DOCUMENTARY TRANSFER TAX **$-0-**; CITY TRANSFER TAX **$**;
SURVEY MONUMENT FEE $

(*) This is a conveyance by reason of inter vivos gift or by reason of death of a person, that is outright to, or in trust for the benefit of, a person or entity and is EXEMPT from the Imposition of the Documentary Transfer Tax pursuant to § 11930 of the Revenue and Taxation Code.

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,
YOUNG OK CHO, a married woman as her sole and separate property who acquired title as YOUNG OK CHO, an unmarried woman

hereby GRANT(s) to **YOUNG HEE LEE, a single woman**

the following described property in the City of **Adelanto**, County of **San Bernardino**, State of **California**:

See Exhibit A attached hereto for legal description.

Mail Tax Statements To: **SAME AS ABOVE**

A.P.N.: 0459-062-27-0-000

File No.: SSB-3641177 (CZJR)

Dated: **11/12/2010**

YOUNG OK CHO

A.P.N.: 0459-062-27-0-000 File No.: SSB-3641177 (CZJR)

STATE OF CALIFORNIA)SS
COUNTY OF Los Angeles)

On November 19, 2010, before me, SAMANTHA KANG, Notary Public, personally appeared YOUNG OE CHO, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/~~are~~ subscribed to the within instrument and acknowledged to me that ~~he~~/she/~~they~~ executed the same in ~~his~~/her/~~their~~ authorized capacity(~~ies~~), and that by ~~his~~/her/~~their~~ signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

SAMANTHA KANG
Commission # 1872506
Notary Public - California
Los Angeles County
My Comm. Expires Dec 31, 2013

Signature Samantha Kang

My Commission Expires: Dec 31, 2013. *This area for official notarial seal*

Notary Name: SAMANTHA KANG. Notary Phone: 213-389-1195
Notary Registration Number: 1872506 County of Principal Place of Business: Los Angeles

A.P.N.: 0459-062-27-0-000

File No.: SSB-3641177 (CZJR)

EXHIBIT A

PARCEL A: (APN: 0459-062-27)

PARCEL 1 OF PARCEL MAP NO. 4740, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER PLAT RECORDED IN BOOK 44 OF PARCEL MAPS, PAGES 22 AND 23, RECORDS OF SAID COUNTY.

PARCEL B: (APN: 0459-062-30)

PARCEL 3 OF PARCEL MAP NO. 4740, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER PLAT RECORDED IN BOOK 44 OF PARCEL MAPS, PAGES 22 AND 23, RECORDS OF SAID COUNTY.

Electronically Recorded in Official Records, County of San Bernardino 12/07/2010 10:08 AM AC

LARRY WALKER
Auditor/Controller - Recorder
838 First American Title Company

Doc #: 2010-0518167 Titles: 1 Pages: 3

Fees	21.00
Taxes	.00
Other	.00
PAID	21.00

RECORDING REQUESTED BY
First American Title Company
Mail Tax Bill To:
AND WHEN RECORDED MAIL DOCUMENT TO:
Young Ok Cho
c/o Young Hee Lee
528 N Hobart Blvd
Los Angeles, CA 90004

Space Above This Line for Recorder's Use Only

3641177-22
A.P.N.: 0459-062-27-0-000

File No.: SSB-3641177 (CZJR)

INTERSPOUSAL TRANSFER GRANT DEED

(Excluded from Reappraisal under California Constitution Article 13A ☐ 1 et seq.)

The Undersigned Grantor(s) declare(s): DOCUMENTARY TRANSFER TAX **$-0-**; CITY TRANSFER TAX **$**;
SURVEY MONUMENT FEE **$**
This conveyance is solely between spouses and establishes the sole and separate property of a spouse and is EXEMPT from the imposition of the Documentary Transfer Tax pursuant to Section 11930 and/or 11911 et seq. of the Revenue and Taxation Code.

This is an Interspousal Transfer and not a change in ownership under Section 63 of the Revenue and Taxation Code, and transfer by Grantor(s) is excluded from reappraisal as a creation, transfer, solely between the spouses of any co-owner's interest.

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, **CHARLIE CHO, a married man, husband of the Grantee**

hereby GRANTS to **YOUNG OK CHO, a married woman as her sole and separate property**

the following described property in the City of **Adelanto**, County of **San Bernardino**, State of **California**:

See Exhibit A attached hereto for legal description.

It is the express intent of the Grantor, being the spouse of the Grantee, to convey all right, title and interest of the Grantor, community or otherwise, in and to the herein described property to the Grantee as his/her sole and separate property.

Dated: 11/12/2010

X Charlie
CHARLIE CHO

Mail Tax Statements To: **SAME AS ABOVE**

A.P.N.: **0459-062-27-0-000** Interspousal Transfer Grant Deed - continued File No.: **SSB-3641177 (CZJR)**

STATE OF California)SS
COUNTY OF Los Angeles)

On November 22, 2010, before me, Jamie J. Yi, Notary Public, personally appeared Charlie Cho, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

JAMIE J. YI
Commission # 1882907
Notary Public - California
Los Angeles County
My Comm. Expires Mar 15, 2014

Signature

My Commission Expires: Mar. 15, 2014 *This area for official notarial seal*

Notary Name: Jamie J. Yi
Notary Registration Number: 1882907
Notary Phone: 818-774-0522
County of Principal Place of Business: Los Angeles

EXHIBIT A

PARCEL A: (APN: 0459-062-27)

PARCEL 1 OF PARCEL MAP NO. 4740, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER PLAT RECORDED IN BOOK 44 OF PARCEL MAPS, PAGES 22 AND 23, RECORDS OF SAID COUNTY.

PARCEL B: (APN: 0459-062-30)

PARCEL 3 OF PARCEL MAP NO. 4740, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER PLAT RECORDED IN BOOK 44 OF PARCEL MAPS, PAGES 22 AND 23, RECORDS OF SAID COUNTY.

JAN 06 2011

Electronically Recorded in Official Records, County of San Bernardino 12/07/2010 10:08 AM AC

LARRY WALKER
Auditor/Controller - Recorder
838 First American Title Company

Doc #: 2010-0518169 Titles: 1 Pages: 4

Fees	.00
Taxes	.00
Other	.00
PAID	.00

RECORDING REQUESTED BY
First American Title Company
Mail TAX Bill TO:
AND WHEN RECORDED MAIL DOCUMENT TO:
Adelanto Public Utility Authority
ATTN: D. JAMES HART
11600 Air Expressway
Adelanto, CA 92301

Space Above This Line for Recorder's Use Only

3641177-22

A.P.N.: 0459-062-27-0-000

File No.: SSB-3641177 (CZJR)

* No recording fee per Govt Code 6103

GRANT DEED

No tax due per Govt Code 11922

The Undersigned Grantor(s) Declare(s): DOCUMENTARY TRANSFER TAX $ ~~0.00~~; CITY TRANSFER TAX $; SURVEY MONUMENT FEE $

[X] computed on the consideration or full value of property conveyed, OR

[ ] computed on the consideration or full value less value of liens and/or encumbrances remaining at time of sale,

[ ] unincorporated area; [X] City of **Adelanto**, and

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, **Don W. Lee and Huncha Lee, Trustees of The Don W. Lee and Huncha Lee Revocable 1986 Trust and Young Hee Lee, a single woman**

hereby GRANTS to **Adelanto Public Utility Authority, a joint powers authority**

the following described property in the City of **Adelanto**, County of **San Bernardino**, State of **California**:

PARCEL A: (APN: 0459-062-27)

PARCEL 1 OF PARCEL MAP NO. 4740, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER PLAT RECORDED IN BOOK 44 OF PARCEL MAPS, PAGES 22 AND 23, RECORDS OF SAID COUNTY.

PARCEL B: (APN: 0459-062-30)

PARCEL 3 OF PARCEL MAP NO. 4740, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER PLAT RECORDED IN BOOK 44 OF PARCEL MAPS, PAGES 22 AND 23, RECORDS OF SAID COUNTY.

See certificate of acceptance

Mail Tax Statements To: **SAME AS ABOVE**

RECORDING REQUESTED BY
First American Title Company
Mail TAX Bill TO:
AND WHEN RECORDED MAIL DOCUMENT TO:
Adelanto Public Utility Authority
ATTN: D. JAMES HART
11600 Air Expressway
Adelanto, CA 92301

Space Above This Line for Recorder's Use Only

3641177-22

A.P.N.: 0459-062-27-0-000

File No.: SSB-3641177 (CZJR)

* No recording fee per Govt Code 6103

GRANT DEED

No tax due per Govt Code 11922

The Undersigned Grantor(s) Declare(s): DOCUMENTARY TRANSFER TAX $ ~~0.0~~; CITY TRANSFER TAX $;
SURVEY MONUMENT FEE $

[X] computed on the consideration or full value of property conveyed, OR
[ ] computed on the consideration or full value less value of liens and/or encumbrances remaining at time of sale,
[ ] unincorporated area; [X] City of **Adelanto**, and

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, **Don W. Lee and Huncha Lee, Trustees of The Don W. Lee and Huncha Lee Revocable 1986 Trust and Young Hee Lee, a single woman**

hereby GRANTS to **Adelanto Public Utility Authority, a joint powers authority**

the following described property in the City of **Adelanto**, County of **San Bernardino**, State of **California**:

PARCEL A: (APN: 0459-062-27)

PARCEL 1 OF PARCEL MAP NO. 4740, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER PLAT RECORDED IN BOOK 44 OF PARCEL MAPS, PAGES 22 AND 23, RECORDS OF SAID COUNTY.

PARCEL B: (APN: 0459-062-30)

PARCEL 3 OF PARCEL MAP NO. 4740, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER PLAT RECORDED IN BOOK 44 OF PARCEL MAPS, PAGES 22 AND 23, RECORDS OF SAID COUNTY.

See certificate of acceptance.

Mail Tax Statements To: **SAME AS ABOVE**

Grant Deed - continued

Date: 11/16/2010

A.P.N.: 0459-062-27-0-000 File No.: SSB-3641177 (CZJR)

Dated: 11/16/2010

Don W. Lee and Huncha Lee, Trustees of
The Don W. Lee and Huncha Lee Revocable
1986 Trust

Don W Lee, Trustee

Huncha Lee, Trustee

Signed In Counterpart

Young Hee Lee

STATE OF California)SS
COUNTY OF Los Angeles)

On November 18th 2010, before me Eric Pharaoh Jennings Notary Public, ~~Notary Public~~, personally appeared Don W Lee M.D. & Huncha Lee, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature

ERIC PHARAOH JENNINGS
COMM. #1803739
Notary Public - California
Los Angeles County
My Comm. Expires Jul. 5, 2012

My Commission Expires: 7/5/2012

This area for official notarial seal

Notary Name: Eric Pharaoh Jennings
Notary Registration Number: 1803739

Notary Phone: 323 644 9500
County of Principal Place of Business: Los Angeles

Date: **11/16/2010**

A.P.N.: 0459-062-27-0-000

File No.: SSB-3641177 (CZJR)

Dated: **11/16/2010**

Don W. Lee and Huncha Lee, Trustees of
The Don W. Lee and Huncha Lee Revocable
1986 Trust

Don W Lee, Trustee

Huncha Lee, Trustee

Young Hee Lee

Signed In Counterpart

STATE OF CALIFORNIA)SS
COUNTY OF Los Angeles)

On November 19, 2010, before me, SAMANTHA KANG., Notary Public, personally appeared YOUNG HEE LEE, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/~~are~~ subscribed to the within instrument and acknowledged to me that ~~he~~/she/~~they~~ executed the same in ~~his~~/her/~~their~~ authorized capacity(~~ies~~), and that by ~~his~~/her/~~their~~ signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature

SAMANTHA KANG
Commission # 1872506
Notary Public - California
Los Angeles County
My Comm. Expires Dec 31, 2013

My Commission Expires: Dec 31, 2013.

This area for official notarial seal

Notary Name: SAMANTHA KANG.
Notary Registration Number: 1872506.

Notary Phone: 213-389-1195
County of Principal Place of Business: Los Angeles

CERTIFICATE OF ACCEPTANCE

This to certify that the interest in real property conveyed by the foregoing Grant Deed, from the Don W. Lee and Huncha Lee, Trustees of The Don W. Lee and Huncha Lee Revocable 1986 Trust and Young Hee Lee, a single woman to the Adelanto Public Utility Authority ("Authority") is hereby accepted by the undersigned officer of the Authority, on behalf of the Authority, pursuant to the authority conferred upon him by the Board of Commissioners on September 29, 2010, and the Authority consents to the recordation thereof by its undersigned duly authorized officer.

SECRETARY OF THE ADELANTO PUBLIC UTILITY AUTHORITY, a joint powers authority

By: D. James Hart, Ph.D.
Its: Executive Director

Dated: 11/16/10

ATTEST:
Cynthia M. Hou
SECRETARY OF THE ADELANTO PUBLIC UTILITY AUTHORITY

State of California)
County of San Bernardino)

On November 16, 2010, before me, Rachel Carranza, (insert name and title of the officer) Notary Public, personally appeared D. James Hart, Ph.D., Executive Director who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

RACHEL CARRANZA
Commission # 1791383
Notary Public - California
San Bernardino County
My Comm. Expires Feb 18, 2012

Signature Rachel Carranza (Seal)

2284/026150-0001
1096064.01 a11/16/10

BOE-502-A (Front) Rev. 10 (8-07)

PRELIMINARY CHANGE OF OWNERSHIP REPORT

[To be completed by transferee (buyer) prior to transfer of subject property in accordance with Section 480.3 of the Revenue and Taxation Code.] A Preliminary Change of Ownership Report must be filed with each conveyance in the County Recorder's Office for the county where the property is located; this particular form may be used in all 58 counties of California.

THIS REPORT IS NOT A PUBLIC DOCUMENT

SELLER/TRANSFEROR:	**Don W. Lee and Huncha Lee Revocable Trust, Young Hee Lee**
BUYER/TRANSFEREE:	**Adelanto Public Utility Authority**
ASSESSOR'S PARCEL NUMBER(S):	**0459-062-27-0-000**
PROPERTY ADDRESS OR LOCATION:	**VACANT LAND APN# 0459-062-27 & 30** **Adelanto, CA**
MAIL TAX INFORMATION TO:	Name: **Adelanto Public Utility Authority** Address: **11600 Air Expressway, Adelanto, CA 92301** Phone Number (8 a.m. – 5 p.m.):

FOR RECORDER'S USE ONLY

NOTICE: A lien for property taxes applies to your property on January 1 of each year for the taxes owing in the following fiscal year, July 1 through June 30. One-half of these taxes is due November 1, and one-half is due February 1. The first installment becomes delinquent on December 10, and the second installment becomes delinquent on April 10. One tax bill is mailed before November 1 to the owner of record. **You may be responsible for the current or upcoming property taxes even if you do not receive the tax bill.**
The property, which you acquired, may be subject to a supplemental assessment in an amount to be determined by the County Assessor. For further information on your supplemental roll obligation, please call the County Assessor's Office.

PART I: TRANSFER INFORMATION *(please answer all questions)*

Yes	No		
☐	☒	A.	Is this transfer solely between husband and wife (addition of a spouse, death of a spouse, divorce settlement, etc.)?
☐	☒	B.	Is this transaction only a correction of the name(s) of the person(s) holding title to the property (for example, a name change upon marriage)? Please explain _____
☐	☒	C.	Is this document recorded to create, terminate, or reconvey a lender's interest in the property?
☐	☒	D.	Is this transaction recorded only as a requirement for financing purposes or to create, terminate, or reconvey a security interest (e.g. cosigner)? Please explain _____
☐	☒	E.	Is this document recorded to substitute a trustee of trust, mortgage, or other similar document?
☐	☒	F.	Did this transfer result in the creation of a joint tenancy in which the seller (transferor) remains as one of the joint tenants?
☐	☒	G.	Does this transfer return property to the person who created the joint tenancy (original transferor)?
		H.	Is this transfer of property:
☐	☒		1. to a revocable trust that may be revoked by the transferor and is for the benefit of the ☐ transferor ☐ transferor's spouse?
☐	☒		2. to a trust that may be revoked by the Creator/Grantor who is also a joint tenant, and which names the other joint tenant(s) as beneficiaries when the Creator/Grantor dies?
☐	☒		3. to an irrevocable trust for the benefit of the ☐ Creator/Grantor and/or ☐ Grantor's spouse?
☐	☒		4. to an irrevocable trust from which the property reverts to the Creator/Grantor within 12 years?
☐	☒	I.	If this property is subject to a lease, is the remaining lease term 35 years or more including written options?
☐	☒	*J.	Is this a transfer between ☐ parent(s) and child(ren)? ☐ or from grandparent(s) to grandchild(ren)?
☐	☒	*K.	Is this transaction to replace a principal residence by a person 55 years of age or older? Within the same county? ☐ Yes ☐ No
☐	☒	*L.	Is this transaction to replace a principal residence by a person who is severely disabled as defined by Revenue and Taxation Code Section 69.5? Within the same county ☐ Yes ☐ No
☐	☒	M.	Is this transfer solely between domestic partners currently registered with the California Secretary of State?

*If you checked yes to J, K, or L, you may qualify for a property tax reassessment exclusion, which may result in lower taxes on your property. **If you do not file a claim, your property will be reassessed.**

Please provide any other information that would help the Assessor to understand the nature of the transfer.

If the conveying document constitutes an exclusion from a change in ownership as defined in Section 62 of the Revenue and Taxation Code for any reason other than those listed above, set forth the specific exclusions claimed: _____.

Please answer all questions in each section. If a question does not apply, indicate with 'N/A.' Sign and Date at bottom of second page.

PART II: OTHER TRANSFER INFORMATION

A. Date of transfer if other than recording date _____

B. Type of transfer. *(please check appropriate box):*

☒ Purchase ☐ Foreclosure ☐ Gift ☐ Trade or Exchange ☐ Merger, Stock, or Partnership Acquisition

☐ Contract of Sale – Date of Contract _____

☐ Inheritance – Date of Death _____ ☐ Other (*please explain*): _____

☐ Creation of a Lease ☐ Assignment of a Lease ☐ Termination of a Lease ☐ Sale/Leaseback

☐ Date lease began _____

☐ Original term in years (including written options) _____

☐ Remaining term in years (including written options) _____

Monthly Payment _____ Remaining Term: _____

C. Was only a partial interest in the property transferred? ☐ Yes ☒ No If **yes** indicate the percentage transferred _____ %.

BOE-502-A (Back) Rev. 10 (8-07)

Please write Assessor's Parcel Number(s): **0459-062-27-0-000**

Please answer, to the best of your knowledge, all applicable questions, then sign and date. If a question does not apply, indicate with 'N/A.'

PART III: PURCHASE PRICE AND TERMS OF SALE

A. CASH DOWN PAYMENT OR value of trade or exchange *(excluding closing costs)* Amount $ 425,000.00

B. FIRST DEED OF TRUST @ _____% interest for _____ years. Pymts./Mo. = $_____ (Prin. & Int. only) Amount $ **0.00**

☐ FHA(_____Discount Points) ☐ Fixed rate ☐ New loan
☐ Conventional ☐ Variable rate ☐ Assumed existing loan balance
☐ VA(_____Discount Points) ☐ All inclusive D.T. ($_____ Wrapped) ☐ Bank or savings & loan
☐ Cal-Vet ☐ Loan carried by seller ☐ Finance company
Balloon payment ☐ Yes ☐ No Due Date_____ Amount $ _____

C. SECOND DEED OF TRUST @ _____% interest for _____ years. Pymts./Mo. = $_____ (Prin. & Int. only) Amount $ _____

☐ Bank or savings & loan ☐ Fixed rate ☐ New loan
☐ Loan carried by seller ☐ Variable rate ☐ Assumed existing loan balance
Balloon payment ☐ Yes ☐ No Due Date_____ Amount $ _____

D. OTHER FINANCING – Is other financing involved not covered in (b) and (c) above? ☐ Yes ☐ No Amount $ _____

Type_____ @ _____% interest for _____ years. Pymts./Mo. = $_____ (Prin. & Int. only)

☐ Bank or savings & loan ☐ Fixed rate ☐ New loan
☐ Loan carried by seller ☐ Variable rate ☐ Assumed existing loan balance
Balloon payment ☐ Yes ☐ No Due Date_____ Amount $ _____

E. WAS AN IMPROVEMENT BOND ASSUMED BY THE BUYER? ☐ Yes ☐ No Outstanding Balance: Amount $ _____

F. TOTAL PURCHASE PRICE *(or acquisition price, if traded or exchanged, include real estate commission if paid)*
TOTAL ITEMS A THROUGH E **$ 425,000.00**

G. PROPERTY PURCHASED ☐ Through a broker ☐ Direct from seller ☐ From a family member ☐ Other *(please explain)*:_____

If purchased through a broker, provide broker's name and phone number:_____

Please explain any special terms, seller concessions, or financing and any other information that would help the Assessor understand the purchase price and terms of sale: _____

PART IV: PROPERTY INFORMATION

A. TYPE OF PROPERTY TRANSFERRED:

☐ Single-family residence ☐ Agricultural ☐ Timeshare
☐ Multiple-family residence (no. of units:_____) ☐ Co-op/Own-your-own ☐ Manufactured home
☐ Commercial/Industrial ☐ Condominium ☐ Unimproved lot
☐ Other (Description: i.e., timber, mineral, water rights, etc._____)

B. IS THIS PROPERTY INTENDED AS YOUR PRINCIPAL RESIDENCE? ☐ Yes ☐ No
If **yes**, enter date of occupancy _____ (month) /_____ (day) , 20_____ (year) or intended occupancy _____ (month) /_____ (day) , 20_____ (year)

C. IS PERSONAL PROPERTY INCLUDED IN PURCHASE PRICE (i.e., furniture, farm equipment, machinery, etc.) (other than a manufactured home subject to local property tax)? ☐ Yes ☐ No
If **yes**, enter the value of the personal property included in the purchase price $_____ *(Attach itemized list of personal property.)*

D. IS A MANUFACTURED HOME INCLUDED IN PURCHASE PRICE? ☐ Yes ☐ No
If **yes**, how much of the purchase price is allocated to the manufactured home? _____
Is the manufactured home subject to local property tax? ☐ Yes ☐ No What is the decal number? _____

E. DOES THE PROPERTY PRODUCE INCOME? ☐ Yes ☐ No If **yes**, is the income from:

☐ Lease/Rent ☐ Contract ☐ Mineral Rights ☐ Other *(please explain)*:_____

F. WHAT WAS THE CONDITION OF PROPERTY AT THE TIME OF SALE?

☐ Good ☐ Average ☐ Fair ☐ Poor

Please explain the physical condition of the property and provide any other information (such as restrictions, etc.) that would assist the Assessor in determining the value of the property:

CERTIFICATION

OWNERSHIP TYPE	(√)
Proprietorship	☐
Partnership	☐
Corporation	☐
Other _____	☐

I certify that the foregoing is true, correct and complete to the best of my knowledge and belief. This declaration is binding on each and every co-owner and/or partner.

NAME OF NEW OWNER/CORPORATE OFFICER **Adelanto Public Utility Authority**	TITLE Executive Director
SIGNATURE OF NEW OWNER/CORPORATE OFFICER	DATE 11/16/10
NAME OF ENTITY *(typed or printed)*	FEDERAL EMPLOYER ID NUMBER 95-2673990
ADDRESS *(typed or printed)* **11600 Air Expressway, Adelanto, CA 92301**	PHONE NUMBER (8 a.m. - 5 p.m.) / E-MAIL ADDRESS *(optional)*

(Note: The Assessor may contact you for additional information)
If a document evidencing a change of ownership is presented to the recorder for recordation without the concurrent filing of a preliminary change of ownership report, the recorder may charge an additional fee of twenty dollars ($20).

City of Adelanto

Department of Public Works/Engineering

October 31, 2007

California Regional Water Quality
Control Board (Lahontan Region)
14440 Civic Drive, Suite 200
Victorville, CA 92392-2306

Attn: Mr. Mike Plaziak
Supervising Engineering Geologist

RE: Interim Action Plan (IAP), City of Adelanto
Follow-up on City's Response to Lahontan RWQCB Cease and Desist Order (CDO)

Dear Mr. Plaziak:

As a follow up to the Lahontan Regional Water Quality Control Board's (hereinafter referred to as RWQCB) Oreder No. R6V-2007-0024, City of Adelanto is pleased to present this Interim Action Plan to identify corrective actions that the City had implemented to reduce BOD in the effluent.

(1) Interim Action Plan: When City staff prepared the mitigation response in August of 2007 prior to the CDO hearing, we have identified response-actions and completion dates in a Project Schedule. One such action is the auxiliary aeration system. In discussing with treatment plant operations personnel from Aquarion Operation Service, we considered floating surface aerator to air-jet system. These options presented difficulties and safety concerns for implementation. However, the chief plant operator brought to our attention that the existing air diffusion system (the current Biolac Treatment facility) might not be operating at full capacity as some of the aeration diffusers might be blocked. The final decision was to purchase the necessary number of replacement aeration diffusers. During the course of replacing the aeration diffusers (using crane assistance), plant staff ran into problem with the pond liner, but the problem was corrected after I had contacted you by phone. The non-functioning aeration diffusers have been replaced and in the upcoming monthly "waste discharge reports", we should be able to show that the existing wastewater treatment facility (with carefully controlled flow equalization) is operating satisfactorily with increased dissolved oxygen level.

(2) Installation of Additional Groundwater Monitoring Wells: The three additional monitoring wells (2-upstream and 1-downstream) had been completed in September 2007. At a future mutual convenient time, we can coordinate a field visit (during water quality sampling) if you should desire to do so.

(3) **Treatment Plant Expansion Design and Construction Bidding Schedule:** In the Project Schedule referenced in Item #1 above, we have indicated that the Proposed Wastewater Treatment Plant Expansion bidding will commence around October of 2007. This targeted date is adjusted to November of 2007 due to the need to coordinate City's detailed design (structures and electrical/telemetry system) with Micromedia Filtration (MMF). With this adjusted Project Schedule, we are still confident that majority of MMF treatment equipment could be installed with testing begin by August of 2008. After successful testing and start-up, the combined treatment plant facility should be able to reduce the suspended solids/organic loading to the existing Biolac Oxidation Ponds treatment system before a full switching over of total plant flow to the new facilities. The City is confident and hopeful that the new treatment plant will improve the effluent water quality. I have included the latest plant expansion layout and an updated Project Schedule.

The cooperation and special consideration that the RWQCB staff has extended to the City of Adelanto are greatly appreciated. We shall work closely with you and RWQCB staff and will provide an update on City's facilities and financial planning to provide adequate wastewater treatment, storage, and disposal facility for the future.

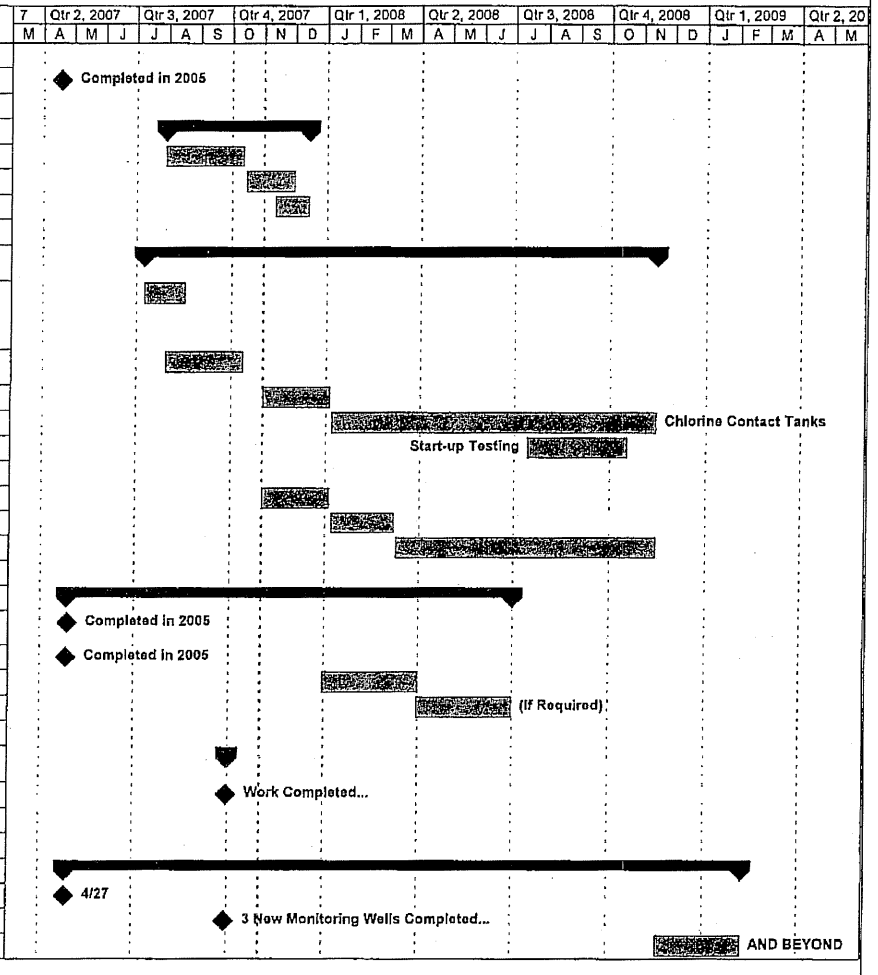
Sincerely,

Wilson F. So, PE
City Engineer

Cc: City Manager and Council Members
John Sponsler, APUA Director

CITY OF ADELANTO - UPDATED SCHEDULE FOR MITIGATION OF WASTEWATER TREATMENT EFFLUENT

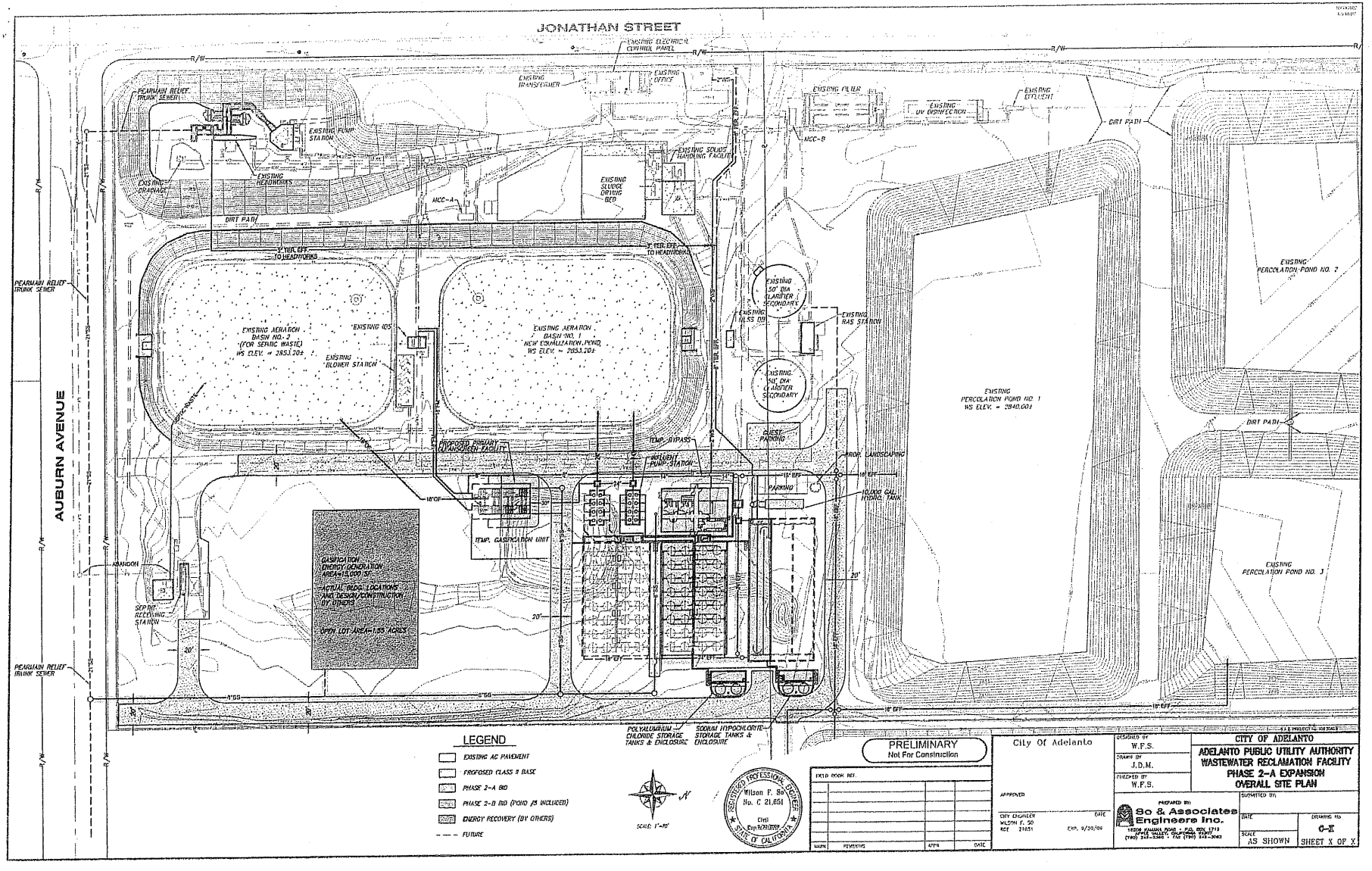
ID	Task No.	Task Name
1	1	**INTERIM MEASURE**
2		Installation of Flow Equalization Tanks
3		
4	2	**CEQA PROCESS FOR PROPOSED EXPANSION**
5		Notice of Preparation, Environmental Check list, Submission of Initial Study
6		Review Period and Response to Comments
7		Public Hearing/Adoption of Mitigative Negative Declaration
8		
9	3A	**DETAILED DESIGN (PHASE A FACILITIES) PRELIMINARY SCHEDULE & CONSTRUCTION**
10		Plant Hydraulic Review, Gather Support Data from Equipment Manufacturer; Coordination of Building/Laboratory and Structural Layouts for Micromedia Biological Filters and related Advanced Primary Screens and Primary Effluent Pumps etc.
11		Phase A Design and Bid Package
12		Phase A Construction Bidding/Award
13		Construction of Facilities to House MMF Equipment
14		MMF to Install its Equipment
15		
16	3B	Phase B (Headwork Facilities) Design and Bid Package
17		Phase B Construction Bidding/Award
18		Construction of Phase B Headwork Facilities
19		
20	4	**Other Administrative Details**
21		Purchase of Additional 10 Acres Site East of Existing Percolation Ponds (Completed in 2005)
22		Additional of 5 Acres Percolation Pond (Completed in 2005)
23		An Additional 5 Acres Percolation Pond
24		Purchasing of Additional Properties (If Required)
25		
26	5	**IMPLEMENTATION OF AN AUXILIARY AERATION SYSTEM FOR THE OXIDATION BASINS**
27		Replacement of All Blocked Aeration Diffusers
28		Installation of Other Auxiliary Aeration Equipment (Not Required)
29		
30	6	**INSTALLATION OF ADDITIONAL GROUND WATER MONITORING WELLS**
31		Letter Report
32		Drilling and monitoring 3 new Monitoring Wells
33		"Cradle-to-grave" Analysis of TDS (Sampling, Monitoring and Analysis)



Project: Wastewater(7-20-07)
Date: Wed 10/31/07

Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline

860000



PRELIMINARY
Not For Construction

City Of Adelanto

APPROVED

CITY ENGINEER — DATE
WILSON F. SO
RCE 21651 — EXP. 9/30/09

FIELD BOOK REF.			
MARK	REVISIONS	APPR	DATE

DESIGNED BY: W.F.S.
DRAWN BY: J.D.M.
CHECKED BY: W.F.S.

CITY OF ADELANTO
ADELANTO PUBLIC UTILITY AUTHORITY
WASTEWATER RECLAMATION FACILITY
PHASE 2-A EXPANSION
OVERALL SITE PLAN

PREPARED BY:
So & Associates Engineers Inc.
16509 KENDRA ROAD • P.O. BOX 1713
APPLE VALLEY, CALIFORNIA 92307
(760) 240-8340 • FAX (760) 240-8065

SUBMITTED BY:
DATE

DRAWING NO.
O-E

SCALE: AS SHOWN

SHEET X OF X

000099

City of Adelanto

November 7, 2007

California Regional Water Quality Control Board Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392-2306

Attn: Mr. Mike Plaziak
Supervising Engineering Geologist

RE: Adelanto Public Utility Authority – CDO Quarterly Reports

Dear Mr. Plaziak ,

As a follow up to the Lahontan Regional Water Quality Control Board's (hereinafter referred to as RWQCB) Order No. R6V-2007-0024 and Section 13267 of the California Water Code, Adelanto Public Utility Authority is pleased to submit this 1st Quarterly Status Report. First, please accept my apology fo the delay in submitting this first report as I (as Utility Director) was having two surgeries during the month of October, 2007. The following is a brief update of APUA's actions to Sections I & II of the Cease & Desist Order (CDO).

I. Interim Compliance Actions: The measures discussed below are intended to address the BOD and flow violations:

A. APUA has, since 2005, not accepted septage for treatment and disposal at its wastewater treatment plant. This compliance action will remain in effect until the new plant expansion is constructed and fully operational and until a separate septage treatment facility is identified and approved in the future by the RWQCB.

B. Interim Action Plan (IAP) dated October 31, 2007 was submitted by the City Engineer directly to the RWQCB.

C. Full operation of modified existing facilities - the existing wastewater treatment facilities had been modified since 2005 (at the recommendation of the City Engineer) to incorporate an interim "flow equalization (peak shaving and flow release at low flows)" to reduce impact of organic loadings to the existing treatment plant. This has helped in enhancing our treatment capability. As reported in the October 31, 2007 IAP, the existing aeration diffusion system was thoroughly checked and all of the non-functioning diffusers were replaced to improve the oxygen transfer capability at the wastewater treatment plant.

11600 Air Expressway / Air Base Road • P.O. Box 10 • Adelanto, CA 92301 • (760) 246-2300 • Fax: (760) 246-8421

II. Actions Related to Final Compliance:

A. Long-term Action Plan – the City Engineer's staff is completing a Sewer Master Plan and the City's Finance Department is also completing a thorough review of the fees and charges related to our water and wastewater operations. The Adelanto Public Utility Authority will be submitting the Long-term Action Plan prior to December 31, 2007.

B. Final compliance by December 31, 2008 with WDRs adopted by the Water Board – the design of the wastewater treatment plant expansion is nearly complete (since the RWQCB meeting in September, 2007) and the APUA expects to commence construction bidding shortly. Under the current Project Schedule, we do not expect any difficulty in meeting the 12-31-2008 deadline. The RWQCB will be kept fully up to date on this progress.

We appreciate the cooperation the RWQCB has extended to the APUA and our next quarterly report will be submitted on schedule.

Sincerely,

John R. Sponsler
APUA Director

Cc: City Manager and Council Members
Wilson So, City Engineer

SPONSLER

City of Adelanto

Department of Public Works/Engineering

November 28, 2007

California Regional Water Quality
Control Board (Lahontan Region)
14440 Civic Drive, Suite 200
Victorville, CA 92392-2306

Attn: Mr. Mike Plaziak
Supervising Engineering Geologist

RE: Adelanto Public Utility Authority – CDO Quarterly Reports

Dear Mr. Plaziak:

Thank you for forwarding a copy of your letter to Mayor Jim Nehmens dated November 19, 2007. The entire City staff is working closely with me (as their consulting city engineer) to complete the design of the plant expansion. It was unfortunate that during later part of September and the entire month of October, 2007, our APUA Director, Mr. John Sponsler, was suffering from very serious gall-bladder and kidney infections. I was so involved with the initial coordination-detailed design of the treatment plant expansion and did not have the opportunity to check with John about the reports. However, when I received the telephone call from you, John Sponsler was able to submit the Quarterly Status Report to you on the very next day. This hopefully demonstrates to you, Mr. Harold Singer, and the Lahontan Regional Water Quality Control Board that the City of Adelanto considers the Cease & Desist Order (CDO) very seriously. I hope that Lahontan RWQCB will take John's illness into consideration and not levying the $1,000 per day penalty.

For the upcoming reporting period, the following individuals will take responsibility as follows:

- December 31, 2007: Long-term Action Plan and Financing Plan – This will be prepared by me and City's Finance Director. The City of Adelanto will be providing a copy of final draft of the Sewer Master Plan, together with the recommended new connection fees and sewer rates (under separate review) to demonstrate that the City can provide adequate wastewater collection, treatment, storage, and disposal capacity.

- January 15, 2007: Next Quarterly Report – John Sponsler will provide an update on actions taken to enhance the existing plant performance, including my update on construction bidding of the plant expansion design We hope to begin with the application of new WDRs by that time.

I trust that you, Mr. Harold Singer, and the Board will take the information that I have shared above into consideration in assessing the penalty. I look forward to working with you in order to provide practical and reliable solutions relative to the wastewater issues associated with the City of Adelanto for the past several years, before I was personally involved.

Very truly yours,

Wilson F. So, PE
City Engineer

Cc: City Manager and Council Members
John Sponsler, APUA Director

City of Adelanto

January 14, 2008

California Regional Water Quality Control Board Lahontan Region
14440 Civic Drive, S-200
Victorville, CA 92392-2306

Attn: Mr. Mike Plaziak
Supervising Engineering Geologist

RE: Adelanto Public Utility Authority – CDO Quarterly Reports

Dear Mr. Plaziak,

As a follow up to the Lahontan Regional Water Quality Control Board's Order No. R6V-2007-0024 and Section 13267 of the California Water Code, the Adelanto Public Utility Authority (APUA) is pleased to submit this 2nd Quarterly Status Report. The following is a brief update of APUA's actions to Sections I and II of the Cease and Desist Order (CDO).

I. Interim Compliance Actions: In addition to information submitted in our 1st Quarter Report dated November 7, 2007, the supplemental measures discussed below are intended to address the BOD and flow violations:

A. Full operation of modified existing facilities – getting enough air into the biological system continues to be challenging because of the type of aeration blowers/diffusers and size of air main. Although the existing aeration diffusion system was checked and all non-functioning diffusers were replaced, additional steps were taken to increase oxygen transfer capability. We are in the process of obtaining additional aerators for both Biolac basins and anticipate installing these aerators in January 2008. City (APUA) staff and our contracted operations staff will continue to meet regularly to consider alternatives that can enhance the treatment of wastewater.

II. Actions Related to Final Compliance:

A. Long-term Action Plan – the City Engineer's office completed the Sewer Master Plan in December 2007 with anticipated presentation to City Council on January 23, 2008.

B. Final compliance by December 31, 2008 with WDR's adopted by the Water Board – Phase A of the wastewater treatment plant expansion went out for bid in late December; bid

11600 Air Expressway / Air Base Road • P.O. Box 10 • Adelanto, CA 92301 • (760) 246-2300 • Fax: (760) 246-8421

YS 1/9/08

opening is scheduled for January 29, 2008. CEQA documentation for the expansion is scheduled to be presented to City Council on January 23, 2008. The City hopes to begin with application for a new waste discharge permit as soon as we have received a study report from Micromedia Filtration. As the City Engineer had discussed in his report dated December 28, 2007 regarding the Interim Action Plan, City staff will work closely with the successful contractor to expedite the installation of the Primary Clean Screens. By placing these units into service, we should be able to reduce the BOD and suspended solids loadings to the existing Biolac oxidation ponds.

Our next quarterly report will be on April 15, 2008 and we should have commenced on the WWTP expansion construction.

Very truly yours,

John Sponsler
APUA Director

Wilson F. So, PE
City Engineer

City of Adelanto

COPY

April 14, 2008

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392-2306

Attn: Mr. Mike Plaziak
Supervising Engineering Geologist

RE: Adelanto Public Utility Authority – CDO Quarterly Reports; 3rd Quarterly Report

Dear Mr. Plaziak ,

As a follow up to the Lahontan Regional Water Quality Control Board's (hereinafter referred to as RWQCB) Order No. R6V-2007-0024 and Section 13267 of the California Water Code, Adelanto Public Utility Authority is pleased to submit this 3rd Quarterly Status Report. The following is a brief update of APUA's actions to Sections I & II of the Cease & Desist Order (CDO).

I. **Interim Compliance Actions:** The information provided below is a continuous update of the City's effort to address the BOD and flow violations, consistent with the Interim Action Plan submitted by City Engineer on October 31, 2007.

A. APUA has, since 2005, not accepted septage waste for treatment and disposal at its wastewater treatment plant. This compliance action will remain in effect until the new plant expansion is constructed and fully operational and until a separate septage treatment facility is identified and approved in the future by the RWQCB.

B. Full operation of modified existing facilities - the existing wastewater treatment facilities had been modified since 2005 (at the recommendation of the City Engineer) to incorporate an interim "flow equalization (peak shaving and flow release at low flows)" to reduce impact of peak organic loadings to the existing treatment plant. The following additional actions were taken:

- Existing aeration diffusers were thoroughly checked and all non-functioning units were replaced.

11600 Air Expressway / Air Base Road • P.O. Box 10 • Adelanto, CA 92301 • (760) 246-2300 • Fax: (760) 246-8421

- In February 2008, plant maintenance personnel installed an auxiliary aerator into each of the existing Biolac basins attempting to increase aeration for additional oxygen transfer.

- The Chief plant operator is conducting a regular review of the volatile suspended solids versus total mixed liquor suspended solids on a regular basis to monitor the treatment process from the standpoint of reducing the total nitrogen in the effluent.

- City staff will continue to meet with plant operations staff to review other operational adjustments in order to maintain the existing treatment plant at optimum performance level until the "Expanded treatment facilities (with new treatment systems)" are fully transitioned. By December of 2008, the treatment plant capacity will be provided via a combined operation of a portion of the existing treatment plant (which will substantially enhance the performance of the existing secondary clarifiers) and a portion of the new biological treatment facility. Refer to Wastewater Treatment Plant Expansion discussion presented below under Actions Related to Final Compliance.

II. Actions Related to Final Compliance:

A. Long-term Action Plan – The City Engineer's staff completed a Sewer Master Plan in December 2007 and it was presented and approved by the City Council on January 23, 2008. A copy of the Sewer Master Plan was provided to RWQCB. This plan will provide a guidance to the development of future "sewerage facilities" to adequately serve the City.

B. Final compliance by December 31, 2008 with WDRs adopted by the Water Board – The following provides an update on this effort:

- Response to RWQCB comment on the CEQA-MND : A copy of the response to the RWQCB comment (in the Form of an Addendum to the Adelanto Wastewater Treatment Plant Mitigated Negative Declaration) is enclosed for your information. In the application for new "Waste Discharge Requirements", City Engineer will further coordinate with RWQCB staff to ensure that all concerns are adequately addressed.

- Application for Revised WDRs: City staff will be consulting with RWQCB staff prior to submitting a RWD by 5-13-2008 so that it can be discussed at your September Board Meeting. This will include requesting the RWQCB's approval for City to expand the effluent discharge to Ponds No. 4 and future Pond No. 5.

- Wastewater Treatment Plant Expansion – The final design for Phase-A was completed in early January 2008 after the City Council approved the new treatment technology (submitted by MicroMedia Filtration) on October 17, 2007. Construction Bids were received on February 5, 2008. Construction (grading and site preparation) began on March 31, 2008. We are targeting to complete the following facilities as follows:

  (i) By mid-July toAugust of 2008 - Clean-screens Facility (This is the new treatment plant's equivalent of primary treatment facility): When these facilities are fully operational, it should reduce the organic loadings (BOD and nitrogen) to the existing Biolac oxidation ponds, thus enhancing the existing treatment plant performance.

(ii) By October to mid-November of 2008 – Begin with the cultivation of special micro-organisms in the Bio-filtration tanks (constructed of stainless steel) that will provide the equivalent secondary-treatment and tertiary filtration.

- Compliance date of December 31, 2008: As reported in Section-I above, The City may be using a combination of half of the existing Biolac treatment plant and a portion of the new biological treatment facility to handle the incoming wastewater. Overall, the design plant capacity should be at 4 MGD (million gallons per day). Under this projected scenario, we expect to meet the compliance schedule of December 31, ensuring that the City of Adelanto will have adequate wastewater treatment capacity for the anticipated flow and to meet the new waste discharge requirements as set forth by the RWQCB.

We appreciate the continued advice and cooperation of the RWQCB staff. We look forward to provide future updates in the 4th Quarterly Report on or before July 15, 2008.

Sincerely,

John R. Sponsler
APUA Director

Attachments: (1) Copy, Addendum to the Adelanto Wastewater Treatment Plant Mitigated Negative Declaration April 2, 2008
(2) City of Adelanto – Update Schedule For Mitigation of Wastewater Treatment & Effluent Quality

Cc: City Manager and Council Members
Wilson So, City Engineer

7104 0343 3860 0787 0812

CALIFORNIA PRELIMINARY NOTICE

In accordance with sections 3097 and 3098, California Civil Code. THIS IS NOT A LIEN. This is NOT a reflection on the integrity of any contractor or subcontractor.

B & F SUPPLY INC
5601 ENGINEER DRIVE
HUNTINGTON BEACH CA 92649-

Bildrs No: 2533282

CITY OF ADELANTO
11600 AIR EXPRESSWAY
ADELANTO CA 92301

RETURN RECEIPT

Bildrs No. 2533282
7104 0343 3860 0787 0812

RECEIVED
APR 10 2008
CITY OF ADELANTO
COMMUNITY DEVELOPMENT

You are hereby notified that *B & F SUPPLY INC*

has furnished or will furnish labor, services, equipment or materials of the following general description: *DOORS/FRAMES/WINDOWS/RELATED HDWR*

located at: *PHASE 2-A WASTEWATER RECLAMATION FAC EXPANSION, JONATHAN ST & LA PAZ AVE, ADELANTO, CA, SAN BERNARDINO COUNTY*

The name of the person or firm who contracted for the purchase of such labor, services, equipment or material is: *4-CON ENGINEERING INC, PC116*

An estimate of total price of the labor, services, equipment or materials furnished or to be furnished is *$22,028*

Owner: CITY OF ADELANTO, 11600 AIR EXPRESSWAY, ADELANTO CA 92301

Orig Contr: 4-CON ENGINEERING INC, 2751 AVALON ST, RIVERSIDE CA 92509

Surety: GREAT AMERICAN INSURANCE COMPANIES, 750 THE CITY DR SOUTH STE #300, ORANGE CA 92868-4969, Bond# CA4878060

Customer: 4-CON ENGINEERING INC, PC116, 2751 AVALON ST, RIVERSIDE CA 92509

BICA REPRESENTATIVE 04/07/2008

NOTICE TO PROPERTY OWNER

If bills are not paid in full for the labor, services, equipment or materials furnished or to be furnished, a mechanics' lien leading to the loss, through court foreclosure proceedings, of all or part of your property being so improved may be placed against the property even though you have paid your contractor in full. You may wish to protect yourself against this consequence by (1) requiring your contractor to furnish a signed release by the person or firm giving you this notice before making payment to your contractor or (2) any other method or device that is appropriate under the circumstances. Other than residential homeowners of dwellings containing fewer than five units, private project owners must notify the original contractor and any lien claimant who has provided the owner with a preliminary 20-day lien notice in accordance with Section 3097 of the Civil Code that a notice of completion or notice of cessation has been recorded within 10 days of its recordation. Notice shall be by registered mail, certified mail, or first-class mail, evidenced by a certificate of mailing. Failure to notify will extend the deadlines to record a lien.

VR

ADDENDUM TO THE
ADELANTO WASTEWATER TREATMENT PLANT
MITIGATED NEGATIVE DECLARATION
April 2, 2008

The following section contains a set of addendum pages to the City of Adelanto Wastewater Treatment Plant Expansion Mitigated Negative Declaration (MND), dated February 27, 2008. The revisions identified in this section are the result of comments received on February 20, 2008 from the California Regional Water Quality Control board, Lahontan Region. These revisions cited in this section were found by the City of Adelanto not to be substantial but for clarification of issues addressed. Therefore, the recirculation of the MND is not warranted.

In the following pages, headings describe the location of changes in the MND (i.e., Section 1.0, page 1-1., paragraph 2), with a brief explanation of the changes made shown in italics. Below this entry, are the revisions made to the MND.

PAGE 1
PROJECT DESCRIPTION – ITEM 9
Add the following information to the Project Description on page 1.

Wastewater Treatment Plant Service Population

The population of the City of Adelanto is estimated at 27,139 (based on the California Department of Finance 2007). As previously stated, the Adelanto Wastewater Treatment Plant Expansion project will increase the treatment capacity to 4.0 mgd (million gallons per day; average flow). It is anticipated that the expanded facility will be able to serve existing and planned industrial and commercial users as well as additional residential growth for a total population of 50,000.

The Wastewater Treatment Plant expansion has been designed to accommodate, when needed, a second expansion. Although the environmental impacts of this second expansion are not addressed in this analysis, Phase 2-A, ultimately expand the Wastewater Treatment Plant capacity to 8.0 mgd.

In January of 2008, the Adelanto City Council approved a Water and Sewer Master Plan. As future unincorporated areas are annexed to the City, the Water and Sewer Master Plans will be updated to ensure adequate water and sewer service can be provided. Additionally, future upstream wastewater reclamation plants will be planned and constructed to enable the City to re-use the high quality effluent and more effectively serve future customers.

Treatment Process and Peak Flow

Figure 1 shows the process flow and hydraulic profile for the expanded Adelanto Wastewater Treatment Plant.

Wastewater treatment plant improvements include the following beneficial features:

(i) ***By-Pass Piping.*** In the event that a system unit needs to be serviced, by-pass piping has been installed to enable the unit needing service to be by-passed during cleaning or maintenance.

(ii) ***Micro-Media Biological Treatment Process.*** This new process uses considerable less electrical power and the existing standby generator will provide the backup power source

(iii) ***Flow Equalization Pond.*** Steady average flows through the new treatment plant will be maintained by converting one of the existing oxidation ponds into a flow equalization pond.

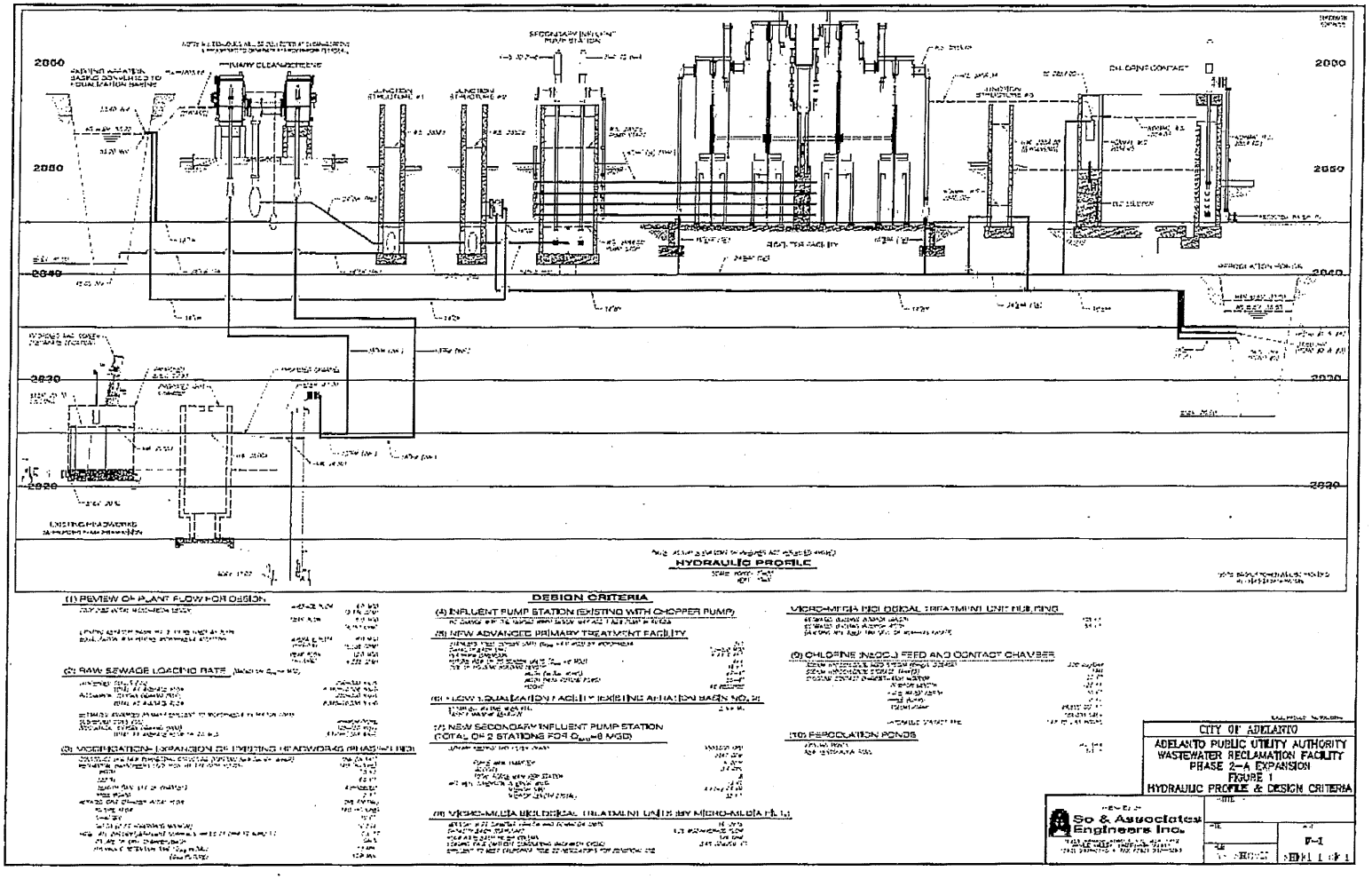
(iv) ***Peak Flow and (Separate Tributary Areas).*** Wastewater flows at the City of Adelanto Treatment Plant come from two distinct tributary areas; the first area is the portion of the City located west and north of the treatment plan and a second tributary area is located to the southwest of the treatment plant. Because of these separate tributary areas, the wastewater treatment plant's combined peaking factor, is estimated at 1.5 to 2. This peaking factor is considerably lower than other municipalities' treatment plants.

Sludge

Bio-solids, or sludge, for the new expansion plant (excluding coarse bar-screenings and washed grit removed from the grit chambers) will be collected at the primary clean screens. The clean screens are provided with a 350 micron filter belts and will remove essentially all of the suspended solids in the raw wastewater influent. Backwash from the biological filters is also recycled back to the primary clean screens. As shown on the flow diagram design data, dry sludge amounts will range from 8,340 to 10,008 lb/day.

(see

FIGURE 1 – WASTEWATER TREATMENT PROCESS FLOW DIAGRAM



Source: City of Adelanto Engineering Department, April 2008

000112

Level of Treatment

As proposed, the new expansion plant will incorporate two treatment operations that have been used successfully in Europe:

(i) ***Primary Clean Screens.*** These screens use 350-micron filter belt to screen the material. They replace the traditional primary sedimentation operation. The screens are designed to remove substantially all of the suspended solids present in wastewater.

(ii) ***Two-Stage Biological Filters.*** These filters use an anoxic bio-reactor to remove BOD (Biochemical Oxygen Demand) and a substantial amount of nitrogen in wastewater.

The equivalent treatment of the project is a tertiary-Title 22 with biological nutrient removal.

BOD (Biochemical Oxygen Demand)

Biochemical Oxygen Demand (BOD) is a chemical procedure for determining how fast biological organisms use up oxygen in a body of water. BOD is used as a gauge to the effectiveness of wastewater treatment plants.

The new plant was designed to accommodate an average influent raw wastewater BOD, in the range 250 to 300 mg/L (milligrams per liter) or higher. The proposed treatment processes will be able to reduce the BOD effluent to a level of 20mg/L.[1] Upon completion of the project, the design BOD percent removal is up to 90 percent.

Influent Suspended Solids

Reports reviewed from March 2007 to December 2007 of the existing treatment plant operation regarding suspended solids concentration was estimated to be 324.9 mg/L. The raw wastewater suspended solids for August to December 2007 was below 220mg/L.

Again, as proposed the new plant was designed with suspended solids in the range of 250 to 300 mg/L. The Clean Screens are expected to significantly remove the suspended solids. Batch operation testing was able to demonstrate that effluent turbidity can be maintained at below 2 NTU (Nephelometric Turbidity Units).[2] NTU is a measurement

[1] These estimates are based on the results of pilot testing performed at similar facilities in the Smartville Sanitary Sewer District and the Las Gallinas Sanitary Sewer District. Both districts are located in California. This information was described to the author by the City of Adelanto Engineer.

[2] These estimates are based on the results of pilot testing performed at similar facilities in the Smartville Sanitary Sewer District and the Las Gallinas Sanitary Sewer District. Both districts are located in California. This information was described to the author by the City of Adelanto Engineer.

of turbidity in the water. To measure turbidity a nephelometer is used, which consists of a light beam focused on the particles in the water. More light reaches the detector when there are lots of small particles scattering the source beam than if there are few.

Nitrate Concentrations

Pilot tests at similar wastewater treatment facilities located in the Smartville and Las Gallinas Valley Sanitary District demonstrate that nitrite, NO2 and NO3 effluent concentrations will be nearly zero since the biological treatment occurs in an anoxic mode. As a result, the total effluent nitrogen concentrations are expected to be maintained below 10mg/L.[3]

Advanced Secondary Bio-filters (ASBF)

ASBF (advanced secondary bio-filters) units. The biological filters provide treatment to reduce BOD, total nitrogen, and provide filtration to meet turbidity limits for water reuse.

PAGE 9

AIR QUALITY – Section III (e)

Delete the following sentence to the Impact Analysis for Section III (e):

To prevent creating objectionable odors, aerobic-process sewage treatment plants are designed to avoid the release of odors.

Add the following discussion to the Impact Analysis for Section III (e):

Objectionable Odors

The existing odor sources are at the headworks area as raw-wastewater enters through the mechanical bar-screen, Parshall-flume, (the influent raw wastewater pump station), and the Biolac oxidation pond (extended aeration activates sludge process.) The new expanded treatment plant will have a new junction-mechanical bar-screen structure, grit chambers, new Parshall-flume, existing influent pump station, primary clean screens, flow equalization (without aeration or substantially reduced aeration), secondary influent pump station, secondary biological filters and chlorine contact basin(s). The new expanded treatment facilities are located in the center the plant site. Consequently, potential odor sources are not expected to increase.

[3] These estimates are based on the results of pilot testing performed at similar facilities in the Smartville Sanitary Sewer District and the Las Gallinas Sanitary Sewer District. Both districts are located in California. This information was described to the author by the City of Adelanto Engineer.

Minimizing and Responding to Treatment Upsets

To minimize and respond to treatment upsets, the new treatment plant will be separated into unit mechanical operations (such as bar screen, pumps, primary clean-screens etc.) and the secondary biological treatment filters. The mechanical operations use water level transmitters and motor failure detection systems to alert the plant operators of equipment failures. Duplicate and standby equipment are incorporated into the design. The secondary biological filters are designed into 0.25 mgd modules. Failure of one process train does not imply failure of the entire treatment units unless some type of chemical has been received from some remote collector sewers and upsets the system. The permanent flow equalization facility for the new secondary biological filters minimize the surge in organic loads to the treatment trains. One very important feature of the new treatment plant is that the primary clean-screens deliver a highly treated and clean primary effluent. In the unlikely event that a total biological system upset occurs, the effluent leaking out of the system will have been highly treated and as a result fairly clean.

Manage Sludge

Bio-solids will be captured at the primary clean-screens. The bio-solids (sludge) coming out of the clean-screens will maintain about 25 to 30% solids content. Therefore, it could be composted first before final disposal. City staff is discussing with Micromedia Filtration and representatives of an energy firm the feasibility of converting the bio-solids into a renewable energy source.

Odors produced will be monitored consistent with the MDAQMD permitting processes.[4] With the incorporation of the mitigation measures AQ#1 and AQ#2 (see previous discussion); the potential odors emissions impacts associated with the plant expansion are considered less than significant.

PAGE 15

HYDROLOGY AND WATER QUALITY – Section VIII (a) and (b)

Add the following discussion to the Impact Analysis for Section VIII (a) and (b):

Improved Wastewater Treatment Capabilities

[4] *Environmental Assessment/Mitigated Negative Declaration for the City of Adelanto: Wastewater Reclamation Facility – Phase II Expansion.* November, 2004. Page 10.

The existing treatment plant constructed in 1997-98 has a design capacity of 1.5 mgd. The current flow (as of 2007) is nearly 2.2 mgd. The biological process capability was maintained via implementation of a temporary "Flow Equalization" system using leased storage tanks. This was a temporary solution.

However, with the Wastewater Treatment Plant expansion will provide the following permanent improvement to the system.

- ***Increased Capacity.*** As proposed, the expansion will increase the total capacity to 4 mgd (including half of the existing treatment plant capacity).
- ***Opportunity for Future Expansion.*** The new treatment processes can be readily expanded as the expansion layout identifies such equipment additions. The support facilities (including chemical storage and feed systems) are already laid out for the full 8.0 mgd future average plant flow.
- ***Improved Treatment.*** Monitoring reports from March 2007 to December 2007 indicate that the BOD effluent and total nitrogen effluent average about 33 and 40.9 mg/L, respectively. As proposed, the goal is to operate the new treatment plant so that effluent BOD can be consistently maintained below 20 mg/L. Suspended solids average about 40.9 mg/L in the effluent for the existing plant. The goal is to operate the biological filters and keep the turbidity below 2 NTU. Additionally, the reduction of total effluent nitrogen discharge is anticipated.

National Pollutant Discharge Elimination System (NPDES)

It should be noted National Pollutant Discharge Elimination System (NPDES) requirements only apply to construction-related storm water activities.

Disposition of Effluent

Existing effluent is directed to the percolation ponds and then discharged. These ponds do not meet the discharge standards for effluent that will be used for irrigation or other beneficial uses. Currently, the City is preparing a Title 22 Engineering Report and Related Standards. Before any form of beneficial reuse can occur, this report will need to be reviewed and approved by the Department of Health Service (DHS) and the Regional Water Quality Control Board (RWQCB).

Receiving Groundwater Basin and Wells

The treated effluent from the Adelanto Wastewater Treatment Plant (WWTP) percolates to the upper layer of the northwesterly region of the Mojave River Groundwater Basin. There is a thin clay-lens at depths of 90 plus feet to 110 feet depending on the ground surface elevation. This water source is generally of poor quality, unreliable volume, as a result beneficial use is very limited.

Storm water runoff that occurs within the treatment plant will be directed to the percolation ponds or into the treatment facility.

There are no water supply wells within a one-mile radius of the project site, so pre-existing nearby wells will not be impacted.

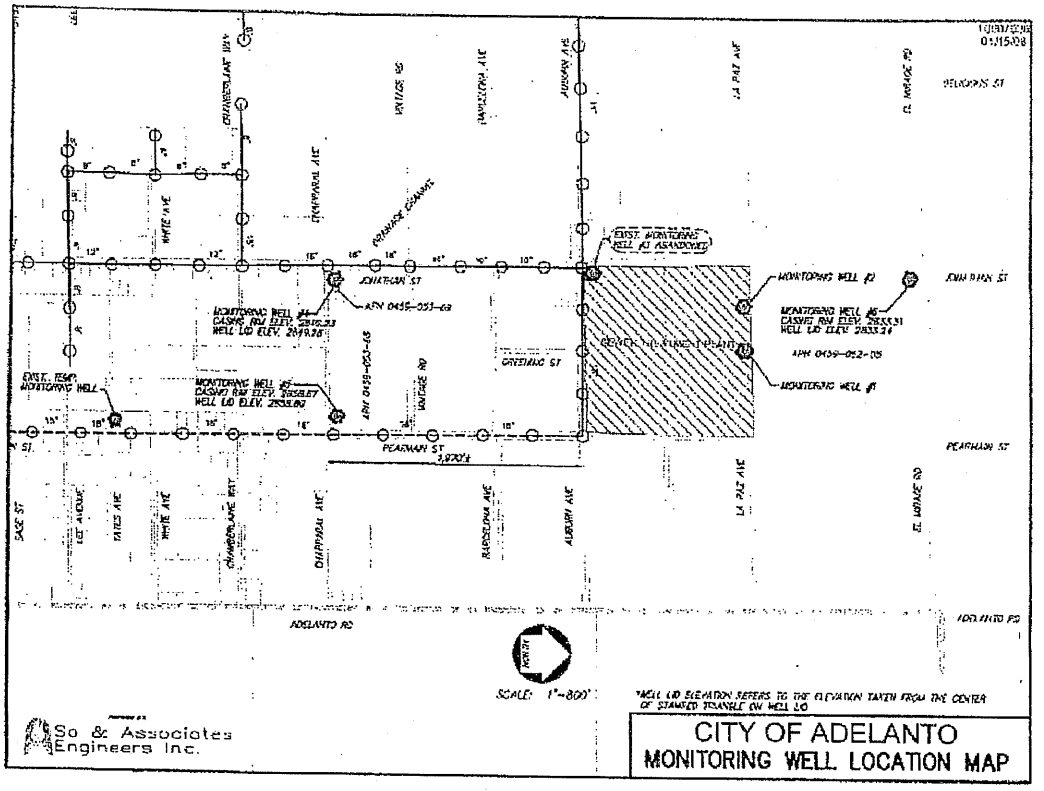
Increased Discharge and Responsive Treatment

The City of Adelanto has recently installed three additional groundwater monitoring wells (two upstream and one downstream of the plant). These three new monitoring wells will be added to the two existing monitoring wells that are acceptable to the Regional Water Quality Control Board (RWQCB). Throughout the course of the plant expansion design, bidding, and construction, plant operations staff will collect the additional water samples and present the laboratory data for review with RWQCB to insure that the increased discharge and any degradation of receiving water quality will not violate water quality objectives and is of the highest quality that treatment can provide. Using data from construction monitoring and the existing monitoring wells, the City will continue to monitor water quality in and around the wastewater treatment plant. Figure 2 shows the location of the monitoring wells.

Plume

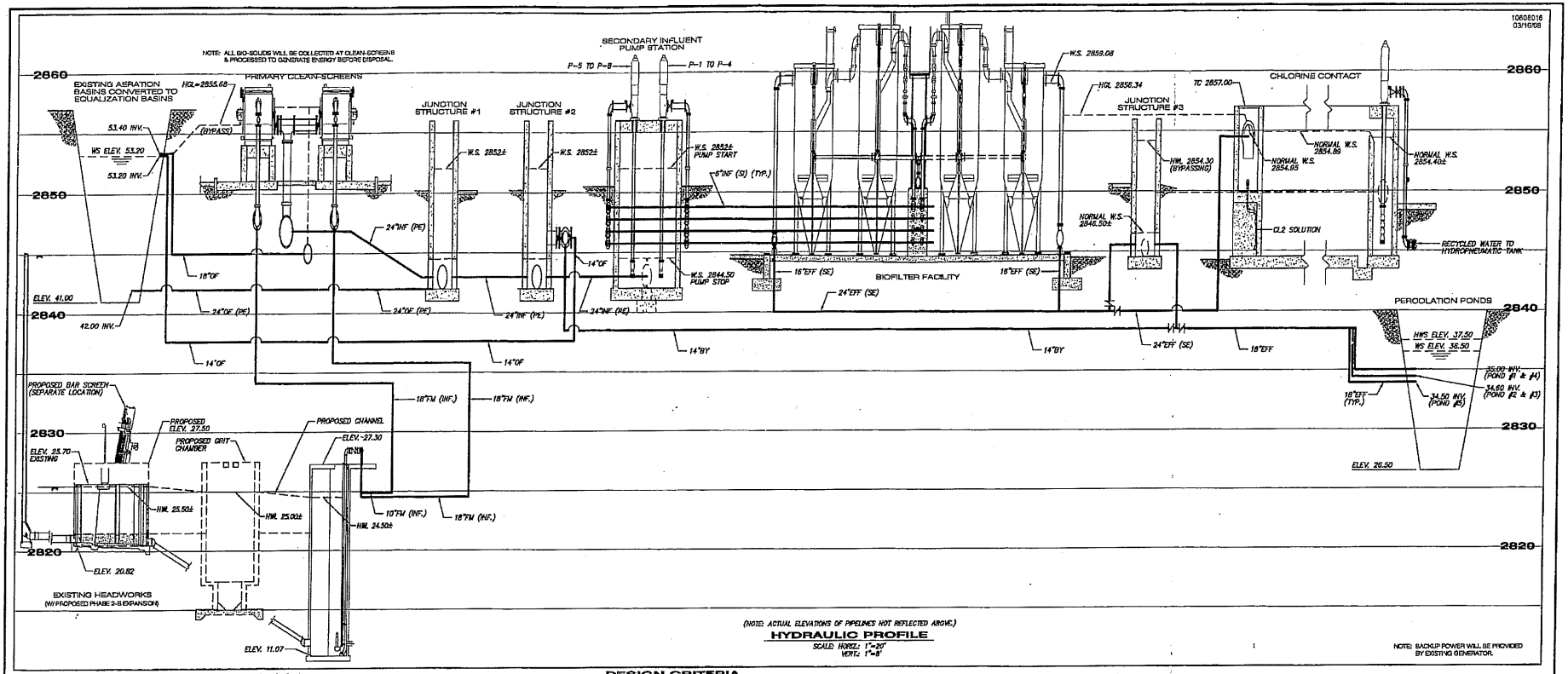
The Trichloroethylene (TCE) contaminated groundwater originating at the former George Air Force Base (GAFB) flows in an easterly direction towards the Helendale area. City's effluent will flow to an area north and northwest of the former Air Force Base. The path of the City's effluent will not overlap or cross the path of the TCE contaminated groundwater. Therefore, any mounding effect caused by the City's percolation ponds should not impact the GAFB TCE (Trichloroethylene) plume.

FIGURE 2 – MONITORING WELL LOCATION MAP



REFERENCES

Information presented in this Addendum was obtained from the City of Adelanto Public Works Department and the City Engineer.



(NOTE: ACTUAL ELEVATIONS OF PIPELINES NOT REFLECTED ABOVE.)

HYDRAULIC PROFILE

SCALE: HORIZ.: 1"=20'
VERT.: 1"=8'

NOTE: BACKUP POWER WILL BE PROVIDED BY EXISTING GENERATOR.

DESIGN CRITERIA

(1) REVIEW OF PLANT FLOW FOR DESIGN

PROPOSED INITIAL MICRO-MEDIA DESIGN	AVERAGE FLOW	4.0 MGD (2,778 GPM)
	PEAK FLOW	6.0 MGD (4,167 GPM)
EXISTING AERATION BASIN NO. 2 TO BE USED AS FLOW EQUALIZATION WITH FUTURE MICRO-MEDIA ADDITIONS	AVERAGE FLOW (FUTURE)	8.0 MGD (5,556 GPM)
	PEAK FLOW (FUTURE)	12.0 MGD (8,333 GPM)

(2) RAW SEWAGE LOADING RATE (BASED ON Q_{avg}=4 MGD)

SUSPENDED SOLIDS (SS)	250–300 mg/L
TOTAL AT AVERAGE FLOW	8,340–10,008 lbs/D
BIOCHEMICAL OXYGEN DEMAND (BOD)	250–300 mg/L
TOTAL AT AVERAGE FLOW	8,340–10,008 lbs/D
ESTIMATED ADVANCED PRIMARY EFFLUENT TO MICRO-MEDIA FILTRATION UNITS	
SUSPENDED SOLIDS (SS)	MINIMUM/NONE
BIOCHEMICAL OXYGEN DEMAND (BOD)	125–150 mg/L
TOTAL AT AVERAGE FLOW OF 4.0 MGD	4,170–5,004 lbs/D

(3) MODIFICATION- EXPANSION OF EXISTING HEADWORKS (PHASE-B BID)

CONSTRUCT ONE NEW CONNECTING STRUCTURE (EXISTING NEW RELIEF SEWER)	ONE (INITIAL)
MECHANICAL BARSCREENS (1/2 INCH TO 3/4 INCH SOLIDS)	TWO (FUTURE)
WIDTH	3.5 FT
DEPTH	4.0 FT
LENGTH (MIN. 6FT OF CHANNEL)	AS-NEEDED
FREE BOARD	2 FT
AERATED GRIT CHAMBER INITIAL FLOW	ONE (INITIAL)
FUTURE FLOW	TWO (FUTURE)
DIAMETER	10 FT
DEPTH (2 FT FREEBOARD MINIMUM)	10 FT±
NOTE: ALL INFLUENT/EFFLUENT CHANNELS W=3.5 FT D=4 FT FB=2 FT	
VOLUME OF GRIT CHAMBER/EACH	CU. FT. GALS
HYDRAULIC RETENTION TIME (Q_{avg} INITIAL)	10 MIN.
(Q_{avg} FUTURE)	10.8 MIN.

(4) INFLUENT PUMP STATION (EXISTING WITH CHOPPER PUMP)

NO CHANGE WITH THE REVISED WWTP DESIGN, MAY ADD 1 NEW PUMP IN FUTURE

(5) NEW ADVANCED PRIMARY TREATMENT FACILITY

STAINLESS STEEL SCREEN UNITS (Q_{avg} =4.0 MGD) BY MICRO-MEDIA	3+1
CAPACITY EACH UNIT	1.5–2.0 MGD
PLATFORM DIMENSION	6 FT X 9FT
FUTURE ROW OF SS SCREEN UNITS (Q_{avg} =8 MGD)	4+4
SIZE OF HOUSING BUILDING LENGTH	34 FT
WIDTH (INITIAL ROWS)	27'-8"
WIDTH (WITH FUTURE ROWS)	55'-6"
HEIGHT	AS REQUIRED

(6) FLOW EQUALIZATION FACILITY (EXISTING AERATION BASIN NO. 2)

ESTIMATED VOLUME WHEN FULL	≤ 6.6 MG
*APPLY MINIMUM AERATION	

(7) NEW SECONDARY INFLUENT PUMP STATION (TOTAL OF 2 STATIONS FOR Q_{avg}=8 MGD)

Q/PUMP FEEDING TWO FILTER TRAINS	>500,000 GPD
	>347 GPM
FORCE MAIN DIAMETER	6 INCH
VELOCITY	3.9 FPS
TOTAL FORCE MAIN PER STATION	8
WET WELL DIMENSION INTERIOR WIDTH	12 FT
INTERIOR SWD	8 FT+2 FT FB
INTERIOR LENGTH (TOTAL)	32 FT

(8) MICRO-MEDIA BIOLOGICAL TREATMENT UNITS (BY MICRO-MEDIA FILT.)

VERTICAL 8 FT DIAMETER UPFLOW AND DOWNFLOW UNITS	16 UNITS
CAPACITY EACH TRAIN/UNIT	0.25 MGD/AVERAGE FLOW
FLOW RATE EACH FILTER COLUMN	174 GPM
LOADING RATE (WITHOUT CONSIDERING BACKWASH CYCLE)	3.45 GPM/SQ. FT.
EFFLUENT TO MEET CALIFORNIA TITLE 22 REGULATIONS FOR BENEFICIAL USE	

MICRO-MEDIA BIOLOGICAL TREATMENT UNIT BUILDING

ESTIMATED BUILDING INTERIOR LENGTH	108 FT
ESTIMATED BUILDING INTERIOR WIDTH	84 FT
(BUILDING WILL NEED TWO SETS OF MON-RAIL+HOIST)	

(9) CHLORINE (NaOCL) FEED AND CONTACT CHAMBER

SODIUM HYPOCHLORITE FEED SYSTEM (6mg/L DOSAGE)	200 lbs/DAY
SODIUM HYPOCHLORITE STORAGE TANK(S)	TWO
CHLORINE CONTACT CHAMBER–MOH INTERIOR	20 FT
–INTERIOR LENGTH	123 FT
–SIDE WATER DEPTH	10 FT
–FREE BOARD	2 FT
–VOLUME/TANK	24,600 CU. FT. 184,000 GALS
–HYDRAULIC CONTACT TIME	1.47 TO 1.65 HOURS

(10) PERCOLATION PONDS

EXISTING PONDS	NO. 1–4
NEW PERCOLATION POND	NO. 5

S.A.E. PROJECT No. 105.0016.3

CITY OF ADELANTO

ADELANTO PUBLIC UTILITY AUTHORITY
WASTEWATER RECLAMATION FACILITY
PHASE 2–A EXPANSION
FIGURE 1
HYDRAULIC PROFILE & DESIGN CRITERIA

PREPARED BY:
So & Associates Engineers Inc.
16205 KAMANA ROAD • P.O. BOX 1712
APPLE VALLEY, CALIFORNIA 92307
(760) 242-2365 • FAX (760) 242-3083

SUBMITTED BY:

DATE

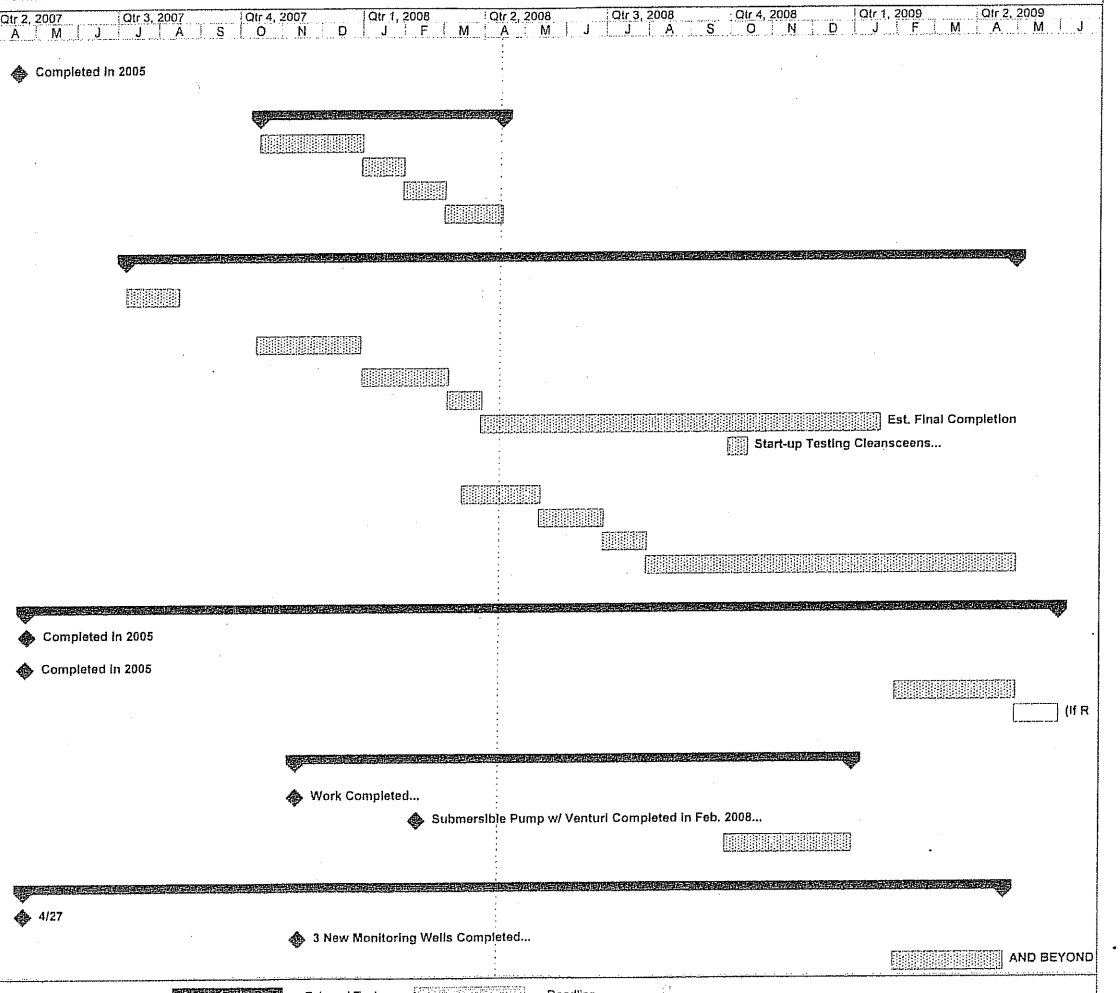
DRAWING No. F-1

SCALE: AS SHOWN

SHEET 1 OF 1

CITY OF ADELANTO - UPDATED SCHEDULE FOR MITIGATION OF WASTEWATER TREATMENT & EFFLUENT QUALITY

ID	Tasks No.	Task Name
1	1	INTERIM MEASURE
2		Installation of Flow Equalization Tanks
3		
4	2	CEQA PROCESS FOR PROPOSED EXPANSION
5		Notice of Preparation, Environmental Check list, Submission of Initial Study
6		Review Period and Response to Comments
7		Review/Respond to Lahonton RWQCB Comments
8		Public Hearing/Adoption of Mitigative Negative Declaration
9		
10	3A	DETAILED DESIGN (PHASE A FACILITIES) PRELIMINARY SCHEDULE & CONSTRUCTION
11		Plant Hydraulic Review, Gather Support Data from Equipment Manufacturer; Coordination of Building/Laboratory and Structural Layouts for Micromedia Biological Filters and related Advanced Primary Screens and Primary Effluent Pumps etc.
12		Phase A Design and Bid Package
13		Phase A Construction Bidding/Award/Bonds Insurances
14		Pre-Construction Coordination
15		Construction of Facilities to House MMF Equipment & MMF to Install Equipment
16		Start-up Testing Cleanscreens
17		
18	3B	Phase B (Headwork Facilities) Design and Bid Package (Min. or No Impact on Plant)
19		Phase B Construction Bidding/Award
20		Pre-Construction Coordination
21		Construction of Phase B Headwork Facilities
22		
23	4	Other Administrative Details
24		Purchase of Additional 10 Acres Site East of Existing Percolation Ponds (Completed in 2005)
25		Additional of 5 Acres Percolation Pond (Completed in 2005)
26		An Additional 5 Acres Percolation Pond (with approval from RWQCB)
27		Purchasing of Additional Properties (If Required)
28		
29	5	IMPLEMENTATION OF AN AUXILIARY AERATION SYSTEM FOR THE EXISTING OXIDATION BASINS
30		Replacement of All Blocked Aeration Diffusers
31		Installation of Other Auxiliary Aeration Equipment
32		Early Operation of Primary Cleanscreens
33		
34	6	INSTALLATION OF ADDITIONAL GROUND WATER MONITORING WELLS
35		Letter Report
36		Drilling and monitoring 3 new Monitoring Wells
37		"Cradle-to-grave" Analysis of TDS (Sampling, Monitoring and Analysis)

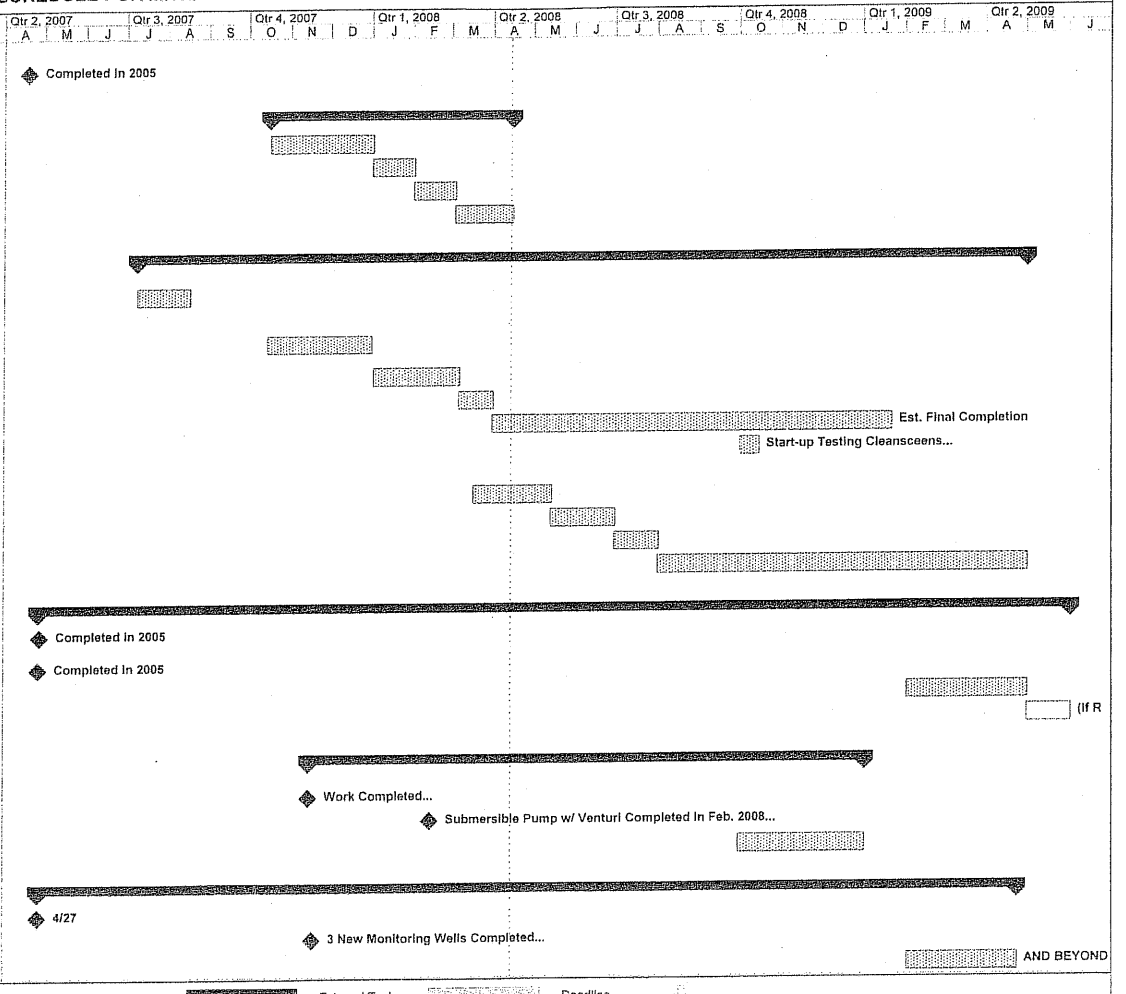


Project: Wastewater(04-14-08).mpp
Date: Mon 4/14/08

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

CITY OF ADELANTO - UPDATED SCHEDULE FOR MITIGATION OF WASTEWATER TREATMENT & EFFLUENT QUALITY

ID	Tasks No.	Task Name
1	1	INTERIM MEASURE
2		Installation of Flow Equalization Tanks
3		
4	2	CEQA PROCESS FOR PROPOSED EXPANSION
5		Notice of Preparation, Environmental Check list, Submission of Initial Study
6		Review Period and Response to Comments
7		Review/Respond to Lahonton RWQCB Comments
8		Public Hearing/Adoption of Mitigative Negative Declaration
9		
10	3A	DETAILED DESIGN (PHASE A FACILITIES) PRELIMINARY SCHEDULE & CONSTRUCTION
11		Plant Hydraulic Review, Gather Support Data from Equipment Manufacturer; Coordination of Building/Laboratory and Structural Layouts for Micromedia Biological Filters and related Advanced Primary Screens and Primary Effluent Pumps etc.
12		Phase A Design and Bid Package
13		Phase A Construction Bidding/Award/Bonds Insurances
14		Pre-Construction Coordination
15		Construction of Facilities to House MMF Equipment & MMF to Install Equipment
16		Start-up Testing Cleanscreens
17		
18	3B	Phase B (Headwork Facilities) Design and Bid Package (Min. or No Impact on Plant)
19		Phase B Construction Bidding/Award
20		Pre-Construction Coordination
21		Construction of Phase B Headwork Facilities
22		
23	4	Other Administrative Details
24		Purchase of Additional 10 Acres Site East of Existing Percolation Ponds (Completed in 2005)
25		Additional of 5 Acres Percolation Pond (Completed in 2005)
26		An Additional 5 Acres Percolation Pond (with approval from RWQCB)
27		Purchasing of Additional Properties (If Required)
28		
29	5	IMPLEMENTATION OF AN AUXILIARY AERATION SYSTEM FOR THE EXISTING OXIDATION BASINS
30		Replacement of All Blocked Aeration Diffusers
31		Installation of Other Auxiliary Aeration Equipment
32		Early Operation of Primary Cleanscreens
33		
34	6	INSTALLATION OF ADDITIONAL GROUND WATER MONITORING WELLS
35		Letter Report
36		Drilling and monitoring 3 new Monitoring Wells
37		"Cradle-to-grave" Analysis of TDS (Sampling, Monitoring and Analysis)



Project: Wastewater(04-14-08).mpp
Date: Mon 4/14/08

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

City of Adelanto

COPY

July 15, 2008

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392-2306

Attn: Mr. Mike Plaziak
Supervising Engineering Geologist

RE: Adelanto Public Utility Authority – CDO Quarterly Reports; 4th Quarterly Report

Dear Mr. Plaziak ,

As a follow up to the Lahontan Regional Water Quality Control Board's (hereinafter referred to as RWQCB) Order No. R6V-2007-0024 and Section 13267 of the California Water Code, Adelanto Public Utility Authority is pleased to submit this 4th Quarterly Status Report. The following is a brief update of APUA's actions to Sections I & II of the Cease & Desist Order (CDO).

I. **Interim Compliance Actions:** The information provided below is a continuous update of the City's effort to address the BOD and flow violations, consistent with the Interim Action Plan submitted by City Engineer on October 31, 2007.

A. APUA has, since 2005, not accepted septage waste for treatment and disposal at its wastewater treatment plant. This compliance action will remain in effect until the new plant expansion is constructed, fully tested, and fully operational which is expected to be during the early part of 2009. City will not accept septage waste and until a separate septage treatment facility is identified and approved in the future by the RWQCB.

B. Full operation of modified existing facilities - the existing wastewater treatment facilities had been modified since 2005 (at the recommendation of the City Engineer) to incorporate an interim "flow equalization (peak shaving) to reduce impact of peak organic and hydraulic loadings to the existing treatment plant. Existing aeration diffusers were thoroughly checked and all non-functioning units were replaced in Year 2007. Plant maintenance personnel installed an auxiliary aerator into each of the existing Biolac basins in February of 2008 attempting to increase aeration for additional oxygen transfer. Operations staff will closely monitor this requirement and will work with City Engineer and staff to discuss additional auxiliary measures as required.

11600 Air Expressway / Air Base Road • P.O. Box 10 • Adelanto, CA 92301 • (760) 246-2300 • Fax: (760) 246-8421

C. Chief plant operator will continue a regular review of the volatile suspended solids versus total mixed liquor suspended solids to monitor the treatment process from the standpoint of reducing the total nitrogen in the effluent.

C. City staff will continue to meet with plant operations staff to review other operational adjustments in order to maintain the existing treatment plant at optimum performance level until the "Expanded treatment facilities (with new treatment systems)" are fully constructed and operational. By December of 2008 to January of 2009, the treatment plant capacity will be provided via a combined operation of a portion of the existing Biolac treatment plant (which will substantially enhance the performance of the existing secondary clarifiers due to reduced hydraulic load) and a portion of the new biological treatment facility.

II. Actions Related to Final Compliance:

A. Long-term Action Plan – The City Engineer's staff completed a Sewer Master Plan in December 2007 and it was presented and approved by the City Council on January 23, 2008. A copy of the Sewer Master Plan was provided to RWQCB. This plan will provide guidance to the development of future "sewerage facilities" to adequately serve the City.

B. Final compliance by December 31, 2008 with WDRs adopted by the Water Board – The following provides an update on this effort:

- City's consultant has completed review of the treatment plant expansion per California Environmental Quality Act (CEQA). A copy of the "Mitigated Negative Declaration" with the Addendum was submitted to the Lahontan RWQCB.

- Application for Revised WDRs: The formal application package will be submitted on July 15, 2008 by City Engineer per his coordination with Mr. Mike Coony of the RWQCB.

- Wastewater Treatment Plant Expansion – The construction schedule is consistent with what was presented to the RWQCB in the 3rd Quarterly Report with the exception on the start-up testing of the Primary Clean Screens which will be postponed to December 2008 to complete the Operations Building and electrical / telemetry systems.

We appreciate the continued advice and cooperation of the RWQCB staff. We look forward to provide future updates in the 5th Quarterly Report on or before October 15, 2008.

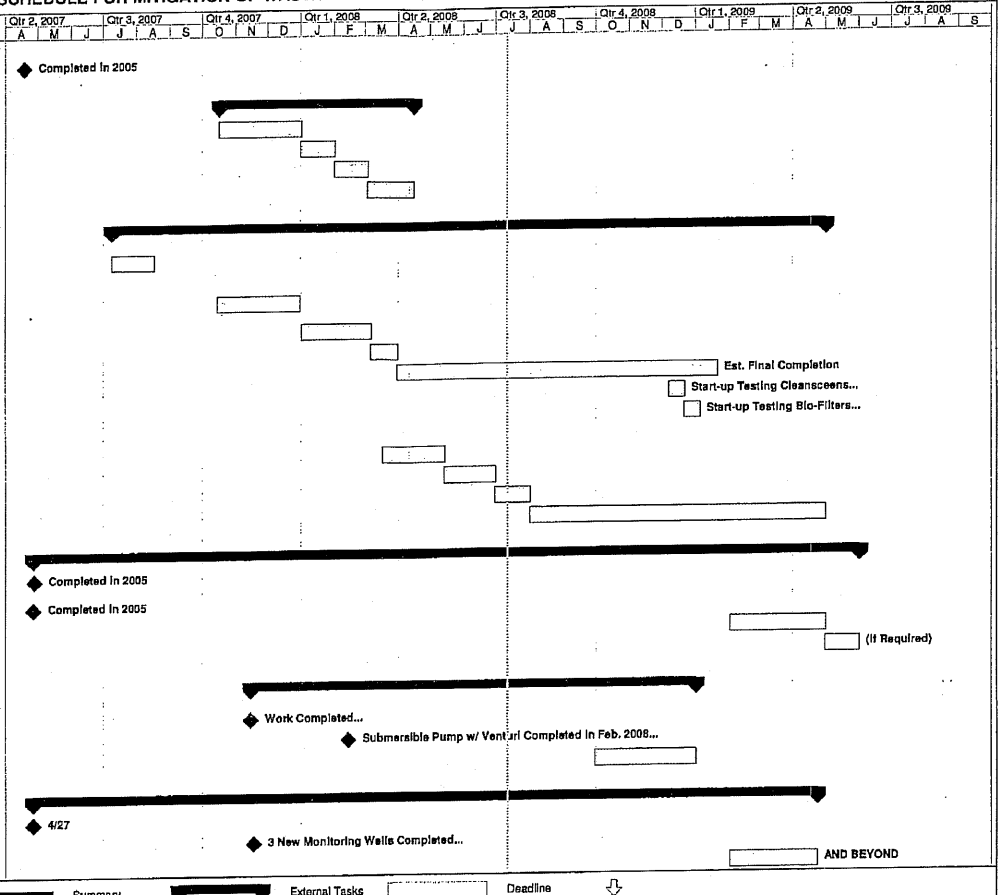
Sincerely,

John R. Sponsler
APUA Director

Cc: City Manager and Council Members
Wilson So, City Engineer

CITY OF ADELANTO - UPDATED SCHEDULE FOR MITIGATION OF WASTEWATER TREATMENT & EFFLUENT QUALITY

ID	Tasks No.	Task Name
1	1	**INTERIM MEASURE**
2		Installation of Flow Equalization Tanks
3		
4	2	**CEQA PROCESS FOR PROPOSED EXPANSION**
5		Notice of Preparation, Environmental Check list, Submission of Initial Study
6		Review Period and Response to Comments
7		Review/Respond to Lahontan RWQCB Comments
8		Public Hearing/Adoption of Mitigative Negative Declaration
9		
10	3A	**DETAILED DESIGN (PHASE A FACILITIES) PRELIMINARY SCHEDULE & CONSTRUCTION**
11		Plant Hydraulic Review, Gather Support Data from Equipment Manufacturer; Coordination of Building/Laboratory and Structural Layouts for Micromedia Biological Filters and related Advanced Primary Screens and Primary Effluent Pumps etc.
12		Phase A Design and Bid Package
13		Phase A Construction Bidding/Award/Bonds Insurances
14		Pre-Construction Coordination
15		Construction of Facilities to House MMF Equipment & MMF to Install Equipment
16		Start-up Testing Cleanscreens
17		Start-up Testing Bio-Filters
18		
19	3B	Phase B (Headwork Facilities) Design and Bid Package (Min. or No Impact on Plant)
20		Phase B Construction Bidding/Award
21		Pre-Construction Coordination
22		Construction of Phase B Headwork Facilities
23		
24	4	**Other Administrative Details**
25		Purchase of Additional 10 Acres Site East of Existing Percolation Ponds (Completed in 2005)
26		Additional of 5 Acres Percolation Pond (Completed in 2005)
27		An Additional 5 Acres Percolation Pond (with approval from RWQCB)
28		Purchasing of Additional Properties (If Required)
29		
30	5	**IMPLEMENTATION OF AN AUXILIARY AERATION SYSTEM FOR THE EXISTING OXIDATION BASINS**
31		Replacement of All Blocked Aeration Diffusers
32		Installation of Other Auxiliary Aeration Equipment
33		Early Operation of Primary Cleanscreens
34		
35	6	**INSTALLATION OF ADDITIONAL GROUND WATER MONITORING WELLS**
36		Letter Report
37		Drilling and monitoring 3 new Monitoring Wells
38		"Cradle-to-grave" Analysis of TDS (Sampling, Monitoring and Analysis)



Project: Wastewater(04-14-08).mpp
Date: Fri 7/11/08

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

City of Adelanto
Engineering Department
c/o So & Associates Engineers Inc.
16209 Kamana Road
Apple Valley, CA 92307

September 5, 2008

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392-2306

Attn: Mr. John Morales, P.E.
Water Resources Control Engineer

RE: City of Adelanto Wastewater Treatment Plant – Amendment No. 1 to Report of Waste Discharge (ROWD): Application for a Revised Waste Discharge Permit

Dear Mr. Morales:

This letter is submitted to serve as an Addendum No.1 to Report of Waste Discharge (ROWD) to provide additional information per our meeting discussions on August 27, 2008. That meeting was attended by the undersigned and John Sponsler of the City of Adelanto. The August 15, 2008 letter from the Regional Water Quality Control Board (RWQCB) reported three areas that the ROWD did not have adequate information including: (1) an evaluation that predicts the effect on the condition of groundwater as a result of the discharge, including both physical and chemical impacts; (2) an evaluation of the technologies available and analysis of the costs and performance of the technology to demonstrate that the best practicable technology is being used; and (3) requested additional data for the existing discharge. This Amendment will provide the response and additional information based on data and prior reports that were available to RWQCB and City staff.

(1) <u>An evaluation that predicts the effect on the condition of groundwater as a result of the Discharge</u>

We have provided an updated map of the location of the monitoring wells, including the three new wells (MW #4, #5, #6) that were drilled and completed around November 2007 (see Figure 6-A). The laboratory test data that were reported in prior quarterly reports (prepared by City's contracted operations staff) submitted to the RWQCB were shown in this Figure also. Figure 6-B is a vertical section of the monitoring wells in general relation to their ground locations. We see a set of data that is difficult to explain and not <u>totally</u> feasible for City staff or City's consultant to fully assess the conditions of groundwater as a result of the discharge. Further, the groundwater depths for monitoring wells MW #3, #2, and #1 were deeper than MW# 4 and #5 upstream and

MW #6 downstream. It is possible that the water table has risen in the Vadose Zone since the original monitoring wells were drilled. However, if we take a look at the depth of the percolation ponds, one can reasonably assume that water will percolate down in all directions before it reaches the water table in the Vadose Zone. Therefore, there could be some adsorption and de-nitrification taking place in the soil media.

The two key chemical constituents that were required to be evaluated include total dissolved solids (TDS) and nitrite/nitrate (NO_2 and NO_3). This subsection will briefly discuss the impact of Adelanto's effluent discharge against the groundwater in the Vadose Zone, keeping in mind that (a) there are no potable water supply wells in the general vicinity of the Adelanto percolation pond area per our inquiry with the Mojave Water Agency, and (b) almost all municipal supply wells do not collect water from the Vadose Zone into the well.

(a) **Total Dissolved Solids (TDS):** Monitoring Wells #4 and #5 shows a TDS of 640 mg/L and 540 mg/L respectively. Monitoring Wells #1 and #2 immediately downstream of the percolation ponds show an average TDS of 578 mg/L and 710 mg/L respectively. Table-1 of the original ROWD shows an average TDS for the effluent at 606.25 mg/L during the 2-year period (2006-2008) referenced. Surprisingly, Monitoring Well #6 reports a single TDS data of 1,000 mg/L. Monitoring Well #6 is about ¼ mile down-gradient of the ponds. If the same water quality data trend continues for monitoring wells #1 and #2, it may also reflect that water is moving in a northerly and northwest direction. The TDS for water samples from the upstream, effluent, and downstream monitoring wells exceed the EPA recommended standard of 500 mg/L. The anticipated change over from the existing extended aeration activated sludge treatment process (Biolac plant) to the bio-filtration process will not reduce the TDS in the future effluent.

    Without the ability to estimate the groundwater flow and quantity in the Vadose Zone, City staff can only project that the impact of effluent to the Vadose-water will generally occur within the first ¼ to ½ mile down-gradient based on review of the currently available laboratory data. That is why during the August 27, 2008 meeting, City staff had suggested that we continue to work closely with the RWQCB to gather additional laboratory data with the new monitoring wells #4, #5, and #6 which were placed into operation since November of 2007.

(b) **Nitrate and Total Nitrogen et al:** Monitoring Wells #4 and #5 show a nitrate (NO_2 and NO_3) concentration of 6.9 and 5.4 mg/L respectively. Table-1 shows the Monitoring Wells #1 and #2 immediately downstream of the percolation ponds showing an average nitrate concentration of less than 1 mg/L. Table-1 of the original ROWD also shows nitrate concentrations of less than 1 mg/L in the effluent with total nitrogen concentration at 30.05 mg/L (average). Table-2 in the original ROWD shows the observed nitrate and ammonia concentration in bio-filter effluent of 4.31 mg/L and 1.16 mg/L (average). It is the City's goal that with the new bio-filters in place and operational by early 2009, the nitrate concern can be greatly reduced or even dropped.

(2) Evaluation of Technologies Available and analysis of the costs and performance of the technology to demonstrate that the best practicable technology is being used

City staff were very candid in stating that immediate past Council members had a strong role in selecting the Micromedia Filtration's (a) primary clean screen equipment as advanced primary treatment, and (b) bio-filtration treatment equipment to meet both secondary treatment and achieve enhanced nitrate-nitrogen reduction. This is based on their personal field visits of the pilot testing facilities and staff's requesting of a supplemental validation report (prepared by Dr. Petros Gikas subsequently who had worked closely with Dr. George Tchobanoglous of UC Davis). The validation report was included as Attachment No. 2 in the original ROWD. City's internal and contracted operations staff also believe that the combination of Clean-Screen and Bio-filtration treatment plant will produce an effluent with quality exceeding the existing Biolac (extended aeration activated sludge) treatment plant, previously accepted by the RWQCB. It is without question that City staff is very disappointed with the effort of Micromedia Filtration to submit additional data. If new testing data is made available to the City, they will immediately be made available to the RWQCB also.

(3) Additional data for the existing plant discharge

Enclosed are updated Tables #1 and #3 to include the units and additional chemical constituents. We have included a Table #4 to include volatile organic compounds, referencing the monthly operation reports previously submitted to RWQCB; however, it shows nearly total "non-detect".

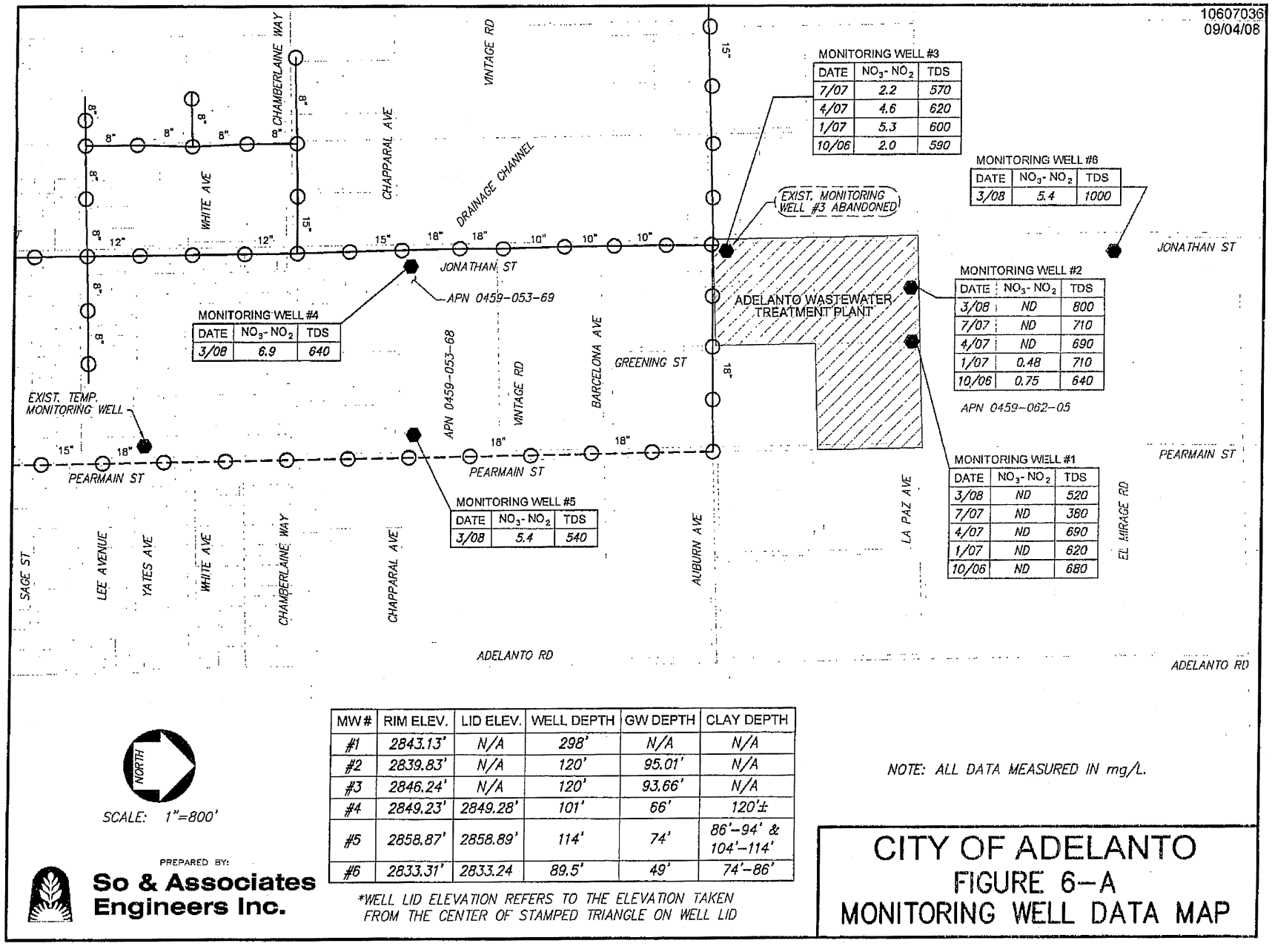
As stated previously, City staff will continue to work closely with RWQCB staff to provide you with additional clarifications and data (once we have received them) as we are continuing our coordination with representatives of Micromedia Filtration. The requested modified process flow diagram will be delivered early next week. Construction of the new plant expansion is well underway, and we would invite RWQCB staff to schedule a field visit to gain a better understanding of the treatment process and unit-operations being planned.

Very truly yours,

Wilson F. So, P.E.
City Engineer

Cc: City Council Members and City Manager
APUA Director and Bill Douglas (AOS)

10607036
09/04/08



MONITORING WELL #3

DATE	NO_3- NO_2	TDS
7/07	2.2	570
4/07	4.6	620
1/07	5.3	600
10/06	2.0	590

MONITORING WELL #6

DATE	NO_3- NO_2	TDS
3/08	5.4	1000

MONITORING WELL #2

DATE	NO_3- NO_2	TDS
3/08	ND	800
7/07	ND	710
4/07	ND	690
1/07	0.48	710
10/06	0.75	640

MONITORING WELL #4

DATE	NO_3- NO_2	TDS
3/08	6.9	640

MONITORING WELL #1

DATE	NO_3- NO_2	TDS
3/08	ND	520
7/07	ND	360
4/07	ND	690
1/07	ND	620
10/06	ND	680

MONITORING WELL #5

DATE	NO_3- NO_2	TDS
3/08	5.4	540

MW#	RIM ELEV.	LID ELEV.	WELL DEPTH	GW DEPTH	CLAY DEPTH
#1	2843.13'	N/A	298'	N/A	N/A
#2	2839.83'	N/A	120'	95.01'	N/A
#3	2846.24'	N/A	120'	93.66'	N/A
#4	2849.23'	2849.28'	101'	66'	120'±
#5	2858.87'	2858.89'	114'	74'	86'-94' & 104'-114'
#6	2833.31'	2833.24	89.5'	49'	74'-86'

*WELL LID ELEVATION REFERS TO THE ELEVATION TAKEN FROM THE CENTER OF STAMPED TRIANGLE ON WELL LID

NORTH

SCALE: 1"=800'

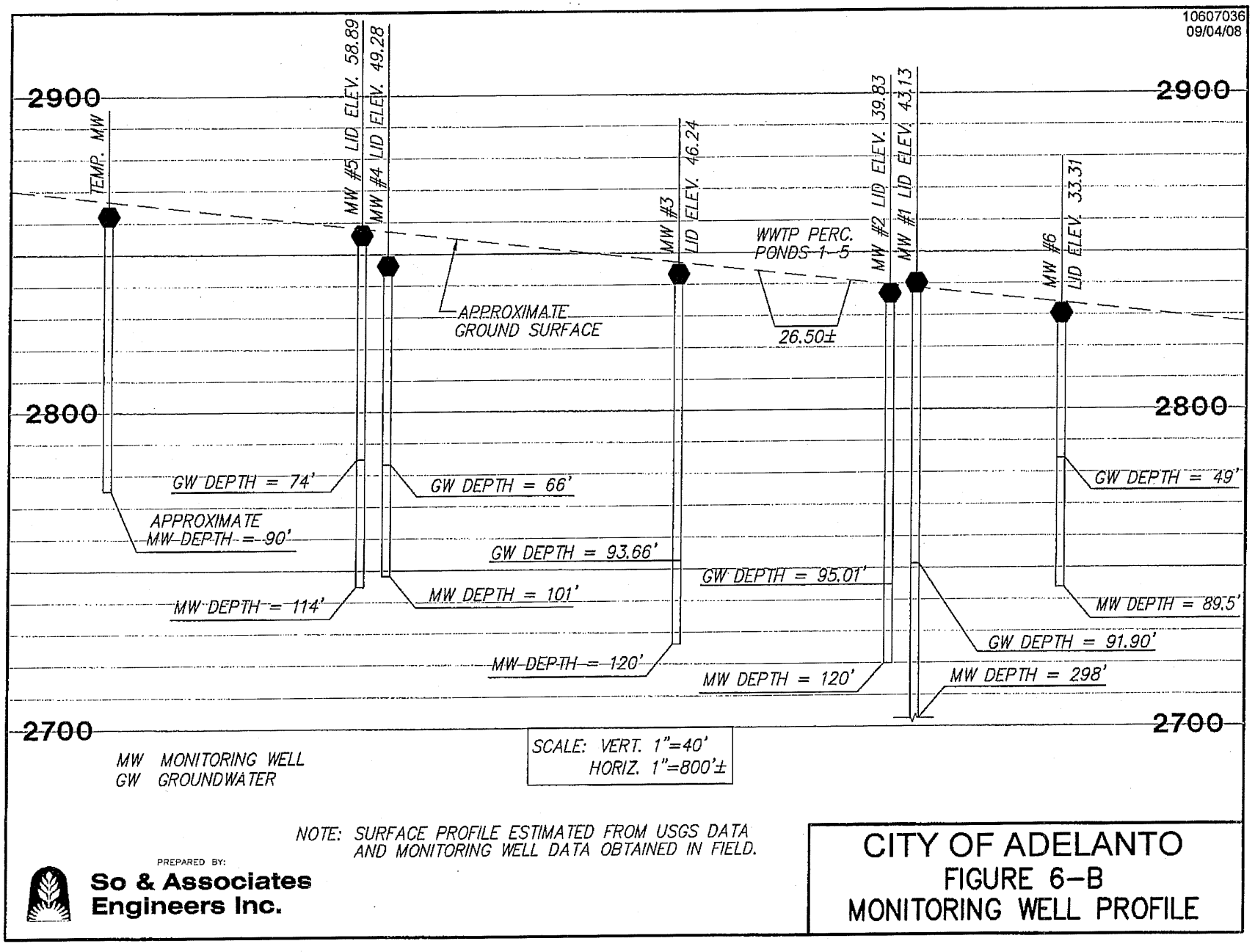
NOTE: ALL DATA MEASURED IN mg/L.

PREPARED BY:

So & Associates Engineers Inc.

CITY OF ADELANTO
FIGURE 6-A
MONITORING WELL DATA MAP

000129


10607036
09/04/08
2900
2800
2700
TEMP. MW
MW #5 LID ELEV. 58.89
MW #4 LID ELEV. 49.28
MW #3 LID ELEV. 46.24
MW #2 LID ELEV. 39.83
MW #1 LID ELEV. 43.13
MW #6 LID ELEV. 33.31
WWTP PERC. PONDS 1-5
26.50±
APPROXIMATE GROUND SURFACE
GW DEPTH = 74'
APPROXIMATE MW DEPTH = 90'
MW DEPTH = 114'
GW DEPTH = 66'
MW DEPTH = 101'
GW DEPTH = 93.66'
MW DEPTH = 120'
GW DEPTH = 95.01'
MW DEPTH = 120'
GW DEPTH = 91.90'
MW DEPTH = 298'
GW DEPTH = 49'
MW DEPTH = 89.5'
MW MONITORING WELL
GW GROUNDWATER
SCALE: VERT. 1"=40'
HORIZ. 1"=800'±
NOTE: SURFACE PROFILE ESTIMATED FROM USGS DATA AND MONITORING WELL DATA OBTAINED IN FIELD.
PREPARED BY:
So & Associates Engineers Inc.
CITY OF ADELANTO
FIGURE 6-B
MONITORING WELL PROFILE

000130

City of Adelanto
Table 1- Adelanto WWTP
Influent and Effluent Water Quality Data

	Influent			Effluent							Nitrogen (Effluent)		
Month	BOD mg/l	T.S.S. mg/l	Avg.Flow mg/l	BOD mg/l	COD mg/l	DO mg/l	pH	TDS mg/l	MBAS mg/l	Oil & Grease mg/l	Ammonia NH_3 mg/l as N	Nitrate NO3 & NO2 mg/l as N	Kjeldahl Total Nitrogen mg/l as N
Jul-08	318	510	2.2497	56	169	4.05	7.48	NRTP	0.1	2.6	7.6	Not Detected	21
Jun-08	215	205	2.1828	76.0	115.0	4.50	7.4	660	0.1	3.9	21	Not Detected	25
May-08	190	119	2.1201	20.8	40.3	5.13	7.3	NRTP	0.1	2.4	5.4	Not Detected	8
Apr-08	234	108	2.1450	54.2	66.8	5.08	7.3	NRTP	0.14	23	26	Not Detected	29
Mar-08	220	153	2.1199	22.1	42.3	5.43	7.3	660	0.84	3.9	1.2	Not Detected	2.9
Feb-08	245	170	2.1419	20.5	34.0	5.46	7.3	NRTP	0.1	5.3	2.7	0.4	5.3
Jan-08	226	155	2.1893	21.2	57.2	5.43	7.5	NRTP	0.1	7.4	15	0.51	20
Dec-07	285	223	2.1632	44.3	162.5	5.13	7.5	620	0.11	16.1	27	Not Detected	40
Nov-07	293	290	2.1664	76.0	109.0	4.38	7.6	NRTP	0.13	6.1	22	Not Detected	31
Oct-07	286	250	2.1610	15.4	34.6	5.26	7.6	NRTP	0.295	5.2	37	Not Detected	41
Sep-07	353	166	2.1791	31.5	129.8	4.73	7.45	500	1.45	8.6	32	Not Detected	50
Aug-07	272	144	2.2292	56.6	148.8	3.31	7.35	NRTP	2	9.4	34	Not Detected	48
Jul-07	312.5	388	1.9237	27.3	123.5	3.47	7.43	NRTP	0.48	8.3	32	Not Detected	42
Jun-07	332.5	288	1.9398	15.8	70.8	3.85	7.43	Sampling Error	0.42	13.1	29	Not Detected	75
May-07	382	441	1.9564	31.8	77.2	3.84	7.5	NRTP	0.205	8.3	33	Not Detected	35
Apr-07	420	421	1.9105	9.1	42.5	4.12	6.23	NRTP	0.215	1.1	25	0	28
Mar-07	310	638	1.9058	22.3	52.0	4.48	7.5	640	0	3.3	19	Not Detected	19
Feb-07	878	1271	1.9113	14.9	43.3	4.56	7.7	NRTP	0.12	6.0	Sampling Error	Sampling Error	Sampling Error
Jan-07	596	312	1.9389	18.9	63.6	4.48	7.5	NRTP	0.685	6.9	26	Not Detected	27
Dec-06	352.5	283	1.9062	36.8	49.3	4.10	7.7	610	0.24	5.9	23	Not Detected	27
Nov-06	422	204	1.9095	18.2	33.0	4.56	7.73	NRTP	Not Detected	4.0	19	0.62	23
Oct-06	312.5	136	1.9067	20.4	78.3	3.94	7.83	NRTP	0.61	6.4	30	Not Detected	35
Sep-06	240	140	1.8571	18.8	44.3	3.98	7.7	590	0.27	3.9	27	Not Detected	28
Aug-06	262	146	3.6601	13.3	40.8	6.74	7.68	NRTP	0.205	3.7	16	Not Detected	33
Jul-06	235	223	3.5516	36.8	38.3	7.13	7.65	NRTP	0.185	3.7	28	0.43	33
Jun-06													
May-06													
Apr-06													
Mar-06	286	158	3.4332	27.0	44.4	6.84	7.6	570	0.14	0	19	0.43	25

City of Adelanto Table 1-Extension
Adelanto WWTP
Summary of Infuent and Effluent Water Quality Data

	Influent		Effluent					
Month	VOCs	SVOCs	HACs	THMs	NDMA	Hexavalent Chromium	VOCs	SVOCs
Jul-08	NRTP	NRTP	NA	NA	NA	NRTP	NRTP	NRTP
Jun-08	SLS	SLS	NA	NA	NA	ND	SLS	SLS
May-08	NRTP	NRTP	NA	NA	NA	NRTP	NRTP	NRTP
Apr-08	NRTP	NRTP	NA	NA	NA	NRTP	NRTP	NRTP
Mar-08	NRTP	NRTP	NA	NA	NA	ND	SLS	SLS
Feb-08	NRTP	NRTP	NA	NA	NA	NRTP	NRTP	NRTP
Jan-08	NRTP	NRTP	NA	NA	NA	NRTP	NRTP	NRTP
Dec-07	NRTP	NRTP	NA	NA	NA	ND	SLS	SLS
Nov-07	NRTP	NRTP	NA	NA	NA	NRTP	NRTP	NRTP
Oct-07	NRTP	NRTP	NA	NA	NA	NRTP	NRTP	NRTP
Sep-07	NRTP	NRTP	NA	NA	NA	ND	SLS	SLS
Aug-07	NRTP	NRTP	NA	NA	NA	NRTP	NRTP	NRTP
Jul-07	NRTP	NRTP	NA	NA	NA	NRTP	NRTP	NRTP
Jun-07	NRTP	NRTP	NA	NA	NA	ND	SLS	SLS
May-07	NRTP	NRTP	NA	NA	NA	NRTP	NRTP	NRTP
Apr-07	NRTP	NRTP	NA	NA	NA	NRTP	NRTP	NRTP
Mar-07	NRTP	NRTP	NA	NA	NA	ND	SLS	SLS
Feb-07	NRTP	NRTP	NA	NA	NA	NRTP	NRTP	NRTP
Jan-07	NRTP	NRTP	NA	NA	NA	NRTP	NRTP	NRTP
Dec-06	NRTP	NRTP	NA	NA	NA	ND	SLS	SLS
Nov-06	NRTP	NRTP	NA	NA	NA	NRTP	NRTP	NRTP
Oct-06	NRTP	NRTP	NA	NA	NA	NRTP	NRTP	NRTP
Sep-06	NRTP	NRTP	NA	NA	NA	ND	SLS	SLS
Aug-06	NRTP	NRTP	NA	NA	NA	NRTP	NRTP	NRTP
Jul-06	NRTP	NRTP	NA	NA	NA	NRTP	NRTP	NRTP
Jun-06								
May-06								
Apr-06								
Mar-06	NRTP	NRTP	NA	NA	NA	SLS	SLS	SLS

Abbreviations

NRTP-Not Required this period
SLS-See Lab Sheet
ND- Not Detected at or above indicated Detection Limit for reporting
NA-Not Available (No Chlorine Added)

City of Adelanto

Table 3- Adelanto WWTP Monitoring Well Water Quality Data

Date and Monitoring Well	BOD mg/l	COD mg/l	TSS mg/l	TDS mg/l	Ammonia NH_3 mg/L as N	Nitrate NO_3 & NO_2 mg/L as N	Kjeldahl Total Nitrogen mg/l as N	
Mar-08								
MW# 4 (Upstream)				640	ND	6.9	ND	
MW# 5 (Upstream)				540	ND	5.4	ND	
MW# 1 (Downstream)				520	ND	ND	ND	
MW# 2 (Downstream)				800	ND	ND	ND	
MW# 6 (Downstream)				1000	ND	5.4	ND	
Jan-08								
MW# 4 (Upstream)								
MW# 5 (Upstream)								
MW# 1 (Downstream)								
MW# 2 (Downstream)								
MW# 6 (Downstream)								
Oct-07								
MW# 4 (Upstream)								
MW# 5 (Upstream)								
MW# 1 (Downstream)								
MW# 2 (Downstream)								
MW# 6 (Downstream)								
Jul-07								
MW# 4 (Upstream)								
MW# 5 (Upstream)								
MW# 1 (Downstream)				380	ND	ND	ND	
MW# 2 (Downstream)				710	ND	ND	ND	
MW# 6 (Downstream)								
MW# 3 (Downstream)				570	ND	2.2	ND	
Apr-07								
MW# 4 (Upstream)								
MW# 5 (Upstream)								
MW# 1 (Downstream)				690	ND	ND	ND	
MW# 2 (Downstream)				690	ND	ND	ND	
MW# 6 (Downstream)								
MW# 3 (Downstream)				620	ND	4.6	ND	
Jan-07								
MW# 4 (Upstream)								
MW# 5 (Upstream)								
MW# 1 (Downstream)				620	ND	ND	ND	
MW# 2 (Downstream)				710	2.2	0.48	2.7	
MW# 6 (Downstream)								
MW# 3 (Downstream)				600	ND	5.3	3.5	
Oct-06								
MW# 4 (Upstream)								
MW# 5 (Upstream)								
MW# 1 (Downstream)				680	ND	ND	1.2	
MW# 2 (Downstream)				640	1.6	0.75	2.7	
MW# 6 (Downstream)								
MW# 3 (Downstream)				590	ND	2	ND	
Jul-06								
MW# 4 (Upstream)								
MW# 5 (Upstream)								
MW# 1 (Downstream)								
MW# 2 (Downstream)								
MW# 6 (Downstream)								
MW# 3 (Downstream)								
Mar-06								
MW# 4 (Upstream)								
MW# 5 (Upstream)								
MW# 1 (Downstream)								
MW# 2 (Downstream)								
MW# 6 (Downstream)								
MW# 3 (Downstream)								
Summary	N/A	N/A	N/A	See Above	See Above	See Above	See Above	

Monitoring Well Depths

MW# 1= 320' MW# 4= 101'
MW# 2= No Data MW# 5= 114'
MW# 3= No Data MW# 6= 89.5'
ND= Not Detected at or above indicated Detection Limit for Reporting

City of AdelantoTable 4
Monitoring Wells
Volatile Organic Compounds

Month/ Sample	1,1,1-Trichloroethane (ug/L)	1,1,2-2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethylene (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Chloroethylvinyl Ether (ug/L)	Benzene (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Dichlorodifluoromethane (ug/L)	Ethyl Benzene (ug/L)	Methyl tert-Butyl Ether (ug/L)	Dichloromethane (ug/L)	Tetrachloroethylene (ug/L)	Toulene (ug/L)	Trans-1, 2-Dichloroethylene (ug/L)	Trans-1, 3-Dichloropropene (ug/L)	Trichloroethylene(ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Chloride (ug/L)	m,p-Xylene (ug/L)	o-Xylene (ug/L)
Jul-08																																				
MW# 4																																				
MW# 5																																				
MW# 1																																				
MW# 2																																				
MW# 6																																				
Jun-08																																				
MW# 4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 5																																				
MW# 1																																				
MW# 2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
EFF-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
May-08																																				
MW# 4																																				
MW# 5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 3																																				
MW# 6																																				
Apr-08																																				
MW# 4																																				
MW# 5																																				
MW# 1																																				
MW# 2																																				
MW# 6																																				
Mar-08																																				
MW# 4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Feb-08																																				
Jan-08																																				
Dec-07																																				
MW# 4																																				
MW# 5																																				
MW# 1																																				
MW# 2																																				
MW# 6																																				
EFF	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nov-07																																				
Oct-07																																				
Sep-07																																				
Aug-07																																				
Jul-07																																				
MW# 4																																				
MW# 5																																				
MW# 1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 6																																				
MW #3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Jun-07																																				
May-07																																				
Apr-07																																				
MW# 4																																				
MW# 5																																				
MW# 1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 6																																				
MW# 1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mar-07																																				
MW# 4																																				
MW# 5																																				
MW# 1																																				
MW# 3																																				
MW# 6																																				
EFF	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Feb-07																																				
MW# 4																																				
MW# 5																																				
MW# 1																																				
MW# 3																																				
MW# 6																																				
Jan-07																																				
MW# 4																																				
MW# 5																																				
MW# 1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 6																																				
MW# 3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dec-06																																				
Nov-06																																				
Oct-06																																				
MW# 4																																				
MW# 5																																				
MW# 1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 6																																				
MW# 3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sep-06																																				
Aug-06																																				
Jul-06																																				
Jun-06																																				
May-06																																				
Apr-06																																				
Mar-06																																				
MW# 4																																				
MW# 5																																				
MW# 1																																				
MW# 2																																				
MW# 6																																				
EFF-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

No Information Available

No Information Available

No Information Available

No Information Available

No Information Available

Abbreviations
ND-Not Detected at or above indicated Detection Limit for Reporting

City of Adelanto Table 4-A
Monitoring Wells
Semi-Volatile Organics

Monitr/ Sample	1,2,4-Trichlorobenzene (ug/L)	1,2-Diphenylhydrazine (ug/L)	2,4-Dichlorophenol (ug/L)	2,4-Dimethylphenol (ug/L)	2,4-Dinitrophenol (ug/L)	2,6-Dinitrotoluene (ug/L)	4,6-Dinitro-2-methylphenol (ug/L)	4-Chloronaphthalene (ug/L)	4-Chlorophenol (ug/L)	2-Methyl-4,6-dinitrophenol (ug/L)	2-Nitrophenol (ug/L)	3,3'-Dichlorobenzidine (ug/L)	4,4'-DDD (ug/L)	4,4'-DDE (ug/L)	4,4'-DDT (ug/L)	4-Bromophenyl phenyl ether (ug/L)	4-Chloro-3-methylphenol (ug/L)	4-Nitrophenol (ug/L)	Alpha BHC (ug/L)	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Aldrin (ug/L)	Anthracene (ug/L)	Aroclor 1016 (ug/L)	Aroclor 1221 (ug/L)	Aroclor 1232 (ug/L)	Aroclor 1242 (ug/L)	Aroclor 1248 (ug/L)	Aroclor 1254 (ug/L)	Aroclor 1260 (ug/L)	Beta BHC (ug/L)	Benzidine (ug/L)	Benzo(a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (g,h,.) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Bis (2-chloroethoxy) methane (ug/L)
Jul-08																																							
MW# 4																																								
MW# 5																																								
MW# 1																																								
MW# 2																																								
MW# 6																																								
Jan-08																																								
MW# 4	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
MW# 5																																								
MW# 1																																								
MW# 2	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
MW# 6	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
EFF-3	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
INF-1	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
May-08																																								
MW# 4																																								
MW# 5	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
MW# 1	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
MW# 2																																								
MW# 6																																								
Apr-08																																								
MW# 4																																								
MW# 5																																								
MW# 1																																								
MW# 2																																								
MW# 6																																								
Mar-08																																								
MW# 4	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
MW# 5	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
MW# 1	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
MW# 2	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
MW# 6	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
Feb-08																																								
Jan-08	No Information Available																																							
Dec-07																																								
MW# 4																																								
MW# 5																																								
MW# 1																																								
MW# 2																																								
MW# 6																																								
EFF	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
Nov-07																																								
Oct-07																																								
Sep-07																																								
Aug-07	No Information Available																																							
Jul-07																																								
MW# 4																																								
MW# 5																																								
MW# 1	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
MW# 2	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
MW# 6																																								
MW #3	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
Jun-07																																								
May-07	No Information Available																																							
Apr-07																																								
MW# 4																																								
MW# 5																																								
MW# 1	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
MW# 2	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
MW# 6																																								
MW#3	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
Mar-07																																								
MW# 4																																								
MW# 5																																								
MW# 1																																								
MW# 2																																								
MW# 6																																								
EFF	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
Feb-07																																								
MW# 4																																								
MW# 5																																								
MW# 1																																								
MW# 2																																								
MW# 6																																								
Jan-07																																								
MW# 4																																								
MW# 5																																								
MW# 1	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
MW# 2	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
MW# 6																																								
MW# 3	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
Dec-06																																								
Nov-06	No Information Available																																							
Oct-06																																								
MW# 4																																								
MW# 5																																								
MW# 1	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
MW# 2	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
MW# 6																																								
MW# 3	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND
Sep-06																																								
Aug-06																																								
Jul-06																																								
Jun-06																																								
May-06																																								
Apr-06	No Information Available																																							
Mar-06																																								
MW# 4																																								
MW# 5																																								
MW# 1																																								
MW# 2																																								
MW# 6																																								
EFF-2	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND

City of Adelanto Table 4-A
Monitoring Wells
Semi-Volatile Organics

Monthly Sample	Bis (2-chloroethyl) ether (ug/L)	Bis (2-chloroisopropyl) ether (ug/L)	Bis (2-ethylhexyl) phthalate (DEHP) (ug/L)	Butylbenzyl phthalate (ug/L)	Chlordane (ug/L)	Chrysene (ug/L)	Delta-BHC (ug/L)	Di-n-butylphthalate (ug/L)	Di-n-octylphthalate (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Dieldrin (ug/L)	Diethylphthalate (ug/L)	Endosulfan I (ug/L)	Endosulfan II (ug/L)	Endosulfan Sulfate (ug/L)	Endrin (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Heptachlor (ug/L)	Heptachlor Epoxide (ug/L)	Hexachlorobenzene (ug/L)	Hexachlorobutadiene (ug/L)	Hexachlorocyclopentadiene (ug/L)	Hexachloroethane (ug/L)	Indeno (1, 2,3-cd) pyrene (ug/L)	Isophorone (ug/L)	N-Nitroso-di-n-propylamine (ug/L)	N-Nitrosodimethylamine (ug/L)	N-Nitrosodiphenylamine (ug/L)	Naphthalene (ug/L)	Nitrobenzene (ug/L)	Pentachlorophenol (PCP) (ug/L)	Phenanthrene (ug/L)	Phenol (ug/L)	Pyrene (ug/L)	Toxaphene (ug/L)	Gamma BHC (ug/L)
Jul-08																																							
MW# 4																																								
MW# 5																																								
MW# 1																																								
MW# 2																																								
MW# 6																																								
Jun-08																																								
MW# 4	ND	ND	3.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 5																																								
MW# 1																																								
MW# 2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17	ND	ND	ND	ND	ND
EFF-3	ND	ND	4.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
EFF-1	ND	ND	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
May-08																																								
MW# 4																																								
MW# 5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 2																																								
MW# 6																																								
Apr-08																																								
MW# 4																																								
MW# 5																																								
MW# 1																																								
MW# 2																																								
MW# 6																																								
Mar-08																																								
MW# 4	ND	ND	7.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 5	ND	ND	5.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Feb-08	No Information Available																																								
Jan-08																																								
Dec-07																																								
MW# 4																																								
MW# 5																																								
MW# 1																																								
MW# 2																																								
MW# 6																																								
EFF	ND	ND	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nov-07	No Information Available																																								
Oct-07																																								
Sep-07																																								
Aug-07																																								
Jul-07																																								
MW# 4																																								
MW# 5																																								
MW# 1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 2	ND	ND	30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 6																																								
MW #3	ND	ND	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Jun-07	No Information Available																																								
May-07																																								
Apr-07																																								
MW# 4																																								
MW# 5																																								
MW# 1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 2	ND	ND	3.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 6																																								
MW#3	ND	ND	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mar-07																																								
MW# 4																																								
MW# 5																																								
MW# 1																																								
MW# 2																																								
MW# 6																																								
EFF	ND	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Feb-07																																								
MW# 4																																								
MW# 5																																								
MW# 1																																								
MW# 2																																								
MW# 6																																								
Jan-07																																								
MW# 4																																								
MW# 5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 1	ND	ND	3.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 2	ND	ND	3.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 6																																								
MW# 3	ND	ND	17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dec-06	No Information Available																																								
Nov-06																																								
Oct-06																																								
MW# 4																																								
MW# 5																																								
MW# 1	ND	ND	28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 2	ND	ND	18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW# 6																																								
MW# 3	ND	ND	26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sep-06	No Information Available																																								
Aug-06																																								
Jul-06																																								
Jun-06																																								
May-06																																								
Apr-06																																								
Mar-06																																								
MW# 4																																								
MW# 5																																								
MW# 1																																								
MW# 2																																								
MW# 6																																								
EFF-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

JOHN

FILE COPY

City of Adelanto

Engineering Department
c/o So & Associates Engineers Inc.
16209 Kamana Road
Apple Valley, CA 92307

November 12, 2008

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392-2306

Attn: Mr. John Morales, P.E.
Water Resources Control Engineer

RE: City of Adelanto Wastewater Treatment Plant - Response to Follow-up Questions

Dear Mr. Morales:

As a follow up to recent meetings and questions that you have submitted on November 5, 2008 and November 10, 2008, our responses are presented below.

Q(1) Was the interim plan (consisting of the plant accepting septage, replacing inoperable aerators and the addition of equalization to the plant) implemented prior to January 31, 2008?

Response: All of the items in your question were implemented prior to January 31, 2008. The flow equalization tanks were initially added in 2006. However, just recently, the Chief Plant Operator, Mr. Roger Vesley recommended that the equalization tanks be eliminated due to build-up of septic conditions. Mr. Vesley has kept a very close watch of the extended aeration activated sludge treatment process and was able to keep the treatment plant performance in check.

The inoperable aeration diffusers (initially installed in about 1997-98 at the Biolac ponds) were inspected in November 2007 and replaced.

Q(2) When do you anticipate full scale operation of the new plant?

Reponse: The new treatment plant (consisting of primary clean screens and biological filters) is planned for a capacity up to 8.0 million gallons per day average (MGD) in two identical modular layouts. The first expansion is for 3.0 MGD, readily expandable to full 4.0 MGD. However, when the existing extended aeration activated sludge plant is included in the overall plant capacity, Adelanto will have a 4.0 MGD average plant capacity. Upgrade and expansion of head-works will be underway soon.

The first 3.0 MGD new plant consists of twelve (12) parallel trains of biological filters, each rated for 0.25 to 0.30 MGD. Each biological filter train consists of a tall and slightly shorter stainless steel vessel. The City will likely keep the average flow to each treatment train at about 0.25 MGD.

Full scale start-up operation of the new plant: The new treatment plant commenced construction in April of 2008. Despite our contractor facing difficulty in receiving special fabricated piping and fittings from

over-seas, the two contractors (Micromedia Filtration or MMF is the second general contractor) are cooperating fully to make sure that required equipment are installed, electrical conduits are installed and wired, including telemetry cables. We have tentatively scheduled the start-up testing shortly after December 15, 2008 unless our two contractors encounter instrumentation and electrical panel delays. Construction of balance of minor support facilities may still be continued. Because the micro-organisms used in the reduction of BOD and nitrates are very slow growers, MMF technicians will conduct start-up testing on a total of four (4) biological filter trains, with a total capacity of 1.0 MGD average daily flow. This will split up the current City wastewater flow (slightly above 2.1 MGD) into two separate secondary treatment facilities. However, both secondary biological treatment facilities will receive an equivalent primary effluent via the Clean Screens.

Q(3) What percentage of flow will be handled by the new plant?

Response: Assuming the initial 1.0 MGD new plant start-up is fully successful after several weeks. At this stage (the early half of 2009), the incoming wastewater flow will be equally split between the old and the new plants. The other biological treatment trains will gradually be cultured (with the micro-organisms used in treatment). These biological filter trains will then be placed in the stand-by mode. The City's Operations personnel will be evaluating the effluent water quality. After the Operations personnel is fully familiar and satisfied with the new plant, each additional 0.25 MGD biological filter train can be placed into service.

This time schedule projection also relate to my recent discussions with Mr. Mike Plaziak of the Lahontan RWQCB, requesting that RWQCB approve an interim discharge permit and provide up to 24 months for the City to respond to RWQCB regarding how the new treatment facility will perform, including the anti-degradation analysis of the upper groundwater flow.

Process Flow Diagram: We have included an updated flow diagram which shows how the current wastewater flow moves from the Headworks via the existing influent pump station to the existing Biolac extended aeration treatment facility and to the new treatment plant (consisting of primary clean screens, secondary biological filters, and chlorine contact basin when effluent is approved to be used for landscape irrigation or for construction). It is our professional opinion that it will be very confusing if we attempt to show these two plants on a traditional block-type flow diagram.

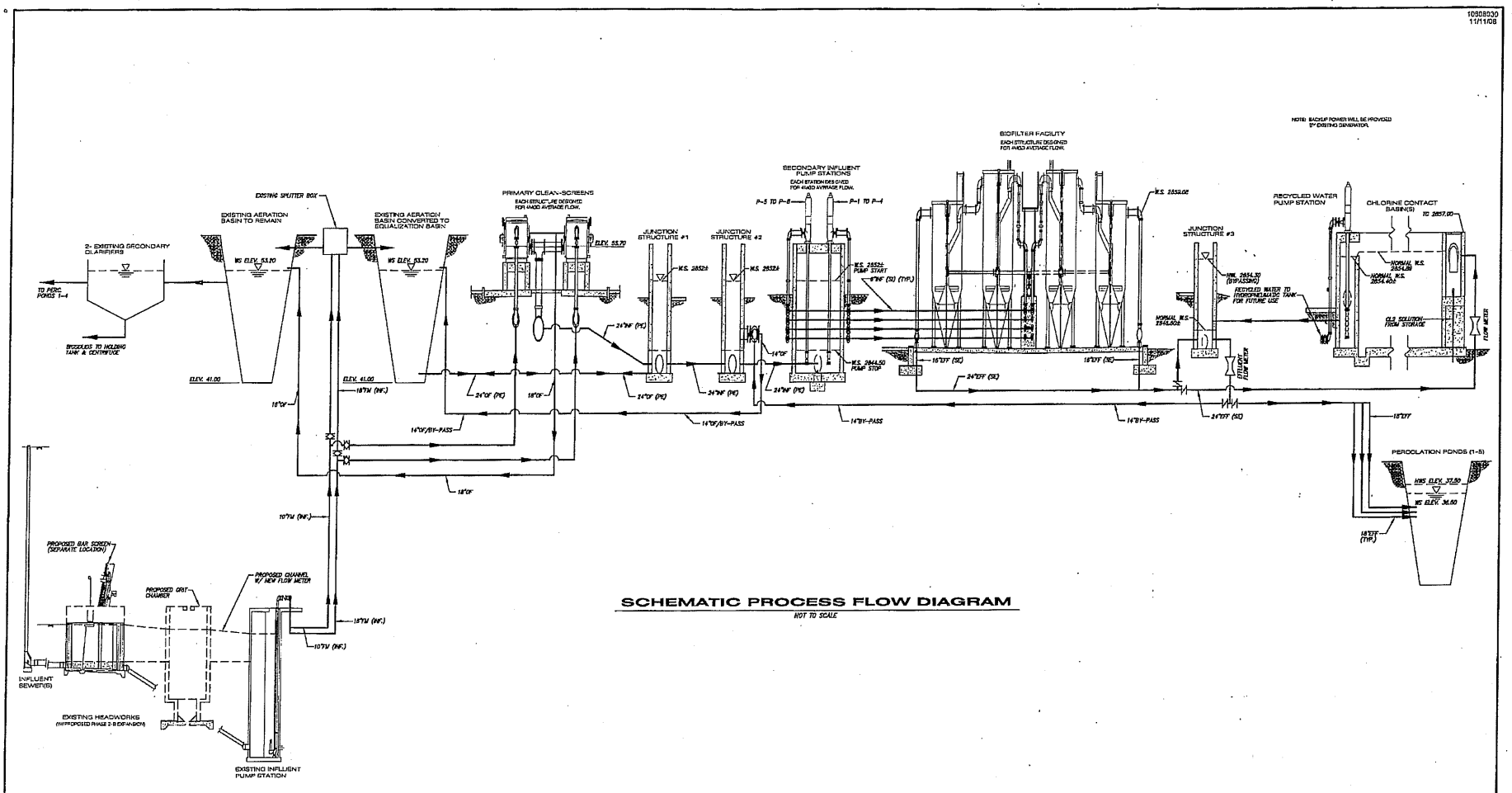
Field Visit: The structures and operations building of the new plant are gradually being completed. At RWQCB staff's convenience, we would welcome all of you to contact the undersigned at 760-242-2365 or 760-246-2300 (via City) for a scheduled field visit.

I trust that information provided above fully answers your questions.

Very truly yours,

Wilson F. So, P.E.
City Engineer

Cc: City Council and City Manager



SCHEMATIC PROCESS FLOW DIAGRAM

NOT TO SCALE

PREPARED BY:

So & Associates Engineers Inc.

FIGURE 5

City of Adelanto

October 15, 2008

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392-2306

Attn: Mr. Mike Plaziak
Supervising Engineering Geologist

RE: Adelanto Public Utility Authority – CDO Quarterly Reports; 5th Quarterly Report

Dear Mr. Plaziak:

As a follow up to the Lahontan Regional Water Quality Control Board's (hereinafter referred to as RWQCB) Order No. R6V-2007-0024 and Section 13267 of the California Water Code, Adelanto Public Utility Authority is pleased to submit this 5th Quarterly Status Report. The following is a brief update of APUA's actions to Sections I & II of the Cease & Desist Order (CDO).

I. **Interim Compliance Actions:** The information provided below is a continuous update of the City's effort to address the BOD and flow violations, consistent with the Interim Action Plan submitted by City Engineer on October 31, 2007.

A. APUA has, since 2005, not accepted septage waste for treatment and disposal at its wastewater treatment plant. This compliance action will remain in effect until the new treatment plant expansion is constructed and fully operational which is expected during the early part of 2009, as has been indicated in the 4th Quarterly Report. City will not accept and treat any septic-waste until a separate septage treatment facility is identified and approved in the future by the RWQCB.

B. Full operation of modified existing facilities - the existing wastewater treatment facilities had been modified since 2005 (at the recommendation of the City Engineer) to incorporate an interim "flow equalization (peak shaving) to reduce impact of peak organic and hydraulic loadings to the existing treatment plant. Based on recent discussions between City and contract operations staff, the "interim flow equalization" was discontinued due to concern for turning the wastewater into a septic condition. Existing aeration diffusers were thoroughly checked and all non-functioning units were replaced in Year 2007. Plant maintenance personnel installed an auxiliary aerator into each of the existing Biolac basins in February of 2008 attempting to increase aeration for additional oxygen transfer.

11600 Air Expressway / Air Base Road • P.O. Box 10 • Adelanto, CA 92301 • (760) 246-2300 • Fax: (760) 246-8421

Operations staff will closely monitor this requirement and will work with the City (APUA) staff to discuss additional auxiliary measures as required.

C. The Chief Plant Operator will continue a regular review of the volatile suspended solids versus total mixed liquor suspended solids to monitor the treatment process from the standpoint of reducing the total nitrogen in the effluent. Based on the updated construction schedule for the current plant expansion, we are anticipating to commence the operations testing of the primary clean screens in early December of 2008. This will help in reducing the organic loadings to the existing Biolac treatment facility.

D. City staff will continue to meet with plant operations staff to review other operational adjustments in order to maintain the existing treatment plant at an optimum performance level until the "Expanded Treatment Facilities (with new treatment systems)" are fully constructed and operational. After January of 2009, it is expected that the treatment plant capacity will be provided via a combined operation of a portion of the new MicroMedia biological treatment facility and a portion of the existing Biolac treatment plant (which will substantially enhance the performance of the existing secondary clarifiers due to reduced hydraulic loading). We hope to provide a tour for RWQCB staff of the new treatment facility under construction in November of 2008.

II. Actions Related to Final Compliance:

A. Long-term Action Plan – The City Engineer's staff completed a Sewer Master Plan in December 2007 and it was presented and approved by the City Council on January 23, 2008. A copy of the Sewer Master Plan was provided to RWQCB. This plan will provide guidance to the development of future "sewerage facilities" to adequately serve the City. A program environmental impact report is also under preparation for these master plans.

B. Final compliance by December 31, 2008 with WDRs adopted by the Water Board – The following provides an update on this effort:

- Application for Revised WDRs: Initial application for WDR was submitted on July 15, 2008. Additional information for Revised WDR's was submitted to the RWQCB on September 5, 2008. RWQCB responded to this Additional Information on October 2, 2008 with certain issues for the City to follow-up. City staff will work closely with RWQCB staff to provide a workable solution to resolve the concerns.

- Wastewater Treatment Plant Expansion –The construction schedule is consistent with what was presented to the RWQCB in the 3rd Quarter Report with the exception on the start-up testing of the Primary Clean Screens with will be postponed to December 2008 to enable completion of the Operations Building and electrical/telemetry system wirings.

  - Bio-filter vessels (of stainless steel) are being delivered as of 9/29/08. All vessels are expected to be on site and installed by late-November 2008.
  - Clean Screen are tentatively scheduled for installation by mid-November 2008 after the structural slab and mechanical piping are installed and ready

- Compliance date of December 31, 2008: As reported in Section-I (Paragraph D) above, The City may be using a combination of half of the existing Biolac treatment plant and a portion of the new biological treatment facility to handle the incoming wastewater. Overall, the plant design capacity should be at 4 MGD (million gallons per day). The City's process equipment contractor (MMF) is responsible for start-up testing of the biological filters; with about 1.0 MGD of the new plant being considered under the initial start-up. This will permit a gradual cultivation of the micro-organisms required for the full treatment plant. Under this project construction and start-up time-line scenario, the City of Adelanto will make every effort to meet the compliance schedule of December 31, 2008 to ensure that City will have adequate wastewater treatment capacity for the current and future flows.

  The City has made considerable efforts to complete the design for the new treatment plant and its construction within about a 14 month period since receiving the CDO from the RWQCB and since the City Council made the decision to proceed with the new treatment technology. Operational testing and start-up shifts the full operation (time line when the full incoming flow can be shifted entirely to the new biological filter treatment process) date to March 2009 and possibly beyond. This timeframe is necessary to allow the growth, cultivation, and distribution of micro-organisms used in the treatment to all the pressure vessels. As mentioned in previous paragraphs, incoming wastewater flow through early part of 2009 will likely be split between the existing Biolac plant and the MicroMedia biofilter plant until the eventual full transition to the MicroMedia system. The split treatment approach is to ensure start-up reliability and our ability to improve on effluent quality. Therefore, we are requesting that the Lahontan Regional Water Quality Control Board extend the special considerations and assist the City to complete this Wastewater Reclamation Project such that Adelanto can fully meet the new waste discharge requirements to the fullest extent possible.

- City signed a 5 year operations and maintenance extension agreement with Aquarion Operating Services/United Water guaranteeing consistent and professional services until 2013.

We appreciate the continued advice and cooperation of the RWQCB staff. We look forward to providing future updates in the 6th Quarterly Report on or before January 15, 2009. We shall also coordinate with RWQCB staff to schedule the field visits mentioned above.

Sincerely,

John R. Sponsler
APUA Director

Cc: City Manager and Council Members
Wilson So, PE City Engineer

COPY Submitted 1/15/09

City of Adelanto

January 15, 2009

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392-2306

Attn: Mr. Mike Plaziak
Supervising Engineering Geologist

RE: Adelanto Public Utility Authority – CDO Quarterly Reports; 6th Quarterly Report

Dear Mr. Plaziak:

As a follow up to the Lahontan Regional Water Quality Control Board's (hereinafter referred to as RWQCB) Order No. R6V-2007-0024 and Section 13267 of the California Water Code, Adelanto Public Utility Authority is pleased to submit this 6th Quarterly Status Report. The following is a brief update of APUA's actions to Sections I & II of the Cease & Desist Order (CDO).

I. **Interim Compliance Actions:** The information provided below is a continuous update of the City's effort to address the BOD and flow violations, consistent with the Interim Action Plan submitted by City Engineer on October 31, 2007.

A. APUA has, since 2005, not accepted septage waste for treatment and disposal at its wastewater treatment plant. This compliance action will remain in effect until the new treatment plant expansion is constructed and fully operational which is expected during the early part of 2009, as has been indicated in the 4th Quarterly Report. City will not accept and treat any septic-waste until a separate septage treatment facility is identified and approved in the future by the RWQCB.

B. Full operation of modified existing facilities - the existing wastewater treatment facilities had been modified since 2005 (at the recommendation of the City Engineer) to incorporate an interim "flow equalization (peak shaving) to reduce impact of peak organic and hydraulic loadings to the existing treatment plant. Based on recent discussions between City and contract operations staff, the "interim flow equalization" was discontinued due to concern for turning the wastewater into a septic condition. Existing aeration diffusers were thoroughly checked and all non-functioning units were replaced in Year 2007. Plant maintenance personnel installed an auxiliary aerator into each of the existing Biolac basins in February of 2008 attempting to increase aeration for additional oxygen transfer.

11600 Air Expressway / Air Base Road • P.O. Box 10 • Adelanto, CA 92301 • (760) 246-2300 • Fax: (760) 246-8421

Operations staff will closely monitor this requirement and will work with the City (APUA) staff to discuss additional auxiliary measures as required.

C. The Chief Plant Operator will continue a regular review of the volatile suspended solids versus total mixed liquor suspended solids to monitor the treatment process from the standpoint of reducing the total nitrogen in the effluent. As of January 2009, we are into our 9th month of construction and we are coordinating as closely as we can to expedite the construction progress. Based on the updated construction schedule, we are scheduling to begin operations start-up and testing of one of the primary Clean-screens in early February 2009. This delayed operations start-up reflects a date-change from the 5th Quarterly report and is due primarily to unexpected construction delays and problems experienced in December 2008 from inclement weather, material delivery coordination, and the Christmas holiday season. The start-up and operations testing of the 1st primary Clean-screen (equivalent primary treatment) will help in reducing the organic loadings to the existing Biolac activated sludge treatment facility, which will reduce the amount of air supply requirement and the solids loading at the existing secondary clarifiers.

D. City staff will continue to meet with plant operations staff to review other operational adjustments in order to maintain the existing treatment plant at an optimum performance level until the "Expanded Treatment Facilities (with new treatment systems)" are constructed and fully operational. In March of 2009, we are scheduling to begin with start-up and testing of the first one million gallons biological filters (total of 4 process trains). After March of 2009, it is expected that the treatment plant capacity will be provided via a combined operation of a portion of the new Clean-screen biological filter treatment facility and half of the existing Biolac treatment plant (which will substantially enhance the performance of the existing secondary clarifiers due to reduced hydraulic and bio-solids loading). City Staff cordially invites the RWQCB staff to tour the new facility to gauge construction progress. We have enclosed several recent construction photos for reference.

II. Actions Related to Final Compliance:

A. Long-term Action Plan – The City Engineer's staff completed a Sewer Master Plan in December 2007 and it was presented and approved by the City Council on January 23, 2008. A copy of the Sewer Master Plan was provided to RWQCB. This plan will provide guidance to the development of future "sewerage facilities" to adequately serve the City. A program environmental impact report is also under preparation for these master plans.

B. Final compliance by December 31, 2008 with WDRs adopted by the Water Board – The following provides an update on this effort:

- Application for Revised WDRs: Initial application for WDR was submitted on July 15, 2008. Additional information for Revised WDR's was submitted to the RWQCB on September 5, 2008. RWQCB responded to this Additional Information on October 2, 2008 with certain issues for the City to follow-up. City staff will continue to work closely with RWQCB staff to provide a workable solution to resolve the concerns. City staff has had discussions with geologist and will schedule the drilling and addition of three (3) new

monitoring wells downstream of the plant effluent discharge per City Engineer's meeting with you.

- Wastewater Treatment Plant Expansion –The construction schedule is consistent with what was presented to the RWQCB in the 3rd Quarter Report with the exception on the start-up testing of the Primary Clean Screens with has been postponed to February 2009 to enable completion of the Operations Building, installing electrical/telemetry wirings, and to energize the system controls. The balance of the treatment plant expansion construction are as follows:

  - Bio-filter vessels (of stainless steel) are being delivered as of 9/29/08. All vessels are expected to be on site and installed by early March of 2009 (total of 3 MGD capacity). As of this writing, 20 vessels have been delivered/installed with the remaining vessels forthcoming (total of 4). These 20 vessels provide equivalent 2.5 million gallons of treatment capacity.

  - Remaining two Clean-screens are tentatively scheduled for delivery and installation by March 2009 after a structural manufacturing issue is resolved with the contractor.

- Compliance date of December 31, 2008: As reported in Section-I (Paragraph D) above, The City may be using a combination of half of the existing Biolac treatment plant and a portion of the newly constructed biological treatment facility to handle the incoming wastewater. Overall, the plant design capacity should be rated at 4 MGD (million gallons per day). The City's process equipment contractor (MMF) is responsible for start-up testing of the biological filters; with about 1.0 MGD of the new plant being considered under the initial start-up. This will permit a gradual cultivation of the micro-organisms required for the full treatment plant operation. Under this project construction and start-up time-line scenario, the City of Adelanto has exercised its best effort with the contractor(s) to meet the compliance schedule of December 31, 2008 to ensure that the City will have adequate wastewater treatment capacity for the current and future flows.

  The City has made considerable efforts to complete the design for the new treatment plant and its construction within about a 14 month period since receiving the CDO from the RWQCB and since the City Council made the decision to proceed with the new treatment technology on October 24, 2007. Operational testing and start-up shifts the full operation (time line when the full incoming flow can be transferred entirely to the new Clean-screens and biological filter treatment process to the latter part of 2009. This timeframe is necessary to allow the growth, cultivation, and distribution of micro-organisms used in the treatment to all the pressure vessels and the clean-up / conversion of one of the existing Biolac ponds into a Flow Equalization Basin. As mentioned in previous paragraphs, incoming wastewater flow through the early part of 2009 will likely be split between the existing Biolac plant and the new treatment plant until the eventual full transition to the Clean-screen / Biofilter treatment system. The split treatment approach is to ensure start-up reliability and our ability to improve on effluent quality. Therefore, we are requesting that the Lahontan Regional Water Quality Control Board extend the special considerations and assist the City to complete this Wastewater Reclamation Project such that Adelanto can fully meet the new waste discharge requirements to the fullest extent possible.

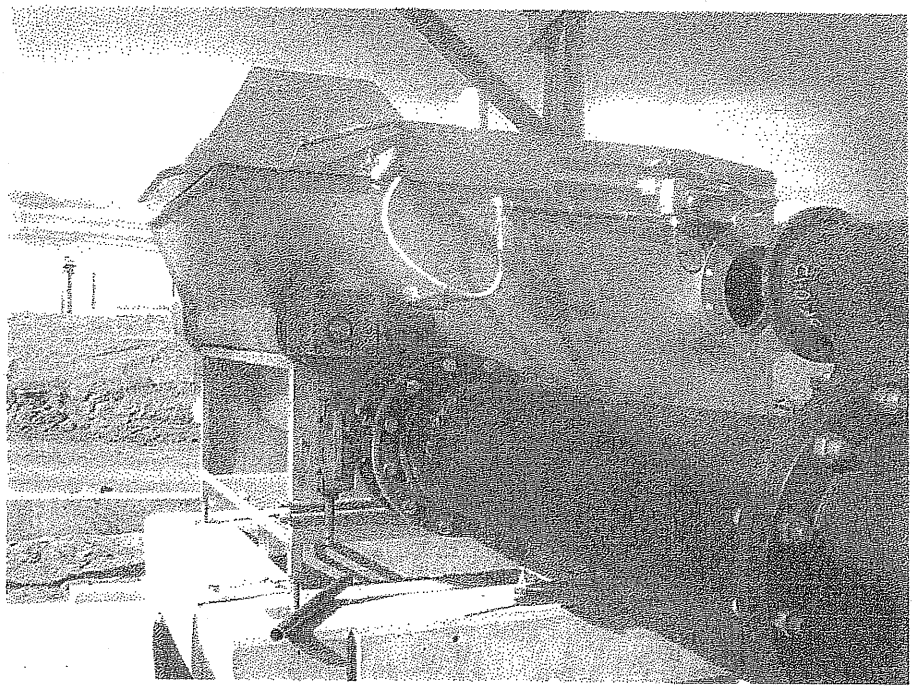
- City has entered into a 5 year operations and maintenance extension agreement with Aquarion Operating Services (United Water) guaranteeing consistent and professional services until 2013.

We appreciate the continued advice and cooperation of the RWQCB staff. We look forward to providing future updates in the 7th Quarterly Report on or before April 15, 2009. We shall also coordinate with RWQCB staff to schedule a field visit when the equipment start-up testing(s) are fully completed.

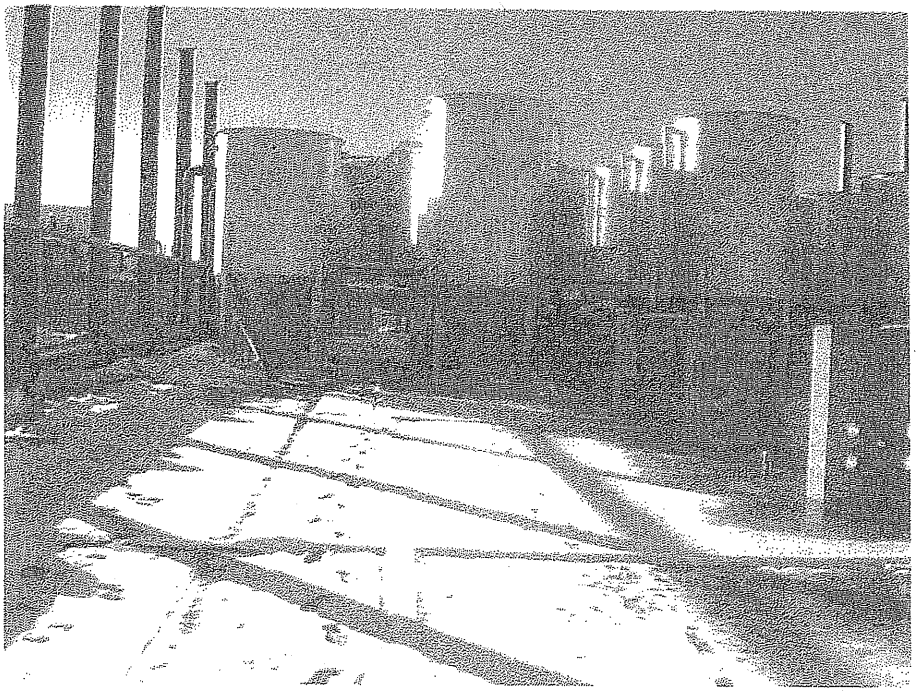
Sincerely,

John R. Sponsler
APUA Director

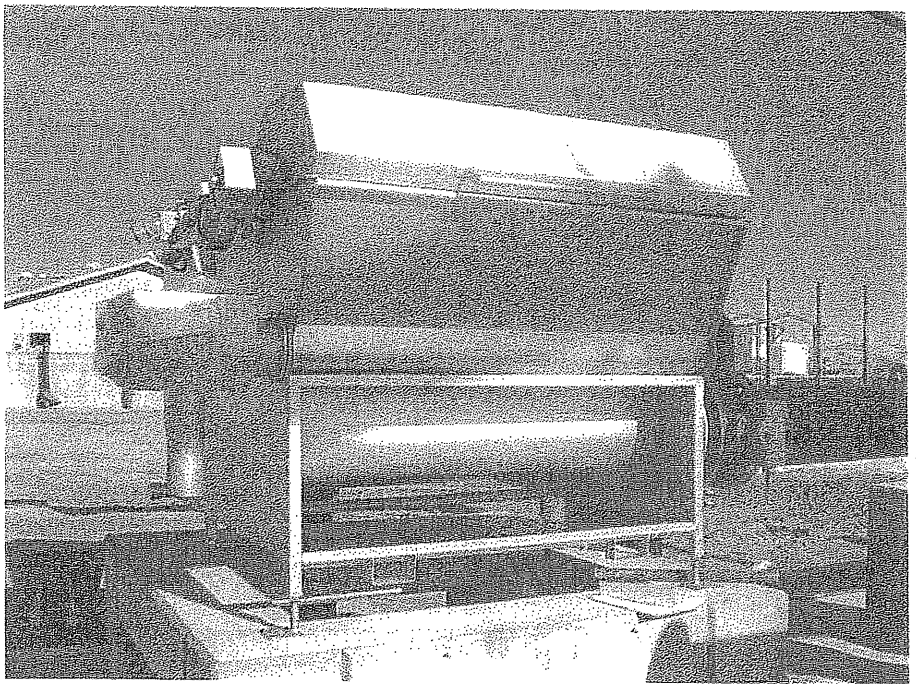
Cc: City Manager and Council Members
Wilson So, PE City Engineer



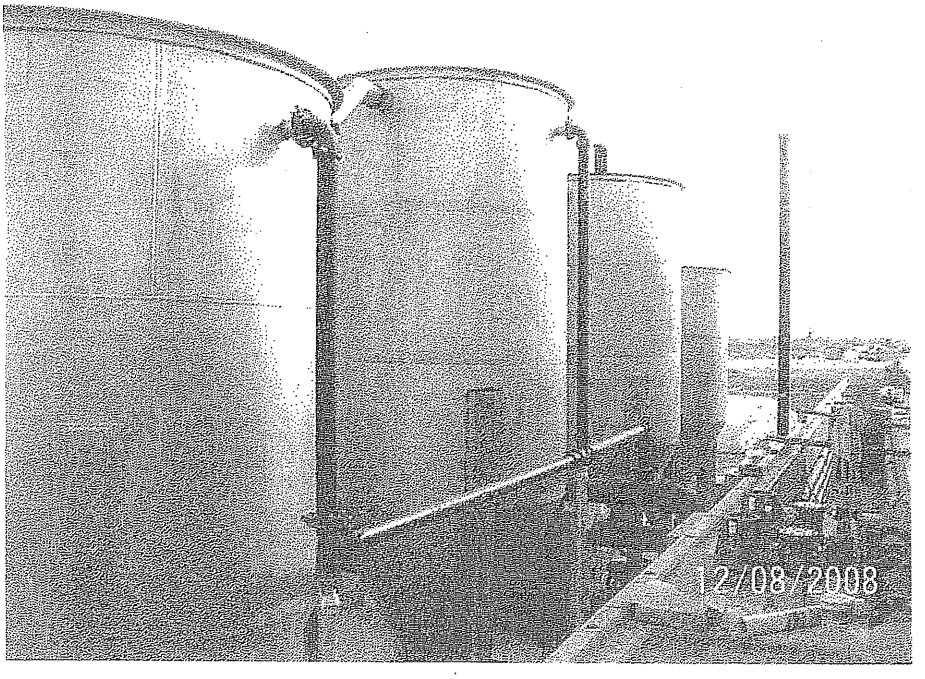
View of Cleanscreens



View of Biofilters



View of Cleanscreens



View of Bio-filters

City of Adelanto

Rec'd By Lahr
RWQCB on APR 15 2009

April 15, 2009

COPY

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392-2306

Attn: Mr. Mike Plaziak
Supervising Engineering Geologist

RE: Adelanto Public Utility Authority – CDO Quarterly Reports; 7th Quarterly Report

Dear Mr. Plaziak:

As a follow up to the Lahontan Regional Water Quality Control Board's (hereinafter referred to as RWQCB) Order No. R6V-2007-0024 and Section 13267 of the California Water Code, Adelanto Public Utility Authority is pleased to submit this 7th Quarterly Status Report. The following is a brief update of APUA's actions to Sections I & II of the Cease & Desist Order (CDO).

I. **Interim Compliance Actions:** The information provided below is a continuous update of the City's effort to address the BOD and flow violations, consistent with the Interim Action Plan submitted by City Engineer on October 31, 2007.

A. APUA has, since 2005, not accepting septage waste for treatment and disposal at its wastewater treatment plant. This compliance action will remain in effect until the new treatment plant expansion is constructed and fully operational which is expected during the 2nd half of 2009 when all of the existing plant flow could be diverted to the new treatment facility to provide time to resolve the logistics of integrating the existing treatment plant with the new primary and advanced secondary facilities . City will not accept and treat any septic-waste until a separate septage treatment facility is identified and approved in the future by the RWQCB.

B. Full operation of modified existing facilities - the existing wastewater treatment facilities had been modified since 2005 (at the recommendation of the City Engineer) to incorporate an interim "flow equalization (peak shaving) to reduce impact of peak organic and hydraulic loadings to the existing treatment plant. The "interim flow equalization" was discontinued due to concern for turning the wastewater into a septic condition, following discussions between City and contract operations staff. Existing aeration diffusers were thoroughly checked and all non-functioning units were replaced in Year 2007. Plant

City of Adelanto COPY

April 15, 2009

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392-2306

Attn: Mr. Mike Plaziak
Supervising Engineering Geologist

RE: Adelanto Public Utility Authority – CDO Quarterly Reports; 7th Quarterly Report

Dear Mr. Plaziak:

As a follow up to the Lahontan Regional Water Quality Control Board's (hereinafter referred to as RWQCB) Order No. R6V-2007-0024 and Section 13267 of the California Water Code, Adelanto Public Utility Authority is pleased to submit this 7th Quarterly Status Report. The following is a brief update of APUA's actions to Sections I & II of the Cease & Desist Order (CDO).

I. **Interim Compliance Actions:** The information provided below is a continuous update of the City's effort to address the BOD and flow violations, consistent with the Interim Action Plan submitted by City Engineer on October 31, 2007.

A. APUA has, since 2005, not accepting septage waste for treatment and disposal at its wastewater treatment plant. This compliance action will remain in effect until the new treatment plant expansion is constructed and fully operational which is expected during the 2nd half of 2009 when all of the existing plant flow could be diverted to the new treatment facility to provide time to resolve the logistics of integrating the existing treatment plant with the new primary and advanced secondary facilities . City will not accept and treat any septic-waste until a separate septage treatment facility is identified and approved in the future by the RWQCB.

B. Full operation of modified existing facilities - the existing wastewater treatment facilities had been modified since 2005 (at the recommendation of the City Engineer) to incorporate an interim "flow equalization (peak shaving) to reduce impact of peak organic and hydraulic loadings to the existing treatment plant. The "interim flow equalization" was discontinued due to concern for turning the wastewater into a septic condition, following discussions between City and contract operations staff. Existing aeration diffusers were thoroughly checked and all non-functioning units were replaced in Year 2007. Plant

11600 Air Expressway / Air Base Road • P.O. Box 10 • Adelanto, CA 92301 • (760) 246-2300 • Fax: (760) 246-8421

maintenance personnel installed an auxiliary aerator into each of the existing Biolac basins in February of 2008 attempting to increase aeration for additional oxygen transfer.

As of end of April, 2009, we just finished the 12th month of construction. The treatment plant expansion construction is more than 95% completed, other than minor punch list items, instrumentation controls, facility structural tie-downs, telephone line extension, and furniture at the Operations Building (that require to be purchased). We expect the start-up testing of primary (Clean-screens) and advanced secondary (two stage bio-filters) will begin and continue for a few months. However, City and contract operations staff will closely monitor the progress of such start-up testing to ensure that treatment requirements are being met.

C. As has been during the past 2-years, the Chief Plant Operator will continue a regular review of the volatile suspended solids versus total mixed liquor suspended solids in the existing Biolac plant to monitor the treatment process from the standpoint of reducing the total nitrogen in the effluent, in light of the fact that organic loading to the existing Biolac treatment plant could be reduced when the primary Clean-screens are fully operational.

D. City staff will continue to meet with plant operations staff to review other operational adjustments in order to maintain the existing treatment plant at an optimum performance level until the "Expanded Treatment Facilities (with new treatment processes)" are fully operational.

As reported above, we are scheduling to begin with start-up and testing of the primary Clean-screens and first one million gallon capacity of biological filters (total of 4 process trains; City had contracted to install a total of 12 trains). After June-July of 2009, it is expected that the treatment plant capacity will be provided via a combined operation of a portion of the new Clean-screen / biological filter treatment facility and half of the existing Biolac treatment plant (which will substantially enhance the performance of the existing secondary clarifiers due to reduced hydraulic and bio-solids loading).

City Staff will invite the RWQCB staff to tour the new facility and its operations after we have successfully completed the start-up testing.

II. Actions Related to Final Compliance:

A. Long-term Action Plan – The City Engineer's staff completed a Sewer Master Plan in December 2007 and it was presented and approved by the City Council on January 23, 2008. A copy of the Sewer Master Plan was provided to RWQCB. This plan will provide guidance to the development of future "sewerage facilities" to adequately serve the City. A program environmental review is also under preparation for these master plans.

B. Final compliance by December 31, 2008 with WDRs adopted by the Water Board – The following provides an update on this effort:

- Application for Revised WDRs: Initial application for WDR was submitted on July 15, 2008. Additional information for Revised WDR's was submitted to the RWQCB on

September 5, 2008. RWQCB responded to this Additional Information on October 2, 2008 with certain issues for the City to follow-up. City staff had further responded to several recent comments forwarded to us from the Regional Board. City staff will continue to work closely with RWQCB staff to provide a workable solution to resolve the concerns.

- City staff has had discussions with geologist and will schedule the drilling and addition of three (3) new monitoring wells downstream of the plant effluent discharge per City Engineer's meeting with you. This coordination will continue until these new monitoring wells are drilled and operational.

- Revised WDR: On January 26, 2009, RWQCB issued a tentative revised WDR for review and comments. The document was reviewed and comments had been returned to RWQCB before the deadline of February 24, 2009. On April 1, 2009, RWQCB issued a follow-up tentative revised WDR for further review and comments with a deadline date of April 28, 2009. City staff will provide a response before the April 28, 2000 date.

- Wastewater Treatment Plant Expansion – As has been reported previously, the treatment plant expansion construction is more than 95% completed other than miscellaneous punch list items. City staff will keep Regional Board staff advised of the progress of start-up testing and the gradual integration of the new biological treatment facility.

- Compliance date of December 31, 2008: As reported in Section-I (Paragraph D) above, The City may be using a combination of half of the existing Biolac treatment plant and a portion of the newly constructed biological treatment facility to handle the incoming wastewater. Overall, the plant design capacity should be rated at 4 MGD (million gallons per day). The City's process equipment contractor (MMF) is responsible for installation and start-up testing of the primary Clean-screens and biological filters (advanced secondary treatment) with about 1.0 MGD of the new plant being included in the initial start-up. This will permit a gradual cultivation of the micro-organisms required for the full treatment plant operation.

  The City has exercised its best efforts to complete the design for the new treatment plant and its construction within since the City Council made the decision to proceed with the new treatment technology on October 24, 2007. Under the construction and start-up time schedule described, the City of Adelanto has made every effort to meet the compliance date of December 31, 2008 to ensure that we have adequate wastewater treatment capacity for the current and future wastewater customers.

  Start-up and operational testing and transfer of the full operation (time line when the full incoming flow can be transferred entirely to the new primary and advanced secondary treatment process) won't be expected until the latter part of 2009. This timeframe is necessary to allow for the growth, cultivation, and distribution of micro-organisms used in the treatment process to all the pressure vessels and the clean-up / conversion of one of the existing northerly Biolac ponds into a Flow Equalization Basin. As mentioned in previous paragraphs, incoming wastewater flow through the early part of 2009 will likely be split between the existing Biolac plant and the new treatment plant until the eventual full transition to the Clean-screen / Biofilter treatment system. The initial split treatment

approach is to ensure start-up reliability and our ability to improve on effluent quality. Therefore, we are requesting that the Lahontan Regional Water Quality Control Board extend the special considerations and assist the City to complete this Wastewater Reclamation Project such that Adelanto can fully meet the new waste discharge requirements to the fullest extent possible.

- City has entered into a 5 year operations and maintenance extension agreement with Aquarion Operating Services (United Water) guaranteeing consistent and professional services until 2013.

We appreciate the continued advice and cooperation of the RWQCB staff. We look forward to providing future updates in the 8th Quarterly Report on or before July 15, 2009.

Sincerely,

John R. Sponsler
APUA Director

Cc: City Manager and Council Members
Wilson So, PE City Engineer

Sponsor 7/L

City of Adelanto

Engineering Department
c/o So & Associates Engineers Inc.
16209 Kamana Road
Apple Valley, CA 92307

July 15, 2009

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392-2306

Attn: Mr. Mike Plaziak
Supervising Engineering Geologist

RE: Adelanto Public Utility Authority – CDO Quarterly Reports; 8th Quarterly Report

Dear Mr. Plaziak:

As a follow up to the Lahontan Regional Water Quality Control Board's (hereinafter referred to as RWQCB) Order No. R6V-2007-0024 and Section 13267 of the California Water Code, Adelanto Public Utility Authority is pleased to submit this 8th Quarterly Status Report. The following is a brief update of APUA's actions to Sections I & II of the Cease & Desist Order (CDO).

I. **Interim Compliance Actions:** The information provided below is a continuous update of the City's effort to address the BOD and flow violations, consistent with the Interim Action Plan submitted by City Engineer on October 31, 2007.

A. APUA has, since 2005, not accepting septage waste for treatment and disposal at its wastewater treatment plant. This compliance action will remain in effect until the new treatment plant expansion is constructed and fully operational which is expected during the 2nd half of 2009 when significant portion or all of the existing plant flow could be diverted to the new treatment facility to provide time to resolve the logistics of integrating the existing treatment plant with the new primary and advanced secondary facilities . City will not accept and treat any septic-waste until a separate septage treatment facility is identified and approved in the future by the RWQCB.

B. Full operation of modified existing facilities - the existing wastewater treatment facilities had been modified since 2005 (at the recommendation of the City Engineer) to incorporate an interim "flow equalization (peak shaving)" to reduce impact of peak organic and hydraulic loadings to the existing treatment plant. The "interim flow equalization" was discontinued due to concern for turning the wastewater into a septic condition, following discussions between City and contract operations staff. Existing aeration diffusers were thoroughly checked and all non-functioning units were replaced in Year 2007. Plant

maintenance personnel installed an auxiliary aerator into each of the existing Biolac basins in February of 2008 attempting to increase aeration for additional oxygen transfer.

As of end of June, 2009, the treatment plant expansion (Phase-A: consisting of primary clean screens, secondary influent pump station, and biological filters) has been completed; other than minor punch list items, instrumentation controls, facility structural tie-downs, telephone line extension, and furniture at the Operations Building (that require to be purchased). The start-up testing of primary Clean-screens and secondary treatment facility (two stage bio-filters without microbes) were conducted. The contractor (Micromedia) has been making adjustments to its equipment during the past several weeks. Enclosed are minutes of a July 10, 2009 meeting with Micromedia regarding full start-up procedures for the new treatment facilities. As stated in the minutes, City of Adelanto expects to receive initial set of operating laboratory results from Micromedia by mid-October, 2009.

Headworks Facility Expansion: This represents Phase-B of the wastewater treatment plant expansion which includes new mechanical bar-screens, grit removal system, grit washing system, and a new influent flow measuring meter. This new facility is planned for up to 8-MGD (million gallons per day) average flow.

C. As has been during the past 2-years, the Chief Plant Operator will continue a regular review of the volatile suspended solids versus total mixed liquor suspended solids in the existing Biolac plant to monitor the treatment process from the standpoint of reducing the total nitrogen in the effluent, in light of the fact that organic loading to the existing Biolac treatment plant could be reduced when the primary Clean-screens are fully operational.

D. City staff will continue to meet with plant operations staff to review other operational adjustments in order to maintain the existing treatment plant at an optimum performance level until the "Expanded Treatment Facilities (with new treatment processes)" are fully operational, including the new Headworks facility.

As mentioned in Paragraphs I-B above, we can reasonably expect to have two modules of the new secondary treatment facility (biological filter trains, totaling 1-MGD) in operation by mid-October, 2009. Flow to the existing Biolac activated sludge treatment plant will be reduced to about 1.2 MGD based on total current plant flow of about 2.2 MGD. This will substantially enhance the performance of the existing secondary clarifiers with reduced hydraulic and bio-solids loadings.

City Staff will extend an invitation to the RWQCB staff to tour the new facility and its operations after we have successfully completed the initial start-up operations.

II. Actions Related to Final Compliance:

A. Long-term Action Plan – The City Engineer's staff completed a Sewer Master Plan in December 2007 and it was presented and approved by the City Council on January 23, 2008. A copy of the Sewer Master Plan was provided to RWQCB. This plan will provide guidance to the development of future "sewerage facilities" to adequately serve the City. A program environmental review is also under preparation for these master plans.

B. Final compliance by December 31, 2008 with WDRs adopted by the Water Board – The following provides an update on this effort:

- Application for Revised WDRs: Initial application for WDR was submitted on July 15, 2008. Additional information for Revised WDR's was submitted to the RWQCB on September 5, 2008. RWQCB responded to this Additional Information on October 2, 2008 with certain issues for the City to follow-up. City staff had further responded to several recent comments forwarded to us from the Regional Board.

- City staff has had discussions with geologist and will schedule the drilling and addition of three (3) new monitoring wells downstream of the plant effluent discharge per City Engineer's meeting with you. An "action plan" will be submitted to Regional WQCB for review and approval after we have coordinated this effort with City's consultant.

- Revised WDR: On January 26, 2009, RWQCB issued a tentative revised WDR for review and comments. The document was reviewed and comments had been returned to RWQCB before the deadline of February 24, 2009. On April 1, 2009, RWQCB issued a follow-up tentative revised WDR for further review and comments with a deadline date of April 28, 2009. City staff had provided a response before the April 28, 2009 date.

- Wastewater Treatment Plant Expansion – As has been reported earlier, the treatment plant expansion construction (Phase-A) has been completed. City staff will continue to keep Regional Board staff advised of the progress on start-up testing and the gradual integration of the new bio-filter treatment facility with the existing Biolac treatment plant.

- Compliance date of December 31, 2008: As reported in Paragraph I-D above, The City may be using a combination of half of the existing Biolac treatment plant and a portion of the newly constructed biological treatment facility to handle the incoming wastewater. Overall, the plant design capacity should be rated at 4 MGD (million gallons per day). The City's process equipment contractor (MMF) is responsible for installation and start-up testing of the primary Clean-screens and biological filters.

  The City has exercised its best efforts to complete the design for the new treatment plant and its construction since the City Council made the decision to proceed with the new treatment technology on October 24, 2007. Under the construction and start-up time schedule described above, the City of Adelanto has made every effort to meet the compliance date of December 31, 2008 to ensure that we have adequate wastewater treatment capacity for the current and future wastewater customers. Due to City's effort to minimize interference/reduction to existing treatment capacity, plant expansion has to be constructed in three separate phases, thus requiring considerable more time.

  Start-up and operational testing and transfer to the full operation (time line when all the incoming flow can be transferred entirely to the new primary and advanced secondary treatment process) won't be expected until the second-half of 2010. This timeframe is necessary to allow for the completion of each phase of plant expansion: Phase-A covers the new primary and new secondary treatment facility; Phase-B covers the Headworks facility;

and Phase-C covers the conversion of one existing Biolac oxidation pond to equalization facility. The initial split treatment approach is to ensure start-up reliability and our ability to improve on effluent quality. Therefore, we are requesting that the Lahontan Regional Water Quality Control Board extend the special considerations and assist the City to complete this Wastewater Reclamation Project such that Adelanto can fully meet the new waste discharge requirements to the fullest extent possible.

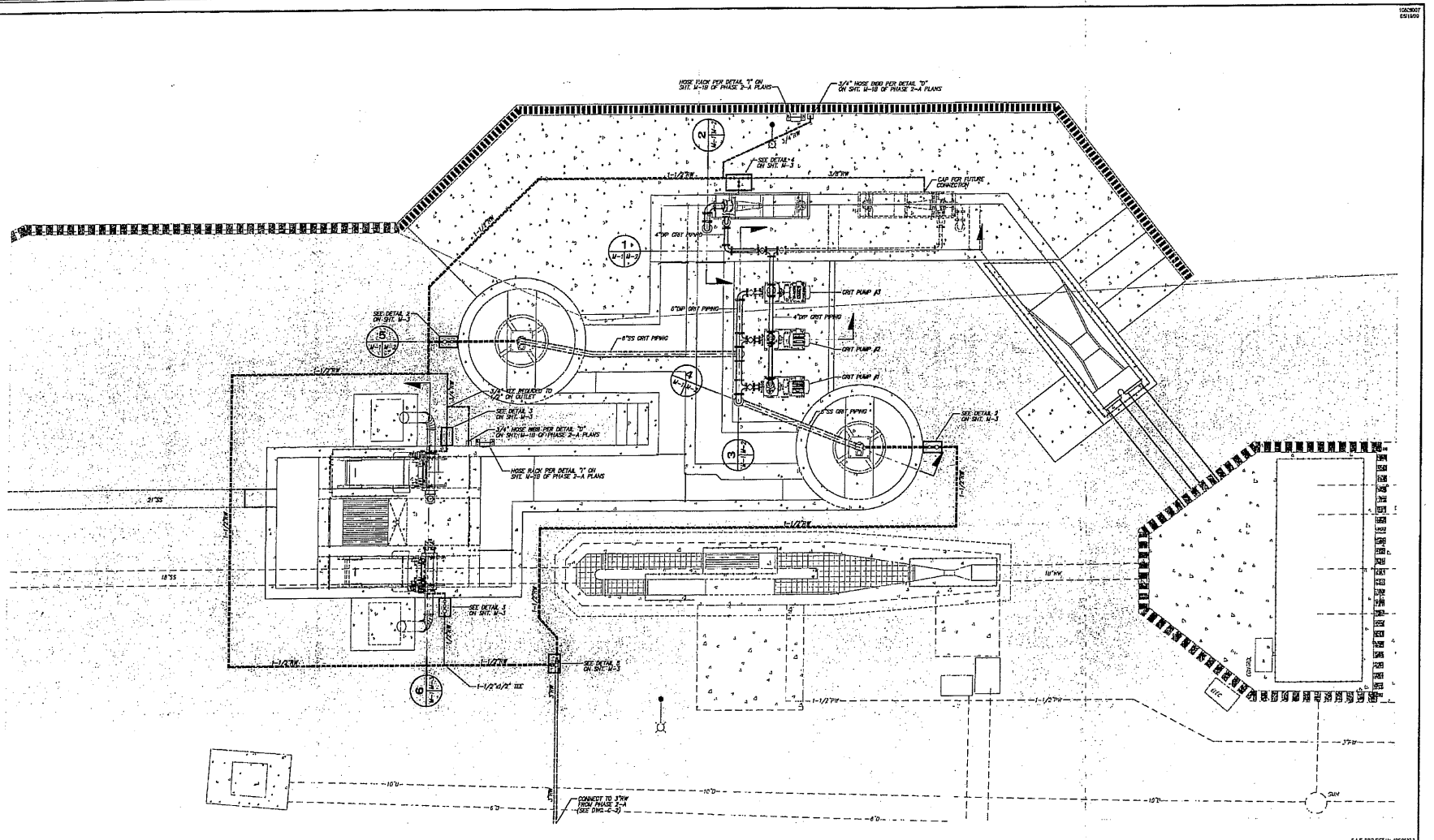
- City has entered into a 5 year operations and maintenance extension agreement with Aquarion Operating Services (United Water) guaranteeing consistent and professional services until 2013.

We appreciate the cooperation of the RWQCB staff. We look forward to schedule with RWQCB staff to visit the new treatment facility. We also hope to submit first set of operating data on the new plant, which we expect to receive from Micromedia Filtration by mid-October of 2009.

Sincerely,

Wilson F. So, PE
City Engineer

Cc: City Manager and Council Members
John R. Sponsler, APUA Director
Bill Douglas, United Water



DIGALERT
CALL BEFORE YOU DIG
1-800-422-4133
UNDERGROUND SERVICE ALERT
Call at least 2 working days prior to excavating

SCALE: 1/8"=1'-0"

REGISTERED PROFESSIONAL ENGINEER
Wilson F. So
No. C 21,651
Civil
Exp 9/30/2009
STATE OF CALIFORNIA

FIELD BOOK REF.			
MARK	REVISIONS	APPR	DATE

City Of Adelanto

APPROVED

CITY ENGINEER — DATE
WILSON F. SO
RCE 21651 — EXP. 9/30/09

DESIGNED BY: W.F.S.
DRAWN BY: J.D.M.
CHECKED BY: W.F.S.

CITY OF ADELANTO
ADELANTO PUBLIC UTILITY AUTHORITY
WASTEWATER RECLAMATION FACILITY
PHASE 2-B EXPANSION
MECHANICAL PLAN

PREPARED BY
So & Associates Engineers Inc.
15096 Pomerado Road, Ste. 829, Poway, CA 92064
(760) 243-2388 • FAX (760) 513-3043

SUBMITTED BY

DATE

DRAWING No. M-1

SCALE: AS SHOWN

SHEET 7 OF 23

000158

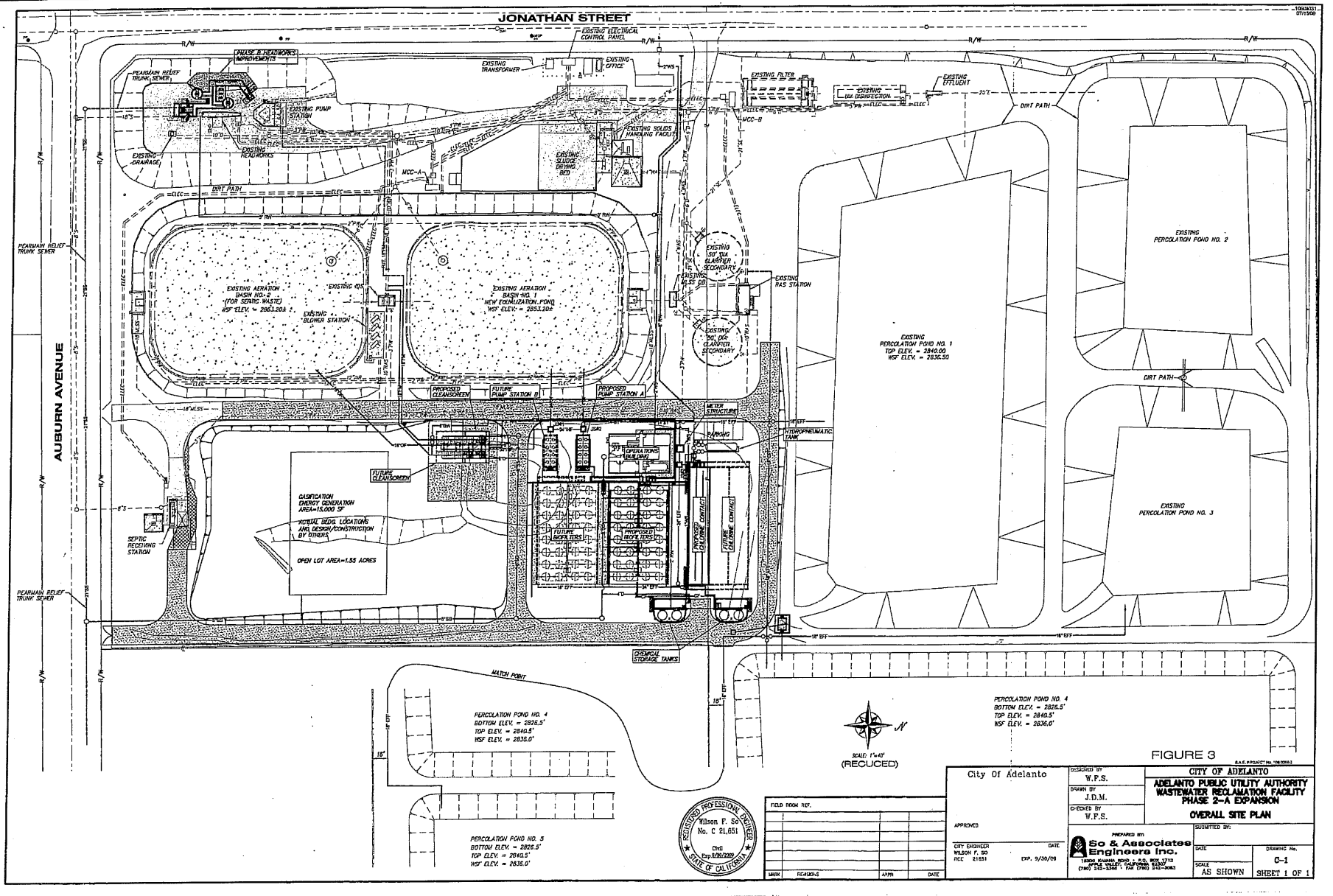


FIGURE 3

City Of Adelanto	DESIGNED BY W.P.S.
APPROVED	DRAWN BY J.D.M.
CITY ENGINEER WILSON F. SO RCE 21651 EXP. 9/30/09 DATE	CHECKED BY W.P.S.
FIELD BOOK REF.	CITY OF ADELANTO ADELANTO PUBLIC UTILITY AUTHORITY WASTEWATER RECLAMATION FACILITY PHASE 2-A EXPANSION OVERALL SITE PLAN
MARK REASONS APPR DATE	PREPARED BY: So & Associates Engineers Inc. 16804 KEEGAN BLVD. • P.O. BOX 1713 VICTORVILLE, CALIFORNIA 92393-1713 (760) 245-3368 • FAX (760) 245-3063
	SUBMITTED BY: DATE
	DRAWING No. C-1
	SCALE AS SHOWN SHEET 1 OF 1

City of Adelanto
Attachment
Engineering Department
c/o So & Associates Engineers Inc.
16209 Kamana Road
Apple Valley, CA 92307

July 10, 2009 Meeting with Mircomedia Filtration on Start-up and Testing of Bio-filtration Wastewater Treatment Facilities

The following is a quick summary of discussions held with Ken Stedman and Ed Martinez regarding the start-up and testing of the equipment furnished / installed by MMF:

(1) Cultivation of microbes for treatment: The first shipment of PVA-gels (plastic media) via air cargo from Japan had arrived more than a week ago. The second shipment via ocean-liner is expected to arrive sometime this month.

a) Micromedia will bring in plastic tank (PE = polyethylene; measuring 4-ft diameter by about 10-ft tall) for the cultivation of microbes. This will be set up near the NW-corner of treatment Module A-5 (by Vessel A-5-1).

b) Micromedia expects that the temporary tank will begin the cultivation of microbes within the week ending 7-18-09 using metering pumps (or equivalent) to draw filtered water from bio-tank A-5-1. One of the primary Clean-screens will also be running to bring screened wastewater to the bio-filters. The microbes will be obtained from Las Gallinas Valley Sanitary District.

(2) Interim Bio-tank to operate the bio-filters: Incorporating the bio-tank into the overall bio-filtration process was conceived from the New Hampshire pilot testing which utilized a 4-ft diameter pressure vessels (capable of handling about 60,000 gpd of wastewater per day). The objective is to pre-cultivate the "microbes" before introducing screened waste stream into the primary (tall-tank such Tank A-5-1) bio-filter vessel.

a) Micromedia will bring in the Interim bio-tank (constructed of stainless steel) from Texas (estimated arrival is expected around 7-21-2009). The Interim bio-tank is 4-ft in diameter by 10-ft 6-in tall and expected to be installed by 7-27-2009.

b) The new MMF operator is expected to be on-board around July 20, 2009; he is expected to cover a period of between 10 to 12 months until the new biological treatment system is proven successful based on laboratory test data.

c) The initial bio-filtration operation will start at Module A-5 (0.5 MGD capacity). After a few days, Ken Stedman expects that Module A-1 could also be started. This will provide 1-MGD new treatment capacity initially; adding to the original 1.5 MGD capacity provided by the Biolac Treatment Plant.

(3) Ensuring Adequate Treatment Capacity at Adelanto Wastewater Treatment Plant to meet CDO Compliance:

a) Ken Stedman anticipates that by the week ending August 15, 2009, two modules of the new bio-filters (A-1 and A-5) will be in start-up operations mode.

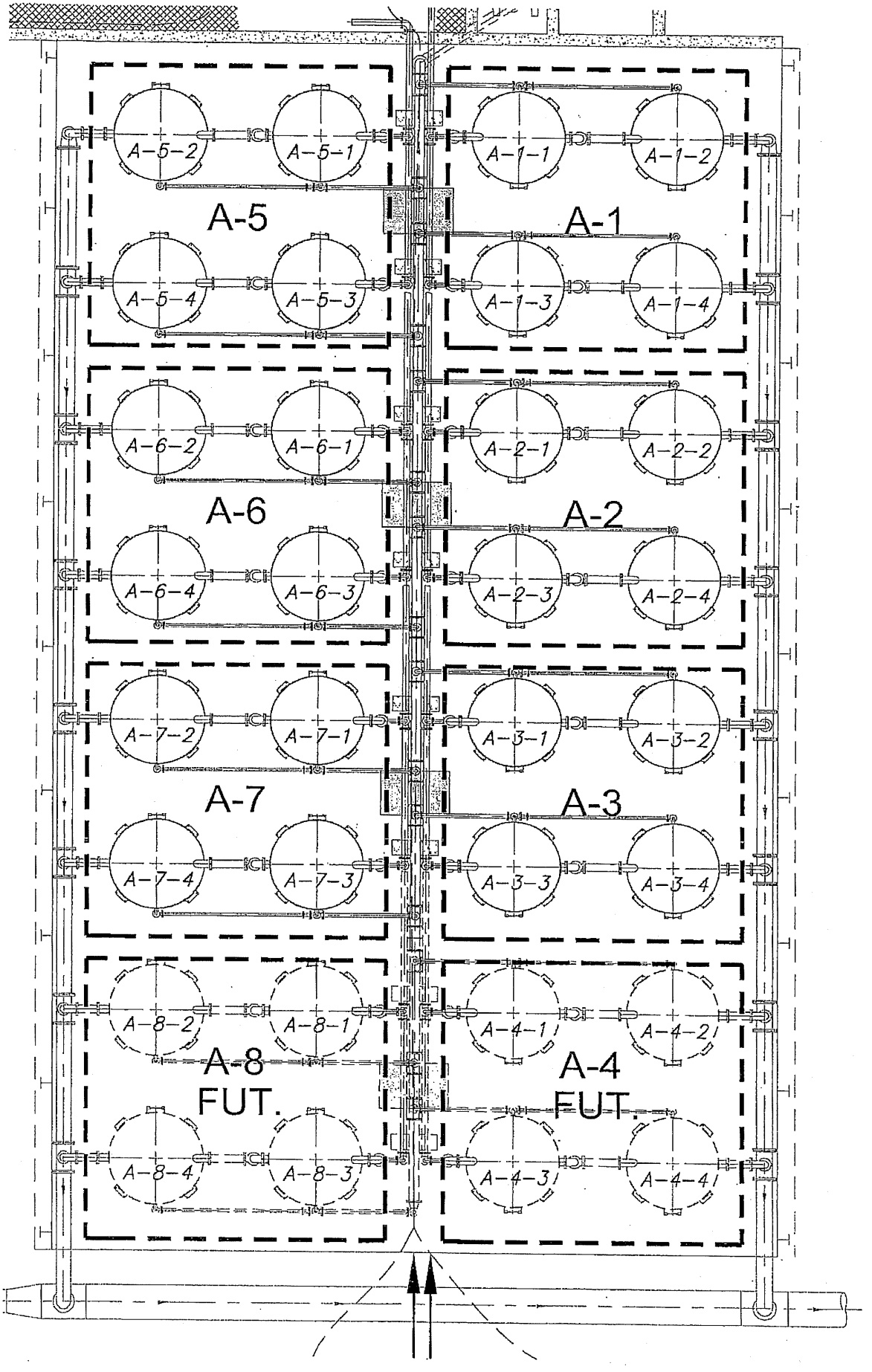
b) Ken Stedman expects by mid-October of 2009, there will be a preliminary set of laboratory data which the City of Adelanto could submit to the Regional Water Quality Control Board. City staff will be discussing with Ken Stedman relative to the Laboratory that will be performing the testing for MMF.

c) Wilson F. So has suggested to Micromedia to secure one-set of hand-held instruments that could provide quick measurement of BOD, nitrate, ammonia nitrogen etc. Ken Stedman or his staff will be looking into this laboratory-option to assist in the day to day running of the bio-filters. City Engineer's office has secured the latest edition of Standard Methods for Water & Wastewater Analysis, which will be referenced through out the 10 – 12 month testing period.

The balance of 2-MGD (out of the total of 3-MGD constructed) capacity in the MMF bio-filter plant will be placed on standby mode. This will also give Ken Stedman adequate time to install a small bio-tank into each of the 12 tall bio-vessels (Tanks A-1-1, A-1-3, A-2-1, A-2-3, A-3-1, A-3-3, A-5-1, A-5-3, A-6-1, A-6-3, A-7-1, and A-7-3). These 2-MGD facilities will not be placed into operation until after the Flow Equalization Pond facility is completed by early 2010 (conversion of the north pond of the existing Biolac treatment facility).

We trust that the above minutes will be helpful in understanding how the new treatment facility is to be tested and operated initially.

Minute of meeting prepared by City Engineer: Wilson F. So, PE


A-5-2
A-5-1
A-1-1
A-1-2
A-5
A-1
A-5-4
A-5-3
A-1-3
A-1-4
A-6-2
A-6-1
A-2-1
A-2-2
A-6
A-2
A-6-4
A-6-3
A-2-3
A-2-4
A-7-2
A-7-1
A-3-1
A-3-2
A-7
A-3
A-7-4
A-7-3
A-3-3
A-3-4
A-8-2
A-8-1
A-4-1
A-4-2
A-8
FUT.
A-4
FUT.
A-8-4
A-8-3
A-4-3
A-4-4

City of Adelanto

Engineering Department
c/o So & Associates Engineers Inc.
16209 Kamana Road, P.O. Box 1712
Apple Valley, California, 92307

October 15, 2009

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392-2306

Attn: Mr. Mike Plaziak
Supervising Engineering Geologist

RE: Adelanto Public Utility Authority – CDO Quarterly Reports; 9th Quarterly Report

Dear Mr. Plaziak:

As a follow up to the Lahontan Regional Water Quality Control Board's (hereinafter referred to as RWQCB) Order No. R6V-2007-0024 and Section 13267 of the California Water Code, Adelanto Public Utility Authority is pleased to submit this 9th Quarterly Status Report. The following is a brief update of APUA's actions to Sections I & II of the Cease & Desist Order (CDO).

I. **Interim Compliance Actions:** The information provided below is a continuous update of the City's effort to address the BOD and flow violations, consistent with the Interim Action Plan submitted by City Engineer on October 31, 2007.

A. APUA has, since 2005, not accepting septage waste for treatment and disposal at its wastewater treatment plant. This compliance action will remain in effect until the new treatment plant expansion is completed and fully operational which was initially expected during the 2nd half of 2009 when significant portion or all of the existing plant flow could be diverted to the new treatment facility to provide time to resolve the logistics of integrating the existing treatment plant with the new primary and advanced secondary facilities . This expected full-operational date will be extended until further evaluations. City will not accept and treat any septic-waste until a separate septage treatment facility is identified and approved in the future by the RWQCB.

B. Full operation of modified existing facilities - the existing wastewater treatment facilities had been modified since 2005 (at the recommendation of the City Engineer) to incorporate an interim "flow equalization (peak shaving)" to reduce impact of peak organic and hydraulic loadings to the existing treatment plant. The "interim flow equalization" was discontinued due to concern for turning the wastewater into a septic condition, following

discussions between City and contract operations staff. Further, the existing extended aeration Biolac treatment facility could continue to handle the current peak flows.Existing aeration diffusers were thoroughly checked and all non-functioning units were replaced in Year 2007. Plant maintenance personnel installed an auxiliary aerator into each of the existing Biolac basins in February of 2008 attempting to increase aeration for additional oxygen transfer. This auxiliary aeration was subsequently discontinued as it was deemed ineffective.

C. Start-up testing and Operation of Part of the Completed Expansion Facilities: As of end of June, 2009, the treatment plant expansion (Phase-A: consisting of primary clean-screens, secondary influent pump station, and biological filters) has been completed other than minor punch list items, instrumentation controls, facility structural tie-downs, telephone line extension, and furniture at the Operations Building (that require to be purchased).

Start-up of primary Clean-screens and secondary treatment facility (two stage bio-filters without microbes) were conducted from July to October of 2009. There are adjustments required to both the primary clean-screens equipment and the secondary bio-filter treatment process which will affect City's ability to meet its intended compliance date. This will be further discussed in Section II: Actions Related to Final Compliance.

Headworks Facility Expansion: This represents Phase-B of the wastewater treatment plant expansion which includes new mechanical bar-screens, grit removal system, grit washing system, and a new influent flow measuring meter. This new facility is planned for up to 8-MGD (million gallons per day) average flow. Phase B expansion construction is well underway. The tentative completion date is projected for the 1st Quarter of 2010. This portion of the treatment plant is essential to protect pumping and treatment equipment downstream (in the primary, secondary, and tertiary facilities).

D. As has been conducted during the past 2-years, the Chief Plant Operator will continue a regular review of the volatile suspended solids versus total mixed liquor suspended solids in the existing Biolac plant to monitor the treatment process from the standpoint of reducing the total nitrogen in the effluent, in light of the fact that organic loading to the existing Biolac treatment plant could be reduced when the Clean-screens (equivalent primary treatment facility) are fully operational.

E. City staff will continue to meet with plant operations staff to review other operational adjustments in order to maintain the existing treatment plant at an optimum performance level until the "Expanded Treatment Facilities (with new treatment processes)" are fully tested and operational, including the new Headworks facility.

Based on the start-up testing observed thus far, the needed equipment adjustments, and repeated approach to cultivate the microbes for the secondary bio-filtration process, City staff concludes that the secondary bio-filtration facility will not be operational in October of 2009 as was originally targeted.

II. Actions Related to Final Compliance:

A. Long-term Action Plan – The City Engineer's staff completed a Sewer Master Plan in December 2007 and it was presented and approved by the City Council on January 23, 2008. A copy of the Sewer Master Plan was provided to RWQCB. This plan will provide guidance to the development of future "sewerage facilities" to adequately serve the City. A program environmental review is also under preparation for these master plans.

- City has entered into a 5-year operations and maintenance extension agreement with Aquarion Operating Services (United Water) guaranteeing consistent and professional services until 2013.

B. Final compliance by December 31, 2008 with WDRs adopted by the Water Board – The following provides an update on this effort:

- Application for Revised WDRs: Initial application for WDR was submitted on July 15, 2008. Additional information for Revised WDR's was submitted to the RWQCB on September 5, 2008. RWQCB responded to this Additional Information on October 2, 2008 with certain issues for the City to follow-up. City staff had further responded to several subsequent comments forwarded to us from the Regional Board.

- City staff has had discussions with geologist and will schedule the drilling for addition of three (3) new monitoring wells downstream of the plant effluent discharge per City Engineer's meeting with you. Due to concern and need to evaluate City's funding for the plant expansion, this effort will be closely coordinated. City staff do expect to get the additional monitoring wells installed after we have scheduled a meeting with Regional Board staff to discuss the treatment and effluent disposal issues and additional percolation ponds. We hope to schedule a meeting by early November 2009. An "action plan" will be submitted to Regional WQCB for review and approval after we have coordinated this effort with City's consultant.

- Revised WDR: On January 26, 2009, RWQCB issued a tentative revised WDR for review and comments. The document was reviewed and comments had been returned to RWQCB before the deadline of February 24, 2009. On April 1, 2009, RWQCB issued a follow-up tentative revised WDR for further review and comments with a deadline date of April 28, 2009. City staff had also provided a response before the April 28, 2009 date.

- Wastewater Treatment Plant Expansion – Phase A of the treatment plant expansion has been completed. City staff will continue to keep Regional Board staff advised of the progress on start-up testing and evaluating the new treatment process. Due to concern whether the secondary bio-filtration process could provide the intended level of treatment, City staff has initiated meetings/discussions to determine if a contingency-plan (included in 2007 when the bio-filtration facility was approved by the Adelanto City Council) to add a "secondary treatment process" upstream of the bio-filters. The already constructed bio-filters (furnished by Micromedia) will be then utilized as tertiary filters.

000165

- Compliance date of December 31, 2008: As reported in Paragraph I-E above, The City will continue to use the existing Biolac treatment plant and a combination of the newly constructed primary clean-screens (primary treatment) to handle the incoming wastewater. The City's process equipment contractor (Micromedia Filtration: responsible for furnishing and installation of the primary Clean-screens and biological filters) will continue with the cultivation of special microbes and start-up testing through the end of 2009 and perhaps into early part of 2010. The City of Adelanto will concurrently investigate its back-up plan of adding a full secondary treatment facility prior to the tertiary bio-filters. The City's plan is to ensure that we have a reliable treatment plant that can consistently treat the waste-water to meet the water quality standards established with the Lahontan Regional Water Quality Control Board.

  The City has exercised its best efforts to complete the design for the new treatment plant and its construction since the City Council made the decision to proceed with the new Micromedia treatment technology on October 24, 2007. Under the construction and start-up time schedule described above, the City of Adelanto has made every effort to meet the compliance date of December 31, 2008 to ensure that we have adequate wastewater treatment capacity for the current and future wastewater customers. To minimize interference/reduction to existing treatment capacity, plant expansion has to be constructed in three separate phases, thus requiring considerable more time. If the addition of a secondary treatment process is required, it will be included under Phase-C expansion. After City staff have thoroughly examined our options, we plan to schedule a meeting with RWQCB staff to discuss our findings.

  Start-up and operational testing and transfer to the full operation utilizing the new plant (time line when all the incoming flow can be transferred entirely to the new primary and advanced secondary treatment process) will be extended beyond the second-half of 2010 (as stated in the July 2009 report) to possibly 2011. This timeframe is necessary to allow for the completion of each phase of plant expansion: Phase-A covers the new primary screens and tertiary bio-filters; Phase-B covers the Headworks facility; and Phase-C covers the conversion of one existing Biolac oxidation pond to equalization facility plus the new secondary treatment process under evaluation.

We appreciate the cooperation and special assistance of the RWQCB staff. We are requesting that the Lahontan Regional Water Quality Control Board extend the final compliance date to enable the City to complete the wastewater treatment plant expansion in the three phases as described above.

Sincerely,

Wilson F. So, PE
City Engineer

Cc: City Manager and Council Members
John R. Sponsler, APUA Director

City of Adelanto

Engineering Department
c/o So & Associates Engineers Inc.
16209 Kamana Road
Apple Valley, CA 92307

January 15, 2010

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392-2306

Attn: Mr. Mike Plaziak
Supervising Engineering Geologist

RE: Adelanto Public Utility Authority – CDO Quarterly Reports; 10th Quarterly Report

Dear Mr. Plaziak:

As a follow up to the Lahontan Regional Water Quality Control Board's (hereinafter referred to as RWQCB) Order No. R6V-2007-0024 and Section 13267 of the California Water Code, Adelanto Public Utility Authority is pleased to submit this 10th Quarterly Status Report. The following is a brief update of APUA's actions to Sections I & II of the Cease & Desist Order (CDO).

I. **Interim Compliance Actions:** The information provided below is a continuous update of the City's effort to address the BOD and flow violations, consistent with the Interim Action Plan submitted by City Engineer on October 31, 2007.

A. APUA has not, since 2005 accepted septage waste for treatment and disposal at its wastewater treatment plant. This compliance action will remain in effect until the new treatment plant expansion is completed and fully operational which was initially expected during the 2nd half of 2009 when significant portion or all of the existing plant flow could be diverted to the new treatment facility to provide time to resolve the logistics of integrating the existing treatment plant with the new primary and advanced secondary facilities . The expected full-operational date will be extended until further evaluations of the new treatment process by City staff. City will not accept and treat any septic-waste until a separate septage treatment facility is identified and approved in the future by the RWQCB.

B. Full operation of modified existing facilities - the existing wastewater treatment facilities had been modified since 2005 (at the recommendation of the City Engineer) to incorporate an interim "flow equalization (peak shaving)" to reduce impact of peak organic and hydraulic loadings to the existing treatment plant. The "interim flow equalization" was discontinued due to concern for turning the wastewater into a septic condition, following

discussions between City and contract operations staff. Further, the existing extended aeration Biolac treatment facility could continue to handle the current peak flows. Existing aeration diffusers were thoroughly checked and all non-functioning units were replaced in Year 2007. Plant maintenance personnel installed an auxiliary aerator into each of the existing Biolac basins in February of 2008 attempting to increase aeration for additional oxygen transfer. This auxiliary aeration was subsequently discontinued as it was deemed ineffective.

C. Start-up testing and Operation of Part of the Completed Expansion Facilities: As of end of June, 2009, the treatment plant expansion (Phase-A: consisting of primary clean-screens (with latest name change to primary separators by equipment supplier), secondary influent pump station, and biological filters) has been completed. Start-up testing and other issues of concern will be discussed in Part II of this Report.

Headworks Facility Expansion: This represents Phase-B of the wastewater treatment plant expansion which includes new mechanical bar-screens, grit removal system, grit washing system, and a new influent flow measuring Parshall flume meter. This new facility is planned for up to 8-MGD (million gallons per day) average flow. This portion of the treatment plant is essential to protect pumping and treatment equipment downstream. Phase B expansion construction is nearly complete. Equipment testing and start-up will be discussed in Part II of this Report.

Flow equalization facility: This represents Phase-C of the wastewater treatment plant expansion which requires one half of the existing Biolac ponds to be taken out of service and be converted into a flow equalization facility. Due to problems associated with the start-up testing of Phase-A, this Phase of the plant expansion could not proceed at this time as it will impact the current capacity of the treatment plant.

A portion of other Phase-C improvements such as three additional monitoring wells will be implemented within the next few months and will be coordinated with RWQCB staff.

D. As has been conducted during the past 2-years, the Chief Plant Operator will continue a regular review of the volatile suspended solids versus total mixed liquor suspended solids in the existing Biolac plant to monitor the treatment process from the standpoint of reducing the total nitrogen in the effluent, in light of the fact that organic loading to the existing Biolac treatment plant could be reduced when the Clean-screens (equivalent primary treatment facility) are fully operational. However, hydraulic restrictions had limited this temporary option.

E. City staff will continue to meet with plant operations staff to review other operational adjustments in order to maintain the existing treatment plant at an optimum performance level until the "Expanded Treatment Facilities (with new treatment processes)" are fully tested and operational, including the new Head-works facility.

II. Actions Related to Final Compliance:

A. Long-term Action Plan – The City Engineer's staff completed a Sewer Master Plan in December 2007 and it was presented and approved by the City Council on January 23, 2008. A copy of the Sewer Master Plan was provided to RWQCB. This plan will provide guidance to the development of future "sewerage facilities" to adequately serve the City. A program environmental review has been under preparation for these master plans.

- City entered into a 5-year operations and maintenance extension agreement with Aquarion Operating Services (United Water) guaranteeing consistent and professional services until 2013.

B. Final compliance by December 31, 2008 with WDRs adopted by the Water Board – The following provides an update on this effort:

- Application for Revised WDRs: Initial application for WDR was submitted on July 15, 2008. Additional information for Revised WDR's was submitted to the RWQCB on September 5, 2008. RWQCB responded to this Additional Information on October 2, 2008 with certain issues for the City to follow-up. City staff had further responded to several subsequent comments forwarded to us from the Regional Board.

- Revised WDR: On January 26, 2009, RWQCB issued a tentative revised WDR for review and comments. The document was reviewed and comments had been returned to RWQCB before the deadline of February 24, 2009. On April 1, 2009, RWQCB issued a follow-up tentative revised WDR for further review and comments with a deadline date of April 28, 2009. City staff had also provided a response before the April 28, 2009 date.

- Wastewater Treatment Plant Expansion – Phase A of the treatment plant expansion has been completed since end of June 2009 as reported in Section I of this Report. Start-up of the primary clean-screens and secondary treatment facility (two-stage bio-filters) were conducted from July to December 2009. Testing revealed problems with equipment and instrumentation wiring installed by Micromedia Filtration that need to be corrected. Further, the cultivation of the "microbes" to be used in the secondary treatment process experienced difficulty and the "kinetics" of the process (biochemical reactions and control of microbial growth) could not be fully understood. Micromedia Filtration had requested a time extension to: (a) make repairs and replacement of the Primary clean-screens; (b) to correct the instrumentation wirings controlling the secondary treatment process previously installed; and (c) to coordinate with an engineering professor overseas (investigating and study the new treatment process) to bring new replacement "microbes" so that the start-up and testing of the new treatment process could resume in February or March of 2010.

  Due to the economic slow down, City's current wastewater treatment facility will continue to provide treatment to the waste-streams entering the wastewater treatment plant. The anticipated start-up testing of the new Headworks facility will benefit the existing treatment plant.

- Wastewater Treatment Plant Expansion – Phase B of the treatment plant expansion is also nearly complete as reported in Section I. Start-up testing of equipment are being scheduled for month of February of 2010. The new headworks facility will be placed into operation once minor punch list items (if any) are corrected. The new Headworks facility includes: a new mechanical screen with compactor, cyclone grit separators, grit pumps, grit washer to remove organics from the grit collected before disposal, and a new flow meter due to increased plant capacity. The mechanical screen is backed by a new manual bar-screen with the existing Headworks remain in standby mode.

  City staff will continue to keep Regional Board staff advised of the progress on start-up testing and evaluating the new treatment process. Due to concerns whether the secondary bio-filtration process could provide the intended level of treatment, City staff has initiated meetings/discussions under a contingency-plan (included in 2007 when the bio-filtration facility was approved by the Adelanto City Council) to explore addition of a "secondary treatment process" upstream of the bio-filters. The already constructed bio-filters will then be utilized as tertiary filters.

- Wastewater Treatment Plant Expansion – Phase C Flow Equalization Facility. As reported in Section I of this Report, this improvement will be postponed until the new secondary treatment facility is proven to be successful.

- Additional Monitoring Wells - City staff has had discussions with geologist and will schedule the drilling for addition of three (3) new monitoring wells downstream of the plant effluent discharge per City Engineer's meeting with RWQCB staff. Due to concern and need to evaluate City's funding for the plant expansion, particularly the addition of a new separate "secondary treatment facility", this effort was slightly delayed. City staff are planning to get the additional monitoring wells installed.

- Compliance date of December 31, 2008: As reported in Paragraph I-E above, the City will continue to use the existing Biolac treatment plant to handle the incoming wastewater flow. The new Headworks facility will be placed into service following start-up testing and coordination with the RWQCB staff. The City's process equipment contractor, (Micromedia Filtration, responsible for furnishing and installation of the primary clean-screens and biological filters) will continue with the equipment modifications/replacement, and will resume process start-up testing sometime in late February or early March, 2010 The City of Adelanto will concurrently investigate its back-up plan of adding a full secondary treatment facility prior to the tertiary bio-filters. The City's plan is to ensure that we have a reliable treatment plant that can consistently treat the wastewater to meet the water quality standards established with the Lahontan Regional Water Quality Control Board. The City has exercised its best efforts to complete the design for the new treatment plant and its construction since the City Council made the decision to proceed with the new Micromedia treatment technology on October 24, 2007. Under the construction and start-up time schedule described above, the City of Adelanto has made every effort to meet the original compliance date of December 31, 2008 to ensure that we have adequate wastewater treatment capacity for the current and future wastewater customers.

To minimize interference/reduction to existing treatment capacity, plant expansion has to be constructed in three separate phases, thus requiring considerable more time. If the addition of a new secondary treatment process is required, it will be included under Phase-C expansion. After City staff have thoroughly examined our options, we plan to schedule a meeting with RWQCB staff to discuss our findings.

Start-up and operational testing and transfer to the full operation utilizing the new plant (time line when all the incoming flow can be transferred entirely to the new primary and advanced secondary treatment process) will be extended beyond the second-half of 2010 to possibly 2011. This timeframe is necessary to allow for the completion of each phase of plant expansion.

We appreciate the cooperation and special assistance of the RWQCB staff. We are requesting that the Lahontan Regional Water Quality Control Board extend the final compliance date to enable the City to complete the wastewater treatment plant expansion in the three phases as described above. We shall contact RWQCB staff to schedule a meeting.

Sincerely,

Wilson F. So, PE
City Engineer

Cc: City Manager and Council Members
John R. Sponsler, APUA Director

Included: New plant headworks layout

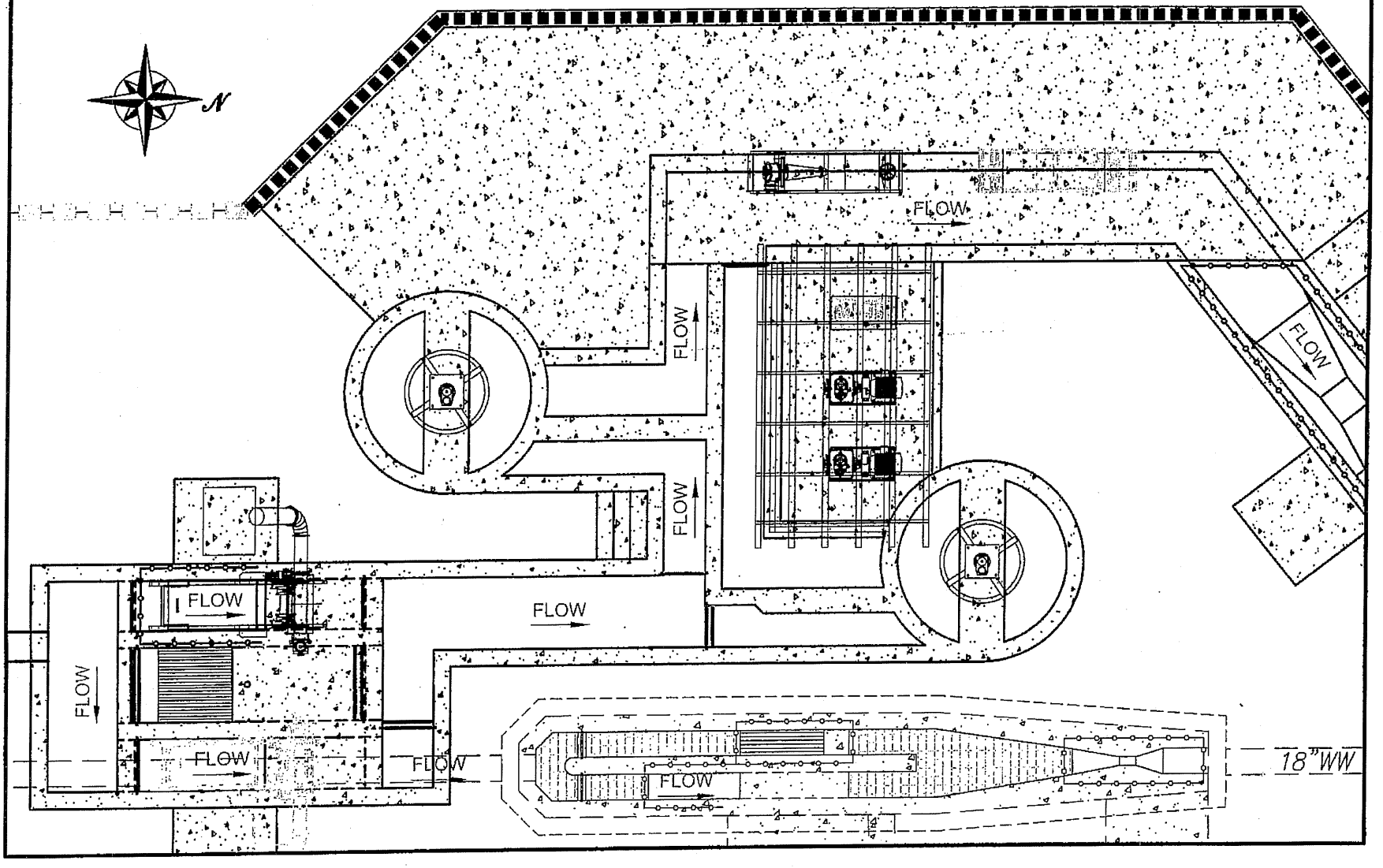
10609006
01/11/10

CITY OF ADELANTO

WWTP PHASE 2-B IMPROVEMENTS START-UP AND TESTING DIAGRAM

STOP GATE LOCATION FOR START-UP AND TESTING

STOP GATE LOCATION PRIOR START-UP AND TESTING



000172

JOHN

City of Adelanto

Engineering Department
c/o So & Associates Engineers Inc.
16209 Kamana Road
Apple Valley, CA 92307

April 15, 2010

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392-2306

Attn: Mr. Mike Plaziak
Supervising Engineering Geologist

RE: Adelanto Public Utility Authority – CDO Quarterly Reports; 11th Quarterly Report

Dear Mr. Plaziak:

As a follow up to the Lahontan Regional Water Quality Control Board's (hereinafter referred to as RWQCB) Order No. R6V-2007-0024 and Section 13267 of the California Water Code, Adelanto Public Utility Authority is pleased to submit this 11th Quarterly Status Report. The following is a brief update of APUA's actions to Sections I & II of the Cease & Desist Order (CDO).

I. **Interim Compliance Actions:** The information provided below is a continuous update of the City's effort to address the BOD and flow violations, consistent with the Interim Action Plan submitted by City Engineer on October 31, 2007.

A. APUA has not, since 2005 accepted septage waste for treatment and disposal at its wastewater treatment plant. This compliance action will remain in effect until the new treatment plant expansion is completed and fully operational which was initially expected during the 2nd half of 2009 when significant portion or all of the existing plant flow could be diverted to the new treatment facility to provide time to resolve the logistics of integrating the existing treatment plant with the new primary and advanced secondary facilities . The expected full-operational date will be extended until further evaluations of the new treatment process by City staff as was discussed with Regional Board staff on April 15, 2010. City will not accept and treat any septic-waste until a separate septage treatment facility is identified and approved in the future by the RWQCB.

B. Full operation of modified existing facilities - the existing wastewater treatment facilities was modified in 2005 to incorporate an interim "flow equalization (peak shaving)" to reduce impact of peak organic and hydraulic loadings to the existing treatment plant. The "interim flow equalization" was discontinued due to concern for turning the wastewater into a septic condition, following discussions between City and contract operations staff.

Further, the existing extended aeration Biolac treatment facility could continue to handle the current peak flows. Existing aeration diffusers were thoroughly checked and all non-functioning units were replaced in Year 2007. Plant maintenance personnel installed an auxiliary aerator into each of the existing Biolac basins in February of 2008 attempting to increase aeration for additional oxygen transfer. This auxiliary aeration was subsequently discontinued as it was also deemed ineffective.

C. Start-up testing and Operation of Part of the Completed Expansion Facilities: As of end of June, 2009, the treatment plant expansion (Phase-A: consisting of primary clean-screens (with latest name change to primary separators by equipment supplier), secondary influent pump station, and biological filters) was completed. Start-up testing and other issues of concern will be discussed in Part II of this Report.

Headworks Facility Expansion: This represents Phase-B of the wastewater treatment plant expansion which includes new mechanical bar-screens, grit removal system, grit washing system, and a new influent flow measuring Parshall flume meter. This new facility is planned for up to 8-MGD (million gallons per day) average flow. This portion of the treatment plant is essential to protect pumping and treatment equipment downstream. Phase B expansion construction has been completed. Equipment testing and start-up will be discussed in Part II of this Report.

Flow equalization facility: This represents Phase-C of the wastewater treatment plant expansion which originally requires one half of the existing Biolac aeration ponds to be taken out of service and be converted into a flow equalization facility. Due to problems associated with the start-up testing of Phase-A equipment furnished by MicroMedia, this Phase of the plant expansion could not proceed at this time as it will impact current capacity of the existing Biolac treatment plant.

A portion of Phase-C improvements such as additional monitoring wells (including #1A, #7 and #8) will be implemented based on the Groundwater Monitoring Plan discussed with Regional Board staff on April 15, 2010. This Monitoring Plan will be developed utilizing the services of a geologist or hydro-geologist and supported by City's engineering and operations staff.

D. As has been conducted during the past 2-years, the Chief Plant Operator will continue a regular review of the volatile suspended solids versus total mixed liquor suspended solids in the existing Biolac plant to monitor the treatment process from the standpoint of reducing the total nitrogen in the effluent, in light of the fact that organic loading to the existing Biolac treatment plant could be reduced when the Clean-screens (equivalent primary treatment facility) are fully operational. However, hydraulic restrictions had limited this temporary option.

E. City staff will continue to meet with plant operations staff to review other operational adjustments in order to maintain the existing treatment plant at an optimum performance level until the "Expanded Treatment Facilities (with new treatment processes)" are fully tested and operational, including the new Head-works facility.

II. Actions Related to Final Compliance:

A. Long-term Action Plan – The City Engineer's staff completed a Sewer Master Plan in December 2007 and it was presented and approved by the City Council on January 23, 2008. A copy of the Sewer Master Plan was provided to RWQCB. This plan will provide guidance to the development of future "sewerage facilities" to adequately serve the City. A program environmental review has been under preparation for these master plans.

- City entered into a 5-year operations and maintenance extension agreement with Aquarion Operating Services (United Water) guaranteeing consistent and professional services until 2013.

B. Final compliance by December 31, 2008 with WDRs adopted by the Water Board – The following provides an update on this effort:

- Application for Revised WDRs: Initial application for WDR was submitted on July 15, 2008. Additional information for Revised WDR's was submitted to the RWQCB on September 5, 2008. RWQCB responded to this Additional Information on October 2, 2008 with certain issues for the City to follow-up. City staff had further responded to several subsequent comments forwarded to us from the Regional Board.

- Revised WDR: On January 26, 2009, RWQCB issued a tentative revised WDR for review and comments. The document was reviewed and comments had been returned to RWQCB before the deadline of February 24, 2009. On April 1, 2009, RWQCB issued a follow-up tentative revised WDR for further review and comments with a deadline date of April 28, 2009. City staff had also provided a response before the April 28, 2009 date.

  Based on the coordination meeting held on April 15, 2010, City and Regional Board staff recognized that we need to schedule meeting(s) to provide clarifications related to the dual WDRs for the existing Biolac Plant and the new MicroMedia plant. Next meeting is scheduled for May 18, 2010 at 2:00 pm.

- Wastewater Treatment Plant Expansion – Phase A of the treatment plant expansion has been completed since end of June 2009 as reported in Section I of this Report. Initial start-up of the primary clean-screens and secondary treatment facility (two-stage bio-filters) were conducted from July to December 2009. Testing revealed problems with equipment and instrumentation wiring installed by Micromedia Filtration that need to be corrected. Further, the cultivation of the "microbes" to be used in the secondary treatment process experienced difficulty and the "kinetics" of the process (biochemical reactions and control of microbial growth) could not be fully understood. Micromedia Filtration had requested a time extension to: (a) make repairs and replacement of the Primary clean-screens; (b) to correct the instrumentation wirings controlling the secondary treatment process previously installed; and (c) to coordinate with an engineering professor (responsible for investigating and study the new treatment process) to bring new replacement "microbes" so that the start-up and testing of the new treatment process could resume in early May of 2010.

  Due to the current economic slow down, City's existing wastewater treatment facility will continue to provide treatment to the waste-streams entering the wastewater treatment plant.

However, based on discussions at the April 15, 2010 meeting, City of Adelanto was requested by RWQCB staff to explore the possibility of transferring portion of the raw wastewater flow to the VVWRA treatment plant. John Sponsler of the City will take on this exploratory assignment.

- Wastewater Treatment Plant Expansion – Phase B of the treatment plant expansion has been completed as reported. Start-up testing of equipment was scheduled for months of February/March of 2010. The new head-works facility has been placed into operation in April of 2010. The new Headworks facility includes: a new mechanical screen with compactor, cyclone grit separators, grit pumps, grit washer to remove organics from the grit collected before disposal, and a new flow meter for anticipated future plant capacity. The mechanical screen is backed by a new manual bar-screen with the existing Headworks remain in standby mode. City staff will be completing several minor improvements to the existing Biolac effluent system (such as addition of bucket strainers) o enable more effective use of the effluent as "plant water system".

  City staff will continue to keep Regional Board staff advised of the progress on start-up testing and evaluating the new treatment process constructed under Phase-A. Due to concerns whether the secondary bio-filtration process could provide the intended level of treatment to meet the new WDRs, City staff has initiated preliminary meetings/discussions under a contingency-plan (included in 2007 when the bio-filtration facility was approved by the Adelanto City Council) to explore addition of a "secondary treatment process" upstream of the bio-filters. The already constructed bio-filters will then be utilized as tertiary filters. This will be further evaluated based on the April 15, 2010 meeting with Regional Board staff.

- Wastewater Treatment Plant Expansion – Phase C Flow Equalization Facility. As reported in Section I of this Report, this improvement will be postponed until the new secondary bio-filtration treatment facility is proven to be successful.

  Additional Monitoring Wells – The additional monitoring wells will be implemented based on the Groundwater Monitoring Plan which will be developed with the assistance of a geologist and as coordinated with Regional Board staff as stated in Section I previously.

- Compliance date of December 31, 2008: As reported in Paragraph I-E above, the City will continue to use the existing Biolac treatment plant to handle the incoming wastewater flow. The new Headworks facility has been placed into service following start-up testing and coordination with the RWQCB staff. To minimize interference/reduction to existing treatment capacity, plant expansion had to be constructed in three separate phases, thus requiring considerable more time for contracting and construction.

  The City's process equipment contractor, (Micromedia Filtration, responsible for furnishing and installation of the primary clean-screens and biological filters) will continue with the equipment modifications/replacement, and will resume process start-up testing sometime in early May, 2010 as was mentioned during the April 15, 2010 meeting with Regional Board staff. The unexpected MicorMedia equipment problems has greatly affected City's ability to meet the compliance date. City staff will coordinate closely with Regional Board staff to address a new time-line to ensure compliance as was discussed on 4-15-2010.

The City of Adelanto will concurrently investigate its back-up plan of adding a full secondary treatment facility prior to the tertiary bio-filters. The City's plan is to ensure that we have a reliable treatment plant that can consistently treat the wastewater to meet the water quality standards established with the Lahontan Regional Water Quality Control Board.

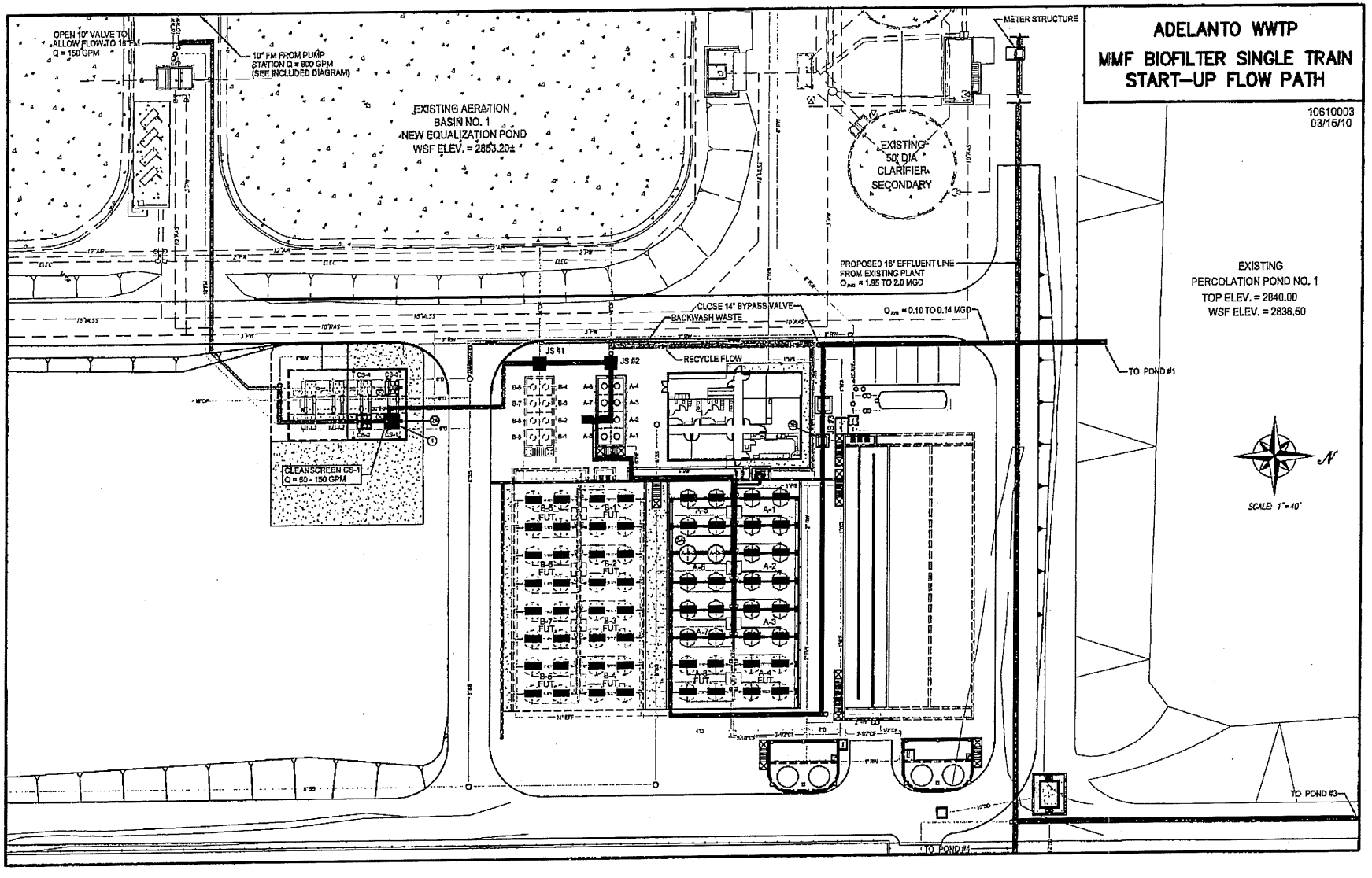
We appreciate the cooperation and special assistance of the RWQCB staff. We are requesting that the Lahontan Regional Water Quality Control Board extend the final compliance date to enable the City to complete the wastewater treatment plant expansion under the three phases as described above. We look forward to meet with Regional Board staff on May 18, 2010.

Sincerely,

Wilson F. So, PE
City Engineer

Cc: City Manager and Council Members
John R. Sponsler, APUA Director

Included: General flow path for targeted retesting of the Micromedia treatment facility.


ADELANTO WWTP
MMF BIOFILTER SINGLE TRAIN
START-UP FLOW PATH
10610003
03/15/10
OPEN 10" VALVE TO ALLOW FLOW TO 18" FM Q = 150 GPM
10" FM FROM PUMP STATION Q = 800 GPM (SEE INCLUDED DIAGRAM)
EXISTING AERATION BASIN NO. 1
NEW EQUALIZATION POND
WSF ELEV. = 2853.20±
METER STRUCTURE
EXISTING 50' DIA CLARIFIER SECONDARY
PROPOSED 16" EFFLUENT LINE FROM EXISTING PLANT
Q_{AVG} = 1.95 TO 2.0 MGD
EXISTING
PERCOLATION POND NO. 1
TOP ELEV. = 2840.00
WSF ELEV. = 2838.50
CLOSE 14" BYPASS VALVE
BACKWASH WASTE
Q_{AVG} = 0.10 TO 0.14 MGD
JS #1
JS #2
RECYCLE FLOW
TO POND #1
CLEANSCREEN CS-1
Q = 60 - 150 GPM
TO POND #3
TO POND #4
N
SCALE: 1"=40'

000178

City of Adelanto
Engineering Department
c/o So & Associates Engineers Inc.
16209 Kamana Road
Apple Valley, CA 92307

July 14, 2010

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392-2306

Attn: Mr. Mike Plaziak
Supervising Engineering Geologist

RE: Adelanto Public Utility Authority – CDO Quarterly Reports; 12th Quarterly Report

Dear Mr. Plaziak:

As a follow up to the Lahontan Regional Water Quality Control Board's (hereinafter referred to as RWQCB) Order No. R6V-2007-0024 and Section 13267 of the California Water Code, Adelanto Public Utility Authority is pleased to submit this 12th Quarterly Status Report. The following is a brief update of APUA's actions to Sections I & II of the Cease & Desist Order (CDO).

I. **Interim Compliance Actions:** The information provided below is a continuous update of the City's effort to address the BOD and flow violations, consistent with the Interim Action Plan submitted by City Engineer on October 31, 2007.

A. APUA has not, since 2005 accepted septage waste for treatment and disposal at its wastewater treatment plant. This compliance action will remain in effect until the new treatment plant expansion is completely tested and fully operational which was initially expected during the 2nd half of 2009 when significant portion or all of the existing plant flow could be diverted to the new treatment facility to provide time to resolve the logistics of integrating the existing treatment plant with the new primary and advanced secondary facilities . The expected full-operational date needs be extended to permit further evaluations of the new treatment process by City staff as was discussed with Regional Board staff on April 15 and May 18, 2010 and based on recent discussions with new chief executive officer of firm that took over Micromedia filtration. City will not accept and treat any septic-waste until a separate septage treatment facility is identified and approved in the future by the RWQCB.

B. Full operation of modified existing facilities - the existing wastewater treatment facilities was modified in 2005 to incorporate an interim "flow equalization (peak shaving)" to reduce impact of peak organic and hydraulic loadings to the existing treatment plant. The

"interim flow equalization" was discontinued due to concern for turning the wastewater into a septic condition, following discussions between City and contract operations staff. Further, the existing extended aeration Biolac treatment facility could continue to handle the current reduced flows. Existing aeration diffusers were thoroughly checked and all non-functioning units were replaced in Year 2007. Plant maintenance personnel installed an auxiliary aerator into each of the existing Biolac basins in February of 2008 attempting to increase aeration for additional oxygen transfer. This auxiliary aeration was subsequently discontinued as it was also deemed ineffective.

C. Start-up testing and Operation of Part of the Completed Expansion Facilities: As of end of June, 2009, the treatment plant expansion (Phase-A: consisting of primary clean-screens (with latest name change to primary separators by equipment supplier), secondary influent pump station, and biological filters) was completed. Start-up testing and other issues of concern will be presented in Part II of this Report.

Headworks Facility Expansion: This represents Phase-B of the wastewater treatment plant expansion which includes new mechanical bar-screens, grit removal system, grit washing system, and a new influent flow measuring Parshall flume meter. This new facility is planned for up to 8-MGD (million gallons per day) average flow. This portion of the treatment plant is essential to protect pumping and treatment equipment downstream. Phase B expansion construction has been completed. Equipment testing and start-up will be presented in Part II of this Report.

Flow equalization facility: This represents Phase-C of the wastewater treatment plant expansion which originally requires one half of the existing Biolac aeration ponds to be taken out of service and be converted into a flow equalization facility. Due to problems associated with the start-up testing of Phase-A equipment furnished by MicroMedia, this Phase of the plant expansion (facility conversion) could not proceed at this time as it will impact current capacity of the existing Biolac treatment plant. If the Micromedia treatment process is determined to be fully effective (based on extended weeks of certified laboratory data on influent/effluent water quality, it is expected that a separate flow equalization facility will be constructed before the full Micromedia Plant will be utilized.

D. A portion of Phase-C improvements such as additional monitoring wells (including #1A, #7 and #8) will be implemented based on the Groundwater Monitoring Plan discussed with Regional Board staff on April 15 and May 18, 2010. This Monitoring Plan will be developed utilizing the services of a geologist or hydro-geologist and supported by City's engineering and operations staff. (Refer to additional update in Part II-C)

E. As has been conducted during the past 2-years, the Chief Plant Operator will continue a regular review of the volatile suspended solids versus total mixed liquor suspended solids in the existing Biolac plant to monitor the treatment process from the standpoint of reducing the total nitrogen in the effluent, in light of the fact that organic loading to the existing Biolac treatment plant could be reduced when the Clean-screens (equivalent primary treatment facility) are fully operational. The interim diversion of up to 0.8 MGD of raw-wastewater flow to VVWRA's regional plant should improve the effluent quality.

F. City staff will continue to meet with plant operations staff to review other operational adjustments in order to maintain the existing treatment plant at an optimum performance level until the "Expanded Treatment Facilities (with new treatment processes)" are fully tested and operational, including the new Head-works facility.

II. Actions Related to Final Compliance:

A. Long-term Action Plan – The City Engineer's staff completed a Sewer Master Plan in December 2007 and it was presented and approved by the City Council on January 23, 2008. A copy of the Sewer Master Plan was provided to RWQCB. This plan will provide guidance to the development of future "sewerage facilities" to adequately serve the City. A program environmental review has been under preparation for these master plans.

- City entered into a 5-year operations and maintenance extension agreement with Aquarion Operating Services (United Water) guaranteeing consistent and professional services until 2013.

B. Final compliance by December 31, 2008 with WDRs adopted by the Water Board – The following provides an update on this effort:

- Application for Revised WDRs: Initial application for WDR was submitted on July 15, 2008. Additional information for Revised WDR's was submitted to the RWQCB on September 5, 2008. RWQCB responded to this Additional Information on October 2, 2008 with certain issues for the City to follow-up. City staff had further responded to several subsequent comments forwarded to us from the Regional Board.

- Revised WDR: On January 26, 2009, RWQCB issued a tentative revised WDR for review and comments. The document was reviewed and comments had been returned to RWQCB before the deadline of February 24, 2009. On April 1, 2009, RWQCB issued a follow-up tentative revised WDR for further review and comments with a deadline date of April 28, 2009. City staff had also provided a response before the April 28, 2009 date.

  Based on the coordination meetings held on April 15 and May 18, 2010, City and Regional Board staff recognized that we need to schedule meeting(s) to provide clarifications related to the dual WDRs for the existing Biolac Plant and the new MicroMedia plant. Next meeting is scheduled for July 20, 2010 at 2:00 pm.

- Wastewater Treatment Plant Expansion – Phase A of the treatment plant expansion has been completed since end of June 2009 as reported in Section I of this Report. Initial start-up of the primary clean-screens and secondary treatment facility (two-stage bio-filters) were conducted from July to December 2009. Testing revealed problems with equipment and instrumentation wiring installed by Micromedia Filtration that need to be corrected. Further, the cultivation of the "microbes" to be used in the secondary treatment process experienced difficulty and the "kinetics" of the process (biochemical reactions and control of microbial growth) could not be fully understood. Micromedia Filtration had requested a time extension to: (a) make repairs and replacement of the Primary clean-screens; (b) to correct the instrumentation wirings controlling the secondary treatment process previously installed (This action has been completed by Micromedia Filtration); and (c) to coordinate with an engineering professor (responsible for investigating and study the new treatment process) to bring new replacement "microbes" so that the start-up and testing of the new treatment process could resume. City staff are continuing coordination meetings with Micromedia Filtration to discuss/establish time-line to complete the new round of process start-up testing.

Due to the current economic slow down, City's existing wastewater treatment facility will continue to provide treatment to the waste-streams entering the wastewater treatment plant.

Based on recent discussions with RWQCB staff, the City of Adelanto had discussed with and obtained permission from the Victor Valley Wastewater Reclamation Authority to divert up to 800,000 gallons per day of flow to the VVWRA regional treatment facility at Oro Grande (since they have the excess capacity on the interim basis). This will maintain flows to Adelanto Wastewater Treatment plant at about 1.5 MGD, consistent with the flow limit under the original Waste Discharge Permit issued by RWQCB to the City.The diversion piping from the Raw Influent pump station (at the Plant head-works area) has been completed. Due to required maintenance on the proposed pump, start-up operation is expected to commence by the week of July 26, 2010. RWQCB staff will be fully advised on the progress of this interim effort.

- Wastewater Treatment Plant Expansion – Phase B of the treatment plant expansion has been completed as reported. Start-up testing of equipment was scheduled for months of February/March of 2010. The new head-works facility has been placed into operation in April of 2010. The new Headworks facility includes: a new mechanical screen with compactor, cyclone grit separators, grit pumps, grit washer to remove organics from the grit collected before disposal, and a new flow meter for anticipated future plant capacity. The mechanical screen is backed by a new manual bar-screen with the existing Headworks remain in standby mode. City staff has completed minor improvements to the existing Biolac effluent system (installation of bucket strainers) to enable usage of the effluent as "plant water system".

  City staff will continue to keep Regional Board staff advised of the progress on start-up testing and evaluating the new treatment process constructed under Phase-A. Due to concerns whether the secondary bio-filtration process could provide the intended level of treatment to meet the new WDRs, City staff has maintained preliminary meetings/ discussions under a contingency-plan (included in 2007 when the bio-filtration facility was approved by the Adelanto City Council) to explore addition of a "secondary treatment process" upstream of the bio-filters. The already constructed bio-filters will then be utilized as tertiary filters. RWQCB staff will be appraised when additional information becomes available during our scheduled review meetings.

C. Wastewater Treatment Plant Expansion – Phase C Flow Equalization Facility. As reported in Section I of this Report, this improvement will be postponed until the new secondary bio-filtration treatment facility is proven to be successful (based on certified laboratory data).

Additional Monitoring Wells – The additional monitoring wells will be implemented based on the Groundwater Monitoring Plan which will be developed with the assistance of hydro -geologist Mark Roberts and as coordinated with Regional Board staff as stated in Section I previously. A recent meeting was held with Mr. Roberts and geologist Chris Krall to develop a work plan. City staff will report on this work-progress and implementation schedule to RWQCB staff.

Compliance date of December 31, 2008: As reported in Section 1 above, the City will continue to use the existing Biolac treatment plant to handle the incoming wastewater flow less the flow diverted to VVWRA. The new Headworks facility has been placed into service following start-up testing and coordination with the RWQCB staff. To minimize

interference/reduction to existing treatment capacity, plant expansion had to be constructed in three separate phases, thus requiring considerable more time for contracting and construction.

The City's process equipment contractor, (Micromedia Filtration, responsible for furnishing and installation of the primary clean-screens and biological filters) will continue with the equipment modifications/replacement, and will resume process start-up testing as was mentioned during the recent meeting with Regional Board staff. The unexpected MicorMedia equipment problems has affected City's ability to meet the compliance date. City staff will discuss and coordinate closely with Regional Board staff to address a new time-line to ensure compliance.

The City of Adelanto will continue with review of its back-up contingency plan of adding a full secondary treatment facility prior to the tertiary bio-filters. The City's plan is to ensure that we have a reliable treatment facility that can consistently treat the wastewater to meet the water quality standards established with the Lahontan Regional Water Quality Control Board. City will continue with its coordination with the Victor Valley Wastewater Reclamation Authority on the diversion of raw wastewater to its regional treatment facility.

We appreciate the cooperation and special assistance of the RWQCB staff. We are requesting that the Lahontan Regional Water Quality Control Board review and consider extending the final compliance date to enable the City to complete the wastewater treatment plant expansion under the three phases as described above. We look forward to meet with Regional Board staff on July 20, 2010.

Sincerely,

Wilson F. So, PE
City Engineer

Cc: City Manager and Council Members
John R. Sponsler, APUA Director

City of Adelanto

Engineering Department
c/o So & Associates Engineers Inc.
16209 Kamana Road, P.O. Box 1712
Apple Valley, California, 92307

October 15, 2010

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392-2306

Attn: Mr. Mike Plaziak
Supervising Engineering Geologist

RE: Adelanto Public Utility Authority – CDO Quarterly Reports; 13th Quarterly Report

Dear Mr. Plaziak:

As a follow up to the Lahontan Regional Water Quality Control Board's (hereinafter referred to as RWQCB) Order No. R6V-2007-0024 and Section 13267 of the California Water Code, Adelanto Public Utility Authority is pleased to submit this 13th Quarterly Status Report. The following is a brief update of APUA's actions to Sections I & II of the Cease & Desist Order (CDO).

I. **Interim Compliance Actions:** The information provided below is a continuous update of the City's effort to address the BOD and flow violations, consistent with the Interim Action Plan submitted by City Engineer on October 31, 2007.

A. APUA has not, since 2005 accepted septage waste for treatment and disposal at its wastewater treatment plant. This compliance action will remain in effect until the new treatment plant expansion is completely tested and fully operational which was initially expected during the 2nd half of 2009 when significant portion or all of the existing plant flow could be diverted to the new treatment facility to provide time to resolve the logistics of integrating the existing treatment plant with the new primary and advanced secondary facilities . The expected full-operational date needs be extended to permit further evaluations of the modified new treatment process by City staff as was discussed with Regional Board staff on meetings from April 15 to September 21, 2010. City staff has also maintained continuous discussions with new chief executive officer (and his staff) of firm that took over Micromedia filtration. City will not accept and treat any septic-waste until a separate septage treatment facility is identified and approved in the future by the RWQCB.

B. Full operation of modified existing facilities - the existing wastewater treatment facilities was modified in 2005 to incorporate an interim "flow equalization (peak shaving)" to reduce impact of peak organic and hydraulic loadings to the existing treatment plant. The

"interim flow equalization" was discontinued due to concern for turning the wastewater into a septic condition, following discussions between City and contract operations staff. Further, the existing extended aeration Biolac treatment facility could continue to handle the current reduced flows. Existing aeration diffusers were thoroughly checked and all non-functioning units were replaced in Year 2007. Plant maintenance personnel installed an auxiliary aerator into each of the existing Biolac basins in February of 2008 attempting to increase aeration for additional oxygen transfer. This auxiliary aeration equipment was discontinued as it was considered ineffective.

Due to an unexpected percolation problem associated with the City's existing effluent disposal ponds that occurred in July/August of 2010, City staff contacted the Victor Valley Wastewater Reclamation Authority (VVWRA) and entered into an agreement to permit City to divert up to 0.8 MGD of raw wastewater flow to the VVWRA regional plant (of which the City was an initial formation member). This agreement will be for up to 15 months, commencing in August of 2010. To permit City's staff to complete a maintenance related dredging operation (and including other viable options), amount of raw wastewater by-passed to VVWRA's plant was further increased to about 1.0 MGD.

Current raw wastewater flow to the 1997 Biolac treatment plant is being kept substantially below the RWQCB permitted flow of 1.5 MGD (average daily basis).

C. Start-up testing and Operation of Part of the Completed Expansion Facilities: As of end of June, 2009, the treatment plant expansion (Phase-A: consisting of primary clean-screens (with latest name change to primary separators by equipment supplier), secondary influent pump station, and biological filters) was completed. Start-up testing and other issues of concern will be presented in Part II of this Report.

Headworks Facility Expansion: This represents Phase-B of the wastewater treatment plant expansion which includes new mechanical bar-screens, grit removal system, grit washing system, and a new influent flow measuring Parshall flume meter. This new facility is planned for up to 8-MGD (million gallons per day) average flow. This portion of the treatment plant is essential to protect pumping and treatment equipment downstream. Phase B expansion construction has been completed. Equipment testing and start-up will be discussed in Part II of this Report.

Flow equalization facility: This represents Phase-C of the wastewater treatment plant expansion which originally requires one half of the existing Biolac aeration ponds to be taken out of service and be converted into a flow equalization facility. Due to problems associated with the start-up testing of Phase-A equipment furnished by MicroMedia, this Phase of the plant expansion (facility conversion) could not proceed at this time as it will impact current capacity of the existing Biolac treatment plant. The conversion of one existing Biolac aeration basin as equalization basin is no longer a viable option. When the Micromedia treatment process is determined to be fully effective (based on extended weeks of certified laboratory data on influent/effluent water quality, it is expected that a new flow equalization facility will be constructed before the Micromedia Plant will be placed into full operation.

D. A portion of Phase-C improvements such as additional monitoring wells (including #1A, #7 and #8) will be implemented based on the Groundwater Monitoring Plan discussed with Regional Board staff from April 15 to September 21, 2010. This Monitoring Plan has been

developed utilizing the services of a hydro-geologist and supported by City's engineering and operations staff. (Refer to additional discussion in Part II-C)

E. As has been conducted during the past 2-years, the Chief Plant Operator will continue a regular review of the volatile suspended solids versus total mixed liquor suspended solids in the existing Biolac plant to monitor the treatment process from the standpoint of reducing the total nitrogen in the effluent, in light of the fact that organic loading to the existing Biolac treatment plant was reduced and could be reduced when the Clean-screens (equivalent primary treatment facility) are fully operational. The interim diversion of up to 0.8 or more MGD of raw-wastewater flow to VVWRA's regional plant has improved the effluent quality.

F. City staff will continue to meet with plant operations staff to review other operational adjustments in order to maintain the existing treatment plant at an optimum performance level until the "Expanded Treatment Facilities (with new treatment processes)" are fully tested and produces high quality effluent.

II. Actions Related to Final Compliance:

A. Long-term Action Plan – The City Engineer's staff completed a Sewer Master Plan in December 2007 and it was presented and approved by the City Council on January 23, 2008. A copy of the Sewer Master Plan was provided to RWQCB. This plan will provide guidance to the development of future "sewerage facilities" to adequately serve the City. A program environmental review has been under preparation for these master plans.

- City entered into a 5-year operations and maintenance extension agreement with Aquarion Operating Services (United Water) guaranteeing consistent and professional services until 2013.

B. Final compliance by December 31, 2008 with WDRs adopted by the Water Board – The following provides an update on this effort:

- Application for Revised WDRs: Initial application for WDR was submitted on July 15, 2008. Additional information for Revised WDR's was submitted to the RWQCB on September 5, 2008. RWQCB responded to this Additional Information on October 2, 2008 with certain issues for the City to follow-up. City staff had further responded to several subsequent comments forwarded to us from the Regional Board.

- Revised WDR: On January 26, 2009, RWQCB issued a tentative revised WDR for review and comments. The document was reviewed and comments had been returned to RWQCB before the deadline of February 24, 2009. On April 1, 2009, RWQCB issued a follow-up tentative revised WDR for further review and comments with a deadline date of April 28, 2009. City staff had also provided a response before the April 28, 2009 date.

  Based on the coordination meetings held from April 15 to September 21, 2010, City and Regional Board staff recognize that it will be helpful if we continue to schedule meeting(s) to provide clarifications and updates related to the dual WDRs for the existing Biolac Plant and the new MicroMedia bio-filtration plant (also utilizes the activated sludge microbes). Next meeting is scheduled for November 18, 2010 at 2:00 pm.

- Wastewater Treatment Plant Expansion – Phase A of the treatment plant expansion has been completed since end of June 2009 as reported in Section I of this Report. Initial start-up of the primary clean-screens and secondary treatment facility (two-stage bio-filters) were conducted from July to December 2009. Testing revealed problems with equipment and instrumentation wiring installed by Micromedia Filtration that need to be corrected. Further, the cultivation of the "microbes" to be used in the secondary treatment process experienced difficulty and the "kinetics" of the process (biochemical reactions and control of microbial growth) could not be fully understood. Micromedia Filtration had requested a time extension to: (a) make repairs and replacement of the Primary clean-screens; (b) to correct the instrumentation wirings controlling the secondary treatment process previously installed (This action has been completed by Micromedia Filtration); and (c) to coordinate with an engineering professor (responsible for investigating and study the new treatment process) to bring new replacement "microbes" so that the start-up and testing of the new treatment process could resume.

  As stated above, City staff are continuing coordination meetings with Micromedia Filtration to discuss/establish time-line to complete the new round of process start-up testing. Based on our most recent discussions, we have established a re-testing schedule as follows:

  (1) Micromedia to complete all clean-screen (advanced primary treatment) modifications, which requires shipping equipment components back to Texas for correction and shipped back to Adelanto for re-installation by early November 2010.

  (2) Micromedia to work with City of Adelanto to consult with a professor at Stanford University to address the "kinetics" of the new bio-filtration process - This is to provide City a degree of confidence in terms of process control and optimum capacity for the 12 trains of bio-filters.

  (3) Start-up testing of the re-designed Clean-screens and secondary bio-filters is expected to begin after the Thanksgiving holiday.

- Due to the current economic slow down, City's existing wastewater treatment facility will continue to provide treatment to the waste-streams entering the wastewater treatment plant.

  The interim diversion of raw-wastewater to VVWRA (0.8 MGD per agreement and more per the temporary permission by VVWRA to increase to above 1.0 MGD until the effluent percolation problem has been resolved) has enabled the City of Adelanto to meet the RWQCB permitted discharge requirement as we had presented above and during the 9-21-2010 coordination meeting.

- Wastewater Treatment Plant Expansion – Phase B (head-works) of the treatment plant expansion has been completed and fully tested. The various systems (new mechanical bar screens, compactor, grit removal chambers, grit washing unit, and new flow measurement flume) have been placed into operation.

C. Wastewater Treatment Plant Expansion – Phase C Flow Equalization Facility. As reported in Section I of this Report, this improvement will be postponed until the new secondary bio-filtration treatment facility is re-tested and proven to be successful (based on certified laboratory data).

Groundwater monitoring plan report and additional monitoring wells – Two (2) copies of the Draft groundwater monitoring plan are hereby submitted. The plan has included a schedule to install several additional monitoring wells. City staff and our hydro-geological consultant are looking forward to meet on November 18, 2010 and discuss the Plan.

D. Additional effluent disposal ponds – City Attorney's office is working diligently to acquire several additional parcels of land (adjacent to the existing treatment plant site). Once the properties are acquired, City staff will conduct an environmental review/update before we can proceed with the design and construction of additional percolation ponds.

E. Compliance date of December 31, 2008: As reported in Section 1 above, the City will continue to use the existing Biolac treatment plant to handle the incoming wastewater flow less the flows diverted to VVWRA. The new Headworks facility has been placed into full service following start-up testing and coordination with the RWQCB staff. To minimize interference/reduction to existing treatment capacity, plant expansion had to be constructed in multi phases, thus requiring considerable more time for contracting and construction. However, Regional Board staff can observe that City of Adelanto is making efforts to bring the City into compliance under the Board Order.

We appreciate the continued cooperation and special assistance of the RWQCB staff. We are requesting that the Lahontan Regional Water Quality Control Board review and extend the final compliance date to enable the City to complete the wastewater treatment plant expansion under the multi-phase process as described above. We look forward to meet with Regional Board staff on November 18, 2010.

Sincerely,

Wilson F. So, PE
City Engineer

Cc: City Manager and Council Members
John R. Sponsler, APUA Director

City of Adelanto

Engineering Department
c/o So & Associates Engineers Inc.
16209 Kamana Road, P.O. Box 1712
Apple Valley, California, 92307

January 14, 2011

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392-2306

Attn: Mr. Mike Plaziak
Supervising Engineering Geologist

RE: Adelanto Public Utility Authority – CDO Quarterly Reports; 14th Quarterly Report

Dear Mr. Plaziak:

As a follow up to the Lahontan Regional Water Quality Control Board's (hereinafter referred to as RWQCB) Order No. R6V-2007-0024 and Section 13267 of the California Water Code, Adelanto Public Utility Authority is pleased to submit this 14th Quarterly Status Report. The following is a brief update of APUA's actions to Sections I & II of the Cease & Desist Order (CDO).

I. **Interim Compliance Actions:** The information provided below is a continuous update of the City's effort to address the BOD and flow violations, consistent with the Interim Action Plan submitted by City Engineer on October 31, 2007.

A. APUA has not, since 2005 accepted septage waste for treatment and disposal at its wastewater treatment plant. This compliance action will remain in effect until the new treatment plant expansion is completely tested and fully operational which was initially expected during the 2nd half of 2009 when significant portion or all of the existing plant flow could be diverted to the new treatment facility to provide time to resolve the logistics of integrating the existing treatment plant with the new primary and advanced secondary facilities . The expected full-operational date needs be extended to permit further evaluations of the "modified' new treatment process by City staff as was discussed with Regional Board staff on meetings from April 15 to September 18, 2010. City staff has also maintained continuous discussions with new chief executive officer (and his staff) of M2R that succeeds Micromedia filtration regarding the modification of the bio-filtration process from anoxic "Anammox" microbes to aerobic activated sludge fixed film process. City will not accept and treat any septic-waste until a separate septage treatment facility is identified and approved in the future by the RWQCB.

B. Full operation of modified existing facilities - the existing wastewater treatment facilities was modified in 2005 to incorporate an interim "flow equalization (peak shaving)" to reduce impact of peak organic and hydraulic loadings to the existing treatment plant. The "interim flow equalization" was discontinued due to concern for turning the wastewater into a septic condition, following discussions between City and contract operations staff. Further, the existing extended aeration Biolac treatment facility could continue to handle the current reduced flows (with diversion of wastewater to the Victor Valley Reclamation Authority's treatment plant) . Existing aeration diffusers were thoroughly checked and all non-functioning units were replaced in Year 2007. Plant maintenance personnel installed an auxiliary aerator into each of the existing Biolac basins in February of 2008 attempting to increase aeration for additional oxygen transfer. This auxiliary aeration equipment was discontinued as it was considered ineffective.

Due to an unexpected percolation problem associated with the City's existing effluent disposal ponds that occurred in July/August of 2010, City staff contacted the Victor Valley Wastewater Reclamation Authority (VVWRA) and entered into an agreement to permit City to divert up to 0.8 MGD of raw wastewater flow to the VVWRA regional plant (of which the City was an initial formation member of the VVWRA). This agreement will be for up to 15 months, commencing in August of 2010. To permit City's staff to complete a maintenance related dredging operation (and including other viable options), amount of raw wastewater diverted to VVWRA's plant was further increased to about 1.0 MGD.

Current raw wastewater flow to the 1997 Biolac treatment plant is being kept substantially below the RWQCB permitted flow of 1.5 MGD (average daily basis). Therefore, City of Adelanto was in compliance with the flow requirement of Waste Discharge since about late August of 2010.

C. Start-up testing and Operation of Part of the Completed Expansion Facilities: As of end of June, 2009, the treatment plant expansion (Phase-A: consisting of primary clean-screens (with latest name change to primary separators by equipment supplier), secondary influent pump station, and biological filters) was completed. Start-up testing and other issues of concern will be presented in Part II of this Report.

Headworks Facility Expansion: This represents Phase-B of the wastewater treatment plant expansion which includes new mechanical bar-screens, grit removal system, grit washing system, and a new influent flow measuring Parshall flume meter. This new facility is planned for up to 8-MGD (million gallons per day) average flow. This portion of the treatment plant is essential to protect pumping and treatment equipment downstream. Phase B expansion construction has been completed. Equipment testing and start-up will be discussed in Part II of this Report.

Flow equalization facility: This represents Phase-C of the wastewater treatment plant expansion which originally proposed one half of the existing Biolac aeration ponds to be taken out of service and be converted into a flow equalization facility. Due to problems associated with the start-up testing of Phase-A equipment furnished by MicroMedia, this Phase-C of the plant expansion (facility conversion) was temporarily extended to avoid reducing current permitted/rated capacity of the existing Biolac treatment plant. Based on a recent meeting between City Manager, City Attorney, City Engineer, and APUA Director with M2R, City Engineer is proceeding to complete the design of a separate new flow

equalization basin by late January or early February 2011. Bidding and construction of the facility hopefully can be completed by December of 2011.

D. A portion of Phase-C improvements such as additional monitoring wells (including #1A, #7 and #8) will be implemented based on the Groundwater Monitoring Plan discussed with Regional Board staff from April 15 to September 21, 2010. This Monitoring Plan has been developed (submitted in early November 2010 utilizing the services of a hydro-geologist Mark Roberts and supported by City's engineering and operations staff. (Refer to additional discussion in Part II-C)

E. As has been conducted during the past 2-years, the Chief Plant Operator will continue with a regular review of the volatile suspended solids versus total mixed liquor suspended solids in the existing Biolac plant to monitor the treatment process from the standpoint of reducing the total nitrogen in the effluent, in light of the fact that organic loading to the existing Biolac treatment plant was reduced and could be reduced when the Clean-screens (equivalent primary treatment facility) are fully operational. The interim diversion of up to 0.8 or more MGD of raw-wastewater flow to VVWRA's regional plant has improved the effluent quality and enabled the City to meet flow and effluent quality requirement.

F. City staff will continue to meet with plant operations staff to review other operational adjustments in order to maintain the existing treatment plant at an optimum performance level until the "Expanded Treatment Facilities (with modified bio-filtation treatment processes)" are fully tested and produces high quality effluent.

II. Actions Related to Final Compliance:

A. Long-term Action Plan – The City Engineer's staff completed a Sewer Master Plan in December 2007 and it was presented and approved by the City Council on January 23, 2008. A copy of the Sewer Master Plan was provided to RWQCB. This plan will provide guidance to the development of future "sewerage facilities" to adequately serve the City. A program environmental review has been under preparation for these master plans.

- City entered into a 5-year operations and maintenance extension agreement with Aquarion Operating Services (United Water) guaranteeing consistent and professional services until 2013.

B. Final compliance by December 31, 2008 with WDRs adopted by the Water Board – The following provides an update on this effort:

- Application for Revised WDRs: Initial application for WDR was submitted on July 15, 2008. Additional information for Revised WDR's was submitted to the RWQCB on September 5, 2008. RWQCB responded to this Additional Information on October 2, 2008 with certain issues for the City to follow-up. City staff had further responded to several subsequent comments forwarded to us from the Regional Board.

- Revised WDR: On January 26, 2009, RWQCB issued a tentative revised WDR for review and comments. The document was reviewed and comments had been returned to RWQCB before the deadline of February 24, 2009. On April 1, 2009, RWQCB issued a follow-up

tentative revised WDR for further review and comments with a deadline date of April 28, 2009. City staff had also provided a response before the April 28, 2009 date.

Based on the coordination meetings held from April 15 to September 21, 2010, City and Regional Board staff recognize that it will be helpful if we continue to schedule meeting(s) to provide clarifications and updates related to the dual WDRs for the existing Biolac Plant and the new MicroMedia bio-filtration plant (also utilizes the activated sludge microbes). The most recent coordination meeting was held on November 18, 2010.

- Wastewater Treatment Plant Expansion – Phase A of the treatment plant expansion has been completed since end of June 2009 as reported in Section I of this Report. Initial start-up of the primary clean-screens and secondary treatment facility (two-stage bio-filters) were conducted from July to December 2009. Testing revealed problems with equipment and instrumentation wiring installed by Micromedia Filtration that need to be corrected. Further, the cultivation of the "microbes" to be used in the secondary treatment process experienced difficulty and the "kinetics" of the process (biochemical reactions and control of microbial growth) could not be fully understood. Micromedia Filtration had requested a time extension to: (a) make repairs and replacement of the Primary clean-screens; (b) to correct the instrumentation wirings controlling the secondary treatment process previously installed (This action has been completed by Micromedia Filtration); and (c) to coordinate with an engineering professor (responsible for investigating and study the new treatment process) to bring new replacement "microbes" so that the start-up and testing of the new treatment process could resume.

  As stated above, City staff are continuing coordination meetings with Micromedia Filtration to discuss/establish time-line to complete the new round of process start-up testing. Based on our most recent discussions, we have established a re-testing schedule as follows:

  (1) Micromedia to complete all clean-screen (advanced primary treatment) modifications, which requires shipping equipment components back to Texas for correction and shipped back to Adelanto for re-installation by early November 2010.

  (2) Micromedia to work with City of Adelanto to consult with a professor at Stanford University to address the "kinetics" of the new bio-filtration process - This is to provide City a degree of confidence in terms of process control and optimum capacity for the 12 trains of bio-filters.

  (3) Start-up testing of the re-designed Clean-screens and secondary bio-filters is expected to begin after the Thanksgiving holiday.

- Due to the current economic slow down, City's existing wastewater treatment facility will continue to provide treatment to the waste-streams entering the wastewater treatment plant.

  The interim diversion of raw-wastewater to VVWRA (0.8 MGD per agreement and more per the temporary permission by VVWRA to increase to above 1.0 MGD until the effluent percolation problem has been resolved) has enabled the City of Adelanto to meet the RWQCB permitted discharge requirement as we had presented above and during the 9-21-2010 coordination meeting.

- Wastewater Treatment Plant Expansion – Phase B (head-works) of the treatment plant expansion has been completed and fully tested. The various systems (new mechanical bar screens, compactor, grit removal chambers, grit washing unit, and new flow measurement flume) have been placed into operation.

C. Wastewater Treatment Plant Expansion – Phase C Flow Equalization Facility. As reported in Section I of this Report, design of this improvement is targeted for completion no later than early February 2011; bidding and construction are targeted for completion by early December 2011, consistent with City's goal to construct additional effluent percolation ponds to increase capacity and facility reliability.

Groundwater monitoring plan report and additional monitoring wells – Two (2) copies of the Draft groundwater monitoring plan have been submitted in early November 2010. The plan has included a schedule to install several additional monitoring wells. City staff and hydro-geologist met with RWQCB staff on November 18, 2010 and briefly discussed the Plan and are waiting to schedule the next meeting.

D. Additional effluent disposal ponds – City Attorney's office is working diligently to acquire several additional parcels of land (adjacent to the existing treatment plant site). However, we have to complete these new acquisitions in accordance with appropriate laws and legal procedures. Once the property acquisition is completed, City will conduct an environmental review-update in accordance with CEQA before we can complete the design/bidding/ permits (from RWQCB) and proceed with construction of additional percolation ponds.

E. Compliance date of December 31, 2008: As reported in Section 1 above, the City will continue to use the existing Biolac treatment plant to handle the incoming wastewater flow less the flows diverted to VVWRA. The new Headworks facility has been placed into full service following start-up testing and coordination with the RWQCB staff. To minimize interference/reduction to existing treatment capacity, plant expansion had to be constructed in multi phases, thus requiring considerable more time for contracting and construction. However, Regional Board staff can observe that City of Adelanto is making efforts to bring the City into compliance under the Board Order.

We appreciate the continued cooperation and special assistance of the RWQCB staff. We are requesting that the Lahontan Regional Water Quality Control Board review and extend the final compliance date to enable the City to complete the wastewater treatment plant expansion under the multi-phase process as described above. We look forward to meet with Regional Board staff on November 18, 2010.

Sincerely,

Wilson F. So, PE
City Engineer

Cc: City Manager and Council Members
John R. Sponsler, APUA Director

APUA RESOLUTION NO. 09-05

A RESOLUTION OF THE ADELANTO PUBLIC UTILITIES AUTHORITY, SAN BERNARDINO COUNTY, CALIFORNIA, TO ADOPT REVISED WATER AND SEWER USER RATE INCREASES AND APPROVE THE SENIOR AND LOW-INCOME EXEMPTION PROGRAMS

WHEREAS, the Adelanto Public Utilities Authority ("Authority") provides potable water and sewage services to its citizens; and

WHEREAS, the costs of operating the Authority's water and sewage collection and treatment systems have increased in recent years; and

WHEREAS, the Authority desires to ensure that the costs associated with the operation of the Authority's potable water system and sewage collection and treatment systems are recovered through the fees charged for the provision of those services; and

WHEREAS, any increase in fees and charges for property-related water and sewer service must comply with the procedural and substantive requirements of Article XIIID, section 6, of the California Constitution, which was enacted by the California Voters in 1996 as part of Proposition 218; and

WHEREAS, the Authority has sent the proper notices as required by law; and

WHEREAS, the Authority conducted two (2) public workshops intended to provide detailed information regarding the proposed increases;

WHEREAS, the Authority held a Public Hearing on the 12th day of August, 2009 to receive written and oral testimony in regards to the proposed water and sewer rate increase; and

WHEREAS, the Authority hereby finds that the revised fees and rates set forth herein do not exceed the estimated reasonable cost of providing services or facilities for which such fees and rates are imposed.

NOW THEREFORE, the Board of the Adelanto Public Utility Authority hereby resolves as follows:

1. The Authority adopts the Revenue Requirement Report and Water Rate Calculation Report to utilize and adopt the rates established as "Alternate A" of the report, set forth in Exhibit A attached hereto;
2. The Authority adopts the Revenue Requirement Report and Sewer Rate Calculation Report, and adopts the Sewer rates proposed therein set forth in Exhibit B attached hereto;
3. The Authority adopts the Senior Exemption Program, set forth in Exhibit C attached hereto;

4. The Authority adopts the Low Income Exemption Program, set forth in Exhibit D attached hereto.

PASSED, APPROVED AND ADOPTED at a regular meeting of the Board of the Adelanto Public Utilities Authority, held on the 12th day of August, 2009.

By _____
Charley B. Glasper, President

_____
Cindy M. Herrera, City Clerk, CMC

I, Cindy M. Herrera, City Clerk of the City of Adelanto, California, do hereby certify that the foregoing Resolution No. 09-05 was duly and regularly adopted at a regular meeting of the Board of the Adelanto Public Utilities Authority on this 12th day of August, 2009, by the following vote, to wit:

AYES: Authority Members Camargo, Piehe, Thomas, Vice-President Perez, and President Glasper.

NOES: None

ABSENT: None

ABSTAIN: None

IN WITNESS THEREOF, I hereunto set me hand and affix the official seal of the City of Adelanto, on the 12th day of August, 2009.

Cindy M. Herrera, City Clerk

AGENDA REPORT

City of Adelanto

Adelanto Governmental Center
11600 AIR EXPRESSWAY
ADELANTO, CALIFORNIA 92301

Date:	August 12, 2009
To:	Honorable President and Authority Members
From:	D. James Hart, City Manager
By:	George Harris, Interim Finance Director
Subject:	Conduct a Public Hearing and Approve APUA Resolution 09-05 to set the Water and Sewer user rates for Fiscal Years 2009/10, 2010/11, 2011/12 and 2012/13 and Approve the Senior and Low Income Exemption Programs

STAFF RECOMMENDATION:

Staff recommends that the Adelanto Public Utilities Authority ("Authority") Board of Directors: (1) conduct a Public Hearing to receive testimony related to the adjusted rates charged to Authority water and sewer customers; and (2) approve APUA Resolution 09-05 to set the revised water and sewer user rates and to revise the Senior Citizen and Disabled Exemption Program and establish the Low Income Exemption Program.

BACKGROUND:

The Authority examines the financial stability of the water and sewer operations and makes a determination as to the rates charged for service. The analysis is based on the actual costs of providing water and sewer service to City residents.

The last time that the Authority adjusted rates was 2002. Since 2002, the cost of conducting business for the Authority has increased substantially, including the cost of construction, maintenance and operation of the Authority's new wastewater treatment plant. Other reasons for the increase include labor, material, financing and fuel costs that have all had double-digit increases since 2002. The current operations cost include the cost of debt service, which consists of the outstanding 2005 Series A and Series B bonds and the Authority's amortized obligation to the City of Adelanto General Fund, which amounts to $5.4M in Fiscal Year 2009/2010.

The Authority has sent notices to property owners for this public hearing in accordance with applicable law. Furthermore, the Authority held two public workshops to allow residents additional opportunities to express their viewpoints to the Authority.

Staff conducted an analysis of current rates and operations and the need for increased rates to meet the actual costs of providing water and sewer service to the City. Furthermore, staff surveyed water rates in other local jurisdictions. The end result for year one (1) is illustrated below:

Rate Category	Current Rates	Proposed(1)	Apple Valley Ranchos	CSA 42	Hesperia(2)	Victorville(3)
Water Base Rate	$18.47	$13.38	$29.16	$52.33	$18.16	$17.50
Water per CCF Rate	$.95	$1.25	$2.03	$1.68	$1.43	$1.47
Sewer	$11.43	$47.82	$17.98	$44.95	$20.08	$22.22
Total Monthly Average (20 Units of Water)	$39.40	$86.20	$87.74	$130.88	$66.83	$69.12

1) The Proposed rates are in draft form and may or may not change by the time of the public hearing.
2) The City of Hesperia rates are effective September, 2009.
3) The City of Victorville rates are effective August, 2009.

The following table summarizes the currently proposed monthly base water rates by year for each water meter size.

Base Rate by Meter Size	Effective September 1, 2009	Effective July 1, 2010	Effective July 1, 2011	Effective July 1, 2012
¾"(1)	$13.38	$18.90	$18.98	$26.50
1"	$22.34	$31.56	$31.70	$44.26
1 ½"	$44.56	$62.94	$63.20	$88.25
2"	$71.32	$100.74	$101.16	$141.25
3"	$133.80	$189.00	$189.80	$265.00
4"	$223.04	$315.06	$316.40	$441.76

The following table summarizes the currently proposed new tiered commodity rates for water that are explained in the attached studies.

Tier(1)(2)(3)	Effective Sept.1, 2009		Effective July 1, 2010		Effective July 1, 2011		Effective July 1, 2012	
1	1-20	1.25	1-15	2.40	1-15	2.40	1-15	2.40
2	21-35	2.16	16-25	3.40	16-25	3.40	16-25	3.40
3	36 and up	2.50	26 and up	4.40	26 and up	4.40	26 and up	4.40

The following table summarizes the currently proposed monthly sewer base rate per EDU by year.

Property Type	Effective Sept.1, 2009	Effective July 1, 2010	Effective July 1, 2011	Effective July 1, 2012
Single Family Residential Flat Sewer Rate	$47.82	$50.79	$55.36	$61.06
Multi Family Residential Flat Sewer Rate(1)	$23.91 per unit	$25.40 per unit	$27.68 per unit	$30.53 per unit
Commercial/Industrial Flat Sewer Rate(2)	$47.82 per EDU	$50.79 per EDU	$55.36 per EDU	$61.06 per EDU

Staff is also recommending the adoption of the revised Senior and Disabled Exemption program and the new Low Income Exemption programs. The Senior and Disabled program provides for a 50% discount of the proposed sewer rate if certain income requirements are met and the Low Income program provides for a 35% discount is certain income requirements are met. Applications for each program will be available at City Hall and on the City's website (www.ci.adelanto.ca.us).

FISCAL IMPACT:

The increase in water and sewer rates will increase the revenues of the Authority, but such increase is intended to generate the revenues needed to meet the costs of providing water and sewer service to the City.

ATTACHMENTS:

- APUA Resolution 09-05
- Revenue Requirement Report and Water Rate Calculation
- Revenue Requirement Report and Sewer Rate Calculation
- Senior Exemption Program
- Low Income Exemption Program

ADELANTO WATER AUTHORITY

REVENUE REQUIREMENT REPORT
AND
WATER RATE CALCULATION

FOR THE YEARS 2009-10 THROUGH 2012-13

JUNE 2009

City of
ADELANTO
"Progress through unity"

Prepared by:
Christian L. Aldinger, CPA
Peasley, Aldinger & O'Bymachow
June 2009

ADELANTO WATER AUTHORITY

REPORT ON REVENUE REQUIREMENTS

AND WATER RATES

JUNE 2009

ADELANTO WATER AUTHORITY

REPORT ON REVENUE REQUIREMENTS AND WATER RATES

JUNE 2009

TABLE OF CONTENTS

Accountant's Report 1-2
Executive Summary 3

Section 1 Purpose and Scope
1.1 Purpose of Study 4
1.2 Scope of Report 4

Section 2 Background Information
2.1 History of Operations 5
2.2 Organization 6
2.3 Source of Supply 7-8
2.4 Storage 9
2.5 Distribution System 10

Section 3 Statistical Information
3.1 Number of Customers by Meter Size 11
3.2 Growth of Metered Customers 12
3.3 Average Metered Customers by Size 13
3.4 Meter Equivalents 13-14
3.5 Estimated Water Consumption by All Customers 15

Section 4 Revenue Requirements
4.1 Operating Expenses 16-17
4.2 Capital Costs 18
4.3 Debt Services Costs 19
4.4 Reserves 20-21
4.5 Summary of Revenue Requirements 22

Section 5 Other Revenue Sources
5.1 Interest Earned 23
5.2 Capacity Charges 23
5.3 Connection Charges 23-24
5.4 Water Availability Charges 24
5.5 Summary of Other Revenue Sources 25

Section 6 Summary - Results of Operations at Present Rates
6.1 Estimated Service Fee Revenues at Present Rates 26
6.2 Estimated Commodity Revenue at Present Rates 27
6.3 Annual Water Revenues at Present Rates 27
6.4 Estimated Results of Operations at Present Rates 28

ADELANTO WATER AUTHORITY

REPORT ON REVENUE REQUIREMENTS AND WATER RATES

JUNE 2009

TABLE OF CONTENTS
(continued)

Section 7	Rate Design Philosophy		
	7.1	Rate Design Philosophy	29-30
	7.2	Fundamental Rate Design Principles	30
	7.3	Rate Philosophy	31-33
	7.4	Types of Rates	33-35
	7.5	Trends in Rate Making	36
	7.6	Selection of Rate Design Method	36-37
	7.7	Rate Setting Process	37
	7.8	Proposed Method of Rate Design	38
Section 8	Development and Design of Rate Schedules		
	8.1	Rate Determination	39
	8.2	Rate Design	40-41
Section 9	Proposed Rates		
	9.1	Proposed Rates	42-46
Section 10	Summary - Results of Operations at Proposed Rates		
	10.1	Estimated Service Charge Revenue at Proposed Rates	47
	10.2	Estimated Commodity Revenues at Proposed Rates	48
	10.3	Results of Operations at Proposed Rates	49
Section 11	Comparison of Average Bills		
	11.1	Comparison of bills at Present Rates vs. Proposed Rates	50-51
	11.2	Comparison with Surrounding Communities	52
Section 12	Alternative Solutions		
	12.1	Alternative A	53-55
Section 13	Summary and Recommendations		
	13.1	Summary	56
	13.2	Recommendations	57
	13.3	Alternatives and Considerations	57
Section 14	Significant Assumptions Used in This Report		
	14.1	Operational Assumptions	58
	14.2	Accounting Assumptions	58
Appendix A	Service Connection Data		
Appendix B	Detail Schedule of Expenses		
Appendix C	Budget Adjustment Work Papers		
Appendix D	Capital Costs		
Appendix E	Rate Calculation Worksheets		
Appendix F	Bill Comparisons		
Appendix G	Proposed Debt Service		
Appendix H	Water Use Allowed by Meter Size in Each Tier		

SECTION 12

ALTERNATIVE SOLUTION

The rates proposed in Section 9.1 were designed to allow the Water Authority to generate adequate revenues to meet the Water Authority's revenue requirements for years 2009-10 through 2012-13, while at the same time encouraging conservation in water use. In June 2009, the Water Authority conducted two Town Hall meetings to solicit input and alternative ideas from the public and customers of the Water Authority. One of the concerns raised at the Town Hall meetings was the "squeezing" of tiers in years 2011-12 and 2012-2013. Another concern was the proposed first tier commodity rate was higher than the rate charged by surrounding purveyors.

12.1 Alternate A

Based on input received at the Town Hall meetings, an alternative rate calculation has been performed and has been identified as "Alternate A".

Alternate A begins with the revenue requirements identified in Section 4.5 and includes the following three modifications:

- amount of water allowed in each tier
- holds the commodity rate constant in years 2010-11 through 2012-13
- reduction in 1996 Agreement optional payment

Alternate A holds the amount of water allowed in the tiers at the "Step 2" level rather than continuing to "squeeze" their tiers. The AlternateA modifications to tiers is as follows:

In CCFs	PROPOSED				ALTERNATE A			
	2009-10	2010-11	2011-12	2012-13	2009-10	2010-11	2011-12	2012-13
1st Tier	1 - 20	1 - 15	1 - 10	1 - 10	1 - 20	1 - 15	1 - 15	1 - 15
2nd Tier	21 - 35	16 - 25	11 - 20	11 - 20	21 - 35	16 - 25	16 - 25	16 - 25
3rd Tier	36 +	26 +	21 +	21 +	36 +	26 +	26 +	26 +

SECTION 12

ALTERNATIVE SOLUTION
(continued)

12.1 Alternate A (continued)

In additional, Alternate A commodity rate has been held steady in the years 2010-11 through 2012-13. A comparison of Alternative A and proposed rates is presented below:

$ per CCF	PROPOSED				ALTERNATE A			
	2009-10	2010-11	2011-12	2012-13	2009-10	2010-11	2011-12	2012-13
1st Tier	$1.25	$3.40	$3.40	$3.40	$1.25	$2.40	$2.40	$2.40
2nd Tier	$2.16	$4.40	$4.40	$4.40	$2.16	$3.40	$3.40	$3.40
3rd Tier	$2.50	$5.40	$5.40	$5.40	$2.50	$4.40	$4.40	$4.40

The ultimate impact to the Water Authority of implementing the Alternative A rates is less revenue. The reduced revenue results in less funding available to make payments on the optional portion of the 1996 Agreement resulting in a deferral of the final payoff date of the 1996 Agreement until 2027 and costs the Water Authority approximately an additional $7,000,000 in interest over the deferral period.

The impact on the customers under implementation of Alternative A is each customer will likely pay less than under the proposed rates.

Appendix E, page E-6 presents rate development worksheets using Alternate A rates and tiers. Appendix G, page G-8, demonstrates amortization schedule modifications for the 1996 Agreement if Alternate A rates are adopted.

SECTION 12

ALTERNATIVE SOLUTIONS
(continued)

12.1 Alternate A (continued)

TABLE 30

COMPARISON WITH SURROUNDING WATER PURVEYORS
INCLUDING ALTERNATE A

2009-10 Year

	Assuming a ¾" Customer with Monthly Consumption of:		
	10 CCFs	20 CCFs	50 CCFs
City of Adelanto (present rates)	**$18.47**	**$27.97**	**$56.47**
City of Hesperia	$25.15	$38.25	$54.25
Victorville Water District	$29.40	$42.80	$99.00
City of Adelanto (proposed rates)	**$25.88**	**$38.38**	**$108.28**
City of Adelanto (Alternate A)	**$25.88**	**$38.38**	**$108.28**
Apple Valley Ranchos Water Co.	$49.39	$70.30	$136.73

2010-11 Year

	Assuming a ¾" Customer with Monthly Consumption of:		
	10 CCFs	20 CCFs	50 CCFs
City of Hesperia	$25.15	$38.25	$54.25
Victorville Water District	$35.00	$51.00	$118.00
City of Adelanto (proposed rates)	**$35.88**	**$91.90**	**$248.90**
City of Adelanto (Alternate A)	**$35.88**	**$76.90**	**$198.90**
Apple Valley Ranchos Water Co.	$49.39	$70.30	$136.73

ADELANTO PUBLIC UTILITY AUTHORITY

REVENUE REQUIREMENT REPORT
AND
SEWER RATE CALCULATION

FOR THE YEARS 2009-10 THROUGH 2012-13

JUNE 2009

City of ADELANTO
"Progress through unity"

Prepared by:
Christian L. Aldinger, CPA
Peasley, Aldinger & O'Bymachow
June 2009

ADELANTO PUBLIC UTILITY AUTHORITY

REPORT ON REVENUE REQUIREMENTS

AND SEWER RATES

JUNE 2009

ADELANTO PUBLIC UTILITY AUTHORITY

REPORT ON REVENUE REQUIREMENTS AND SEWER RATES

JUNE 2009

TABLE OF CONTENTS

Accountant's Report 1-2
Executive Summary 3

Section 1 Purpose and Scope .....
1.1 Purpose of Study 4
1.2 Scope of Report 4

Section 2 Background Information
2.1 History of Operations 5
2.2 Organization 6
2.3 Present Operations 7
2.4 Sewer Charges and Fees 7-8

Section 3 Statistical Information
3.1 Customers by Land Use Category 9
3.2 Growth of Customers 10
3.3 Equivalent Dwelling Units (EDUs) 11
3.4 Average Wastewater Flow – All Customers 11

Section 4 Revenue Requirements
4.1 Operating Expenses 12
4.2 Capital Costs 13
4.3 Debt Services Costs 14
4.4 Reserves 15-16
4.5 Summary of Revenue Requirements 17

Section 5 Other Revenue Sources
5.1 Interest Earned 18
5.2 Availability / Capacity Charges 18
5.3 Connection Charges 18
5.4 Summary of Other Revenue Sources 19

Section 6 Summary - Results of Operations at Present Rates
6.1 Estimated Revenues at Present Rates 20
6.2 Estimated Results of Operations at Present Rates 21

Section 7 Rate Design Philosophy
7.1 Rate Design Philosophy 22-23
7.2 Fundamental Rate Design Principles 23
7.3 Rate Philosophy 24
7.4 Selection of Rate Design Method 25
7.5 Rate Setting Process 26

ADELANTO PUBLIC UTILITY AUTHORITY

REPORT ON REVENUE REQUIREMENTS AND SEWER RATES

JUNE 2009

TABLE OF CONTENTS
(continued)

Section 8	Development and Design of Rate Schedules	
	8.1 Rate Determination	27
	8.2 Rate Design	28-29
Section 9	Proposed Rates	
	9.1 Proposed Rates	30
Section 10	Summary - Results of Operations at Proposed Rates	
	10.1 Estimated Revenue at Proposed Rates	31
	10.2 Results of Operations at Proposed Rates	32
Section 11	Comparison of Average Bills	
	11.1 Comparison of bills at Present Rates vs. Proposed Rates	33
	11.2 Comparison with Surrounding Communities	33
Section 12	Summary and Recommendations	
	12.1 Summary	34
	12.2 Recommendations	34
	12.3 Alternatives and Considerations	35
Section 13	Significant Assumptions Used in This Report	
	13.1 Operational Assumptions	36
	13.2 Accounting Assumptions	36
Appendix A	Service Connection Data	
Appendix B	Detail Schedule of Expenses	
Appendix C	Capital Costs	
Appendix D	Rate Calculation Worksheets	
Appendix E	Bill Comparisons	
Appendix F	Proposed Debt Service	
Appendix G	Notice of Proposed Rates	

PEASLEY, ALDINGER & O'BYMACHOW
AN ACCOUNTANCY CORPORATION

MATT A. PEASLEY, CPA
CHRISTIAN L. ALDINGER, CPA

2120 MAIN STREET, SUITE 265
HUNTINGTON BEACH, CALIFORNIA 92648

(714) 536-4418
FAX (714) 536-2039

June 29, 2009

Mr. Bill Aylward
Finance Director
Adelanto Public Utility Authority
11600 Air Base Road
Adelanto, California 92301

Re: Report on Revenue Requirements and Sewer Rates

Dear Mr. Aylward:

At your request and from information provided by Adelanto Public Utility Authority, we have prepared this report entitled "Report on Revenue Requirements and Sewer Rates". The report includes a forecast of future operating expenses, debt service, capital costs and reserves (the components of revenue requirements), and the revenues necessary to cover those components for the years ending June 30, 2010 through June 30, 2013. The report includes historical operating data and projections of future operations used in estimating the components of revenue requirements and a summary of significant assumptions as well as our recommendations for modifications which should be made to rates as a result of our study.

This financial forecast presents, to the best of management's knowledge and belief, the Public Utility Authority department's expected results of operations at present and proposed rates for the forecast period. These forecasts are based on management's assumptions, reflecting conditions management expects to exist and the course of action management expects to take during the forecast period. There will usually be differences between forecasted and actual results because events and circumstances frequently do not occur as expected, and those differences may be material. Management and Public Utility Authority staff are responsible for representations about its plans and expectations and for disclosure of significant information that might affect the ultimate realization of the forecasted results.

Because the procedures we performed during this engagement do not constitute an examination of a presentation of forecasted information in accordance with standards established by the American Institute of Certified Public Accountants, we do not express an opinion on whether the Revenue Requirements Study is presented in conformity with AICPA presentation guidelines or on whether the underlying assumptions provide a reasonable basis for the presentation. Additionally, the procedures that we performed did not constitute an audit or review of this information or of the financial statements of Adelanto Public Utility Authority. Consequently, we do not express an opinion or any other form of assurance on those financial statements, the achievability of the forecast or the

Re: Report on Revenue Requirements and Sewer Rates

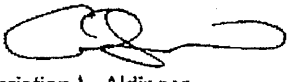
reasonableness of the underlying assumptions. We have no responsibility to update our report for events and circumstances occurring after the date of this report. Our engagement cannot be relied upon to disclose errors, irregularities, or illegal acts, including fraud or defalcations that may exist.

It is our understanding this report is for the use of the Public Utility Authority's Board of Directors and Public Utility Authority Staff to assist them in determining proper sewer use rates and sewer connection fees and, consequently, is intended for internal use only. In accordance with standards established by the American Institute of Certified Public Accountants, the terms of our agreement with the Public Utility Authority specify that if management intends to reproduce and publish the forecast and our report thereon, it must be reproduced in its entirety. You have agreed to allow us to approve both the first and subsequent corrected drafts of the document containing the forecast and any accompanying material prior to publication.

We appreciate the opportunity to be of service to the Public Utility Authority and would like to thank the Public Utility Authority Staff for their assistance and cooperation.

Sincerely,

PEASLEY, ALDINGER & O'BYMACHOW
An Accountancy Corporation



Christian L. Aldinger
Certified Public Accountant

EXECUTIVE SUMMARY

The purpose of this report is to determine sewer, connection, and availability charges needed to generate revenues adequate to meet revenue requirements using equitable design criteria with an emphasis on the construction and maintenance of a reliable sewage conveyance system over the next 5 to 20 years.

Estimated revenue requirements (Section 4) for the years 2009-10 through 2012-13 exceed estimated revenues at present rates (Section 6). This results in a need to increase overall revenues by approximately 294% for the 2009-10 year (Section 9). To preserve the Public Utility Authority's financial condition to the extent possible, the Public Utility Authority should not delay the implementation of the rate increase. There are several compelling reasons to implement an increase immediately (Section 12). Proposed rates as presented in Section 9 have been designed using sound rate design philosophy (Section 7) to generate adequate revenues (Section 10) to meet estimated revenue requirements (Section 4).

As a result of this study, rates have been designed to generate increased total revenues.

The Public Utility Authority completed its Master Plan in 2007 and this Master Plan identifies the need for approximately $2,825,400 of capital improvements for the proposed relief sewer and future system improvements to the sewer and wastewater treatments facilities simply to serve currently connected parcels, approved tracts, and tentative tracts. Additionally, the Master Plan has identified sewer requirements for near build-out condition for the entire City. Without the Lewis Home development, the estimated cost of improvements needed for the near saturation condition is approximately $97,025,000. Sewer and wastewater treatment provisions for the Lewis Home development are estimated to be to be an additional $27,432,000.

At present rates, the 2009-10 year total estimated revenues are approximately $3.12 million short of operating expenses (see Table 14). Any delay in a rate increase or an increase of a lesser amount may result in a delay in the capital program or in a usage of reserves for which no plan exists for replacement of existing reserves.

SECTION 1

PURPOSE AND SCOPE OF REPORT

1.1 Purpose of Study

This report has been prepared to provide information regarding the Adelanto Public Utility Authority's estimated sewer revenue requirements for years ending June 30, 2010, through June 30, 2013, and the user charges available to cover those requirements. Results of operations under present and proposed rates are presented in this report to provide the City Council members, sewer users, and other interested parties with data used to support proposed changes in rates and connection fees.

The purpose of this revenue requirement study is three-fold; to:

- Establish sewer service rates designed to recover costs of service, to generate funds for capital purposes (capital improvements and replacements), debt service, and to fund reserves.
- Use rate design criteria to equitably apportion the revenue requirements over the various classifications of users in relationship to their contribution to cost of service.
- Recommend rates that address environmental and health concerns associated with sewer conveyance and wastewater treatment.

Revenue requirements have been based primarily on budget estimates provided by the Public Utility Authority for the years ending June 30, 2009 and 2010, and as forecasted for the years ending June 30, 2011, 2012, and 2013. Revenue requirements are estimated on a normal year basis, excluding unusual revenues and unusual costs, and including revenues and costs that would normally occur but for some reason were not reported in the latest recorded year or included in the most recent budget. A test of adequacy of the rates is shown in Section 10, the results of operations at proposed rates.

1.2 Scope of Report

This report contains information provided by the Public Utility Authority's staff about the sewer system operations and estimated results of operations for the years ending June 30, 2009 through June 30, 2013.

SECTION 2

BACKGROUND INFORMATION

2.1 History of Operations

The Authority is a joint exercise of powers authority organized and existing under and by virtue of the Joint Powers Agreement between the City and the Agency. The Authority was formed for the purpose of owning, operating, and maintaining the Utility System. The Utility System currently consists of the Wastewater Enterprise and the Water Enterprise serving the City. The Joint Powers Act provides for the issuance of revenue bonds of joint exercise of powers authorities, such as the Authority, to be repaid from certain revenues. The Authority has no ad valorem taxing power. Pursuant to the Joint Powers Act, the Authority is authorized to issue its revenue bonds for the purpose of financing, among other things, public capital improvement projects of the Utility System.

The Authority contracts with the City for operating the Wastewater Enterprise and the Water Enterprise.

The Authority currently owns and operates a sewer collection system that serves approximately 7,500 equivalent dwelling units (EDUs). EDU flow is described as the amount of wastewater that a typical family residential connection would produce per day. Currently, Public Utility Authority service includes 6,191 residential EDUs, 638 commercial/industrial EDUs, and 747 correctional facility EDUs.

SECTION 2

BACKGROUND INFORMATION
(continued)

2.2 Organization

The Authority is governed by a five-member commission which consists of all the members of the City Council. The Mayor of the City is appointed as the President of the Authority. The Authority has no taxing power.

The Authority's members and term expiration dates are:

Commission Member	Term Expires
Charley B. Glasper, President	November 2010
Trinidad Perez, Vice President	November 2010
Ed Camargo	November 2012
Gene Piehe	November 2010
Cari Thomas	November 2012

The City Manager is responsible for coordination of all departments and daily operations of City business, including operation of the Wastewater Enterprise, the Water Enterprise and acts as the Executive Director of the Authority. Current City Staff assigned to administer the Authority are:

D. James Hart, City Manager and Authority Executive Director

Cindy Herrera, City Clerk and Authority Secretary

SECTION 2

BACKGROUND INFORMATION
(continued)

2.3 Present Operations

The service area of the Wastewater Enterprise encompasses the entire City limits of Adelanto. The sewer collection system primarily consists of gravity collection sewers which tie into gravity trunk sewers. One portion of the service area located on the west side of the City north of Air Base Road is served by a sewer life station and force main.

Sewer service pipeline ranges from 8" to 21" for a combined total of more than 33 miles of existing trunk sewer pipeline as show below.

TABLE 1
EXISTING SEWER PIPELNE

	Total Length	
Pipe Size	Feet	Miles
8"	37,291.11	7.06
10"	27,669.51	5.24
12"	64,570.22	12.23
15"	37,869.03	7.17
18"	8,040.88	1.52
21"	1,331.52	0.25
Total	176,772.27	33.47

Source: Sewer Master Plan 2007

2.4 Sewer Charges and Fees

Currently, the Authority has three types of sewer charges:

- Sewer Service Charges
- Sewer Connection Fees
- Sewer Availability Charges

Monthly sewer service charges are billed to sewer customer connected to the sewer system. This charge pays for the cost of the Authority to operate, manage, and maintain the sewer system for existing developed properties in the service area. The current monthly service charge is $11.43 per EDU.

SECTION 2

BACKGROUND INFORMATION
(continued)

2.4 Sewer Charges and Fees (continued)

Sewer connection fees are for new land users and are collected at the time of connection to the sewer system. These connection fees are to pay for collection, treatment, and disposal facilities needed to accommodate new development. The current fee is $86.68 per fixture.

Sewer availability charges are levied, by property tax assessments, on vacant undeveloped properties which benefit from the availability of sewer system capacity. The charges vary based on the undeveloped acreage's proximity to sewer services.

Parcels of land within Zone A require no substantial improvements in order to be connected to the sewer system.

Zone B acreage does have immediate sewer availability; however, a moderate capital improvement would be required to extend service to this area.

Since Zone C property is located more than 1,660 feet from existing facilities, the Authority does not presently levy availability charges on this acreage.

SEWER CHARGES AND FEES
AT PRESENT RATES

Type of Charge		Present Rates
Service Charge	Per month per EDU	$11.43
Availability Charges	Zone A	$27.15
	Zone B	$9.05
	Zone C	$8.70
Connect Fee	Per fixture unit	$86.68

SECTION 3

STATISTICAL INFORMATION

This section contains statistical information, as recorded and as estimated for future years. Accurate projections are critical in order that proper and appropriate results are obtained. The following subsections show the current statistical information and estimated changes for future years. Projections have been made by the City. Presently, the Public Utility Authority's sewer revenues are generated through a combination of two charges – monthly service fees and connection fees. The Public Authority does have the ability to impose "availability" fees on undeveloped land.

- Service charges – monthly service charged based on EDUs
- Connection fees – per fixture for new connections

3.1 Number of Customers by Land Use Category

The Public Utility Authority's sewer customers are categorized by land use category. Active customers as of June 2009 are shown below:

TABLE 2
CUSTOMERS BY LAND USE CATEGORY

Description	EDUs	
Residential		
Single Family	5,318	
Multi Family	873	
Subtotal Residental		6,191
Non-Residential		
Commercial and Industrial	638	
Correctional Facility	747	
Schools	0	
Subtotal Non-Residential		1,385
Total		7,576

SECTION 3

STATISTICAL INFORMATION
(continued)

3.2 Growth of Customers

Table 3 shows total EDUs as of June 2009 and estimated additions through 2013. Customer EDU additions shown below have been estimated by management. See Appendix A for detailed data of customer additions by land use type.

TABLE 3
TOTAL CUSTOMER ADDITIONS

	EDUs	Connections
June 30, 2009	7,576	-
Added YE 6/30/2010	289	-
Removed YE 6/30/10	-	-
As of June 30, 2010	7,865	-
Added YE 6/30/11	-	-
Removed YE 6/30/11	-	-
As of June 30, 2011	7,865	-
Added YE 6/30/2012	-	-
Removed YE 6/30/12	-	-
As of June 30, 2012	7,865	-
Added YE 6/30/2013	-	-
Removed YE 6/30/13	-	-
As of June 30, 2013	7,865	-

SECTION 3

STATISTICAL INFORMATION
(continued)

3.3 Equivalent Dwelling Units (EDUs)

The demand a user places on the sewer system is best measured by equivalent dwelling units. An "EDU" is described as being the amount of wastewater that a typical single family residential connection would produce per day. The amount of wastewater placed into the sewer system per EDU is 200 gallons per day.

3.4 Average Wastewater Flow - All Customers

Table 4 shows average wastewater flow for all customers for the years ended June 30, 1999 through June 30, 2005 based on the actual flow for the years.

TABLE 4
WASTEWATER FLOW

			Average Wastewater Flow			
For the year ending June 30,	Total Connections	Total EDUs	Total Wastewater Flow (MG/year)	Gallons per month	In EDUs	
					Gallons per day	Gallons per Day
1999	3,793	4,047	367	30,583,333	7,557	248
2000	3,797	4,051	292	24,366,176	6,015	198
2001	3,839	4,096	304	25,330,774	6,184	203
2002	4,016	4,275	318	26,536,694	6,207	204
2003	4,324	4,606	317	26,377,785	5,727	188
2004	5,153	5,440	370	30,833,333	5,668	186
2005	6,222	6,542	520	43,333,333	6,624	218

Source: Sewer Master Plan 2007

SECTION 4

REVENUE REQUIREMENTS

In order to determine the adequacy of present rates, in light of current and future estimated costs of operation and to assess the Public Utility Authority's ability to meet its responsibilities now and into the future, the first step is to determine the revenue requirements and then determine if revenue sources are adequate to meet the revenue requirements.

Revenue requirements are as follows:		Section Reference
Operating expenses	(operate and maintain the utility on an ongoing basis	4.1
Capital costs	(additional and replacements to existing utility plant)	4.2
Debt service	(principal and interest on debt)	4.3
Funding of reserves	(additions to reserve funds)	4.4
Revenue requirements		

4.1 Operating Expenses

The first component of revenue requirements is operating expenses. Table 5 shows sewer system operating expenses as estimated for the years ending June 30, 2010 through 2013. For the estimated years, the amounts have generally been increased by an inflation factor of 3% per annum.

TABLE 5
ESTIMATED OPERATING EXPENES

Description	Estimated (in dollars) For year ending June 30, 2010	2011	2012	2013
Facilities and maintenance	$ 412,000	$ 424,360	$ 437,092	$ 450,204
Purchased power	250,000	257,500	265,225	273,182
Consulting and outside services	886,000	912,580	939,958	968,157
Other operating expenses	83,000	85,490	88,056	90,699
General and administrative	151,000	155,530	160,196	165,002
	$1,782,000	$1,835,460	$1,890,527	$1,947,244

Appendix B includes a detail schedule of budgeted operating expenses for each of the years ended June 30, 2009 through 2010. The 2009-10 budget represents the Public Utility Authority's expected course of action and operational plan for the next and future years. In most cases the budget provides the best information to estimate future revenue requirements.

SECTION 4

REVENUE REQUIREMENTS
(continued)

4.2 Capital Costs

The second component of revenue requirements is capital costs. Capital costs include additions to and replacement of existing utility plant. Refer to Appendix C for details of capital items for the years 2009-10 through 2012-13. Also included in Appendix C is a list of planned maintenance projects as identified in the Master Plan. Due to the expected magnitude of the rate increase, no capital projects have been identified and included herein.

TABLE 6
CAPITAL ADDITIONS AND REPLACEMENTS

	Estimated (in dollars) For year ending June 30,			
Description	2010	2011	2012	2013
Capital projects:				
Project 1	$ -	$ -	$ -	$ -
Project 2	-	-	-	-
Other	-	-	-	-
	$ -	$ -	$ -	$ -
Less: funded with new debt issue	-	-	-	-
Net capital	$ -	$ -	$ -	$ -

SECTION 4

REVENUE REQUIREMENTS
(continued)

4.3 Debt Service Cost

The third component of revenue requirements is debt service. The Public Utility Authority has debt obligations identified as 1996 Purchase Agreement Payments as well as Refunding Revenue Bonds 2007, Series A and Refunding Revenue Bonds 2005 Series B issued in December 2007. The Public Utility Authority plans to refinance the Issue in 2009. Appendix F contains the proposed debt service schedule.

TABLE 7
DEBT SERVICE

	Estimated (in dollars) For year ending June 30,			
Description	2010	2011	2012	2013
1996 Purchase Agmt (Minimum)[1]	$ 321,558	$ 276,219	$ 228,613	$ 178,627
1996 Purchase Agmt (Optional)[2]	906,782	952,121	999,727	1,049,713
2009 Issue	1,092,281	2,090,959	2,090,959	2,542,984
Total	$ 2,320,621	$ 3,319,299	$ 3,319,299	$ 3,771,324

[1]As amended 1/26/1998 and modified 2/1/2000 and further amended 9/1/2005. The balance due as of 6/30/2008 per the audited financial statements is $6,431,169. Minimum annual payments are 5% of the outstanding balance.

[2]Optional payments are allowed to reduce the remaining balance due under the Agreement.

SECTION 4

REVENUE REQUIREMENTS
(continued)

4.4 Reserves

The fourth component of revenue requirements is the funding and preservation of reserves. Reserves are typically used to construct facilities, infrastructure replacement, unforeseen contingencies, and to offset various liabilities. The major categories of reserves that have been established by the Public Utility Authority are delineated below:

TABLE 8
RESERVE FUNDING

	Estimated (in dollars) For year ending June 30,			
Description	2010	2011	2012	2013
Rate stabilization	$ 352,000	$ -	$ -	$ -
General reserves	-	-	-	-
Total	$ 352,000	$ -	$ -	$ -

See Summary of Significant Assumptions
And Accounting Policies and Accountant's Report

SECTION 4

REVENUE REQUIREMENTS
(continued)

4.4 Reserves (continued)

- General Reserves

At the present time, the Public Utility Authority does not have a formally established mechanism to fund a general reserve. With this rate study, a general reserve has been recommended to be used for the specific purpose of accumulating funds for major infrastructure replacement. Without reserves on hand to react to emergencies and to take advantage of timing situations, the Public Utility Authority could end up paying more either through the higher cost of construction or reduced services. With an adequate reserve, when existing infrastructure is in need of replacement, the funds will be available. Due to the amount of the rate increase, no amount has been included in revenue requirements to fund reserves.

Table 9 shows the status of reserves for the period June 30, 2009 through 2013.

TABLE 9
RESERVES

	Estimated (In dollars)		
Balance June 30,	Debt Service	Reserves	Stabilization
2009	$ -	$ -	$ -
Added	-	-	352,000
Interest earned	-	-	-
Used	-	-	-
2010	-	-	352,000
Added	-	-	-
Interest earned	-	-	-
Used	-	-	(352,000)
2011	-	-	-
Added	-	-	-
Interest earned	-	-	-
Used	-	-	-
2012	-	-	-
Added	-	-	-
Interest earned	-	-	-
Used	-	-	-
2013	$ -	$ -	$ -

See Summary of Significant Assumptions
And Accounting Policies and Accountant's Report

SECTION 4

REVENUE REQUIREMENTS
(continued)

4.5 Summary of Revenue Requirements

All components of revenue requirements have been brought together below to summarize revenue requirements. Table 10 shows total estimated revenue requirements for the years 2009-10 through 2012-13.

TABLE 10
SUMMARY OF REVENUE REQUIREMENTS

Description	Table No.	Estimated (in dollars) For year ending June 30, 2010	2011	2012	2013
Operating expenses	5	$ 1,782,000	$ 1,835,460	$ 1,890,527	$ 1,947,244
Capital program	6	-	-	-	-
Debt service	7	2,320,621	3,319,299	3,319,299	3,771,324
Reserves	8	352,000	-	-	-
Total revenue requirement		$ 4,454,621	$ 5,154,759	$ 5,209,826	$ 5,718,568

SECTION 5

OTHER REVENUE SOURCES

After revenue requirements have been determined and prior to calculating revenues at present rates, other revenue sources must be identified and quantified.

5.1 Interest Earned

For purposes of the rate calculation, interest earned on investments has not been estimated. It is expected that the amount will not be significant.

5.2 Availability / Capacity Charges

Currently, the Utility Authority charges a standby fee (a sewer availability charge) that is unrestricted and can be used to offset revenue requirements. The fee is based on acreage and is intended to recover costs associated with maintaining surplus capacity in the sewer system which is intended to be available when vacant property is developed. The 2009-10 budget estimates the sewer availability charges to be $275,000.

As land is developed, the standby fee acreage will diminish and in turn the standby fee revenue will decrease. Utility Authority management has estimated the annual revenue from standby fees will not decrease over the next five years.

5.3 Connection Charges

Pursuant to Ordinance No. 3, the Public Utility Authority charges $86.68 per new "fixture connection" newly connected to the system.

The City of Adelanto considers connection charges to be impact fees and, therefore, these fees are restricted for capital improvements and to repay debt service issued to construct projects to support future growth.

Based on the expected additions to total customers as shown in Table 3, the following connection fee revenue is expected:

TABLE 11
CONNECTION FEE INCOME

	Estimated (in dollars) For year ending June 30,			
	2010	2011	2012	2013
Number of new connections	0	0	0	0
Connection fee				
Annual connection fee	$ -	$ -	$ -	$ -

See Summary of Significant Assumptions
And Accounting Policies and Accountant's Report

SECTION 5

OTHER REVENUE SOURCES
(continued)

5.4 Summary of Other Revenue Sources

Other than the items listed in 5.1 through 5.3, there are no other revenue sources identified and used in this rate study. The following is a summary of other revenue sources:

TABLE 12
SUMMARY OF OTHER REVENUE SOURCES

Description	Section No.	Estimated (in dollars) For year ending June 30, 2010	2011	2012	2013
Interest earned	5.1	$ -	$ -	$ -	$ -
Availability fee	5.2	275,000	275,000	275,000	275,000
Connection fees	5.3	-	-	-	-
Total other revenue sources		$ 275,000	$ 275,000	$ 275,000	$ 275,000

SECTION 6

SUMMARY - RESULTS OF OPERATIONS AT PRESENT RATES

6.1 Estimated Revenues at Present Rates

The following table shows estimated revenues at present rates. The revenues have been developed by multiplying the estimated number of EDUs (Appendix A) by the current service charge (Section 2.4).

TABLE 13
ESTIMATED REVENUES AT PRESENT RATES

	Estimated (in dollars) For year ending June 30,			
Description	2010	2011	2012	2013
Average EDUs	7,720	7,865	7,865	7,865
Present charge per EDU	$11.43	$11.43	$11.43	$11.43
12 months	x 12	x 12	x 12	x 12
Total annual revenues	$ 1,058,875	$ 1,078,763	$ 1,078,763	$ 1,078,763

SECTION 6

SUMMARY - RESULTS OF OPERATIONS AT PRESENT RATES
(continued)

6.2 Estimated Results of Operations at Present Rates

Table 14 shows estimated results at present rates:

TABLE 14
ESTIMATED RESULTS OF OPERATIONS AT PRESENT RATES

Description	Table No.	Estimated For the year ending June 30, 2010	2011	2012	2013
Sources					
Service charge revenues	13	$ 1,058,875	$ 1,078,763	$ 1,078,763	$ 1,078,763
Other revenues	12	275,000	275,000	275,000	275,000
Total revenues		$ 1,333,875	$ 1,353,763	$ 1,353,763	$ 1,353,763
Uses					
Operating expenses	5	$ 1,782,000	$ 1,835,460	$ 1,890,527	$ 1,947,244
Capital program	6	-	-	-	-
Debt service	7	2,320,621	3,319,299	3,319,299	3,771,324
Reserves	8	352,000	-	-	-
Total revenue requirements		$ 4,454,621	$ 5,154,759	$ 5,209,826	$ 5,718,568
Use of reserves - RSF	9	-	(352,000)	-	-
Use of reserves - general	9	-	-	-	-
Net revenue requirements		4,454,621	4,802,759	5,209,826	5,718,568
Surplus (Deficit)		$ (3,120,746)	$ (3,448,996)	$ (3,856,063)	$ (4,364,805)

See Summary of Significant Assumptions
And Accounting Policies and Accountant's Report

SECTION 7

RATE DESIGN PHILOSOPHY

7.1 Rate Design Philosophy

Following is a general discussion of the various sewer rate structures, which have been commonly used by other providers and focuses on the rate structure we feel would be best for the Adelanto Public Utility Authority.

In considering the alternatives available as a basis for the design of sewer use rates, it should be noted that government-owned water utilities have a high degree of flexibility in designing rate structures, because the rate setting process is strictly a local governmental agency issue. The City Council establishes the revenue requirements and resulting rates. In setting user rates, the Council should keep in mind fairness among customer groups, otherwise known as rate equity.

Before any rate structure can be evaluated for equity, one must consider the factors that can impact and determine rate equity. Comparing rates among communities can often result in surprising and vastly differing data. Many factors affect the rates charged by utilities. Common factors that can have affects on sewer rates are:

System Design
- Geography
- Age
- Production, Distribution, and Operational Efficiency

Demand
- Type of Customer Base
- Future Growth Considerations
- Peak Use by Customers

Legal, Political & Regulatory Consideration
- Investor-owned Utility
- Government-owned Utility
- Subsidies
- Goals and Policies of Governing Unit

SECTION 7

RATE DESIGN PHILOSOPHY
(continued)

7.1 Rate Design Philosophy (continued)

Each of the major factors presented above impact the resulting rate structure of each individual utility. These factors identified above are interrelated to one another and any emphasis on one area can directly impact or may inversely impact the ultimate rate structure of a utility.

In considering the equity of a rate structure one must remember that what is equitable depends on the circumstances at a point in time. Often, a rate structure is the result of a consensus of the many factors involved.

Many times, policy decisions are made to achieve a particular result. The argument can be made that a rate structure established to achieve a particular priority would be considered equitable. Because of the potential impact of policy decisions on rate structure, extreme care must be taken in drawing any conclusions when comparing rates between entities or assessing equity without first exploring and understanding those policies.

7.2 Fundamental Rate Design Principles

To design rates, which are considered fair and equitable, rates should be designed using predetermined fundamental rate design principles. The following are fundamental areas, which should be considered and prioritized prior to designing a rate structure:

Adequacy	Rates should be established to meet the full revenue requirements of the utility.
Justifiability	Rates should be cost based and fairly apportion costs over the users. (The cost to provide service should be equitably spread over all customers.)
Simplicity	Rates should be easy to explain, understand, and administer. Simple rates have the perception of being more fair and non-discriminatory. Complex rates require additional administration.
Predictability	Rates should result in total revenues and customer bills which are predictable and stable.
Conservation	Rates should encourage users to make efficient use of resources (health and safety concerns, possible water reclamation).
Continuity	Rates should be established in a manner which recognizes the obligation of the utility to provide a certain level of service into perpetuity.

SECTION 7

RATE DESIGN PHILOSOPHY
(continued)

7.3 Rate Philosophy

Value
Simply put, it can be said that most customers only care about two things when it comes to sewer services:

- Is capacity sufficient?
- Is price agreeable – how much does it cost?

Both the customers and the utility are concerned with the level of service reliability and the cost of service. However, the utility and the customer view these items from different perspectives. The utility is concerned with the level of service provided and the cost to provide that level of service. The customers are concerned with the level of service received and the cost of service received. The customer is concerned mostly about today and less about tomorrow. Whereas the concept of providing service must be concerned with today and also with the future, meaning that the manner of today's operations must consider the continuity of quality service into tomorrow and beyond, and at the same time must consider the value to the customer.

Subsidies
In certain cases communities have created rate structures with economic development in mind or rates which attempt to cure a social problem such as welfare rates or lifeline rates. Rates of these types are merely subsidies provided to specific user classes. Policy decision can override a theoretically sound technical calculation and result in a rate structure which allows interclass and intraclass subsidies. (Interclass = between classes; Intraclass = between users in a class). One must recognize that a rate structure providing interclass/intraclass subsidies can be considered fair and equitable given particular policy decisions.

Rate Making is an Art, Not an Exact Science
In a perfect model, each and every user would pay the exact cost of the service received - no more, no less. However, even in a perfect model the issue that exists is the perfect price paid by a user depends not only on the demands and use of that customer, but also on all other customers. For example, usage by user B may cause user A's bill to change even though user A's consumption stays level. To cure this problem, rates should be designed to yield reasonable results without creating an undue amount of work for unnecessary precision.

Equity
Typically, a utility's rate structure is the result of a compromise of various forces which collectively develop the basic rate philosophy of a utility. On occasion, the forces which must be considered are contradictory to one another. It must be recognized that a customer's ideals may be counter to those of the utility, and the ideals of one particular class of customer may be in conflict with another. The optimal rate structure is one that will result in the maximum fairness given the priorities and philosophies of the utility.

SECTION 7

RATE DESIGN PHILOSOPHY
(continued)

7.4 Selection of Rate Design Method

In the preceding sections we have discussed rate philosophies and different types of rate structures which may be developed. However, before the design of a rate structure is completed, the administrators and policy-making authorities must make certain decisions. Under any rate methodology, the total revenues generated by or allocated to the operation of the water system should equal the costs of operating the water system (revenue requirements). Water rates should be designed to produce sufficient revenues to provide for the cost of furnishing adequate water service, including maintaining the system, debt service, and provide adequate funds for normal replacements and to protect future water supply. These revenue requirements should take into consideration not only the current year's requirements, but should be projected over a period of several years, in an effort to smooth out year to year revenue requirement fluctuations. Rates should also be designed in a manner which will recover the costs of serving different classes of customers while maintaining reasonable equity between the customer classes.

Fundamentally, rates must be designed so that total revenues will equal revenue requirements, and optimally, the sewer rates should be designed so that all "fixed" costs would be recovered by service charge revenues and all "variable" costs would be recovered through the commodity rate revenues. The advantage of this type of rate design is that the Public Utility Authority could continue to meet its fixed obligations, even if all consumers suddenly and drastically reduced consumption of water, since the service charge is billed regardless of the amount of water used. Because water utilities are high fixed cost type of operations, a semi "flat rate" design usually occurs if rates are designed using this method, and rates designed strictly in this manner can be counter-productive to conservation efforts because a consumer can drastically reduce water consumption while impacting their water cost very little.

In addition to the above considerations, the Public Utility Authority also must factor in the water supply issues facing the Mojave Basin area. Public Utility Authority statistics show the average customer (3/4" connection) uses about 500 gallons per day (GPD). Estimates by the City of Adelanto's engineer have shown that each dwelling unit (each home or 3/4" connection) places about 200 GPD into the sewer system. The difference between the 500 GPD coming into each house and the 200 GPD leaving each house is assumed to have been used "outside" the home. It is this "outside" use that provides the most likely area for improvement in efficient use of water.

SECTION 7

RATE DESIGN PHILOSOPHY
(continued)

7.5 Rate Setting Process

In very simple terms, the overall rate setting process is as follows:

Revenue Requirements	=	"How big is the pie"
	-and-	
Rate Structure	=	"How to slice the pie"

Most of the factors listed above influence the "size of the pie", whereas policy decisions primarily drive how to "slice the pie".

Typically, the rate setting process is a three-step process:

1. **Revenue requirements are as follows:**

	Operating expenses	(operate and maintain the utility on an ongoing basis
+	Capital costs	(additions and replacements to existing utility plant)
+	Debt service	(principal and interest on debt)
+	Funding of reserves	(additions to reserve funds)
=	Revenue requirements	

2. **Determine the Cost of Service**

Once revenue requirements have been determined, Step 2 is to allocate these requirements to the various classes of services.

3. **Determine Rate Structure most appropriate to the circumstances**

Step 3 is to design a rate structure which most equitably and fairly spreads the costs to the customers.

SECTION 8

DEVELOPMENT AND DESIGN OF RATE SCHEDULES

8.1 Rate Determination

In order to determine what the user rates must be for water service provided, the costs of providing that water or the revenue requirements must be determined.

As shown in Section 6.2, for the 2009-10 year, without an increase in water revenues, the Public Utility Authority would experience an estimated revenue deficiency of approximately $3.1 million. To correct this situation, the Public Utility Authority has the following options to allow it to recover all revenue requirements:

1. Increase user rates.
2. Reduce revenue requirements. (Defer capital projects or forego maintenance.)
3. Borrow funds to cover shortfall. (Defer increase to future periods.)
4. Draw from reserves.

Assuming options 2, 3, and 4 are ruled out, as demonstrated in Section 6.2 revenues for 2009-10 at present rates would need to be increased approximately 294% to meet revenue requirements for the 2009-10 year.

The following sections of this report show the methodology (explained in Section 7) used to design rates which will generate adequate revenues to meet revenue requirements (as shown in Section 4.5).

SECTION 8

DEVELOPMENT AND DESIGN OF RATE SCHEDULES
(continued)

8.2 Rate Design

Table 15 below shows the estimated 2009-10 revenue requirements with additional breakdown as well as how other revenues have been allocated to offset certain costs.

TABLE 15
ALLOCATION OF REVENUE REQUIREMENTS
For the year ending June 30, 2010

Description	Table No.	Total
Operating expenses		
Facilities and maintenance	5	$ 412,000
Purchased power	5	250,000
Consulting and outside services	5	686,000
Other operating expense	5	83,000
General and administrative	5	151,000
Subtotal operating expenses		1,782,000
Capital projects	6	-
Debt service	7	2,320,621
Reserve funding	8	352,000
Subtotal revenue requirements		$ 4,454,621
Less other revenue sources available		
Interest earned	9	-
Sewer availability charges	12	(275,000)
Connection fees	11	-
Net revenue requirements		$ 4,179,621

SECTION 8

DEVELOPMENT AND DESIGN OF RATE SCHEDULES
(continued)

8.2 Rate Design (continued)

Table 16 shows the calculation that develops rates designed to meet estimated 2009-10 revenue requirements.

TABLE 16
DEVELOPMENT OF RATES

For year ending June 30, 2010	
Rate calculation:	
Net revenue requirements	$ 4,179,621
Number of equivalent EDUs[1]	7,284
Annual charge per EDU	$573.81
Calculated monthly charge per EDU	$47.82
USE	$47.82

[1]A factor of 0.5 EDUs has been applied to each apartment unit to allow for lesser flow per unit.

SECTION 9

PROPOSED RATES

9.1 Proposed Rates

The rates designed in Section 8.2 would be adequate to generate revenues of $4,179,621. As discussed in Section 8.1, this would represent a 294% increase in overall water revenues.

As demonstrated in section 6.2, Table 14, the years 2009-10 through 2012-13 also show revenue requirements exceeding revenue sources. Shown here are the approximate percentage increases needed to allow revenue sources to equal revenue requirements.

TABLE 17
PROPOSED INCREASE DOLLARS AND PERCENTAGE

	Service Fee	
Year Ending June 30,	Needed Increase	Approximate Percentage
2010	$ 3,120,746	294%
2011	$ 3,448,996	319%
2012	$ 3,856,063	357%
2013	$ 4,364,805	404%

The following are proposed rates designed to allow the Public Utility Authority to generate adequate revenues to meet revenue requirements as determined in Section 4. Appendix D contains individual worksheets for each of the years 2009-13 used to arrive at the proposed rates.

TABLE 18
PROPOSED RATES (in Dollars)

	Proposed For the year ending June 30,			
	2010	2011	2012	2013
Per month per EDU	$47.82	$50.79	$55.36	$61.06

See Summary of Significant Assumptions
And Accounting Policies and Accountant's Report

SECTION 10

SUMMARY - RESULTS OF OPERATIONS AT PROPOSED RATES

10.1 Estimated Revenue at Proposed Rates

These amounts have been determined by multiplying the number of customers from Section 3.2 by the proposed rates in Section 9.1.

TABLE 19
ESTIMATED REVENUES FOR 2010-2013

For year ending June 30,	Average Number of Customers[1] (In EDUs)	Proposed Monthly Rate	Annual Service Charge Revenue
2010	7,284	$47.82	$ 4,179,851
2011	7,429	$50.79	$ 4,527,827
2012	7,429	$55.36	$ 4,935,233
2013	7,429	$61.06	$ 5,443,377

[1] *After adjustment for apartment EDUs at .5 EDU*

SECTION 10

SUMMARY - RESULTS OF OPERATIONS AT PROPOSED RATES
(continued)

10.2 Results of Operations at Proposed Rates

Table 20 presents results of operations at proposed rates.

TABLE 20
RESULTS OF OPERATIONS AT PROPOSED RATES

Description	Table No.	Estimated (in dollars) For year ending June 30, 2010	2011	2012	2013
Sources					
Service charge revenues	19	$ 4,179,851	$ 4,527,827	$ 4,935,233	$ 5,443,377
Connection charges	11	-	-	-	-
Availability fee	12	275,000	275,000	275,000	275,000
Total revenues		$ 4,454,851	$ 4,802,827	$ 5,210,233	$ 5,718,377
Uses					
Operating expenses	5	$ 1,782,000	$ 1,835,460	$ 1,890,527	$ 1,947,244
Capital program	6	-	-	-	-
Debt service	7	2,320,621	3,319,299	3,319,299	3,771,324
Reserves	8	352,000	(352,000)	-	-
Total revenue requirements		$ 4,454,621	$ 4,802,759	$ 5,209,826	$ 5,718,568
Surplus (Deficit)		$ 230	$ 68	$ 407	$ (191)
Percent		0%	0%	0%	0%

See Summary of Significant Assumptions
And Accounting Policies and Accountant's Report

SECTION 11

COMPARISON OF AVERAGE BILLS

11.1 Bill Comparison – Current vs Proposed Rates

As discussed in Section 6, overall revenues need to be increased by approximately 318% so that revenues will meet revenue requirements. The following table shows how varying customers will be impacted under the new rate structure.

TABLE 21
BILL COMPARISON

	Existing	Proposed
Service charge (per EDU)	$11.43	$47.82
Percentage increase		318%

11.2 Bill Comparison - Surrounding Communities

The proposed rates presented in Section 9 are designed to allow the City of Adelanto to recover its annual revenue requirements. Table 22 below shows how the present and proposed rates compare to surrounding communities.

TABLE 22

COMPARISON WITH SURROUNDING WASTEWATER PROVIDERS

Monthly Rate per EDU	
City of Adelanto (present rates)	**$11.43**
City of Hesperia	$22.38
Victorville Water District	$23.70
Apple Valley Service Area	$23.58
City of Adelanto (proposed rates)	**$47.82**

SECTION 12

SUMMARY AND RECOMMENDATIONS

12.1 Summary

As demonstrated in Section 6.2, forecasted revenue sources at present rates will not be adequate to meet forecasted revenue requirements for the years ending June 30, 2010 through June 30, 2013. Because revenue requirements are, by definition, the necessary costs of operating and maintaining the sewer system, there remains two possible courses of action; 1) identify and implement alternate revenue sources or 2) increase current user charges.

To enable the Public Utility Authority to generate sufficient revenue to meet the forecasted revenue requirements, the present sewer rates need to be increased approximately 319% with increases in future years. This immediate increase is necessary to allow the Public Utility Authority to pursue the capital improvements and planned maintenance as recommended in the Master Plan and to maintain the level of reserves as shown in Section 4.4. A delay in the implementation of an increase is not an option. This situation could cause a deterioration of the Public Utility Authority's financial condition and would result in a drain of reserves which are ever more difficult to accumulate and maintain.

12.2 Recommendations

We recommend that the Public Utility Authority effect the proposed rates presented in Section 9 as soon as practicable. Due to possible changes in the Public Utility Authority's debt service situation, reserves are not adequate to sustain present rates in the short term. The recommended course of action presented in this report is for an immediate increase in rates. The Public Utility Authority should consider imposing the availability fees as soon as practicable

Perhaps the most compelling reason for an immediate increase is to properly price the water to be able to send an accurate price signal to the users so the users can make informed decisions as to water use habits.

The proposed rates are also designed to allow the Public Utility Authority to begin funding a general reserve intended to accumulate funds to replace existing infrastructure when it wears out. This is desirable as it places the burden of paying for the infrastructure on the person using it. (Burden = Benefit) The accumulation of reserves is intended to avoid, to the greatest extent, any need for capital facilities surcharge or borrowings in the future.

SUMMARY AND RECOMMENDATIONS
(continued)

12.3 Alternatives and Considerations

The only real "given" in this situation is the need for an increase in total revenues. The decision to be made is how to most fairly allocate the increases across all revenue streams and the amount with which to fund reserves.

SECTION 13

SIGNIFICANT ASSUMPTIONS USED IN THIS REPORT

13.1 Operational Assumptions

1. City management will continue present operating policies throughout the forecast period (as included in the budget).
2. The cost of electricity will increase by inflation only over the forecast period.
3. There will be decreases and increases to the number of customers during the forecast period.

13.2 Accounting Assumptions

1. Inflation will be 3% for each of the years in the forecast period.
2. The Public Utility Authority will be able to meet all wastewater related debt obligations in a timely manner.
3. Capital improvements will be as shown in Section 4.2.
4. Interest earned on reserves will not be available for operations and will be added back to reserves.

APPENDIX A
SERVICE CONNECTION DATA

Appendix A
Service Connection Data

Category	June 30, 2008	Added 2008-09	June 30, 2009	Added 2009-10	June 30, 2010	Added 2010-11	June 30, 2011	Added 2011-12	June 30, 2012	Added 2012-13	June 30, 2013
Residential	5,607	(289)	5,318	289	5,607	0	5,607	0	5,607	0	5,607
Multi-Family	873		873		873		873		873		873
Industrial / commercial	638		638		638		638		638		638
Correction facilities	747		747		747		747		747		747
Schools	0		0		0		0		0		0
Total EDUs	7,865	(289)	7,576	289	7,865	0	7,865	0	7,865	0	7,865

Average Number of Customers:	2008-09	2009-10	2010-11	2011-12	2012-13
Residential	5,462	5,462	5,607	5,607	5,607
Multi-Family	873	873	873	873	873
Industrial / commercial	638	638	638	638	638
Correction facilities	747	747	747	747	747
Schools	0	0	0	0	0
Average EDUs	7,720	7,720	7,865	7,865	7,865

Revenue Calculation:								
Annual Service Charge	*Monthly Rates from Appendix D*	*$47.82*	$ 4,429,515	*$50.79*	$ 4,793,488	*$55.36*	$ 5,224,446	*$61.06*	$ 5,763,045
Connection Fees			-		-		-		-
Availability Fees	*From Table 12*		275,000		275,000		275,000		275,000
Total Revenue			$ 4,704,515		$ 5,068,488		$ 5,499,446		$ 6,038,045
			2009-10		2010-11		2011-12		2012-13

000248

APPENDIX B
SEWER OPERATING EXPENSES

SEWER - Operating Expenses Summary

Expense Category		Budget 2009	Budget 2010	+3% 2011	+3% 2012	+3% 2013
		Estimated For the year ending June 30,				
Facilities and maintenance	FM	$ 582,000	$ 412,000	$ 424,360	$ 437,092	$ 450,204
Purchased power	PP	200,000	250,000	257,500	265,225	273,182
Consulting and outside services	CO	886,000	886,000	912,580	939,958	968,157
Other operating expenses	OOE	108,000	83,000	85,490	88,055	90,699
General and administrative	G&A	151,000	151,000	155,530	160,196	165,002
TOTAL		**$ 1,927,000**	**$ 1,782,000**	**$ 1,835,460**	**$ 1,890,527**	**$ 1,947,244**

000250

SEWER - Operating Expenses

Expense Category A/C	Description		Budget 2009	Budget 2010	+3% 2011	+3% 2012	+3% 2013
			Estimated For the year ending June 30,				
	Contractual Services						
50219	Consulting and Outside Services	CO	$ 850,000	$ 850,000	$ 875,500	$ 901,765	$ 928,818
50222	Laboratory Services	CO	35,000	35,000	36,050	37,132	38,246
	Category Subtotal		$ 885,000	$ 885,000	$ 911,550	$ 938,897	$ 967,064
	Utilities & Communications						
50301	Communication Services	N/A	$ -	$ -		$ -	$ -
50310	Electricity	PP	200,000	250,000	257,500	265,225	273,182
50330	Water	FM	5,000	5,000	5,150	5,305	5,464
50350	Trash & Dump	FM	10,000	10,000	10,300	10,609	10,927
	Category Subtotal		$ 215,000	$ 265,000	$ 272,950	$ 281,139	$ 289,573
	Facilities/Grounds Maintenance						
50402	Bldg/Structures/Whse	FM	$ 2,000	$ 2,000	$ 2,060	$ 2,122	$ 2,186
50403	Chemicals	FM	45,000	45,000	46,350	47,741	49,173
50406	Field/Yards/Sewer Plant	FM	400,000	300,000	309,000	318,270	327,818
50407	Hauling (Bio-solids)	FM	120,000	50,000	51,500	53,045	54,636
50410	Property Tax	N/A	-	-	-	-	-
50419	Wells/Lines	N/A	-	-	-	-	-
	Category Subtotal		$ 567,000	$ 397,000	$ 408,910	$ 421,178	$ 433,813
	Equipment Maintenance						
50435	Department Equipment	OOE	$ 4,000	$ 2,000	$ 2,060	$ 2,122	$ 2,186
	Category Subtotal		$ 4,000	$ 2,000	$ 2,060	$ 2,122	$ 2,186
	Vehicle Maintenance						
50441	Parts and Service	OOE	$ 1,000	$ 1,000	$ 1,030	$ 1,061	$ 1,093
50445	Tires	OOE	1,000	1,000	1,030	1,061	1,093
50451	Diesel	OOE	90,000	70,000	72,100	74,263	76,491
50453	Oils and Fluids	OOE	1,000	1,000	1,030	1,061	1,093
	Category Subtotal		$ 93,000	$ 73,000	$ 75,190	$ 77,446	$ 79,770

000251

SEWER - Operating Expenses

A/C	Expense Category Description		Estimated For the year ending June 30, Budget 2009	Budget 2010	+3% 2011	+3% 2012	+3% 2013
	General Maintenance						
50461	Uniforms and Safety Supplies	OOE	$ -	$ -	$ -	$ -	$ -
50465	Printing and Office	OOE	1,000	1,000	1,030	1,061	1,093
50467	Shop and Janitorial	OOE	1,000	1,000	1,030	1,061	1,093
	Category Subtotal		$ 2,000	$ 2,000	$ 2,060	$ 2,122	$ 2,186
	Insurance and Claims						
50509	Claims and Settlements	N/A	$ -	$ -	$ -	$ -	$ -
	Category Subtotal		$ -	$ -	$ -	$ -	$ -
	General Administrative						
50601	Service Fees	G&A	$ 150,000	$ 150,000	$ 154,500	$ 159,135	$ 163,909
50621	Advertising and Publications	G&A	1,000	1,000	1,030	1,061	1,093
	Category Subtotal		$ 151,000	$ 151,000	$ 155,530	$ 160,196	$ 165,002
	Permits/Licenses/Fees						
50632	Other Fees	OOE	$ 8,000	$ 5,000	$ 5,150	$ 5,305	$ 5,464
50637	Permits	OOE	2,000	2,000	2,060	2,122	2,186
	Category Subtotal		$ 10,000	$ 7,000	$ 7,210	$ 7,427	$ 7,650
	Other Expenditures						
50750	Debt Service Payments	N/A			$ -		
50760	Re-Marketing Fees	N/A		-	-	-	-
	Category Subtotal		$ -	$ -	$ -	$ -	$ -
	Non-Operating Expenditures						
70020	Transfers Out	N/A		$ -	$ -	$ -	$ -
	Category Subtotal		$ -	$ -	$ -	$ -	$ -
	Operating, Grand Total		**$ 1,927,000**	**$ 1,782,000**	**$ 1,835,460**	**$ 1,890,527**	**$ 1,947,244**

000252

Fund Sewer
Fund Number 360

	Account	Actual 6/30/07	Actual 6/30/08	Budget 6/30/09	Estimated 6/30/09	Budget 6/30/10
Contractual Services						
Consulting/Outside services	50219	697,638	765,070	850,000	850,000	850,000
Laboratory services	50222	9,647	13,536	35,000	40,000	35,000
Total Contractual Services		707,285	778,606	885,000	890,000	885,000
Utilities & Communications						
Telephone	50301	438	288			
Electricity	50310	203,224	171,529	200,000	215,000	250,000
Water	50330	4,193	946	5,000	4,000	5,000
Trash and dump	50350	9,628	4,224	10,000	12,000	10,000
Total Utilities & Communication		217,483	176,987	215,000	231,000	265,000
Facilities/Grounds Maintenance						
Board up	50401					
Buildings/Warehouses	50402	-	1,525	2,000	2,000	2,000
Chemicals	50403	20,539	9,022	45,000	20,000	45,000
Field/Yards/Sewer plant	50406	177,629	385,069	400,000	155,000	300,000
Hauling (bio-solids)	50407	32,228	91,258	120,000	25,000	50,000
Property tax	50410					
Security services	50411					
Streets	50415					
Wells and lines	50419					
Total Facilities/Ground Maintenance		230,396	486,874	567,000	202,000	397,000
Equipment Maintenance						
Computers	50431					
Department equipment	50435	1,498	3,827	4,000	2,000	2,000
Meters	50439					
Total Equipment Maintenance		1,498	3,827	4,000	2,000	2,000
Vehicle Maintenance						
Parts and service	50441	332	478	1,000	1,200	1,000
Tires	50445	-		1,000	-	1,000
Diesel	50451		93,038	90,000	60,000	70,000
Natural gas (CNG)	50452					
Oils and Fluids	50453	-		1,000	1,000	1,000
Total Equipment Maintenance		332	93,516	93,000	62,200	73,000

Fund Sewer
Fund Number 360

	Account	Actual 6/30/07	Actual 6/30/08	Budget 6/30/09	Estimated 6/30/09	Budget 6/30/10
General Maintenance						
Uniforms/Safety supplies	50461	65				
Printing and office	50465	1,522		1,000	1,000	1,000
Shop and janitorial	50467	469		1,000	500	1,000
Total General Maintenance		2,056	-	2,000	1,500	2,000
Insurance and Claims						
Claims and settlements	50509	5,282				
Total Insurance and Claims		5,282	-	-	-	-
General Administrative						
Service Fees	50601	-	29,092	150,000	175,000	150,000
Advertising and Publications	50621	8,052	201	1,000	-	1,000
Total General Administrative		8,052	29,293	151,000	175,000	151,000
Permits/Licenses/Fees						
Other fees	50632	6,255		8,000	1,000	5,000
Permits	50637	170		2,000	1,500	2,000
Total Permits/Licenses/Fees		6,425	-	10,000	2,500	7,000
Other Expenditures						
Debt service payments	50750	2,487,093	4,277,041	3,000,000	10,000,000	5,350,000
Remarketing fees	50760	160,737	161,151	150,000	40,000	-
Total Other Expenditures		2,647,830	4,438,192	3,150,000	10,040,000	5,350,000
Non-Operating Expenditures						
Building depreciation	50810					
Other depreciation/amortization	50890	571,836	571,836			
Interest expense						506,065
Transfers Out	70020	-		125,000	125,000	125,000
Interfund loan paybacks	70040					1,624,619
Total Non-Operating Expenditures		571,836	571,836	125,000	125,000	2,255,684
Total Operations/Maintenance		4,398,475	6,579,131	5,202,000	11,731,200	9,387,684
Capital Expenditures						
Facility and grounds	80810			8,000,000	7,000,000	9,240,000
Equipment	80820					
Vehicles	80840					
Total Capital Expenditures		-	-	8,000,000	7,000,000	9,240,000

Fund Sewer
Fund Number 360

Account	Actual 6/30/07	Actual 6/30/08	Budget 6/30/09	Estimated 6/30/09	Budget 6/30/10
TOTAL BUDGET	4,398,475	6,579,131	13,202,000	18,731,200	18,627,684

APPENDIX C
CAPITAL COSTS

CHAPTER 4

PROPOSED SEWER SYSTEM IMPROVEMENT

GENERAL

The existing sewer system was analyzed using the H2O Map Sewer model mentioned in Chapter 3. As wastewater flow downstream in each respective tract and drainage area, the "tributary lots" are included in the analysis. The wastewater flows were determined based on the total equivalent dwelling units (EDU's). The capacity for the existing pipeline is identified with the respective manholes (from upstream to downstream sewer reaches). Each of the respective flows was then used as input to the hydraulic model to locate segments of the sewer pipeline that were approaching design capacity as referenced in Table 3-3. The near build-out flow for each of the tributary sewered areas was estimated using 200 gallons per day per EDU. The model includes the following information:

- Upstream manhole number and invert elevation
- Downstream manhole number and invert elevation
- Pipe length in feet
- Pipe slope in percent
- Tributary area in equivalent dwelling units and peak flow (in MGD)
- Capacity of sewer pipe at 50% and 75% pipe depth in million gallons per day (MGD)
- Excess sewer capacity in million gallons per day (based on 50% and 75% flow depth)
- Capacity of sewer at full depth in million gallons per day (for assessing emergency capacity available).

CURRENT FLOW CONDITION:

Based on the computer model, the existing sewer system doesn't have adequate capacity to serve all current lots (principally within Assessment District 1-A due to change in development densities) including approved/tentative tracts (approximately 20,000 EDUs). Each of the respective flows from each tributary areas was used as input to the model to locate segments of the sewer pipeline that are approaching the 75% design capacity as criteria to begin with planning and design for any required "relief sewer" that would generally parallel the existing facilities. The hydraulic model indicated that the trunk sewer downstream (outside of AD # 1-A) would be surcharged. The proposed relief sewer and future system improvement requirements are identified in Figure 4-1. Table 4-1 presents the estimated project cost for the sewer system improvements to serve the current connected parcels plus the approved tracts and tentative tracts.

000258

TABLE 4-1: SEWER IMPROVEMENT COST ESTIMATE
(Existing Condition With Approved Tracts and Tentative Tracts)

Item Description	Quantity		Engineering Estimate	
	Number	Unit	Unit Cost	Total
			($)	
EXISTING CONDITION				
Gravity Sewer Pipe Line = 9,369 L.F				
Gravity Sewer Pipeline (15")	9,098	L.F	$74.00	$673,252
Gravity Sewer Pipeline (18")	9,430	L.F	$102.50	$966,575
Allowance For Manhole @ 350 feet Spacing	53	E.A	$3,000.00	$158,811
Pavement Repair (Assume 100% of Alignment) Require AC-Repair	93,690	Sq. ft	$4.00	$374,760
SUBTOTAL				$2,173,398
Allowance for Project Contingency (10%)				$217,340
Allowance for Engineering ,Project Administration, Financing & Legal (20%)				$434,680
ESTIMATED TOTAL COST				$2,825,418

NEAR BUILD-OUT CONDITION:

Referencing the computer model for near build-out development flows, the various segments of existing sewer system that require "relief capacity" were identified. In addition, proposed trunk sewers are identified at each half-mile grid for the entire City. The database was created using flows and slope as input and hence pipe sizing was determined. Based on the pipeline sizing, cost of the sewer system improvements (including pipeline/pump stations) was prepared which is presented in Table 4-2 below. The proposed trunk/relief sewer system recommended near saturation is presented in Figure 4-2 attached at the end of this Chapter.

000259

TABLE 4-2: SEWER IMPROVEMENT COST ESTIMATE
(Near Saturation Condition)

Item Description	Quantity		Engineering Estimate	
	Number	Unit	Unit Cost	Total
			($)	
NEAR SATURATION CONDITION				
Without Lewis Homes				
Gravity Sewer Pipe Line = 514,216 L.F				
Gravity Sewer Pipeline (8")	8,440	L.F	$36.72	$309,900
Gravity Sewer Pipeline (10")	8,055	L.F	$57.28	$461,400
Gravity Sewer Pipeline (12")	325,047	L.F	$76.05	$24,719,861
Gravity Sewer Pipeline (15")	116,247	L.F	$103.70	$12,054,806
Gravity Sewer Pipeline (18")	14,623	L.F	$149.27	$2,182,827
Gravity Sewer Pipeline (21")	10,882	L.F	$213.29	$2,321,077
Gravity Sewer Pipeline (27")	30,922	L.F	$354.06	$10,948,109
Force Main Pipe Line = 16,512 L.F				
Force Main Pipe Line (6")	5,200	L.F	$44.50	$231,400
Force Main Pipe Line (12")	11,312	L.F	$81.61	$923,172
Allowance For Manhole @ 350 feet Spacing	1,470	E.A	$3,000.00	$4,410,000
Require AC-Repair*	3,184,370	Sq. ft	$5.00	$15,921,850
Pump Installation	2	E.A	$50,000.00	$100,000
Allowance for Pump Station Upgrade (Piping, Installation etc)				$50,000
			Sub-Total	$74,634,401
Lewis Homes				
Gravity Sewer Pipeline (12")	174,125	L.F	$76.05	$13,242,206
Gravity Sewer Pipeline (15")	15,282	L.F	$103.70	$1,584,743
Gravity Sewer Pipeline (21")	7,641	L.F	$213.29	$1,629,749
Allowance For Manhole @ 350 feet Spacing	563	E.A	$3,000.00	$1,689,000
Rock Removal or Require 50% AC-Repair*	591,144	Sq. ft	$5.00	$2,955,720
			Sub-Total	$21,101,419
			SUBTOTAL (Whole City of Adelanto)	$95,735,820
			Allowance for Project Contingency (10%)	$9,573,582
			Allowance for Engineering, Project Administration, Legal, Financing (20%)	$19,147,164
			ESTIMATED TOTAL COST	$124,456,566

* Assume Pipe trench to be about 6ft. Wide

APPENDIX D
RATE CALCULATION WORKSHEETS

Appendix D
Rate Calculations

For year ending June 30, 2010		
Rate calculation:		
Net revenue requirements	$	4,179,621
Total Adjusted EDUs[1]		7,284
Annual charge per EDU		$573.81
Calculated monthly charge per EDU		$47.82
USE		**$47.82**

For year ending June 30, 2011		
Rate calculation:		
Net revenue requirements	$	4,527,759
Total Adjusted EDUs[1]		7,429
Annual charge per EDU		$609.47
Calculated monthly charge per EDU		$50.79
USE		**$50.79**

For year ending June 30, 2012		
Rate calculation:		
Net revenue requirements	$	4,934,826
Total Adjusted EDUs[1]		7,429
Annual charge per EDU		$664.27
Calculated monthly charge per EDU		$55.36
USE		**$55.36**

For year ending June 30, 2013		
Rate calculation:		
Net revenue requirements	$	5,443,568
Total Adjusted EDUs[1]		7,429
Annual charge per EDU		$732.75
Calculated monthly charge per EDU		$61.06
USE		**$61.06**

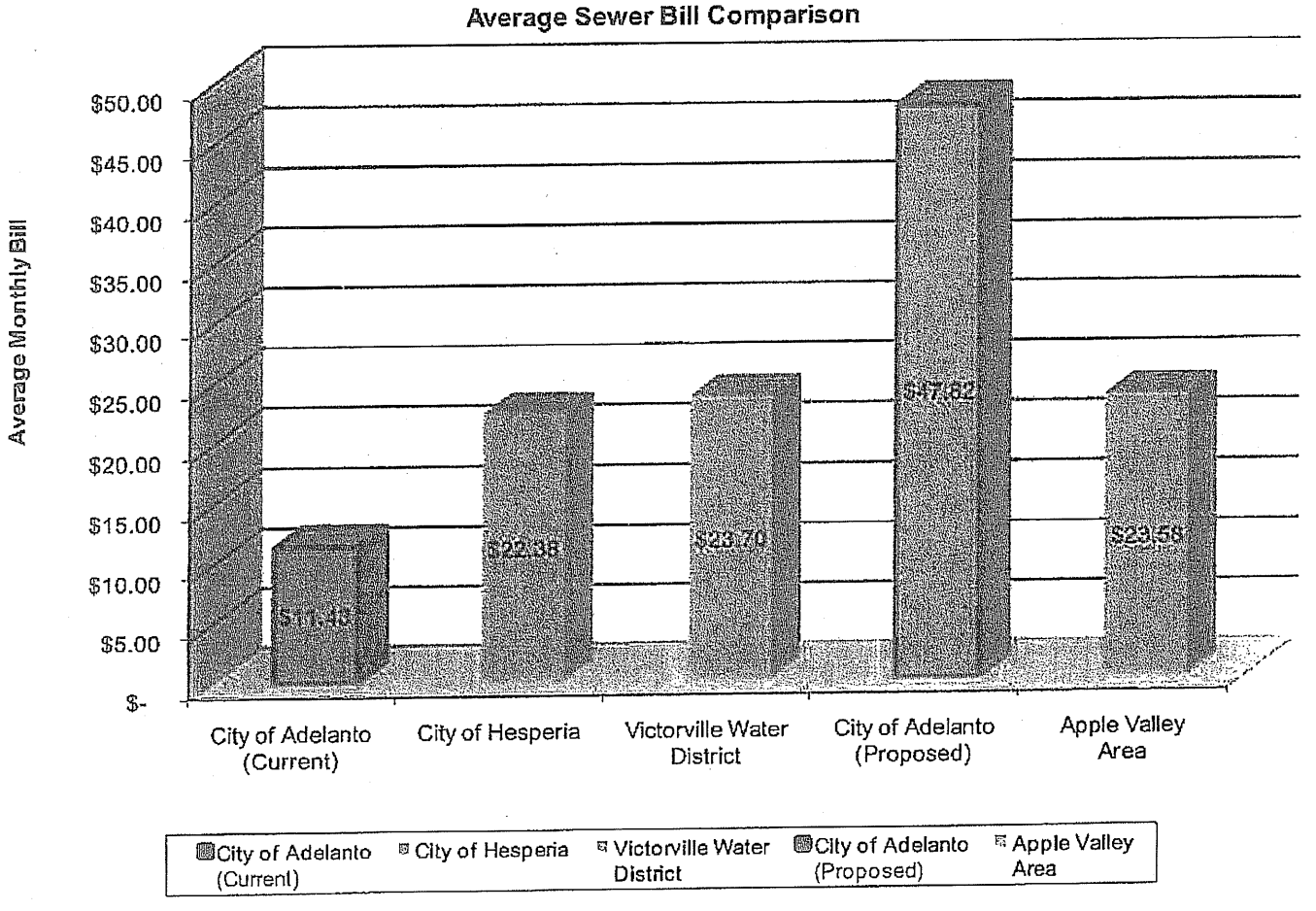
[1]Adjusted EDUs has apartment use at .5 EDU per unit to account for lesser flow per unit

APPENDIX E
BILL COMPARISONS

Rate Comparison to Other Victor Valley Agencies

Step 1

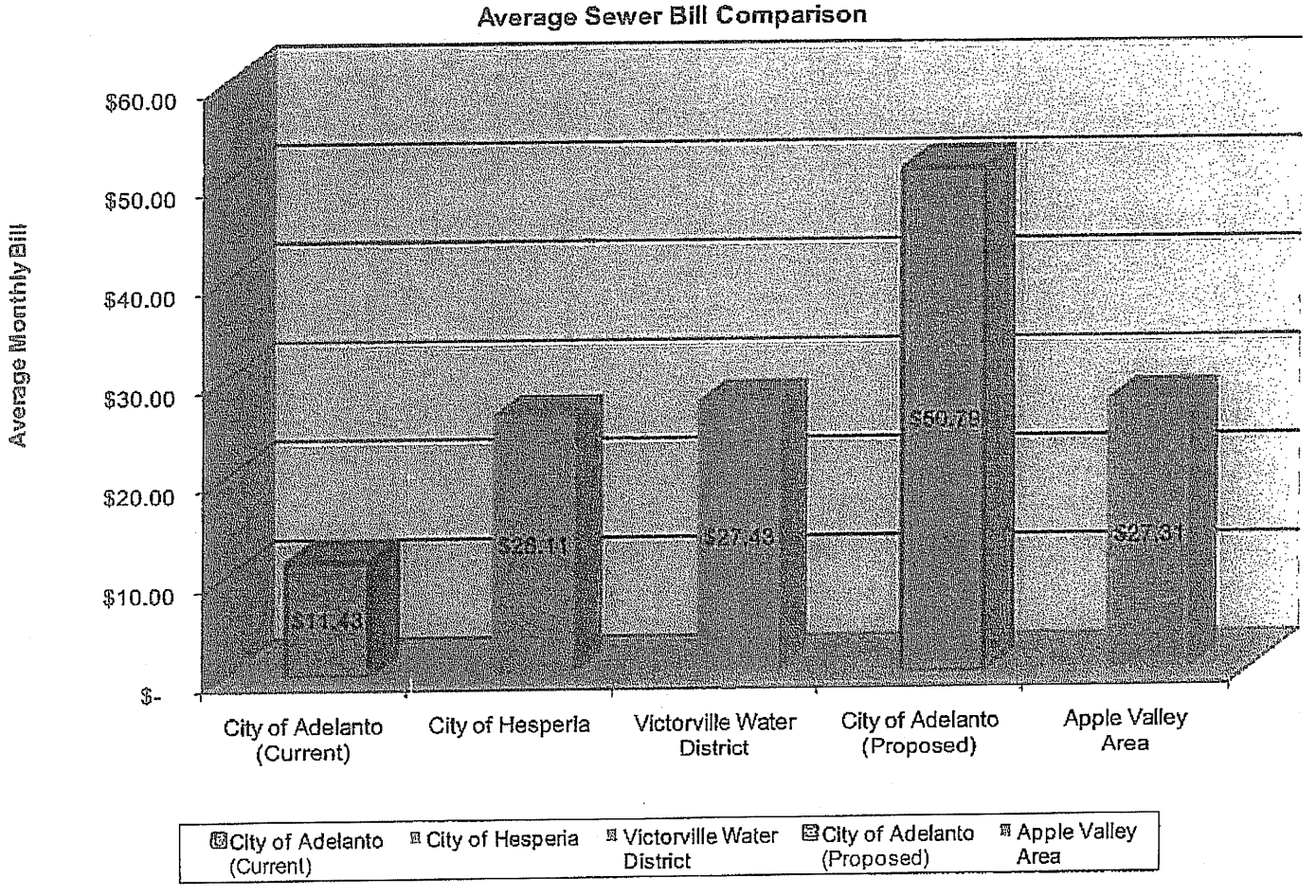
Rates in Effect 2009-10



Rate Comparison to Other Victor Valley Agencies

Step 2

Rates in Effect 2010-11



APPENDIX F
DEBT SERVICE

NET DEBT SERVICE

Adelanto Public Utility Authority
Refunding Revenue Bonds, Series 2009

Period Ending	Total Debt Service	General Fund	Debt Service Reserve Fund	Net Debt Service	59% W	41% S
06/30/2010	3,414,099.72	750,000		2,664,099.72	1571819	1092,281
06/30/2011	5,099,900.00			5,099,900.00	3008941	2090959
06/30/2012	5,099,900.00			5,099,900.00	3,008,941	2090959
06/30/2013	6,202,400.00			6,202,400.00	3659416	2542984
06/30/2014	6,201,500.00			6,201,500.00		
06/30/2015	6,202,475.00			6,202,475.00		
06/30/2016	6,204,600.00			6,204,600.00		
06/30/2017	6,203,475.00			6,203,475.00		
06/30/2018	6,202,193.75			6,202,193.75		
06/30/2019	6,198,537.50			6,198,537.50		
06/30/2020	6,201,575.00			6,201,575.00		
06/30/2021	6,200,312.50			6,200,312.50		
06/30/2022	6,205,912.50			6,205,912.50		
06/30/2023	6,197,687.50			6,197,687.50		
06/30/2024	6,204,875.00			6,204,875.00		
06/30/2025	6,199,093.75			6,199,093.75		
06/30/2026	6,202,000.00			6,202,000.00		
06/30/2027	6,202,462.50			6,202,462.50		
06/30/2028	6,202,525.00			6,202,525.00		
06/30/2029	6,201,537.50			6,201,537.50		
06/30/2030	6,198,850.00			6,198,850.00		
06/30/2031	6,200,350.00			6,200,350.00		
06/30/2032	6,199,000.00			6,199,000.00		
06/30/2033	6,200,850.00			6,200,850.00		
06/30/2034	6,199,675.00			6,199,675.00		
06/30/2035	6,199,250.00			6,199,250.00		
06/30/2036	6,198,175.00			6,198,175.00		
06/30/2037	6,199,875.00			6,199,875.00		
06/30/2038	6,197,775.00			6,197,775.00		
06/30/2039	6,200,125.00			6,200,125.00		
06/30/2040	6,204,825.00		6,205,912.50	-1,087.50		
	187,245,812.22	750,000	6,205,912.50	180,289,899.72		

F-2

CITY OF ADELANTO
ADELANTO PUBLIC UTILITY AUTHORITY
GENERAL FUND OBLIGATION

ORIG AMT	6,431,169.00
INTEREST	5.00%
ANNUAL PMT	1,228,340.00
TERM	
ENDING BALANCE	

			5.00%		
DATE	PMT NO	TOTAL PMT	INT PORTION	PRIN PORTION	BALANCE
					6,431,169.00
2009-10	1	1,228,340.00	321,558.45	906,781.55	5,524,387.45
2010-11	2	1,228,340.00	276,219.37	952,120.63	4,572,266.82
2011-12	3	1,228,340.00	228,613.34	999,726.66	3,572,540.16
2012-13	4	1,228,340.00	178,627.01	1,049,712.99	2,522,827.17
2013-14	5	1,228,340.00	126,141.36	1,102,198.64	1,420,628.53
2014-15	6	1,228,340.00	71,031.43	1,157,308.57	263,319.96
2015-16	7	276,485.96	13,166.00	263,319.96	(0.00)
		7,646,525.96	1,215,356.96	6,431,169.00	

F-3

SOURCES AND USES OF FUNDS

Adelanto Public Utility Authority
Refunding Revenue Bonds, Series 2009

Dated Date	08/31/2009
Delivery Date	08/31/2009

Sources:	SERIESA	SERIESB	Total
Bond Proceeds:			
Par Amount	61,350,000.00	16,645,000.00	77,995,000.00
Net OID	-988,866.85	-268,298.90	-1,257,165.75
	60,361,133.15	16,376,701.10	76,737,834.25
Other Sources of Funds:			
Transfer for Prior Rate Stabilization Fund	592,331.19		592,331.19
Debt Service Reserve Fund	3,308,384.00	971,710.56	4,280,094.56
Transfer for Prior Rate Stabilization Fund		157,668.81	157,668.81
	3,900,715.19	1,129,379.37	5,030,094.56
	64,261,848.34	17,506,080.47	81,767,928.81

Uses:	SERIESA	SERIESB	Total
Project Fund Deposits:			
Swap Termination Payment	3,472,500.00	1,051,500.00	4,524,000.00
Refunding Escrow Deposits:			
Cash Deposit	54,395,000.00	14,720,000.00	69,115,000.00
Other Fund Deposits:			
Debt Service Reserve Fund	4,881,501.79	1,324,410.71	6,205,912.50
Capitialized Interest	589,941.66	160,058.34	750,000.00
	5,471,443.45	1,484,469.05	6,955,912.50
Delivery Date Expenses:			
Cost of Issuance	428,690.94	116,309.06	545,000.00
Underwriter's Discount	490,800.00	133,160.00	623,960.00
	919,490.94	249,469.06	1,168,960.00
Other Uses of Funds:			
Additional Proceeds	3,413.95	642.36	4,056.31
	64,261,848.34	17,506,080.47	81,767,928.81

Notes:
Assumes $450,000 for Cost of Issuance
Assumes Underwriter's Discount not to exceed $7/bond

F-4

BOND PRICING

Adelanto Public Utility Authority
Refunding Revenue Bonds, Series 2009

Bond Component	Maturity Date	Amount	Rate	Yield	Price
Serial Bond:					
	11/01/2012	1,125,000	4.000%	3.870%	100.379
	11/01/2013	1,170,000	4.000%	4.300%	98.861
	11/01/2014	1,225,000	5.000%	4.760%	101.081
	11/01/2015	1,290,000	5.000%	5.010%	99.940
	11/01/2016	1,355,000	5.000%	5.310%	98.164
	11/01/2017	1,425,000	5.250%	5.540%	98.107
	11/01/2018	1,500,000	5.500%	5.740%	98.299
	11/01/2019	1,590,000	5.750%	5.900%	98.856
	11/01/2020	1,685,000	6.000%	6.070%	99.428
	11/01/2021	1,795,000	6.000%	6.180%	98.466
	11/01/2022	1,900,000	6.250%	6.300%	99.546
	11/01/2023	2,030,000	6.250%	6.400%	98.605
	11/01/2024	2,155,000	6.250%	6.480%	97.788
		20,245,000			
2029 Term Bond:					
	11/01/2029	13,150,000	6.500%	6.780%	96.934
2034 Term Bond:					
	11/01/2034	18,435,000	7.000%	7.070%	99.168
2039 Term Bond:					
	11/01/2039	26,165,000	7.000%	7.150%	98.140
		77,995,000			

Dated Date	08/31/2009	
Delivery Date	08/31/2009	
First Coupon	05/01/2010	
Par Amount	77,995,000.00	
Original Issue Discount	-1,257,165.75	
Production	76,737,834.25	98.388146%
Underwriter's Discount	-623,960.00	-0.800000%
Purchase Price	76,113,874.25	97.588146%
Accrued Interest		
Net Proceeds	76,113,874.25	

F-5

BOND DEBT SERVICE

Adelanto Public Utility Authority
Refunding Revenue Bonds, Series 2009

Period Ending	Principal	Coupon	Interest	Debt Service
06/30/2010			3,414,099.72	3,414,099.72
06/30/2011			5,099,900.00	5,099,900.00
06/30/2012			5,099,900.00	5,099,900.00
06/30/2013	1,125,000	4.000%	5,077,400.00	6,202,400.00
06/30/2014	1,170,000	4.000%	5,031,500.00	6,201,500.00
06/30/2015	1,225,000	5.000%	4,977,475.00	6,202,475.00
06/30/2016	1,290,000	5.000%	4,914,600.00	6,204,600.00
06/30/2017	1,355,000	5.000%	4,848,475.00	6,203,475.00
06/30/2018	1,425,000	5.250%	4,777,193.75	6,202,193.75
06/30/2019	1,500,000	5.500%	4,698,537.50	6,198,537.50
06/30/2020	1,590,000	5.750%	4,611,575.00	6,201,575.00
06/30/2021	1,685,000	6.000%	4,515,312.50	6,200,312.50
06/30/2022	1,795,000	6.000%	4,410,912.50	6,205,912.50
06/30/2023	1,900,000	6.250%	4,297,687.50	6,197,687.50
06/30/2024	2,030,000	6.250%	4,174,875.00	6,204,875.00
06/30/2025	2,155,000	6.250%	4,044,093.75	6,199,093.75
06/30/2026	2,300,000	6.500%	3,902,000.00	6,202,000.00
06/30/2027	2,455,000	6.500%	3,747,462.50	6,202,462.50
06/30/2028	2,620,000	6.500%	3,582,525.00	6,202,525.00
06/30/2029	2,795,000	6.500%	3,406,537.50	6,201,537.50
06/30/2030	2,980,000	6.500%	3,218,850.00	6,198,850.00
06/30/2031	3,190,000	7.000%	3,010,350.00	6,200,350.00
06/30/2032	3,420,000	7.000%	2,779,000.00	6,199,000.00
06/30/2033	3,670,000	7.000%	2,530,850.00	6,200,850.00
06/30/2034	3,935,000	7.000%	2,264,675.00	6,199,675.00
06/30/2035	4,220,000	7.000%	1,979,250.00	6,199,250.00
06/30/2036	4,525,000	7.000%	1,673,175.00	6,198,175.00
06/30/2037	4,855,000	7.000%	1,344,875.00	6,199,875.00
06/30/2038	5,205,000	7.000%	992,775.00	6,197,775.00
06/30/2039	5,585,000	7.000%	615,125.00	6,200,125.00
06/30/2040	5,995,000	7.000%	209,825.00	6,204,825.00
	77,995,000		109,250,812.22	187,245,812.22

NET DEBT SERVICE

Adelanto Public Utility Authority
Refunding Revenue Bonds, Series 2009

Period Ending	Total Debt Service	General Fund	Debt Service Reserve Fund	Net Debt Service
06/30/2010	3,414,099.72	750,000		2,664,099.72
06/30/2011	5,099,900.00			5,099,900.00
06/30/2012	5,099,900.00			5,099,900.00
06/30/2013	6,202,400.00			6,202,400.00
06/30/2014	6,201,500.00			6,201,500.00
06/30/2015	6,202,475.00			6,202,475.00
06/30/2016	6,204,600.00			6,204,600.00
06/30/2017	6,203,475.00			6,203,475.00
06/30/2018	6,202,193.75			6,202,193.75
06/30/2019	6,198,537.50			6,198,537.50
06/30/2020	6,201,575.00			6,201,575.00
06/30/2021	6,200,312.50			6,200,312.50
06/30/2022	6,205,912.50			6,205,912.50
06/30/2023	6,197,687.50			6,197,687.50
06/30/2024	6,204,875.00			6,204,875.00
06/30/2025	6,199,093.75			6,199,093.75
06/30/2026	6,202,000.00			6,202,000.00
06/30/2027	6,202,462.50			6,202,462.50
06/30/2028	6,202,525.00			6,202,525.00
06/30/2029	6,201,537.50			6,201,537.50
06/30/2030	6,198,850.00			6,198,850.00
06/30/2031	6,200,350.00			6,200,350.00
06/30/2032	6,199,000.00			6,199,000.00
06/30/2033	6,200,850.00			6,200,850.00
06/30/2034	6,199,675.00			6,199,675.00
06/30/2035	6,199,250.00			6,199,250.00
06/30/2036	6,198,175.00			6,198,175.00
06/30/2037	6,199,875.00			6,199,875.00
06/30/2038	6,197,775.00			6,197,775.00
06/30/2039	6,200,125.00			6,200,125.00
06/30/2040	6,204,825.00		6,205,912.50	-1,087.50
	187,245,812.22	750,000	6,205,912.50	180,289,899.72

F-7

Adelanto Public Utilities Authority
Notice of Proposed
Water and Sewer Rate Adjustment

April 27, 2009

The Adelanto Public Utility Authority (APUA) is proposing adjustments to the Monthly Rates for Water and Sewer services. At the regular meeting of the City Council/APUA Board on April 22, 2009 APUA Resolution 09-001 was passed, which set the public hearing for June 24, 2009, at 7:00PM.

1) Reasons for the Rate Adjustment

APUA utility customers have been paying the same rates since 2001. Since then the costs to operate the utilities have increased substantially. The APUA has utilized reserves and revenue from new service connections to pay for the increased costs. Reserves are now close to depletion and the new service connections have halted due to the downturn in the residential construction market.

Also, the APUA has incurred costs to construct a new wastewater treatment plant to accommodate the City for several years.

2) Standby Fees

In addition to the water and sewer rate adjustment, the APUA is also proposing an adjustment to the Water and Sewer Standby Fees. Standby Fees are only levied on vacant, underdeveloped property to pay for maintenance costs for the portion of the water and sewer system that has been built to accommodate future development and to purchase water rights as water demand increases. Without an increase to the Standby Fees the Water and Sewer rate increase would be substantially higher.

3) Proposed Base Monthly Water Service Rates

Base Rate by Meter Size	Proposed
¾"[1]	$13.38
1"	$22.34
1 ½"	$44.56
2"	$71.32
3"	$133.80
4"	$223.04

(1) Residential Meters are ¾".

4) Proposed Monthly Water Usage (Commodity) Rates

Tier	Rate per Unit
1) 1-20 Units	1.25
2) 21-35 Units	2.16
3) 36 Units and above	2.50

(1) 1 Unit of water is equal to 1 hundred cubic feet of water or 748 gallons

5) Proposed Monthly Sewer Usage

Single Family Residential Flat Sewer Rate	$47.82
Multi Family Residential Flat Sewer Rate	$47.82 per unit
Commercial/Industrial Flat Sewer Rate(1)	$47.82 per EDU

(1) EDU = Equivalent Dwelling Unit is a calculation that involves a rating based on the average number of employee per business type

6) TOWN HALL MEETINGS – The City will be conducting two (2) Town Hall meetings on June 17 & 18, 2009 at 7:00PM. The meetings are offered to Utility customers and are intended to share the methodology used to derive the rates and answer any questions that may exist in advance of the Public Hearing. The Town Hall meetings will be held at:

Desert Trails Elementary School
14350 Bellflower Street
Adelanto, California 92301
Wednesday, June 17, 2009
Multi-Purpose Room
7:00PM-9:00PM

Adelanto Math and Science Academy
17931 Jonathon Street
Adelanto, California 92301
Thursday, June 18, 2009
Multi-Purpose Room
7:00PM-9:00PM

7) A PUBLIC HEARING ON THE PROPOSED WATER AND SEWER RATES WILL BE HELD ON JUNE 24, 2009, AT 7:00 PM IN CITY COUNCIL CHAMBERS, 11600 AIR EXPRESSWAY, ADELANTO, CA 92301.

Aviso de la Autoridad de los Servicios Públicos
Aviso sobre Propuesta
Ajuste de tarifas del Agua y Drenaje

Abril 27, 2009

La Autoridad Pública de Adelanto Utility (APUA) está proponiendo ajustes a las Tarifas Mensuales para los servicios del Agua y Drenaje. En la reunión regular el 22 de Abril de 2009 Miembros del Consejo/APUA la Resolución 009-001 fue pasada, que fijó la fecha para el publico para el 24 de Junio de 2009, as las 7:00 P.M.

1) Razones por el ajuste del las tarifas

Los clientes para uso general de la Autoridad del los Servicios Pulicos/APUA han estado pagando las mismas tarifas desde 2001. Desde entonces los costes para funcionar las utilidades han aumentado substancialmente. El APUA ha utilizado reservas y el rédito de nuevas conexiones del servicio para pagar los costos crecientes. Las reservas ahora están cerca de agotamiento y las nuevas conexiones del servicio han parado debido al descenso en el mercado de la construcción residencial.

También, el APUA ha incurrido costos para construir una nueva planta de drenaje/depuradora de aguas residuales para acomodar la ciudad por varios años.

2) Honorarios de espera

Además del ajuste de tarifa del agua y de drenaje, el APUA también está proponiendo un ajuste a los honorarios del recurso seguro del agua y de drenaje. Los honorarios de espera se imponen solamente en característica vacante, subdesarrollada para pagar los costes de mantenimiento para la porción del sistema del agua y drenajea que se ha construido para acomodar el future desarrollo y para comprar agua mientras que la demanda de agua aumenta Sin un aumento a los honorarios de espera el aumento de la tarifa del agua y drenaje sería substancialmente más alto.

3] Propuesta de tarifas para el sevicio mensual del agua

Tarifa por tamaño de medidor	Propuestas
¾"(1)	$13.38
1"	$22.34
1 ½"	$44.56
2"	$71.32
3"	$133.80
4"	$223.04

(1) Medidor for Residencia ¾"

4) Propuesta de tarifas para el sevicio mensual para el uso de agua (materia)

Tierra	Tarifa for unidad
1) 1-20 Unidades	1.25
2) 21-35 Unidades	2.16
3) 36 Unidades en adelante	2.50

1 Unidad de agua es igual a cien pies cubicos de agua por 748 galiones

5) Propuesta de tarifas para uso mensual del drenaje

Tarifa plana por una Residencial de drenaje	$47.82
Tarifa plana por varias Residenciales de drenaje	$47.82 por unidad
Tarifa plana para commercial/industrial de drenaje	$47.82 per EDU

6] REUNIONES - La ciudad conducirá dos (2) reuniones el 17 y 18 de junio; 2009 a las 7:00 P.M. Las reuniones se ofrecen a los clientes para uso general y se piensan para compartir la metodología usada para derivar las tarifas y para contestar cualquier pregunta que pueda existir antes de la vista pública. Las reunions/juntas serán en:

Desert Trails Elementary School
14350 Bellflower Street
Adelanto, California 92301
Miercoles, Junio 17, 2009
Multi-Purpose Room
7:00PM-9:00PM

Desert Trails Elementary School
17931 Jonathon Street
Adelanto, California 92301
Jueves, Junio 18, 2009
Multi-Purpose Room
7:00PM-9:00PM

7] UNA REUNION PÚBLICA SOBRE LAS TARIFAS PROPUESTAS DEL AGUA Y DE DRENAJE SERÁ LLEVADA A CABO EL 24 DE JUNIO DEL 2009, A LAS 7:00 P.M. LOCALIZADO EN EL CITY COUNCIL CHAMBERS, 11600 AIR EXPRESSWAY, ADELANTO, CA 92301

Exhibit "C"

Senior Citizen and Disabled Exemption Program

The Adelanto Public Utilities Authority is proposing a Senior Citizen and Disabled Exemption program to help accommodate those low-income seniors and handicapped citizens in our community that have low to moderately low utility usage. The follow are the requirements needed to participate in the Senior Citizen Handicapped Exemption Program:

- Customer must be over the age of 65 years old at the time of application to qualify as a Senior Citizen;
- Handicapped shall be defined as a person who is protected under the Americans with Disabilities Act;
- Customer must be the named customer on the Water account; (certain exceptions may be granted for customers who lease or rent and the City requires the account to remain in the property owners' name)
- Customer must show proof of residency by being named on the deed of the property as the owner or on the lease/rental agreement as the renter;
- Customer's income must fall within the low income guidelines established by HUD annually for San Bernardino County. Below are the Low Income levels established by HUD for 2009.

Maximum Household Income

Number of Persons In Household	Total Combined Gross Annual Income
1	$23,300
2	$26,650
3	$29,950
4	$33,300
5	$35,950
6	$38,650

- Trash Customers on the program are restricted to one (1) green trash barrel and (1) blue recycling barrel.

Below are the benefits of the Senior Exemption program:

- **Water** - Lock in FY 2009/2010 monthly Base Water Rate ($13.38) for subsequent years.
- **Sewer** – Fifty percent (50%) discount on the sewer rate.
- **Trash** – No dump fee; Discount Trash Rate $10.45 per month.

The Senior Citizen and Handicapped Exemption Cover Letter and Application are attached.

City of Adelanto

11600 Air Expressway | Adelanto, Ca 92301 | (760) 246-2300

Senior Citizen and Handicapped Exemption

Below are the income requirements for 2009 based on information developed annually by U.S. Department of Housing and Urban Development (HUD) for San Bernardino County.

Senior Citizen shall be defined as a person 65 years and older that meet the annual income requirements. Handicapped shall be defined as a person who is protected under the Americans with Disabilities Act and meets the annual income requirements.

Maximum Household Income

Number of Persons In Household	Total Combined Gross Annual Income
1	$23,300
2	$26,650
3	$29,950
4	$33,300
5	$35,950
6	$38,650

The following information must be attached to the application:

- **Proof of Residency- Water bill must be in applicants name**
- **Proof of Income (most recent pay stub and most recent annual Federal Tax Return) for each adult in the household.**
- **Copy of Photo ID for each adult in the household.**

Should you have any questions or need additional information, please contact us at (760) 246-2300 Ext. 3040.

Please return the form and all attachments to the City of Adelanto Water and Sanitation Department or mail to:

City of Adelanto
Water and Sanitation Department
P.O. Box 10
Adelanto, Ca 92301

Respectfully,
George Harris
Interim Finance Director

City of Adelanto

11600 Air Expressway | Adelanto, Ca 92301 | (760) 246-2300

Name of Applicant		Date of Birth
Co-Applicant		Date of Birth
Address		Phone
City	State	Zip

Account Number	Number of Persons In Household
Additional Adult and Age	
Additional Adult and Age	
Additional Adult and Age	
Additional Adult and Age	
Water	Base Rate $13.38
Sewer	50% Discount
Trash	No Dump Fee Discount Rate $10.45 (No Income Requirement Necessary)

Please attach the following forms

Proof of Age (ID Card)	Proof of Income	Proof of Residency (Water Bill)

I herby certify (or declare) under penalty of perjury under the law of the State of California that all information submitted with this application is true and correct. I am a resident of the property listed above and I am head of household (i.e. I am not listed as a dependent for the state or federal income taxes by any other person) and a senior citizen over the age of 65.

Print Name	Signature	Date
Co-Applicant	Signature	Date

NOTE:
Exemptions are not automatic. In order to receive an exemption, this form must be completed, filed with the City of Adelanto, and approved by the Finance Director.

Exhibit "D"

Low Income Exemption Program

The Adelanto Public Utilities Authority is proposing a Low Income Exemption program to help temporarily accommodate those low-income residents in our community. The following are the requirements needed to participate in the Low Income Exemption Program:

- Customer must be the named customer on the Water account; (certain exceptions may be granted for customers who lease or rent and the City requires the account to remain in the property owners' name)
- Customer must show proof of residency by being named on the deed of the property as the owner or on the lease/rental agreement as the renter;
- Customer's income must fall within the low income guidelines established by HUD annually for San Bernardino County. The incomes of all adults over the age of 18 are included in the calculation. Below are the Low Income levels established by HUD for 2009. Unemployment status must be verified by the State of California Employment Development Department (EDD).

Maximum Household Income

Number of Persons In Household	Total Combined Gross Annual Income
1	$23,300
2	$26,650
3	$29,950
4	$33,300
5	$35,950
6	$38,650

- Low Income Exemptions expire every June 30th and December 31st. Customers must reapply to continue benefits. The application deadlines are May 15th and November 15th of every year. Late applications will be deemed void and will be processed in the next application cycle.
- Application cycles are:
    - January 1st – June 30, Application Deadline November 15th
    - July 1 – December 31, Application Deadline May 15th.

Below are the benefits of the Low Income Exemption program:

- **Water** - Lock in FY 2009/2010 monthly Base Water Rate ($13.38) for subsequent years.
- **Sewer** - Thirty-five percent (35%) discount on the sewer rate.

The Low Income Exemption Cover Letter and Application are attached.

City of Adelanto

11600 Air Expressway | Adelanto, Ca 92301 | (760) 246-2300

Water and Sewer Low Income Exemption

On August 12, 2009, The Adelanto Public Utility Authority Board approved a Low Income rate schedule for Water and Sewer utilities provided by the Authority. The Low Income rate schedule is for households that have total household incomes that meet the U.S. Department of Housing and Urban Development (HUD) guidelines for San Bernardino County.

Below are the income requirements for 2009 based on information developed annually by U.S. Department of Housing and Urban Development (HUD) for San Bernardino County.

Maximum Household Income

Number of Persons In Household	Total Combined Gross Annual Income
1	$23,300
2	$26,650
3	$29,950
4	$33,300
5	$35,950
6	$38,650

To receive the Low Income Exemption the utility service must be in the name of the applicant. Proof of Residency must be verified either by Deed of Title or Lease/Rental Agreement. No exceptions. Total income is the total income of all adults (over the age of 18) in the household. Federal, State or County assistance income is included in the calculation of total income. Foster Care and Dependant Care stipends are included as income.

Low Income Exemptions expire on June 30 and December 31 of each year automatically. Renewal applications must be submitted by May 15th and November 15th of each year. With the exception of the first year of the Program.

The following information must be attached to the application:

- **Proof of Residency- Water bill must be in applicants name**
- **Proof of Income (most recent pay stub and most recent annual Federal Tax Return) for <u>each</u> adult in the household.**
- **Copy of Photo ID for <u>each</u> adult in the household.**
- **All Low-Income exemptions expire on June 30 and December 31 of every year. Applications must be re-submitted 30 days prior to expiration. If you do not re-apply or are found ineligible, you will be billed normal customer rates.**

Should you have any questions or need additional information, please contact us at (760) 246-2300 Ext. 3040.

Please return the form and all attachments to the City of Adelanto Water and Sanitation Department or mail to:

City of Adelanto
Water and Sanitation Department
P.O. Box 10
Adelanto, CA 92301

Respectfully,

George Harris

Interim Finance Director

City of Adelanto

11600 Air Expressway | Adelanto, Ca 92301 | (760) 246-2300

Name of Applicant		Date of Birth
Co-Applicant		Date of Birth
Address		Phone
City	State	Zip

Number of Persons In Household	
Additional Adult and Age	
Additional Adult and Age	
Additional Adult and Age	

I herby certify (or declare) under penalty of perjury under the law of the State of California that all information submitted with this application is true and correct. I am a resident of the property listed above and I am head of household (i.e. I am not listed as a dependent for the state or federal income taxes by any other person) and a senior citizen over the age of 65.

Print Name	Signature	Date
Co-Applicant	Signature	Date

NOTE:
Exemptions are not automatic. In order to receive an exemption, this form must be completed, filed with the City of Adelanto, and approved by the Finance Director

For Office Use Only

Please attach the following forms

Proof of Age (ID Card)	Proof of Income	Proof of Residency (Water Bill)

Vesely, Roger

From: John Sponsler [jsponsler@ci.adelanto.ca.us]
Sent: Monday, October 04, 2010 2:11 PM
To: 'JMMorales@waterboards.ca.gov'
Cc: James Hart; Wilson So (External); 'cmitton@waterboards.ca.gov'; Vesely, Roger; Perales, Mike
Subject: RE: Adelanto Violations - Free Board

Good morning John,

In response to your question, the City will remedy this violation in two ways and asks for the Regional Boards' concurrence and approval to proceed;

1). The City plans to construct, as a minimum, 2 60' deep leach(seepage) pits located to the immediate west of Percolation Ponds #1 and #2. Pits will be constructed within the property area of the treatment plant. The pits will be used to contain/percolate secondary effluent. The effluent will be pumped from the traveling bridge sand filters via an above ground plastic pipeline. The effluent will join the waters contained within the upper zone of the aquifer which is not considered to be a potable source of water. The City will alternate between the two leach pits.

If successful, additional pits may be constructed within the confines of the treatment plant facility. Leach pits have proven to be an effective means of water disposal and, when properly operated, should provide relief for a number of years.

2). The City, through an outside contractor, will clean and remove the solids from Percolation Ponds #1 and #4 (#3 may be included as well). The contractor is in the process of locating and procuring (at his own expense) equipment necessary to perform this task. The solids will be removed to two areas within the facility for drying. Once dried and tested, the solids may be removed to an outside landfill or composting facility. Once these percolation ponds are cleaned, the ponds should percolate for approximately 1 year at current effluent conditions before cleaning is again required.

Through these efforts, the City will "buy time" until outside, adjacent land is procured and Percolation Pond #5, as well as other percolation ponds, is constructed. The City's engineer, Wilson So, has previously briefed the Regional Board on the status of the land acquisition and Percolation Pond #5.

Effluent quality is the key to the success of these 2 remedies. As the City continues to divert 1.3 MGD of raw influent to the Victor Valley Wastewater Reclamation Authority, the current Biolac wastewater treatment facility operates/treats as designed. Therefore, the City's effluent quality is within WDR specifications and should percolate with acceptable results.

If approved by the Regional Board, the City desires to begin construction on the 2 leach pits within the month of October 2010. If the equipment can be procured and quickly transported back to the City, the City desires to begin cleaning operations no later than the end of November 2010.

Thank you,

John R. Sponsler
Director of Public Utilities
City of Adelanto
11600 Air Expressway

Vesely, Roger

From: John Sponsler [jsponsler@ci.adelanto.ca.us]
Sent: Thursday, November 18, 2010 6:02 PM
To: 'Eric Taxer'
Cc: jhart@ci.adleanto.ca.us; Wilson So (External); Perales, Mike; Vesely, Roger; Cindi Mitton; John Morales; Laura Drabandt; Lauri Kemper; Scott Ferguson
Subject: RE: Adelanto Public Utility Authority: Review of Weekly Status Reports

Good morning Eric,

Thanks for reviewing the reports. I will attempt to answer your questions for each date.

November 8th:

1. I took the dimensions of each pond and performed a volume calculation for each freeboard reading, which determined how much capacity remained in the ponds before overflowing the banks. I took length x width x depth(freeboard) x 7.48 = remaining capacity. If I should be calculating this differently, please let me know.
2. The 13 trenches are each approximately 20'l x 10'w x 18'deep. Given those dimensions, they each will contain approximately 26,928 gallons for an approximate total of 350,064 gallons. They are working in percolating the water; according to the plant operators, they are percolating water at a rate of approximately 12" per 12 hours. As the ponds are continually being worked, i.e., transferring water from one pond to the other as needed, the levels fluctuate.
3. The divider between Percolation Pond 4N and 4S is an "artificial" divider constructed to divide the pond so one side could be worked while the other perc'd water. If we lose the divider, it is of no consequence to the ponds, only an inconvenience to the operators and the ability to maintain that pond. We built it up because we don't want to lose it; a lot of time and energy went in to its construction. However, the divider is holding and is serving its purpose as a divider.
4. The "November 2" date is a typo. It should have stated November 8, the date I submitted that report. I used the original Cleanup and Abatement Order as a template for submitting my subsequent reports; I forgot to change the date.

November 12th:

2. Please see my explanation in 1. Above.
3. The WWTP has a capacity to treat 1.5 MGD, but it was designed for 1.4 MGD (according to our Chief Plant Operator). We are receiving flows of approximately 2.2 MGD; we are diverting approximately 1.02 MGD raw and .06 MGD effluent, leaving approximately 1.12 MGD through our treatment plant. At this rate, we have been meeting the effluent requirements as per our WDR; our effluent is clear and no solids are spilling over the clarifier weirs into the ponds. The 1.12 MGD is very acceptable to our WWTP. Additionally, this rate provides enough flow to the Micromedia process for them to continue their testing.

   The source of the oil and grease is domestic household. VVWRA requires us not to send O&G to them as it increases their BOD loading and they need to expend extra effort to reduce that loading. As they are the recipient of our flows, we do not want to upset their treatment process, which could jeopardize our diversion to them. At the time the City's WWTP was constructed, the population of Adelanto was approximately 13,000 people; we have since grown to over 28,000 people. You may well be correct; VVWRA may not have experienced O&G issues prior to construction, but the City's additional population has since contributed to the O&G issue.

I hope this answers your questions, but should you have further concerns, please let me know.

Thanks,

John R. Sponsler
Director of Public Utilities
City of Adelanto
11600 Air Expressway
Adelanto, CA 92311
(760)246-2300 x 3006
(760)578-4297 cell
(760)246-3242 fax

City Hall is open Monday - Thursday from 7:00 a.m. until 6:00 p.m. City Hall is closed every Friday and Holidays.

From: Eric Taxer [mailto:ETaxer@waterboards.ca.gov]
Sent: Monday, November 15, 2010 5:19 PM
To: John Sponsler
Cc: jhart@ci.adleanto.ca.us; Wilson So (External); mike.perales@unitedwater.com; roger.vesely@unitedwater.com; Cindi Mitton; John Morales; Laura Drabandt; Lauri Kemper; Scott Ferguson
Subject: Adelanto Public Utility Authority: Review of Weekly Status Reports

John -

I just returned to the office today and reviewed the two weekly status reports submitted so far in response to Cleanup and Abatement Order No. R6V-2010-0054. I have the following comments.

November 8 2010 Report:

1. This report shows freeboard violations in all ponds except Pond No. 1. However, Item D of the report shows that you have remaining capacity in each of the ponds. How is this determined? Is this available capacity before the ponds overflow?

2. Item B states that you installed the 13 trenches. However, you did not provide any information on their effectiveness as required by the Order. What is the additional volume and percolation rates achieved from the additional trenches?

3. Item B also indicates you filled and compacted the center divider between ponds 4 North and South. Again, what is the purpose/effectiveness of this measure?
4. The report is dated November 2, 2010. Does the information actually reflect the conditions of November 8th, which is when the report was required to have been submitted?

November 12, 2010 Report:

1. The Report is due November 15th - thank you for submitting early.

2. This report shows freeboard violations in all ponds except Pond Nos 1 and 4-South. However, Item D of the report shows that you have remaining capacity in each of the ponds that have freeboard violations. Item D also notes that Ponds 1 and 4 South have no available capacity as they are meeting minimum freeboard requirements. How is this determined? The information you are providing is very misleading.

3. Item B reflects 1.08 MGD being diverted to VVWRA, but that full capacity (1.3 MGD) is not being diverted due to the need to maintain the APUA treatment system biological life and to prevent oil and grease from being sent to VVWRA. Please indicate the minimum flow you need to maintain the biological life of the treatment system. Also, please indicate

the source of the oil and grease issue. Apparently, the oil and grease was not an issue prior to construction of the APUA treatment plant when all flows were directed to VVWRA.

Thanks,
Eric

Eric J. Taxer, P.E.
Water Resource Control Engineer
Enforcement and Special Projects Unit
Lahontan Regional Water Quality Control Board
2501 Lake Tahoe Boulevard
South Lake Tahoe, California 96150
530-542-5434

"The trouble with the paper chase is that even if you excel it's just a paper gain. "
-Lily Tomlin

Vesely, Roger

From: John Sponsler [jsponsler@ci.adelanto.ca.us]
Sent: Wednesday, September 29, 2010 3:29 PM
To: Vesely, Roger
Subject: Fw: Fwd: RE: Raw Influent Bypass Pump

-John Sponsler

**Sent from my BlackBerry

----- Original Message -----
From: John Sponsler
To: 'JMMorales@waterboards.ca.gov' <JMMorales@waterboards.ca.gov>
Cc: 'rvesely@aquarionops.com' <rvesely@aquarionops.com>; 'lolds@vvwra.com' <lolds@vvwra.com>; 'cmitton@waterboards.ca.gov' <cmitton@waterboards.ca.gov>; 'wilsonso@saeinc.org' <wilsonso@saeinc.org>; 'mike.perales@unitedwater.com' <mike.perales@unitedwater.com>
Sent: Wed Sep 29 15:27:32 2010
Subject: Re: Fwd: RE: Raw Influent Bypass Pump

Good afternoon John,
I spoke with Logan a couple of weeks ago about allowing us to pump more. He told us the maximum we could divert to them is 1.3mgd. In email conversations with Roger, not only are we topped out in their line (14" in a 15" line), we are pumping at our maximum allowed rate of 1.3mgd.

VVWRA cannot take our entire flows; therefore the only immediate alternative is to dig that fifth pond.

The diversion has helped our effluent quality so dredging will buy us a few months. We received a a couple of quotes for dredging, both very expensive, but it looks like we will have to bite that bullet in order to gain those extra months.
-John Sponsler

**Sent from my BlackBerry

----- Original Message -----
From: John Morales <JMMorales@waterboards.ca.gov>
To: John Sponsler
Cc: rvesely@aquarionops.com <rvesely@aquarionops.com>; lolds@vvwra.com <lolds@vvwra.com>; Cindi Mitton <cmitton@waterboards.ca.gov>
Sent: Wed Sep 29 15:04:08 2010
Subject: Fwd: RE: Raw Influent Bypass Pump

John,

Per a conversation that I had on September 1, 2010 with an operator at the Adelanto plant by the name of Dutch (in the absence of Roger and Eric who were in a training session), he advised me that the influent flow to the plant at the time was between 1.2 mgd and 1.4 mgd. Dutch was basing the flow on a flow chart that he was looking at.

If the assessment from the operator was correct at the time, how much amplitude is there from VVWRA to accept more flow from the Adelanto plant?

Please advise.

Thanks,

John Morales, P.E.
Water Resources Control Engineer
CA Regional Water Quality Control Board
Lahontan Region (6B)
14440 Civic Drive, Suite 200
Victorville, Ca 92392
Phone: (760) 241-7366
Fax: (760) 241-7308
email:jmmorales@waterboards.ca.gov
web:http://www.waterboards.ca.gov

Adelanto, CA 92311
(760)246-2300 x 3006
(760)578-4297 cell
(760)246-3242 fax

City Hall is open Monday - Thursday from 7:00 a.m. until 6:00 p.m. City Hall is closed every Friday and Holidays.

-----Original Message-----
From: John Sponsler
Sent: Thursday, September 30, 2010 12:19 PM
To: 'JMMorales@waterboards.ca.gov'
Cc: 'wilsonso@saeinc.org'; 'cmitton@waterboards.ca.gov'; 'roger.vesely@unitedwater.com'; 'mike.perales@unitedwater.com'
Subject: Re: Adelanto Violations - Free Board

John,

I will need to meet with City and United Water staff on Monday before I can give you a definitive course of action.

Tentative immediate courses of action involve dredging the existing ponds and reducing our use of polymers.

Long term course of action involves purchasing adjacent land and constructing pond #5 as well additional ponds.

As was stated in Mondays email, we are diverting our maximum allowed rate of raw to VVWRA.

Thanks,
-John Sponsler

**Sent from my BlackBerry

----- Original Message -----
From: John Morales <JMMorales@waterboards.ca.gov>
To: John Sponsler
Cc: Wilson So (External); Cindi Mitton <cmitton@waterboards.ca.gov>
Sent: Thu Sep 30 11:32:30 2010
Subject: Adelanto Violations - Free Board

John,

As of yesterday, the APUA has violated free board requirements in two percolation ponds and is near non-compliance in the remaining ponds. In June 2009, Board Order No. R6V-2009-0036 was adopted to permit the use of percolation pond No. 5. Apparently, this pond has not been constructed.

These are effluent, flow and disposal violations to Board Order Nos. R6V-2002-050 and R6V-2009-0036.

Please note that these violations are serious to the extent that the APUA is in chronic violations with these lingering issues.

The Regional Water Board office is interested in your evaluation of alternatives that may be feasible and possible to implement.

Please advise how you plan to remediate these violations and provide your best anticipated time schedule when these issues will be resolved both in the interim and in the long term time frames.

Thank you,

John Morales, P.E.
Water Resources Control Engineer
CA Regional Water Quality Control Board
Lahontan Region (6B)
14440 Civic Drive, Suite 200
Victorville, Ca 92392
Phone: (760) 241-7366
Fax: (760) 241-7308
email:jmmorales@waterboards.ca.gov
web:http://www.waterboards.ca.gov

California Regional Water Quality Control Board
Lahontan Region

Linda S. Adams
Secretary for
Environmental Protection

2501 Lake Tahoe Boulevard, South Lake Tahoe, California 96150
(530) 542-5400 • Fax (530) 544-2271
www.waterboards.ca.gov/lahontan

Arnold Schwarzenegger
Governor

November 4, 2010

John Sponsler, Director
Adelanto Public Utility Authority
11600 Air Expressway
Adelanto, CA 92301
jsponsler@ci.adelanto.ca.us

CLEANUP AND ABATEMENT ORDER NO. R6V-2010-0054, ACCEPTANCE OF TEMPORARY PERCOLATION/SEEPAGE TRENCHES, ADELANTO PUBLIC UTILITY AUTHORITY WASTEWATER TREATMENT PLANT, ADELANTO, SAN BERNARDINO COUNTY, WDID NO. 6B369805001

This letter is to affirm the Water Board's accepting your request to use temporary percolation/seepage trenches solely as part of Adelanto Public Utility Authority's (Authority) response to the subject Cleanup and Abatement Order.

You asked during your November 2, 2010 (3:00 p.m.) phone conversation with Water Board staff members Scott Ferguson and Eric Taxer, if the Authority could use temporary percolation/seepage trenches with a depth equal to or less than the depth of the existing percolation ponds. This would be one of the measures the Authority would implement to prevent an uncontrolled discharge from/failure of its existing percolation ponds. Water Board staff expressed their willingness to consider the idea and wanted to confer with Water Board management prior to accepting the proposal.

Water Board staff has conferred with management and finds this proposal to be an acceptable measure to be incorporated into the Authority's Spill Contingency Management Plan for use during an unauthorized discharge of secondary-treated, un-disinfected wastewater to an alternative site, if it becomes necessary. This acceptance is based upon Water Board staff's understanding that the trenches will be located on the proposed Pond No. 5 site. If the Authority wants to locate the trenches elsewhere, it will need separate Water Board staff acceptance, as Water Board staff has significant concerns regarding constructing trenches in close proximity to the percolation ponds at other locations.

Water Board staff is informing the Authority that constructing the proposed percolation/seepage trenches comes with risks involving trench structural stability and safety. Water Board staff's acceptance of the percolation/seepage trench proposal does not relieve the Authority of its responsibility to ensure that the percolation/seepage

trenches are constructed, operated, and maintained in a manner compliant with all safety regulations and laws. The Water Board, its officers, Board Members, employees, representatives, agents, or attorneys are not liable for the manner in which the Authority implements its plan, or for any injury or administrative or civil claim(s) arising out of or relating to implementing the Authority's trenching plans.

Finally, the percolation/seepage trench proposal needs to be fully described within the Spill Contingency Management Plan required by Cleanup and Abatement Order No. R6V-2010-0054. The description must be fully compliant with the Cleanup and Abatement Order requirements.

Any actual discharge to land outside of the four percolation ponds subjects the Discharger to administrative civil liability. The Water Board retains all of its enforcement rights.

Please contact Eric Taxer at (530) 542-5434, or Scott Ferguson at (530) 542-5432 if you have any questions regarding this matter.

Lauri Kemper

Lauri Kemper, P.E.
Assistant Executive Officer

cc: D. James Hart, Ph.D., City Manager/City of Adelanto
Wilson So/So & Associates Engineers, Inc.
Mike Perales/United Water
Roger Vesely/United Water
San Bernardino County EPA/Joan Mulcare
Harold J. Singer/Lahontan Regional Water Quality Control Board
Cindi Mitton/Lahontan Regional Water Quality Control Board
John Morales/Lahontan Regional Water Quality Control Board
Eric Taxer/Lahontan Regional Water Quality Control Board
Laura Drabandt/State Water Resources Control Board, Office of Enforcement
Kim Niemeyer/State Water Resources Control Board, Office of Chief Counsel

SCF/clhT: Adelanto WWTP Percolation Ponds – Seepage-Percolation Trench Acceptance Ltr (11-3-2010)
File Under: SLT Office-WDID No. 6B369805001
File Under: VVL Office-WDID No. 6B369805001

City of Adelanto

Engineering Department
c/o So & Associates Engineers Inc.
16209 Kamana Road, P.O. Box 1712
Apple Valley, California, 92307

November 11, 2010

California Regional Water Quality Control Board
Lahontan Region
2501 Lake Tahoe Blvd.
South Lake Tahoe, California 96150

Attn: Ms Lauri Kemper, P.E.
Assistant Executive Director

RE: CLEANUP AND ABATEMENT ORDER NO. R6V-2010-0054, ADELANTO PUBLIC UTILITY AUTHORITY WASTEWATER TREATMENT PLANT AND PERCOLATION PONDS, ADELANTO, S.B. COUNTY, WDID No. 6B369805001

Dear Ms. Kemper:

First, I want to thank your staff at Victorville office for providing me with a copy of Regional Board's communication with Mr. John Sponsler, APUA Director, respectively on November 1st 2010 and November 5, 2010. I finally have an opportunity to sit down with Mr. Sponsler and he requested my assistance, as City Engineer, to conduct a quick review and provide you with my observation from the perspective as a professional engineer who has been engaged in water and wastewater engineering services for nearly 40 years. I shall attempt to provide some additional clarification relative to Order I.A.a and I.A.b on the Orders (page 7).

(1) Under Order I.A.a: It states that The Spill Contingency Management Plan shall include an evaluation of the following criteria for the Discharger's response to a spill or a threatened spill:

i. water conservation – City's utilization of the percolation ponds for treated effluent disposal is to achieve water conservation. The unfortunate experience and event for the City's wastewater treatment plant recently is that we recognize that there is insufficient number of effluent percolation ponds to permit rotating the pond utilization with which the plant operators could routinely allow a few ponds (in service for a period of about 1-year) to dry-up and perform maintenance, such as removing accumulated "pond settlements" and scarifying the bottom. Once maintained, the ponds could be placed back into standby mode. This type of rotation will ensure satisfactory percolation pond operations.

On this objective, City Attorney's office is negotiating with 3-adjacent property owners (parcels immediately to the south and east of the treatment plant. We are proceeding to conduct an environmental review. Once these tasks are completed. City staff will be submitting plans and

[illegible] Expressway • P.O. Box [illegible] • Adelanto, CA 92301 • (760) 246-2300 • FAX (760) 246-3400

securing Lahontan RWQCB's permission to construct the additional percolation ponds. I provide this information to advise you that Mr. Sponsler, as operations manager, is simply attempting to develop an "interim" solution at the existing percolation ponds to improve the effluent percolation and to prevent any potential overflow.

ii. increased wastewater diversions or transfers to other permitted wastewater treatment facilities: I am sure that RWQCB Victorville office staff had advised you that City of Adelanto is diverting the maximum amount of raw-wastewater to the Victor Valley Wastewater Reclamation Authority.

iii. engineered pond modifications: As indicated above, Mr. Sponsler is simply attempting to work with City's contracted maintenance crew to perform dredging and improve the percolation rate at the existing ponds. The modifications are not intended to be permanent and the ponds will be restored back to the original dimensions and slope once the recently bid and approved "special dredging" work is performed.

iv. and alternative on-site and off-site disposal areas and associated potential water quality effects: Mr. Sponsler has proposed to utilize an "on-site" graded area to temporary place the "pond settlements" removed from the bottom of the effluent percolation ponds associated with the special dredging. The removal operation or the placement of pond settlements should not in anyway have potential water quality effects.

(2) Under Order I.A.b: It states that 'To prevent the overflow of wastewater from the ponds, the Spill Contingency Management Plan shall include an evaluation of methods approved by a licensed professional engineer to transport wastewater from the ponds and/or disposal areas without jeopardizing the integrity of the ponds or other treatment facility components:

First of all, it is necessary to clarify that we are talking about removing "pond settlements" from the bottom of existing treated effluent percolation ponds, not raw wastewater. These "pond settlements" consists of fine clayey soils (wind blown) and stabilized activated sludge cells. They will be removed to restore the percolation capacity of the existing effluent ponds. This action will not: (a) jeopardize the integrity of the existing ponds, or (b) impacting other treatment facility components. The site where the moist "pond settlements" will be placed for drying was a parcel setting aside for future energy recovery facility.

November 5, 2010 Letter: In this letter, there were couple inquiries which I hope to provide clarification.

(3) Under Order No. 1.A.a.iii requires the Authority to evaluate engineered pond modifications. Hopefully the brief initial clarification that I provided above will be helpful in understanding that the thirteen (13) temporary trenches (approved by RWQCB on 11-04-2010 for digging into the dirt pile at future Pond No. 5 site) to enhance percolation) are indeed temporary measures to increase the percolation rate. Based on preliminary observations, it appear that these 13 trenches are helping. As soon as the contracted dredging is completed, these trenches may be backfilled (if there are concerns, which City staff does not belief it to be the case).

Relative to your concern that the current effluent was not disinfected, the City and contracted staff are careful to observe safety and sanitation rules for all operations associated with waste-water treatment plant. These trained staff have been dealing with the same effluent during the past 10-years. The reason for not adding disinfectant (such as chlorine or sodium hypochlorite etc,) is to meet our compliance with RWQCB's order to avoid the formation of Tri-halo-methane. The percolation ponds settlement material dredged, being non-practical to disinfect, should not pose any health risk to anyone at the plant.

We also want to point out to RWQCB staff that during this whole emergency operations and close monitoring, no spill ever occurred.

(4) Relative to the comment that "no information is provided regarding the percolation rates within the stockpiled area to temporarily dispose of the pond settlements", it is necessary to point out that City's staff only intend to use this pond as drying area for the "pond settlements". When these settlements are reasonably dry to meet disposal criteria for land-fill, they will be checked and hauled away, together with our existing disposal of dewatered "waste-activated-sludge".

Relative to your concern for slope stability, I inspected this temporary drying bed this morning. The inside slopes and bottom has been compacted to enable the placement of plastic sheets (on the interior slopes). City's contractor will provide additional light compaction on the outside slopes of the earth berm. Since only moist "pond settlements" will be disposed of at this temporary drying bed, we trust that the above clarification will be satisfactory to you.

(5) Relative to your comment on Order Nos. I.A.c and I.A.d which require the APUA to provide foundation design, we trust that you understand that the "temporary drying bed" is just a dredged pond-settlement drying facility; such design, and including permanent percolation ponds, does not require a "foundation design" as no heavy hydraulic structure is proposed. Similarly because of the intended use of the "temporary drying bed", earthquake protection will not necessarily apply here.

This quick response is intended to provide additional clarification and we hope that it will be helpful in future discussions before RWQCB and the City.

Very truly yours,

Wilson F. So, PE
City Engineer

Cc: D. James Hart, PhD City Manager
John Sponsler, APUA Director

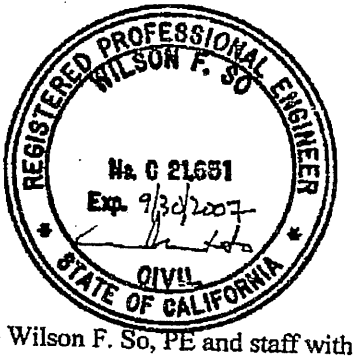
CITY OF ADELANTO
CONSTRUCTION CONTRACT
FOR
THE FURNISH - INSTALL OF
ADVANCED PRIMARY FINE SCREENS AND
ADVANCED SECONDARY BIO-FILTERS

Approval Date : June 13, 2007

CITY COUNCIL:

Jim Nehmens - Mayor
Charlie Glasper- Mayor Protem
Steve Baisden - Councilor
Scott A. McCauley – Councilor
Trinidad Perez - Councilor

Jim Hart, City Manager



Prepared by: City Engineer – Wilson F. So, PE and staff with Review by City Attorney

SECTION PAGE NO.

PART I - BIDDING REQUIREMENTS AND CONTRACT FORMS

NOTICE INVITING BIDS A-1
INSTRUCTIONS TO BIDDERS B-1
PROJECT DESCRIPTION AND WORK PROVIDED BY CITY C-1
BID BOND (not required) D-1
NON-COLLUSION AFFIDAVIT E-1
CONTRACTOR'S LICENSE AFFIDAVIT F-1
INFORMATION REQUIRED OF BIDDER G-1
AGREEMENT (with Exhibits) H-1
PERFORMANCE BOND I-1
PAYMENT BOND J-1
LABOR AND MATERIAL BOND K-1

PART II - GENERAL CONDITIONS

SECTION I - DEFINITIONS AND TERMS AND ABBREVIATIONS

1.01 Owner ..... GC 1-1
1.02 General Manager ..... GC 1-1
1.03 Engineer ..... GC 1-1
1.04 Bidder ..... GC 1-1
1.05 Contractor ..... GC 1-1
1.06 Subcontractor ..... GC 1-1
1.07 Superintendent ..... GC 1-1
1.08 Proposal ..... GC 1-2
1.09 Contract ..... GC 1-2
1.10 Specifications ..... GC 1-2
1.11 Drawings ..... GC 1-2
1.12 Work ..... GC 1-2
1.13 Addenda ..... GC 1-2
1.14 Notice to Proceed ..... GC 1-2
1.15 Field Order ..... GC 1-2
1.16 Change Order ..... GC 1-3
1.17 Substantial Completion ..... GC 1-3
1.18 Abbreviations ..... GC 1-3

SECTION PAGE NO.

SECTION 2 - SPECIFICATIONS, DRAWINGS, AND RELATED DATA

2.01 Intent of Specifications and Drawings ..... GC 2-1
2.02 Specifications and Drawings Complementary ..... GC 2-1
2.03 Discrepancies in Specifications and Drawings ..... GC 2-1
2.04 Conflicts Between Specifications and Drawings ..... GC 2-1
2.05 Shop Drawings ..... GC 2-1
2.06 Reference to Standards or Publications ..... GC 2-2
2.07 References to Proprietary Products ..... GC 2-2
2.08 Specifications and Drawings Furnished to Contractor ..... GC 2-3
2.09 As-Built Drawings ..... GC 2-3

SECTION 3 - ENGINEER-OWNER-CONTRACTOR RELATIONS

3.01 Engineer's (Owner's Representative) Authority ..... GC 3-1
3.02 Contractor's Daily Reports ..... GC 3-1
3.03 Rights-of-Way ..... GC 3-1
3.04 Construction Interferences ..... GC 3-2
3.05 Lines and Grades ..... GC 3-3
3.06 Legal Address of Contractor ..... GC 3-3
3.07 Contractor's Superintendence ..... GC 3-3
3.08 Protests ..... GC 3-4
3.09 Inspection and Testing ..... GC 3-4
3.10 Assignment Forbidden ..... GC 3-5
3.11 Subcontract ..... GC 3-5
3.12 Suspension of Work ..... GC 3-5
3.13 Termination of Contract by Contractor ..... GC 3-5
3.14 Termination of Contract by Owner (Contractor not at Fault) ..... GC 3-6
3.15 Termination of Contract by Owner (Contractor at Fault) ..... GC 3-6

SECTION 4 - MATERIALS AND WORKMANSHIP

4.01 Safeguarding of Equipment, Materials, and Work ..... GC 4-1
4.02 Materials and Equipment ..... GC 4-1
4.03 Responsibility for Material Furnished by Owner ..... GC 4-1
4.04 Contractor's Utilities ..... GC 4-1
4.05 Title to Materials Found on the Work ..... GC 4-2
4.06 Defective Equipment, Materials, or Work ..... GC 4-2
4.07 Rubbish Control ..... GC 4-2
4.08 Dust Control ..... GC 4-2
4.09 Cleaning Up ..... GC 4-3
4.10 Character of Workers ..... GC 4-3

SECTION PAGE NO.

SECTION 5 - PROGRESS, ESTIMATES AND PAYMENT

5.01 Breakdown of Contract Price ..... GC 5-1
5.02 Construction Schedule ..... GC 5-1
5.03 Change Orders ..... GC 5-1
5.04 Field Orders ..... GC 5-1
5.05 Extension of Time ..... GC 5-2
5.06 Compensation for Overtime Work ..... GC 5-2
5.07 Liquidated Damages ..... GC 5-2
5.08 Measurement and Payment ..... GC 5-3
5.09 Progress Estimates and Payments ..... GC 5-3
5.10 Withholding of Payments ..... GC 5-4
5.11 Final Estimate and Payment ..... GC 5-5
5.12 Final Payment Terminates Liability of Owner ..... GC 5-5

SECTION 6 - BONDS, INSURANCE, LEGAL RESPONSIBILITY, AND PUBLIC SAFETY

6.01 Contract Bonds ..... GC 6-1
6.02 Faithful Performance and Labor and Material Bond ..... GC 6-1
6.03 Additional Surety ..... GC 6-1
6.04 Insurance ..... GC 6-1
6.05 Unpaid Claims ..... GC 6-2
6.06 Maintenance and Guarantee ..... GC 6-3
6.07 Liability of Owner and Engineer ..... GC 6-3
6.08 Laws and Regulations ..... GC 6-3
6.09 Permits and Licenses ..... GC 6-4
6.10 Sales Taxes ..... GC 6-4
6.11 Patents and Copyrights ..... GC 6-4
6.12 Labor Discrimination ..... GC 6-4
6.13 Public Safety and Convenience ..... GC 6-4
6.14 Protection and Restoration of Site ..... GC 6-5
6.15 Federal Safety and Health Regulations ..... GC 6-5
6.16 Alternative Dispute or Claims of $375,000 or less ..... GC 6-5

SECTION 7 - STATE OF CALIFORNIA REQUIREMENTS

7.01 Working Hours ..... GC 7-1
7.02 Apprentices on Public Works ..... GC 7-1
7.03 Protection of Workers in Trench Excavation ..... GC 7-1
7.04 Concrete Forms, Falsework, and Shoring ..... GC 7-1

7.05 Contractor not Responsible for Damage Resulting from certain Acts of God ..... GC 7-2
7.06 Notice of Completion..... GC 7-2
7.07 State Wage Determinations..... GC 7-2

PART III - SPECIAL CONDITIONS

SECTION 01000 – GENERAL REQUIREMENTS

01000.01 Location of Work
01000.02 Description of Work
01000.03 Completion of Work
01000.04 Liquidated Damages
01000.05 Working Space
01000.06 Pre-construction Meeting
01000.07 Contractor's Daily Reports
01000.08 Construction Utilities
01000.09 Permits and License
01000.10 As-built Drawings
01000.11 Protection of Existing Utilities
01000.12 Sub-soils Information and Inspection of Site
01000.13 Accident Prevention
01000.14 Construction Staking (Related Work)
01000.15 Site Maintenance
01000.16 Technical Manuals
01000.17 Spare Parts Reference Listing
01000.18 Equipment Testing and Start-up

SECTION 09900 – COATING AND PAINT (WASTEWATER SYSTEMS)

09900.01 General
09900.02 Delivery, Handling, and Storage
09900.03 Protection of Equipment and Adjacent Surfaces
09900.04 Personnel Safety
09900.05 Workmanship
09900.06 Surface Preparation
09900.07 Applications
09900.08 Factory Applied Coating and Touch-up
09900.09 System A – Ungalvanized Ferrous Metal, General
09900.10 System B – Galvanized Ferrous Metal, General
09900.11 System C – Ungalvanized Ferrous Metal, Corrosive Environment
09900.12 System D – Galvanized Ferrous Metal, Corrosive Environment
09900.13 System E – Ferrous Metal, Buried, or Submerged in Wastewater
09900.14 System F – Buried Galvanized and Black Steel Pipe
09900.15 System G – Buried Michellaneous Ferrous Surfaces, Valves, and Flanged Joints

09900.16 System H – Non Ferrous Metal, Plastic, Fiber Glass in Corrosive Environment
09900.17 System I – Polyurethane Coating System for Concrete Surfaces
09900.18 System J – Gypsum Board
09900.19 Final Clean-up

SECTION 11206 – ADVANCED FINE PRIMARY SCREENS

11206.01 General
11206.02 Applicable Codes and Sections
11206.03 Materials and Construction
11206.04 Delivery, Handling, Temporary Storage, and Installation

SECTION 11207 – ADVANCED SECONDARY BIO-FILTRATION EQUIPMENT

11207.01 General
11207.02 Applicable Codes and Sections
11207.03 Component Listing
11207.04 Materials and Construction
11207.05 Delivery, Handling, Temporary Storage, and Installation

SECTION 15100 – MECHANICAL WORK GENERAL REQUIREMENTS

15100.01 General
15100.02 Substitution of Equipment
15100.03 Shop Drawings
15100.04 Operation and Maintenance Instructions
15100.05 Materials and Workmanship
15100.06 Equipment Installation
15100.07 Protective Coatings
15100.08 Tolerances
15100.09 Bearings
15100.10 Couplings
15100.11 Shafting
15100.12 Gaskets and Packings
15100.13 V-Belt Drives
15100.14 Flanges and Pipe Threads
15100.15 Tools
15100.16 Nameplates
15100.17 Supports
15100.18 Bolts

SECTION 16010 – GENERAL ELECTRICAL REQUIREMENTS

16010.01 General
16010.02 Codes and Standards

16010.03 Working Drawings
16010.04 As-Built Drawings
16010.05 Equipment, Materials, and Workmanship
16010.06 Testing
16010.07 Shop Drawings and Catalog Data
16010.08 Area Designations
16010.09 Utility Service Facilities
16010.10 Grounding
16010.11 Conductor and Equipment Identification
16010.12 Finish

SECTION 16150 – ELECTRIC MOTOR

16150.01 General
16150.02 Manufacturer and Supplier
16150.03 Design Characteristics
16150.04 Motor Voltage
16150.05 Thermal Protection
16150.06 Non-Reverse Protection
16150.07 Motors Installed Outdoors
16150.08 Motor Installed Indoors
16150.09 Insulation
16150.10 Space Heaters
16150.11 Bearings
16150.12 Nameplate
16150.13 Miscellaneous
16150.14 Shop Drawings
16150.15 Information To Manufacturers

SECTION 16154 – SOLID STATE REDUCED VOLTAGE AC MOTOR STARTER

16154.01 General
16154.02 Service Conditions
16154.03 Performance Specifications
16154.04 Design Features
16154.05 Operation
16154.06 Control and Monitoring
16154.07 Enclosures
16154.08 Drawings and Data
16154.09 Quality Assurance
16154.10 Warranty and Training

SECTION 16600 – MOTOR CONTROL EQUIPMENT

16600.01 General

16600.02 Main Service Panel
16600.03 480-Volt Motor Control Centers
16600.04 Control Devices
16600.05 Pump Control Panels
16600.06 Installation
16600.07 Preparation and Finish Systems

PART I
BIDDING REQUIREMENTS
AND CONTRACT FORMS

NOTICE INVITING BIDS

RECEIPT OF PROPOSALS: This furnishing and installation contract is a non-standard public works contract to be provided to the Adelanto Public Utilities Authority (APUA) under the direction of the Adelanto City Council, serving as APUA Board. However, some of the general provisions of Notice to contractors/bidders as presented below will govern the approval and signing of the contract.

DESCRIPTION OF WORK: The Contractor shall furnish all labor, material (including equipment fabricated off-site), tools, equipment, apparatus, facilities, transportation, and incidentals necessary to complete the proposed Work. The Project is to construct a 3 MGD (million gallons per day average) wastewater treatment plant expansion consisting of furnishing the following equipment, various components as listed in the technical specifications, and the installation of the Advanced Primary Screens and Secondary Bio-Filter equipment by a qualified and licensed sub-contractor:

- Three (3) Advanced Primary Fine Screens (Clean-Screen Model 1500) with a total peak flow capacity at 6 million gallons per day as specified in Section 11206 of the Special Conditions (technical specifications). These Advanced Primary Screens shall be installed by the equipment supplier onto the concrete pads provided under another contract.
- Twelve units (consisting of primary and secondary filters) of Advanced Secondary Bio-filters as specified in Section 11207 of the Special Conditions, including all of the auxiliary components.
- The installation of the twelve ASBF units (total of 24 tanks) including connection to piping that will be installed by another general contractor under a separate plant expansion contract.

LOCATION OF WORK: All work is located in the existing Adelanto Wastewater Treatment Plant in the City of Adelanto, San Bernardino County.

COMPLETION OF WORK: Work shall be performed in the following stages:

- The fabrication and delivery of equipment, following approval of shop drawings, shall be closely coordinated with the City based on bidding of the structural slab and other components of the treatment plant expansion.
- Installation of the delivered equipment and components - Upon completion of the structural platforms for the installation of equipment and certifying substantial completion of the facilities, City Engineer shall provide the supplier of the above equipment and its sub-contractor a time-frame to complete the equipment installation. It is expected that some units of these equipment shall be ready for installation by April-May of 2008. All work must be completed within 120 calendar days from the date of City's official Notice to Proceed with installation.
- Start-up and final testing phase – A start-up schedule shall be provided by the equipment supplier when installation of the equipment units are substantially completed; this shall include training of City's operations personnel. Final testing certification (before release of last payments) is set for 3 months.

OBTAINING CONTRACT DOCUMENTS: The specifications are entitled "Contract Documents and Specifications for the Furnishing-Installation of Equipment Associated with the Adelanto Wastewater Treatment Plant Expansion." Specifications and general equipment layout plans are on file and may be viewed at the office of the Owner located at 11600 Air Base Road, Adelanto, California. Since this Phase of the Project involves a proprietary equipment, no additional contract documents will be issued to other contractors.

PROPOSAL GUARANTEE: Since this is a special contract award procedure, no proposal guarantee is required. However, performance/labor and material bonds, and standard 1-year maintenance guarantee will be required for the execution of the installation contract. The Proposal submitted by the "Equipment Supplier" shall remain in effect for a period not less than 30 calendar days following the date of the scheduled June 13, 2007 Council meeting in the event the equipment supplier failed to provide all of the requested information.

CONTRACTOR CLASSIFICATION: Sub-contractor responsible to the Equipment Supplier for the installation of equipment will be required to be licensed by the State of California as Classification A - General Engineering Contractor at the time of submitting the formal bid, as such license is defined in Section 7056 and/or Section 7058 of the Business and Professions Code and Section 732 of the California Administrative Code.

WAGE RATES: Pursuant to Sections 1770 and 1773 of the California Labor Code, the successful bidder shall pay not less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations. Copies of such prevailing rate of per diem wages can be obtained from the California Department of Industrial Relations, Division of Labor Statistics & Research or can be obtained through INTERNET at www.dir.ca.gov. The successful bidder shall post a copy of such determination at each job site.

WITHHELD CONTRACT FUNDS: Contract funds will be disbursed and paid in accordance with the payment schedule included under the Agreement Subsection.

WAITING PERIOD BEFORE AWARD: No waiting period is required except for the 30 calendar days stipulated under Proposal Guarantee clarified above.

LIQUIDATED DAMAGES: The Contractor shall, as provided in Section 5.07 of the General Conditions, pay to the Owner as fixed, agreed, and liquidated damages for each calendar day's delay in substantial completion and final completion of the work beyond the time agreed upon (once the City Engineer certifies the beginning of the open-period to install the equipment), the amount of $500 per calendar day.

PROJECT ADMINISTRATION: All questions relative to this project shall be directed to the Engineer for the project:

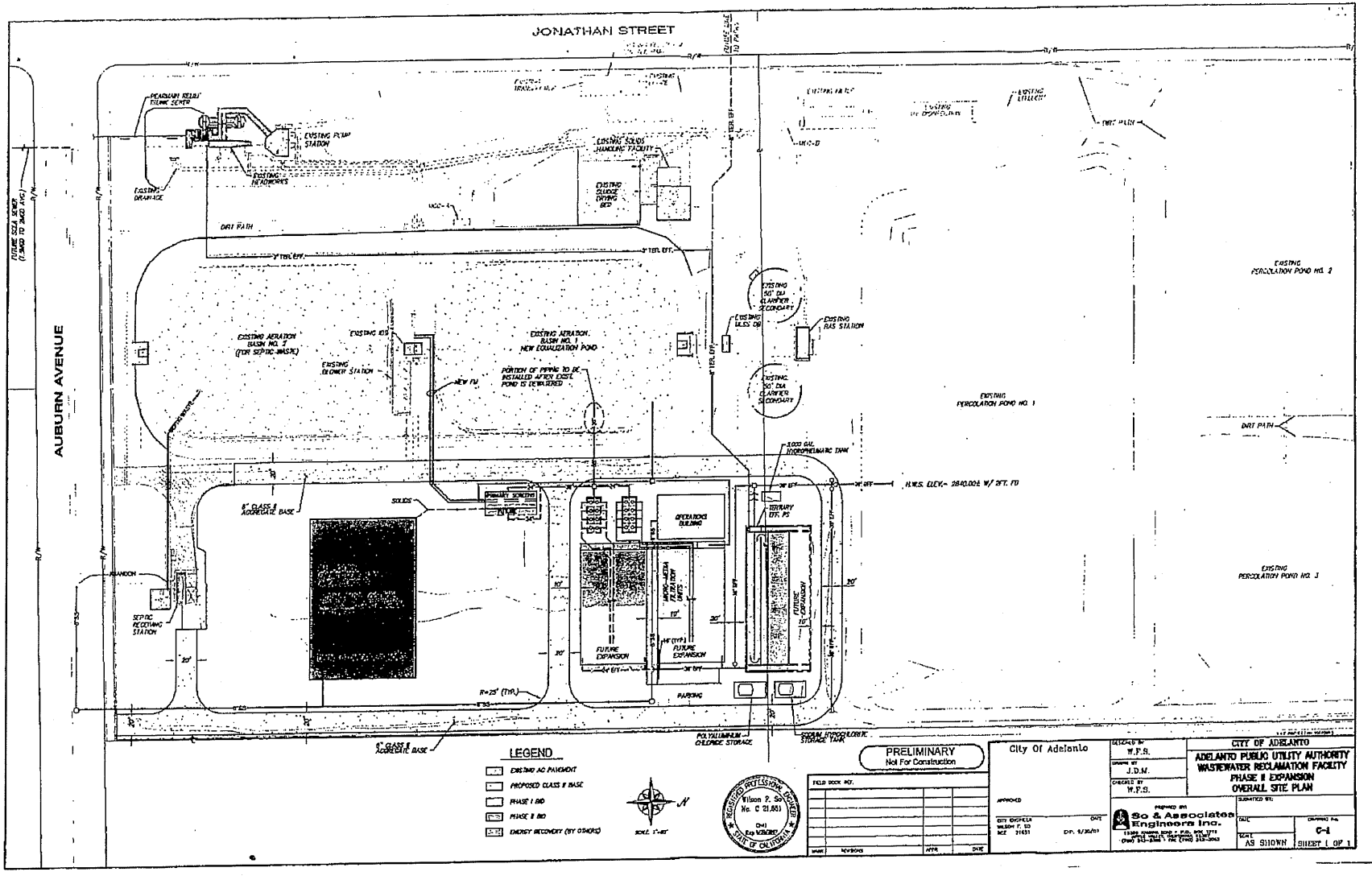
City of Adelanto
11600 Air Expressway
Adelanto, CA 92301

Attention: Wilson F. So, P.E., City Engineer Telephone (760) 246-2300 Ext. 3036
(760) 242-2365 Ext. 11
(760) 242-3083

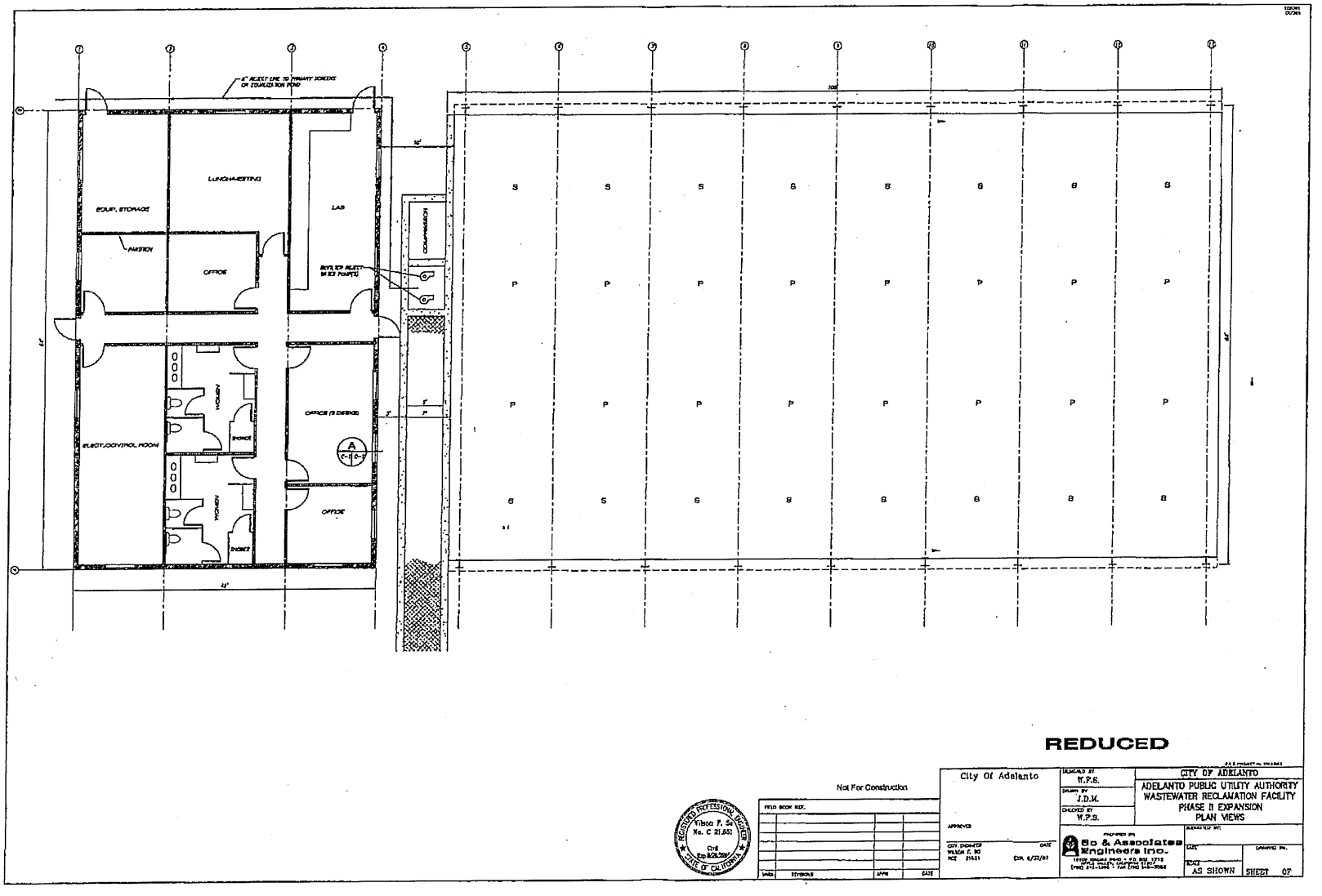
OWNER'S RIGHTS RESERVED: The Owner reserves the right to award this special contract, to waive any informality in a bid, and to make awards in the interest of the Owner.

Date:_____ Owner: City of Adelanto

By: _____
Jim Nehmens, Mayor
City of Adelanto


JONATHAN STREET
AUBURN AVENUE
EXISTING PUMP STATION
EXISTING HEADWORKS
EXISTING DRAINAGE
EXISTING SOLIDS HANDLING FACILITY
EXISTING SLUDGE DRYING BED
DIRT PATH
EXISTING AERATION BASIN NO. 2 (FOR SEPTIC WASTE)
EXISTING AERATION BASIN NO. 1 NEW EQUALIZATION POND
EXISTING BLOWER STATION
PORTION OF PIPING TO BE INSTALLED AFTER EXIST. POND IS DEWATERED
EXISTING 50' DIA CLARIFIER SECONDARY
EXISTING RAS STATION
EXISTING PERCOLATION POND NO. 2
EXISTING PERCOLATION POND NO. 1
EXISTING PERCOLATION POND NO. 3
5000 GAL HYDROPNEUMATIC TANK
H.W.S. ELEV.= 2840.00± W/ 2FT. FB
OPERATIONS BUILDING
HEADWORKS
SOLIDS
6" CLASS II AGGREGATE BASE
ABANDON
SEPTIC RECEIVING STATION
FUTURE EXPANSION
PARKING
R=25' (TYP.)
POLYALUMINUM CHLORIDE STORAGE
SODIUM HYPOCHLORITE STORAGE TANK
LEGEND
EXISTING AC PAVEMENT
PROPOSED CLASS II BASE
PHASE I IMP
PHASE II IMP
ENERGY RECOVERY (BY OTHERS)
SCALE: 1"=40'
PRELIMINARY
Not For Construction
City Of Adelanto
DESIGNED BY W.F.S.
DRAWN BY J.D.M.
CHECKED BY W.F.S.
CITY OF ADELANTO
ADELANTO PUBLIC UTILITY AUTHORITY
WASTEWATER RECLAMATION FACILITY
PHASE II EXPANSION
OVERALL SITE PLAN
So & Associates Engineers Inc.
SCALE AS SHOWN
SHEET 1 OF 1
C-1

000306



REDUCED

Not For Construction

City Of Adelanto

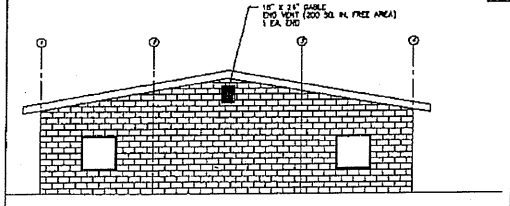
DESIGNED BY	W.P.S.
DRAWN BY	J.D.M.
CHECKED BY	W.P.S.

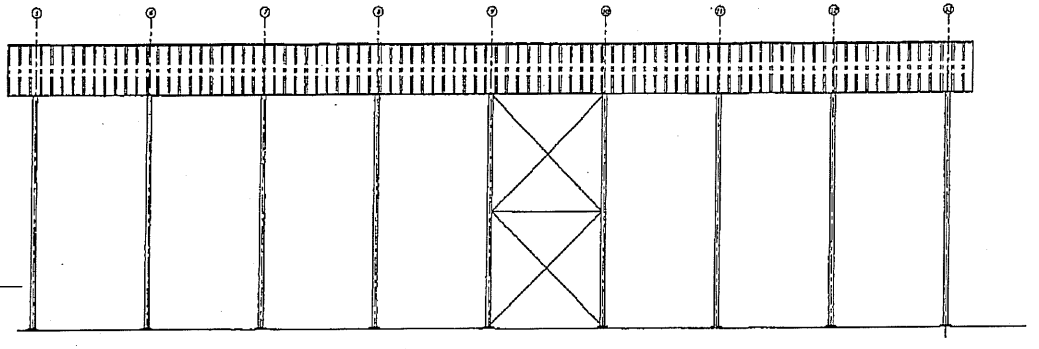
CITY OF ADELANTO
ADELANTO PUBLIC UTILITY AUTHORITY
WASTEWATER RECLAMATION FACILITY
PHASE II EXPANSION
PLAN VIEWS

Sc & Associates Engineers Inc.

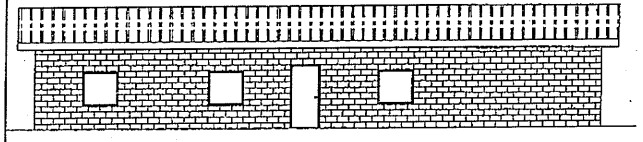
SCALE: AS SHOWN
SHEET OF

000307

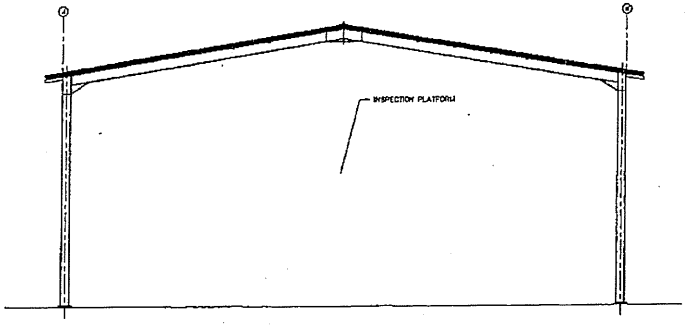




ELEVATION VIEW OF TREATMENT PLANT AND OFFICE
SCALE: 1/8" = 1'-0"



REAR VIEW OF OFFICE
SCALE: 3/16" = 1'-0"



SECTION VIEW OF TREATMENT PLANT
SCALE: 3/16" = 1'-0"

REDUCED

Not For Construction

City Of Adelanto

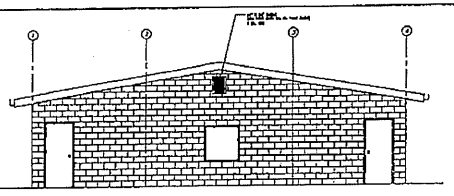
DESIGNED BY	W.F.S.
DRAWN BY	J.D.M.
CHECKED BY	W.F.S.

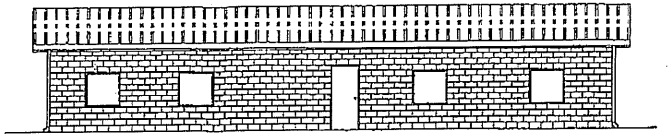
CITY OF ADELANTO
ADELANTO PUBLIC UTILITY AUTHORITY
WASTEWATER RECLAMATION FACILITY
PHASE II EXPANSION
ELEVATIONS & SECTIONS

PREPARED BY: So & Associates Engineers Inc.

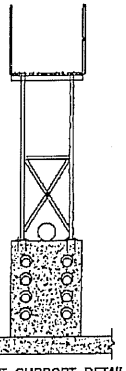
SCALE: AS SHOWN | SHEET OF

000308

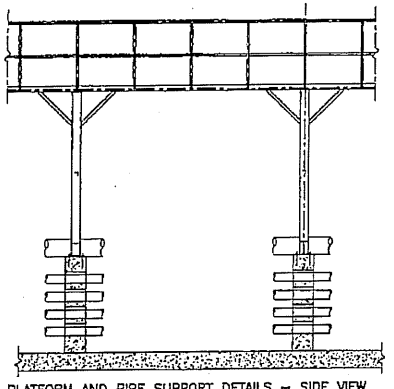




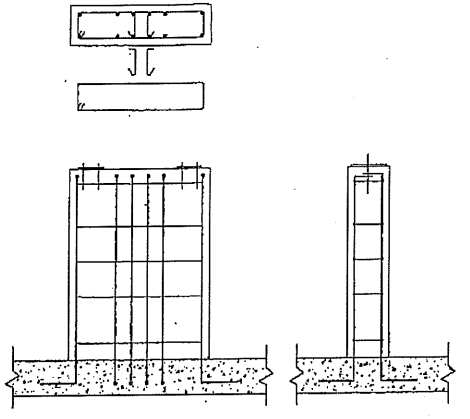
FRONT VIEW OF OFFICE
SCALE 3/16" = 1'-0"



PLATFORM AND PIPE SUPPORT DETAILS – SECTION
SCALE 3/4" = 1'-0"



PLATFORM AND PIPE SUPPORT DETAILS – SIDE VIEW
SCALE 3/4" = 1'-0"



PIPE SUPPORT REINFORCEMENT DETAILS
SCALE 3/4" = 1'-0"

REDUCED

Not For Construction

City Of Adelanto

FIELD BOOK REF.			
NAME	REVISIONS	APPR.	DATE

APPROVED

CITY ENGINEER — DATE
MILTON F. SO
RCE 21851 — EXP. 6/30/07

DESIGNED BY: W.F.S.
DRAWN BY: J.D.M.
CHECKED BY: W.F.S.

CITY OF ADELANTO
ADELANTO PUBLIC UTILITY AUTHORITY
WASTEWATER RECLAMATION FACILITY
PHASE II EXPANSION
ELEVATIONS & DETAILS

PREPARED BY:
Bo & Associates Engineers Inc.

SUBMITTED BY: — DATE

DRAWING NO.

SCALE: AS SHOWN — SHEET 07

000309

INSTRUCTIONS TO BIDDERS

A copy of this Instructions to Bidders is provided in this Furnish-Install Construction Contract to provide the Equipment Supplier (Micromedia Filtration) and its installation sub-contractor a clarification regarding the requirements to complete the Agreement under this contract. All applicable sub-sections shall govern.

FORM OF PROPOSAL: The proposal shall be made on the Bidding Schedule(s) bound herein and the pages shall not be removed from the bound volume. The complete volume shall be enclosed in a sealed envelope bearing the name of the Bidder and name of the project. In the event there is more than one Bidding Schedule, the Bidder may bid on any individual schedule or on any combination of Bidding Schedules. All bids must be made in accordance with these Instructions to Bidders. The Notice Inviting Bids and these Instructions to Bidders do not commit the Owner to enter into a contract, nor does it obligate the Owner to pay any costs incurred in preparation and submission of bids or in anticipation of a contract.

The quantities shown on the Plans and given in the Notice Inviting Bids, and Proposal form (Bid Schedule) are approximate only, being given as a basis for comparison of bids, and the Owner does not, expressly or by implication, agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work, or to omit portions of the work, as may be deemed necessary.

ADDENDA: The Owner reserves the right to revise the Contract documents prior to the bid opening date. Revisions, if any, shall be made by written Addenda. The Owner may determine, in its sole discretion, whether an Addendum requires that the date set for opening of bids be postponed. The announcement of the new date, if any, shall be made by Addenda. Each prospective Bidder shall provide Owner a name, address, and facsimile number to which Addenda may be sent, as well as a telephone number by which the Owner (or its designated Project Administrator or Engineer) can contact the Bidder. Copies of Addenda will be furnished without charge to all parties who have obtained a copy of the Contract documents and provided such current information. The Owner shall not be bound by, and Bidder shall not rely upon, any oral interpretation or clarification of the Contract document. Bidders are primarily and ultimately responsible for ensuring that they have received any and all Addenda. Bidders must acknowledge receipt of all Addenda, if any, in the space provided in the Addenda. Failure to acknowledge receipt of all Addenda may cause its bid to be deemed incomplete and non-responsive.

SIGNING OF PROPOSALS: All bids submitted shall be executed by the Bidder or its authorized representative. Bidders shall provide evidence in the form of an authenticated resolution of its Board of Directors or a Power of Attorney evidencing the capacity of the person signing the bid to bind the Bidder to each bid and to any contract arising therefrom.

If a Bidder is a joint venture or partnership, it shall submit an authenticated Power of Attorney executed by each joint venturer or partner appointing and designating one of the joint venturers or partners as a management sponsor to execute the bid. The Power of Attorney shall also: (1) authorize that particular joint venturer or partner to act for and bind Bidder in all matters relating to the bid, and (2) provide that each venturer or partner shall be jointly and severally liable for any and all of the duties and obligations of Bidder assumed under the bid and under any contract arising therefrom. The bid shall be executed by the designated joint venturer or partner on behalf of the joint venture or partnership in its legal name.

DELIVERY OF PROPOSAL: The proposal shall be delivered by the time and to the place stipulated in the Notice Inviting Bids. It is the Bidder's sole responsibility to see that his proposal is received in proper time. Any proposal received after the scheduled closing time for receipt of proposals will be returned to the Bidder unopened.

WITHDRAWAL OF PROPOSAL: The proposal may be withdrawn by the Bidder by means of a written request, signed by the Bidder or his properly authorized representative. Such written request must be delivered to the place stipulated in the Notice Inviting Bids for receipt of proposals prior to the scheduled closing time for receipt of proposals.

OPENING OF PROPOSALS: The proposals will be publicly opened and read at the time and place stipulated in the Notice Inviting Bids.

the award. All other proposal guarantees will be held until the Contract has been finally executed. They will then be returned to the respective Bidders whose proposals they accompany.

AWARD OF CONTRACT: Award of a contract, if awarded, will be based primarily on the lowest overall cost to the Owner, and will be made to the lowest responsive responsible Bidder whose proposal complies with all requirements prescribed. Unless otherwise indicated, a single award will be made for all the bid items in an individual Bidding Schedule. The Owner reserves the right to reject any and all bids, to waive any irregularity, or to award the Contract to other than the lowest monetary Bidder. Notice of award shall be made to a successful Bidder in writing and mailed to the address as set forth on the signature page of the bid documents.

FAITHFUL PERFORMANCE & LABOR AND MATERIALS BONDS: At the time of his delivery of the executed Contract, the Contractor shall furnish two surety bonds in duplicate as security for faithful performance of the Contract in the amount of one hundred percent (100%) of the Contractor's bid, and one as security for the payment of all persons performing labor and furnishing materials in connection with the Contract in the amount of one hundred percent (100%) of the Contractor's bid.

SECURITY OBLIGATION FOR SUBCONTRACTORS: Pursuant to Public Contract Code Section 4108, Contractor shall require all subcontractors providing labor and materials in excess of one hundred thousand dollars ($100,000) to supply Payment & Labor and Materials Bonds in the amounts and manner required of the Contractor. The Contractor shall specify this requirement for subcontractor bonds in his written or published request for subcontractor bids. If the cost of the bonds is to be borne by the subcontractor, that fact shall also be stated in Contractor's written or published request for subcontractor bids.

EXECUTION OF CONTRACT: The Bidder to whom award is made shall execute a written contract with the Owner on the form of Agreement provided, shall secure all insurance, and shall furnish all certificates and bonds required by the Specifications within fourteen (14) calendar days after receipt of the Contract from the Owner. Failure or refusal to enter into a contract as herein provided or to conform to any of the stipulated requirements in connection therewith shall be just cause for annulment of the award and the forfeiture of the proposal guarantee.

If the successful Bidder refuses or fails to execute the Contract, the Owner may award the Contract to the second lowest responsible Bidder. If the second lowest responsible Bidder refuses or fails to execute the Contract, the Owner may award the Contract to the third lowest responsible Bidder. On the failure or refusal of such second or third lowest Bidder to execute the Contract, such Bidder's guarantees shall be likewise forfeited to the Owner.

FILING OF BID PROTESTS: Bidders may file a "protest' of a contract awarded by the Owner. In order for a Bidder's protest to be considered valid, the protest must:

- Be filed timely and in writing.
- Clearly identify the specific accusation involved.
- Clearly identify the specific Owner, Staff, or Board decision being protested.
- Specify, in detail, the grounds of the protest and the facts supporting the protest.
- Include all relevant, supporting documentation with the protest at time of filing.

If the protest does not comply with each and every one of the above requirements, it will be rejected as invalid. A protest regarding the recommended award of a contract solicited by the Notice Inviting Bids must be filed in writing with the Owner within five (5) calendar days after the bid opening date.

If the protest is valid, Owner, or its designee, shall review the basis of the protest and all relevant information. The Owner's City Manager will deny or concur with the protest and provide a written decision to the protestor. The protestor may then appeal the decision to the Council of the City of Adelanto.

PROJECT DESCRIPTION AND WORK PROVIDED BY CITY

Background: The existing Adelanto wastewater treatment plant was designed and constructed in about 1997 utilizing the Parkson Biolac treatment system (an extended aeration activated sludge process). The initial plant was designed for 1.5 mgd (million gallons per day) capacity with two oxidation ponds and two undersized secondary clarifiers. The plant includes the headworks screen equipment and influent pump station. To prepare for anticipated growth, plant expansion design was authorized by City council in about 2004 duplicating two additional Biolac oxidation ponds, two larger diameter secondary clarifiers, gravity sand filters, and ultra violet disinfection contact basin. The construction bidding occurred in about August of 2004. However, the City Council was not able to award a contract because environmental review in accordance with CEQA (California Environmental Quality Act) was not conducted. Subsequently, current City engineer recommended the installation of rented "flow equalization tanks" to reduce peak organic loading at the oxidation ponds and peak hydraulic loading for the secondary clarifiers. Over the course of trying to complete the CEQA review process and keeping the treatment plant in operating, City staff further discovered that the existing gravity filters were not operational. Therefore, the current treatment plant was not capable of producing an effluent meeting the California Title 22 regulations for beneficial reuse, such as landscaping irrigation.

In August of 2006, several City Council members, City Manager, City Engineer and APUA Director were able to visit a pilot treatment facility operated by Micromedia Filtration Inc. Following a series of reviews of the proprietary treatment process, the City Council authorized the City Engineer to proceed with the detailed design of the wastewater plant expansion. The following provides a description of the various treatment units required for the proposed Pant Expansion. The existing plant is currently rated at 1.5 mgd as stated before; the new Micromedia plant will be rated for 3.0 mgd. After successful start-up of the Micromedia plant, one of the existing Biolac oxidation ponds will be converted to a flow equalization facility for Micromedia plant. The other Biolac oxidation pond will be reserved for treating septic waste, including some domestic wastewater. Therefore, the plant expansion permit will increase the plant capacity from current 1.5 mgd to 4.0 mgd. In sizing the interconnecting process piping, pipe hydraulic capacity will be analyzed to permit the future expansion of the Micromedia plant to a total of 7.0 mgd.

Headworks Area: The headworks area improvements will be part of the Plant expansion, but will be bid under a separate phase to enable the City to expedite the construction of Micromedia equipment. The existing headworks bar screen and flow measuring Parshall flume was designed for the initial plant capacity of 1.5 mgd at peak flow. A new mechanical screen and grit removal chambers will be added with a new flow metering channel to connect to the influent pump station. Operation of each of the treatment units are as follows:

- Mechanical bar screen – The screen is installed to protect pumps, valves, pipelines, and other unit process equipment from damage or clogging by rags and large objects found in sewer system and wastewater.
- Grit Chambers – are designed to remove grit, consisting of sand, gravel, cinders, or other heavy solid materials with density substantially greater than those of putrescible organic solids.
- Parshall flume – is a flow measurement device usually constructed of fiberglass and installed in open concrete channels.

- Influent pump station – The existing grinder pumps may be replaced in the future with regular non-clog mixed flow pumps (higher efficiency) to lift the wastewater to the Primary Screens. The existing influent pumps will not be replaced under the current expansion.

Advance Primary Screens: The Advance Primary Screens are furnished by Micromedia Filtration and these equipment have been used in Europe. The Advanced Primary Screens take the place of conventional primary sedimentation tanks/clarifiers (where settleable organic solids are removed to reduce the organic loading to conventional secondary biological treatment process). The screened primary sludge has between 25% to 30% solids and can therefore be conveyed to an energy recovery facility or disposal after composting. The existing wastewater treatment plant does not have a primary sedimentation unit in operation. The Advanced Primary Screens will be housed in an open structure with roof top over the screens.

Primary Effluent Pump Station: The primary effluent pump station for this plant expansion consists of a total of 12 pumps; each pump capable of delivery about 250,000 – 275,000 gallons per day of primary effluent to the Micromedia biological filter unit (consisting of two vertical up-flow filters). Each pumping unit is equipped with a variable frequency drive to permit some adjustment of wastewater (primary effluent) feed rate to the biological filters. Each pump discharge is connected via a separate 4-inch or 6-inch piping to the respective biological filter unit. A thirteenth pumping unit complete with electric motor will be furnished as a spare unit.

Each filter will have flow inlet and outlet control valves to regulate the filter operations and backwash. Each filter operation will be controlled from the PLC (programmable logic controller) furnished by Micromedia Filtration.

Micromedia Biological Filter Units: The Micromedia biological filter units operates in an anoxic environment where a group of bacteria can utilize the dissolved organics (measured as B.O.D., or biochemical oxygen demand; organic nitrogen, and ammonia) and convert the ammonia or nitrite to inorganic nitrogen gas for release to the atmosphere. This process construction will consist of a structure with a roof top to provide some protection of sunlight/rain over the twelve biological filter units (each consists of two 8-ft diameter up-flow filters). The fully enclosed portion of the structure will house office spaces, break-room, electrical control room, and a laboratory to enable plant operations personnel to conduct basic testing required for operating a wastewater treatment plant.

The Micromedia biological filter units also includes a storage tank for poly-aluminum chloride which is used as a coagulant. Backwash flow from the Micromdia biological filter units will be collected in a concrete sump next to the housing building and will be conveyed to the existing Biolac oxidation pond or back to the headworks.

Chlorine Contact Basins: Effluent from the Micromedia biological filters will be conveyed via the effluent pipeline to the existing and future percolation pond(s) for ground-water recharge. To meet the California Title 22 regulations for reuse, effluent will be routed to the Chlorine Contact Basins where hypochlorite solution will be added before the effluent is delivered by pumping for potential beneficial reuse such as park and lawn irrigation.

Effluent Metering Station: For the piping to distribute treated wastewater effluent to the percolation ponds, a magnetic meter will be installed (inside a concrete meter vault) to monitor the total out-flow. A separate small effluent pump station would initially be considered on the downstream side of the chlorine contact basins (a portion of the effluent channel) to enable the City of Adelanto to deliver effluent for in-plant use (facility cleaning and landscape irrigation). This flow will be monitored via a propeller meter.

Biosolids Disposal and Gasification Facility: To assist the City to dispose of the organic solids collected at the Advance Primary Screens, a gasification facility will be planned and constructed by an outside firm at no cost to the City of Adelanto. This facility will be capable of converting the bio-sludge and other organic waste into methane gas and the gas in turn could be utilized to generate electricity. Permitting of this facility and any required CEQA review will be separately prepared by the outside firm. Prior to construction of the permanent gasification facility, a portable unit could be made available to the City. Additionally, the bio-sludge could be composted before disposal under the existing disposal arrangement.

Septic Waste Receiving Station Modification: Under a separate phase of construction bidding for the Headworks Area, a new sewer pipeline directly connecting the septage receiving station to one of the existing Biolac oxidation pond will be designed, either by gravity or using a small non-clog grinder pumping system. This will permit the City to resume a prior contract with San Bernardino County Solid Waste Department to accept septic waste from homes within the Victor Valley area. One of the existing Biolac oxidation pond treatment system will be reserved entirely for handling septic waste.

WORK PROVIDED BY THE CITY

City of Adelanto will provide the design and construction of the following facilities and components of the plant expansion under the supervision of the City Engineer's team. This work will be bid separately under Phase A of the Project Construction. Supplier and installer for the Advanced Primary Fine Screens and Advanced Secondary Bio-Filtration (ASBF as furnished by Micromedia Filtraton, or equal) Units shall coordinate closely with the City Engineer relative to the final construction plans and construction schedule of the facilities below:

(1) Piping to re-route the raw wastewater from the influent pump station to the Advanced Primary Fine Screens.

(2) A new concrete pad open-structure (with roof) to house the three (3) Advanced Primary Fine Screens. The structure will be designed for a total of up to eight (8) screens. The design will include piping to convey the primary effluent to the primary effluent pump station.

(3) Detailed design and construction of the first of two Primary Effluent Pump Stations to house a total of eight pumps per Station. Initially, only six (6) pumps will be installed for the 3 mgd plant expansion. Design will cover structure, mechanical piping and valves, electrical power supply (from the Operations Building) and variable frequency drives.

Controls will be interfaced with the PLC (programmable logic controller) to be furnished by the "equipment supplier" for the twelve units of ASBF filters.

(4) Design of the modular structural slab to house the Twelve (12) ASBF units (two 8-ft diameter filters per unit), including modular design of the roof structure, and all distribution feed piping, shut-off valves, pipe support, effluent piping, filter back-wash (recycle) collector piping, electrical power distribution to provide power supply to the filter components (such as chemical feed pumps, air compressors etc.). Adequate lighting will be included in the design. ASBF equipment supplier shall coordinate with City Engineer relative to the electrical power and control conduits layout.

(5) Operations Building to include an electrical control room, equipment storage, offices, lunch room, rest-rooms, and a testing laboratory. Heating and air conditioning will be included in the detailed design.

(6) Design of chlorine contact basin(s) – The layout will be for a total of three tanks; actual number to be built initially will be depending on the final plant expansion capacity. ASBF equipment supplier shall coordinate with City Engineer relative to the chlorine (sodium hypo-chlorite solution) supplier line to the individual chemical feed pumps (refer to Section 11207 of the Technical Specifications).

(7) A small initial Title 22 Effluent pumping station with flow for in-plant use and in-plant landscaping irrigation. Pump control to be operated with a small 5,000 gallon hydro-pnuematic tank.

(8) n includes all in-plant piping, chemical storage, and access road grading. All access roads will temporarily be constructed of compacted Class 2 road base material. It will be paved after the energy recovery plant is planned and constructed.

BID BOND **(NOT REQUIRED)**

KNOW ALL MEN BY THESE PRESENTS,

That_____as Principal, and

_____ as Surety, are

held and firmly bound unto _____

hereinafter called "Owner," in the sum of: _____

_____ Dollars (not less than 10 percent of the total amount of the bid) for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Principal has submitted a bid to said Owner to perform all work required under the bidding schedule(s) of the owner's specifications entitled "Contract Documents and Specifications for the Furnishing and Installation of Advanced Primary Screens and Advanced Secondary Biological Filters."

NOW THEREFORE, if said Principal is awarded a contract by said Owner and, within the time and in the manner required under the heading "Instructions to Bidders" bound with said specifications, enters into a written contract on the form of agreement bound with said specifications and furnishes the required bonds, one to guarantee faithful performance and the other to guarantee payment for labor and materials, then this obligation shall be null and void, otherwise it shall remain in full force and effect. In the event suit is brought upon this bond by said Owner and judgement is recovered, said Surety shall pay all costs incurred by said Owner in such suit, including a reasonable attorney's fee to be fixed by the court.

SIGNED AND SEALED, this _____day of_____, 20____.

_____ (Seal) _____ (Seal)
(Principal) (Surety)

By_____
(Signature) (Signature)

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)

NONCOLLUSION AFFIDAVIT
(TO BE EXECUTED BY BIDDER, EQUIPMENT SUPPLIER)

KNOW ALL MEN BY THESE PRESENTS,

That _____, being first duly sworn, deposes and says that

he or she is _____, of _____
(Title) (Bidder's Name)

the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

SIGNED AND SEALED, this _____ day of _____, 20 _____.

By:
(Signature)

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF BIDDER)

CONTRACTOR'S LICENSE AFFIDAVIT

(Business and Professions Code Section 7028.15)

The undersigned declares that he or she is_____of
(party making foregoing bid)
_____.
(hereinafter the "Bidder)

1. Bidder's Contractor's License Number and Classification is as follows:

_____ Classification_____.

2. The expiration date of Bidder's Contractor's License is

_____, 20_____.

3. Bidder acknowledges Section 7028.15(e) of the Business and Professions Code.

The undersigned declares, under penalty of perjury, that the representations made by the undersigned in this bid proposal are true and correct.

Executed on _____, 20_____, at

_____
(insert city and state where Declaration signed).

_____
Signature

_____
Printed Name

_____
Title

_____
Name of Bidder

_____
Address

_____

(NOTE: If bidder is a corporation, proposal must be signed by an authorized officer of the corporation and corporate seal affixed. Proposal must be accompanied by a document evidencing such officer is authorized to sign).

INFORMATION REQUIRED OF BIDDER

The bidder shall furnish the following information. Failure to comply with this requirement will render the Proposal informal and may cause its rejection. Additional sheets shall be attached as required.

(1) Contractor's name and address:

_____

_____

_____

_____

(2) Contractor's telephone number: _____

(3) Number of years as a contractor in construction work of this type: _____

(4) Names and title of all officers of contractor's firm:

_____

_____

_____

_____

_____

(5) Name of person who inspected site of proposed work for your firm:

Name: _____Date of Inspection:

(6) Name, address, and telephone number of surety company and agent who will provide the required bonds on this contract: _____

_____

_____

LIST OF SUBCONTRACTORS

In accordance with the requirements of the Subletting and Subcontracting Fair Practices Act set forth in the Public Contract Code Section 4100 et seq., the bidder shall list below the name and the location of the place of business of each subcontractor who will perform work under this contract in excess of one-half of one percent of the total bid price and shall also list the portion of the work which will be done by such subcontractor. After the opening of proposals, no changes or substitutions will be allowed without the written approval of the Owner. If the bidder fails to specify a subcontractor, or if the bidder specifies more than one subcontractor for the same portion of the work, then the bidder agrees that he or she is fully qualified to perform that portion himself or herself and the bidder will be required to perform that portion himself/herself.

	Work to be Performed	Subcontractor's Name and Address
1.	_____	_____
	_____	_____
2.	_____	_____
	_____	_____
3.	_____	_____
	_____	_____
4.	_____	_____
	_____	_____

INFORMATION REQUIRED OF BIDDER

Name comparable projects and dates completed by bidder within the past five years, including names, addresses, and telephone numbers of persons in charge of the projects and of public agency or firm for which the project was constructed.

_____

_____

_____

_____

_____

_____

LISTING OF MANUFACTURERS

The bidder shall complete the list of manufacturers of materials set forth in spaces below he intends to furnish and install as part of this project. It shall be understood that where the Bidder elects to not use the material manufacturers called for in the Specifications, he will substitute only items of equal quality, durability, functional character and efficiency as determined by the Engineer. The Bidder should ascertain, prior to bidding, the acceptability of substitutes. Only one manufacturer shall be listed for each item. **Furnish Additional Sheet if required.**

ITEM OR MATERIAL		MANUFACTURER

AGREEMENT BETWEEN MICROMEDIA FILTRATION, INC. AND THE ADELANTO PUBLIC UTILITY AUTHORITY, TO FURNISH AND INSTALL A TITLE 22 COMPATIBLE WASTEWATER TREATMENT AND FILTRATION TREATMENT SYSTEM

THIS AGREEMENT is made and entered into as of June ___, 2007, by and between the Adelanto Public Utility Authority, a public agency, ("OWNER") and Micromedia Filtration, Inc., a Nevada corporation authorized to conduct business under the laws of the State of California, with its principal office in Rancho Santa Margarita, California ("CONTRACTOR") (the parties hereto may hereinafter be referred to individually as "Party," or together as the "Parties"), based on the following facts and understandings, which are incorporated in and made a part of this Agreement:

A. OWNER currently is required to achieve State of California, Title 22 standards for reclaimed water pursuant to the California Water Code ("Title 22 standards") and pursuant to orders from the Lahontan Regional Water Quality Control Board ("RWQCB" or "Lahontan RWQCB"). Due to rapid recent growth in the City of Adelanto, OWNER urgently requires expansion of its wastewater treatment plant ("WWTP"), which will accommodate OWNER's current and proposed wastewater requirements, achieve all Title 22 standards, be approved and licensed by the California Department of Health Services and, if necessary, the RWQCB, and comply with OWNER's waste discharge permit requirements (the "WWTP Expansion Project").

B. CONTRACTOR represents that its CleanStream© media filtration system, more fully described in Section 11207 of the Special Conditions hereto and incorporated herein in full (the "MM Filtration System" or "MM Filtration System Project") to be used in the WWTP Expansion Project (average plant flow not to exceed 3 MGD) and in conjunction with OWNER's current wastewater treatment system (conversion of one Biolac oxidation pond for use as flow equalization facility), will effectively produce effluent water quality consistent with OWNER's requirements and the terms of this Agreement, that will consistently achieve Title 22 standards and satisfy OWNER's needs, described in Part I-C of the Contract Documents hereto.

C. CONTRACTOR further represents that its principal members have substantial experience in process design, inspection, and operation of the proposed treatment facility, except for construction of public projects, and represents that its principal members are duly licensed or certified and possess the professional qualifications, experience and expertise to provide the equipment and services required by this Agreement.

D. In entering into this Agreement, the OWNER relies on the qualifications, licensing, experience and expertise of CONTRACTOR, and the representations made by CONTRACTOR with respect to the MM Filtration System Project, as set forth in this Agreement and as required in Sections 11206 and 11207 of the Special Conditions.

E. CONTRACTOR represents that the design and details of construction of the components of the MM Filtration System are proprietary and subject to patents or trade secrets exclusively owned by CONTRACTOR. In reliance on this representation, and OWNER's independent determination that the goods and services provided by CONTRACTOR hereunder

are unique and not available in the competitive market, OWNER intends to enter into this Agreement with CONTRACTOR, without competitive bid.

F. In entering into this Agreement, CONTRACTOR represents that it has reviewed the entire contract document (including the technical specifications) which describe the OWNER's WWTP Expansion Project, and the details of OWNER's responsibilities pursuant to and as are further described in this Agreement.

G. The purpose of this Agreement is to establish the terms and conditions under which the CONTRACTOR will design, develop, fabricate, assemble, deliver and install for OWNER the facilities, equipment and services described herein, which are necessary components in the OWNER's WWTP Expansion Project.

NOW, THEREFORE, in consideration of performance by the Parties hereto of the promises, covenants, and conditions herein contained, the Parties hereby agree as follows:

SECTION 1. CONTRACTOR'S SERVICES AND RESPONSIBILITIES

A. SERVICES.

1. CONTRACTOR shall provide to OWNER those services described in this Agreement ("Services"). CONTRACTOR agrees to perform in an expeditious and economical manner consistent with the interests of the OWNER. To these ends, the CONTRACTOR shall furnish all technical and professional services, including design, labor, material, equipment fabrication, transportation, supervision and expertise necessary to fully and adequately perform the tasks set forth herein. CONTRACTOR further agrees that such services shall be provided in accordance with the fixed-price schedules incorporated in **Exhibit "H-3"** hereto, and warrants that the work and the MM Filtration System will meet OWNER's goals and objectives on the terms and conditions as set forth in this Agreement.

2. CONTRACTOR shall design, develop, fabricate, assemble, deliver, install, start-up operation and provide oversight, training and other services required by this Agreement for the Micromedia Filtration System as described in the Project Description and Sections 11206 and 11207 hereto, including fabrication drawings to be submitted by CONTRACTOR to the OWNER, such that OWNER's WWTP Expansion Project, together with the MM Filtration System, will meet all performance specifications, including water quality standards mandated in Title 22 of the California Code of Regulations. Such Services shall be provided through qualified, experienced, and licensed professionals employed by or procured by CONTRACTOR.

3. In performing the Services pursuant to this Agreement, CONTRACTOR shall save and maintain OWNER's property and interest in this Agreement free and clear of all liens, obligations and claims of any type or kind.

4. CONTRACTOR shall review on a timely basis all detailed design drawings, specifications, and cost estimates prepared by the OWNER's Engineer for the WWTP Expansion Project, and report all comments directly to the OWNER's Representative designated in **Section 7** below.

5. CONTRACTOR shall take necessary precautions for the safety of its employees on the Project, and shall cause its subcontractors to comply with all applicable provisions of federal, state, and local safety laws to prevent accidents or injury to persons on, about, or adjacent to the Project site CONTRACTOR shall cause its subcontractors to erect and properly maintain, at all times, as required by the conditions and progress of the Project, necessary safeguards for the protection of workmen and the public.

6. CONTRACTOR shall keep the MM Filtration System Project site free from the accumulation of waste materials or rubbish caused by its construction or operations. At the completion of the construction, CONTRACTOR shall remove all of its waste material and rubbish from and around the Project site, as well as all of its tools, construction equipment, machinery, and surplus materials.

7. The OWNER and OWNER's Representative and their qualified designees shall have the right to attend weekly informational meetings with CONTRACTOR to review CONTRACTOR's progress in the performance of its obligations to design, construct, start-up, and test the MM Filtration System; provided, however, that such review shall not in any way be construed as relieving CONTRACTOR of any of its obligations, responsibilities, or liabilities under this Agreement. CONTRACTOR shall at all times remain fully responsible and liable to carry out and fulfill all of its obligations and duties under this Agreement.

8. OWNER shall have the right to request reasonable changes to the Project within the general scope of this Agreement and the MM Filtration System design specifications, consisting of additions, deletions, or other revisions. Any adjustments to the price of the MM Filtration System resulting from such changes that are agreed to by CONTRACTOR shall be made in accordance with Section 5.03 of the General Conditions.

9. CONTRACTOR has independently assessed the qualifications of OWNER's contract WWTP operator (Aquarion Operating Services) ("WWTP Operator"), to operate the MM Filtration System upon completion of the Assessment Testing and start-up process, and CONTRACTOR warrants that it is satisfied with the WWTP Operator's ability to operate the WWTP Expansion Project and the MM Filtration System following acceptance by OWNER.

B. STANDARD OF CARE; LICENSES. CONTRACTOR represents and maintains that it and its employees are skilled in the professional calling necessary to perform all Services, and the duties and obligations required by this Agreement to fully and adequately complete the MM Filtration System component of OWNER's WWTP Expansion Project. CONTRACTOR shall perform the Services and duties in conformance to and consistent with the highest level of skill and care generally recognized as being employed by professionals in the same discipline in the State of California, and CONTRACTOR expressly warrants that the work to be performed by CONTRACTOR pursuant to this Agreement shall be performed in accordance with that standard. CONTRACTOR further represents and warrants to the OWNER that it has all licenses, permits, qualifications and approvals of whatever nature which are legally required to practice its profession and to perform the services required by this Agreement, and that it shall keep all such licenses and approvals in effect during the term of this Agreement. CONTRACTOR shall obtain and maintain a City of Adelanto Business License during the performance of this Agreement.

C. COMPLIANCE WITH LAWS. In the performance of this Agreement, CONTRACTOR shall abide by and conform to any and all applicable laws of the United States, the State of California, the Adelanto Municipal Code, and ordinances of the City of Adelanto and the OWNER. CONTRACTOR warrants that all work done under this Agreement will be in strict compliance with all applicable safety rules, laws, statutes, ordinances, regulations and practices. Where approval of the MM Filtration System and CONTRACTOR's performance pursuant to this Agreement by the OWNER or other representatives of the OWNER is indicated, it is understood to be conceptual approval only and does not relieve CONTRACTOR of responsibility for complying with all laws, codes and industry standards, or from liability for damages caused by negligent acts, errors, omissions, noncompliance with industry standards, or misconduct of the CONTRACTOR or its sub-consultants or specialty contractors.

D. LICENSES, PATENTS, TRADE SECRETS.

1. CONTRACTOR represents that it has secured all necessary licenses, consents or approvals to use the components of the MM Filtration System under its name. CONTRACTOR covenants to defend, indemnify and hold OWNER harmless of any loss, claim or liability in any way related to a claim that CONTRACTOR is violating federal, state or local laws, or any contractual provisions, relating to trade names, licenses, franchises, patents or other means of protecting interests in products or inventions. CONTRACTOR shall bear all costs arising from the use of patented, copyrighted, trade secret or trademarked materials, equipment, devices or processes used on or incorporated into the MM Filtration System. In case such materials, equipment, devices or processes are held to constitute an infringement and their use is enjoined, CONTRACTOR, at its expense shall: (a) secure for OWNER the right to continue using the protected materials, equipment, devices or processes by suspension of any injunction or by procuring a license or licenses for OWNER; or (b) modify the MM Filtration system so that it becomes non-infringing; or (c) remove the protected materials, equipment, devices or processes and refund all sums paid therefore without prejudice to any other rights of OWNER. These covenants shall survive the termination of this Agreement.

2. Access to Trade Secrets and Program Source Codes. CONTRACTOR acknowledges that it has entered into an agreement (the "Escrow Agreement") with _____, _____, State, Zip Code ("Escrow Agent" MM to designate the third person Escrow Agent). Said Escrow Agreement provides that the OWNER may gain access to certain information CONTRACTOR has designated as trade secrets and/or program source codes for the purpose of maintaining and supporting the Micromedia Filtration System purchased by OWNER herein. A copy of the Escrow Agreement is attached hereto as **Exhibit "H-1"** and incorporated herein.

CONTRACTOR agrees that it has or will require forthwith its Escrow Agent or any successor Escrow Agent to notify the OWNER in the event of any of the following occurrences: receipt of plans and documents constituting CONTRACTOR's trade secrets and/or program source codes to be held in escrow, receipt of any updates, and termination of the agreement with CONTRACTOR.

CONTRACTOR agrees that for so long as the Micromedia Filtration System is in operation by OWNER it will deposit and update whenever changes are made, at CONTRACTOR's sole cost, a copy of the current version of the trade secret plans and program

source codes for all programs for the Micromedia Filtration System as described in **Exhibit "H-1"** hereto.

CONTRACTOR further agrees that for so long as this Agreement is in effect it will take no steps or actions which would have the effect of modifying or terminating the Escrow Agreement without first having received written permission from the OWNER to do so.

CONTRACTOR agrees, upon written request by OWNER, and at OWNER's expense, to allow OWNER or a third party designated by OWNER, to audit the Escrow and the Escrow update process and the trade secrets and source codes held in Escrow for currency and sufficiency for all programs necessary for OWNER to operate, maintain and ensure timely update of the Micromedia Filtration System.

The audit would consist of an auditor verifying the contents of the materials held by the Escrow Agent for currency and sufficiency for all programs and equipment designated by CONTRACTOR as trade secrets and/or program source codes, together with an audit of the documentation and tracking policies and procedures used by the Escrow Agent to ensure that it is maintaining the correct and current copies of the trade secrets and/or program source codes.

SECTION 2. OWNER'S RESPONSIBILITIES

A. INFORMATION. OWNER shall provide full information regarding the requirements of the WWTP Expansion Project, which set forth the OWNER's objectives, constraints and Project design criteria. The OWNER shall furnish the required information and services and shall render approvals and decisions as expeditiously as is reasonably necessary for the orderly progress of the CONTRACTOR's services. The components of the WWTP Expansion Project and Work to be completed by Owner are described in Part I-C of these Contract Documents.

B. OWNER's Representative, designated in **Section 7** herein, shall be fully acquainted with the WWTP Expansion Project, and have authority to review and approve changes in the scope of the Project, including the MM Filtration System component of the Project, subject to final approval by OWNER. OWNER's Representative will use good faith and due diligence to render decisions as promptly as possible, in accordance with applicable law, and furnish information expeditiously and in time to meet the dates set forth in Performance Schedule (**Exhibit "H-2"** hereto).

C. OWNER shall provide to CONTRACTOR all surveys describing the physical characteristics, soil reports and subsurface investigations, legal limitations, utility locations, and a legal description that it has in its possession or is available to it, which pertain to or affect the Project, together with necessary approvals and easements required for the construction, use, or occupancy of permanent structures on the MM Filtration System site.

D. OWNER shall provide the MM Filtration System site with access and all easements and rights-of-way as necessary for the construction and operation of the MM Filtration System.

E. If OWNER becomes aware of any fault or defect in the WWTP Expansion Project or the Project site, it shall provide, with reasonable promptness, written notice thereof to CONTRACTOR.

F. OWNER, through its WWTP Operator, shall provide enough raw wastewater as necessary for CONTRACTOR to perform the Acceptance Tests in accordance with Section 11207 of the Special Conditions.

G. The services and information required by the above paragraphs shall be furnished with reasonable promptness at OWNER's expense in time to meet the Performance Benchmarks established in the Performance Schedule (**Exhibit "H-2"** hereto). CONTRACTOR shall be entitled to rely upon the accuracy and the completeness of any information provided.

SECTION 3. SCHEDULE AND PROGRESS OF SERVICES; TIME OF PERFORMANCE

A. SCHEDULE OF SERVICES. CONTRACTOR shall perform the Services in a prompt and timely manner which will allow the satisfactory completion of the Project within the time scheduled required by the OWNER, as set forth in **Exhibit "H-2"** hereto. CONTRACTOR shall not be responsible for delays in the completion of the WWTP Expansion Project or the MM Filtration System beyond its reasonable control.

B. PROGRESS REPORTS. CONTRACTOR shall regularly report to the OWNER, through correspondence or progress reports, its progress in providing required Services within the scheduled time periods. The OWNER shall be promptly informed of all anticipated delays. In the event the CONTRACTOR determines that a Performance Schedule modification is necessary, the CONTRACTOR shall promptly submit a revised schedule for approval by the OWNER.

C. DELAY BY MUTUAL AGREEMENT. Performance of any Services under this Agreement may be delayed upon mutual written agreement of the Parties. Upon such agreement, the CONTRACTOR's schedule for completion of the tasks affected by such delay shall be extended as necessary by the OWNER. The CONTRACTOR shall take all reasonable steps to minimize delay in completion, and additional costs, resulting from such extension.

SECTION 4. PAYMENT AND COMPENSATION

A. PAYMENT. OWNER shall pay for the Services rendered by CONTRACTOR in accordance with the Payment Schedule set forth in **Exhibit "H-3"** hereto. This Agreement sets forth a fixed fee, not-to-exceed amount for the performance of all furnish and install services necessary in order to accomplish all of the work set forth herein, which amount is inclusive of all federal, state, municipal or other political subdivision excise, sales, use, occupational or like taxes, and delivery charges incurred in connection with CONTRACTOR's performance of the Services. In the event that the Services are not satisfactorily completed, or the MM Filtration System does not perform as warranted, the OWNER may withhold payment as set forth in the Payment Schedule, and OWNER may use the withheld funds to offset any increased costs or damages incurred by OWNER as a result of CONTRACTOR's failure to complete the Services satisfactorily or to ensure the satisfactory completion and/or operation of the MM Filtration System, provided such delays or damages are within the reasonable control of the

CONTRACTOR. This Section shall not be construed to limit other remedies available to the OWNER.

B. DISPUTED WORK. In any case where CONTRACTOR deems extra compensation is due for work or services not covered in this Agreement, or not ordered in writing by the OWNER as extra services, CONTRACTOR shall immediately notify OWNER in writing of its intention to make a claim for such extra compensation before the CONTRACTOR begins the work on which the CONTRACTOR bases the claim. If such notification is not given, and/or if the OWNER is not afforded an opportunity to negotiate the appropriate fee for such extra services, the CONTRACTOR is deemed to have agreed to waive the claim for such extra compensation. Refer to Section 5.03 of the General Conditions for Change Order.

C. RESOLUTION OF DISPUTES. Should any dispute arise respecting the value of any work omitted or of any work which CONTRACTOR may be required to do, or respecting the amount of any payment to CONTRACTOR during the performance of the Agreement, said dispute shall be decided in accordance with applicable provisions of the General Conditions as verified by the OWNER's Representative, subject to the final approval of the Board of Directors of OWNER.

D. UNAUTHORIZED WORK. Work done in the absence of or without the knowledge of the OWNER or any work done without written authority from the OWNER, will be considered as unauthorized and at the expense of the CONTRACTOR, and will not be paid for by the OWNER.

E. LIQUIDATED DAMAGES. The CONTRACTOR shall be responsible for ensuring that the Project is completed within the number of calendar days established by OWNER and agreed to by CONTRACTOR prior to commencement of the work. Should the MM Filtration System Project not be completed within the time established prior to commencement of the work, or as modified by the OWNER in approved change orders or by supplemental agreement of the Parties, the CONTRACTOR's fee shall be reduced by an amount of FIVE HUNDRED DOLLARS ($500.00) per day as liquidated damages, but not as a penalty, for each calendar day's delay after the expiration of such period until the filing of a Notice of Completion for the Project. Liquidated Damages shall not apply if the delay is through no fault of the CONTRACTOR, or to the extent such delay results from actions of others not within the reasonable control of the CONTRACTOR. Refer to Sections 5.02 and 5.07 of the General Conditions for Construction Schedule and Liquidated Damages.

F. RETENTION OF RECORDS; AUDIT. The CONTRACTOR shall maintain all books, documents, papers, accounting records, and other evidence pertaining to the performance of the Agreement, for a period of no less than ten (10) years after the OWNER has accepted the MM Filtration System as complete. The CONTRACTOR shall make such materials available at its offices at all reasonable times during the Agreement period an thereafter in compliance with this section. The OWNER, or any other representative of the federal or state government authorized by law to do so, shall have access to any books, records, and documents of the CONTRACTOR that are pertinent to the Agreement for audits, examinations, excerpts and transactions. Copies thereof shall be furnished by the CONTRACTOR if requested.

SECTION 5. PROHIBITION AGAINST ASSIGNMENT

A. The CONTRACTOR shall not assign, sublet or transfer this Agreement or any rights under or interest in this Agreement without the express written consent of the OWNER, which may be withheld for any reason or for no reason at all, in the Owner's sole discretion. Nothing contained herein shall prevent the CONTRACTOR from employing independent professional associates, sub-consultants and specialty contractors as CONTRACTOR may deem appropriate to assist in the performance of the Services hereunder, subject to the terms of this Agreement.

B. CONTRACTOR'S RESPONSIBILITY FOR ITS SUB-CONSULTANTS AND SPECIALTY CONTRACTORS. If CONTRACTOR subcontracts any of the Services to be performed under this Agreement, CONTRACTOR shall be as fully responsible to the OWNER for the acts and omissions of CONTRACTOR's sub-consultants and specialty contractors and of the persons employed by its sub-consultants and specialty contractors, as CONTRACTOR is for the acts and omissions of persons directly employed by CONTRACTOR. Nothing contained in this Agreement shall create any contractual relationship between any sub-consultant or specialty contractor of CONTRACTOR and the OWNER. CONTRACTOR shall bind every sub-consultant and specialty contractor and every sub-consultant or subcontractor of a sub-consultant or specialty contractor by the terms of this Agreement applicable to CONTRACTOR's Services unless specifically noted to the contrary in the subcontract in question and separately approved in writing by the OWNER. It shall be the CONTRACTOR's responsibility to confirm that each sub-consultant and specialty contractor meets the minimum insurance requirements specified hereinbelow.

SECTION 6. STATUS OF CONTRACTOR

A. INDEPENDENT CONTRACTOR. CONTRACTOR is, and shall at all times remain as to OWNER, a wholly independent contractor. CONTRACTOR shall have no power to incur any debt, obligation, or liability on behalf of OWNER or otherwise act on behalf of OWNER as an agent. Neither OWNER nor any of its agents shall have control over the conduct of CONTRACTOR or any of CONTRACTOR's employees, except as set forth in this Agreement. CONTRACTOR shall not, at any time, or in any manner, represent that it or any of its agents or employees are in any manner agents or employees of OWNER except as provided herein. CONTRACTOR agrees to pay all required taxes on amounts paid to CONTRACTOR under this Agreement, and to indemnify and hold OWNER harmless from any and all taxes, assessments, penalties, and interest asserted against OWNER by reason of the independent CONTRACTOR relationship created by this Agreement. CONTRACTOR shall fully comply with the workers' compensation law regarding CONTRACTOR and CONTRACTOR's employees. CONTRACTOR further agrees to indemnify and hold OWNER harmless from any failure of CONTRACTOR to comply with applicable workers' compensation laws. OWNER shall have the right to offset against the amount of any fees due to CONTRACTOR under this Agreement any amount due to OWNER from CONTRACTOR as a result of CONTRACTOR's failure to promptly pay to OWNER any reimbursement or indemnification arising under this paragraph. Nothing in this Agreement shall be construed to create a partnership or joint venture relationship between OWNER and CONTRACTOR, nor shall it be construed to create any form of contractual relationship between OWNER and any of CONTRACTOR's subcontractors or suppliers.

B. PREVAILING WAGES. The CONTRACTOR is alerted to the requirements of California Labor Code Sections 1720 and 1770 et seq., which would require the payment of

prevailing wages, where the services or any portion thereof are determined to be a public work, as defined therein. Pursuant to Sections 1770 and 1773 of the California Labor Code, CONTRACTOR shall pay not less than the prevailing rate of per diem wages as determined by the Cirector of the Califronia Department of Industrial Relations. Copies of such prevailing rate of per diem wages can be obtained from the California Department of Industrial Relations, Division of Labor Statistics & Research, or can be obtained through INTERNET at www.dir.ca.gov. The CONTRACTOR shall post a copy of such determination at each job site. The CONTRACTOR shall defend, indemnify, and hold harmless the OWNER, its officers, employees, consultants and agents from any claim or liability, including without limitation, penalties, interest and/or attorneys' fees, arising from any failure or alleged failure of CONTRACTOR to comply with the requirements of State law, the California Labor Code, and California Labor Code Sections 1720 and 1770 et seq. in connection with CONTRACTOR's performance of the Services.

C. ASSIGNMENT OR TRANSFER. The Services to be furnished under this Agreement shall be deemed professional services, except those services which involve installation and/or actual construction of the MM Filtration System. As such, the CONTRACTOR shall have neither the right nor the power to assign, sublet, transfer or otherwise substitute its interest in or obligations under this Agreement without the prior written consent of OWNER as set forth in Section 5 above.

SECTION 7. DESIGNATED REPRESENTATIVES

A. OWNER'S REPRESENTATIVE. OWNER designates its Public Works Director and City Engineer, Wilson So, as its Representative under this Agreement.

B. CONTRACTOR'S REPRESENTATIVE. CONTRACTOR designates its principal, Ken Stedman, as its Representative under this Agreement.

SECTION 8. COPIES OF MATERIALS; DELIVERABLES

A. The OWNER shall have the right to obtain for its records copies of all materials, which may be prepared by the CONTRACTOR under this Agreement. The OWNER shall not be limited in any way in its use of such materials at any time, provided that any such use not within the purposes intended by this Agreement shall be at the OWNER's sole risk and provided that the CONTRACTOR shall be indemnified by the OWNER against any damages resulting from or arising out of such use, including the release of this material to third parties for a use not intended by this Agreement.

B. CONTRACTOR shall cause all completed deliverables to conform to all applicable federal, state and local requirements. All original reports, models, data, notes, calculations, programming, estimates and other similar documents (prepared by City Engineer and Contractor) relating to the MM Filtration System Project ("deliverables") as herein required are the property of the OWNER, whether the work for which they are made be executed or not. All deliverables shall, upon payment in full for the services described in this Agreement, or relevant portion thereof, be furnished to and become the property of the OWNER. In the event this Agreement is terminated, all deliverables shall be delivered forthwith to the OWNER. CONTRACTOR shall have the right to make copies of the deliverables for its records.

SECTION 9. PROHIBITED INTERESTS

A. SOLICITATION. CONTRACTOR maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for the CONTRACTOR, to solicit or secure this Agreement. Further, the CONTRACTOR warrants that is has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for the CONTRACTOR, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. For breach or violation of this warranty, the OWNER shall have the right to rescind this Agreement without liability or, at its discretion, to deduct from the Agreement price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

B. CONFLICT OF INTEREST.

1. For the term of this Agreement, no member, officer or employee, and City Engineer of the OWNER, during the term of his or her service with the OWNER, shall have any direct interest in this Agreement, or obtain any present or anticipated material benefit arising therefrom.

2. For the term of this Agreement, no member, officer or employee of CONTRACTOR has any interest and shall not acquire any interest, direct or indirect, or obtain any present or anticipated material benefit from or in this Agreement, which would conflict in any manner with the performance of its Services hereunder. CONTRACTOR further covenants that, in performance of this Agreement, no person having any such interest shall be employed by it. Furthermore, CONTRACTOR shall avoid the appearance of having any interest, which would conflict in any manner with the performance of its Services pursuant to this Agreement.

3. CONTRACTOR covenants not to give or receive any compensation, monetary or otherwise, to or from the ultimate vendor(s) of hardware or software to OWNER as a result of the performance of this Agreement. CONTRACTOR's covenant under this Section shall survive the termination of this Agreement.

C. CONFLICT OF EMPLOYMENT. Employment by the CONTRACTOR of personnel on the payroll of OWNER shall not be permitted in the performance of CONTRACTOR's Services under this Agreement, even though such employment may occur outside of the employee's regular working hours or on weekends, holidays or vacation time. Further, the employment by the CONTRACTOR of personnel who have been on the OWNER's payroll within one (1) year prior to the date of execution of this Agreement, where this employment is caused by and or dependent upon the CONTRACTOR securing this or related agreements with the OWNER, is prohibited.

D. RELATIONSHIP TO OWNER'S WWTP OPERATOR. CONTRACTOR represents that it has no business relationship with OWNER's WWTP Operator, Aquarion Operating Services, and further represents that it shall not provide to or receive any payment, direct or indirect, from OWNER's WWTP Operator in connection with this Agreement.

SECTION 10. EQUAL EMPLOYMENT OPPORTUNITY

The CONTRACTOR represents that it is an equal opportunity employer and it shall not discriminate against any employee or applicant for employment because of race, religion, color, national origin, ancestry, sex, sexual orientation, physical or mental disability, special disabled veteran status, marital status, age, or any other protected classification. These principles are to be applied by CONTRACTOR in all employment practices including recruiting, hiring, transfers, promotions, training, compensation, benefits, layoffs and terminations. The CONTRACTOR agrees to comply with Title VII of the Civil Rights Act of 1964, as amended, the California Fair Employment Practices Act, the Americans with Disabilities Act of 1990, and any other applicable federal and state laws and regulations in effect or hereinafter enacted.

SECTION 11. DRUG FREE WORKPLACE

The CONTRACTOR agrees to comply with the OWNER's Drug Free Workplace Policy.

SECTION 12. RIGHT TO EMPLOY OTHER CONSULTANTS/CONTRACTORS

The OWNER reserves the right to employ other consultants in connection with the Project, or to perform work related to the Project with the OWNER's own forces. The CONTRACTOR shall notify the OWNER if any such independent action will in any way compromise the CONTRACTOR's responsibilities under this Agreement.

SECTION 13. PAYMENT AND PERFORMANCE BONDS; WARRANTY BOND

A. PERFORMANCE AND PAYMENT BOND. CONTRACTOR will provide a performance and payment bond, in a form acceptable to the OWNER, with a Surety admitted to do business in the State of California in the amount of one hundred percent (100%) of the MM Filtration System purchase price set forth in **Exhibit "H-3"** hereto, to guaranty the faithful performance of its obligations to complete construction of the MM Filtration System. The original term of the performance bond shall be from the commencement of Commercial Operations under this Agreement, until the first anniversary of such commencement. The performance bond shall be extended for additional one (1) year periods until full satisfaction of the warranty obligations of the CONTRACTOR, set forth in Sections 6.03 and 6.06 of the General Conditions, have been satisfied. **The form of Faithful Performance Bond is set forth at Exhibit "I-1" hereto.**

B. LABOR AND MATERIALS BOND. The CONTRACTOR shall secure with a corporate surety or sureties satisfactory to the OWNER, a bond in the amount equal to one hundred percent (100%) of the total contract price to guarantee payment of claims of laborers and materialmen under this Agreement. **The form of Labor and Materials Bond is set forth at Exhibit "J-1) hereto.**

SECTION 14. BREACH

A. DAMAGES. The Parties hereto agree that, with the exception of the OWNER's right to liquidated damages as provided in **Section 4.E.** herein, in the event of a breach of this Agreement, the right to recover damages will ordinarily constitute an adequate remedy and that:

1. OWNER or CONTRACTOR will only have a right to terminate this Agreement:

a. Upon the persistent or repeated breach of a material obligation by the non-performing Party, provided that the terminating party gives the non-performing Party prior written notice of the breach and the non-performing Party has not cured the breach or has not commenced and continued to pursue reasonable steps to cure within thirty (30) days after the notice; or

b. In the event of the failure to make any payment due and payable under this Agreement, the non-paying Party shall have failed to make any such payment, unless such payment is made within thirty (30) days after written demand therefore is received by the non-paying Party; and

2. OWNER will also have a right to terminate:

a. If the MM Filtration System fails to achieve Commercial Operations, as provided in **Section 11207 and Exhibit "H-2"** hereto; or

3. If CONTRACTOR shall file a petition in bankruptcy or shall be adjudicated bankrupt or insolvent, or shall file any petition or answer seeking any reorganization, arrangement, composition, dissolution, or similar relief under any law or regulation relating to bankruptcy, insolvency, or the rights of creditors generally; if CONTRACTOR shall seek or consent to or acquiesce in the appointment of a trustee for, or a receiver or liquidation of, the business or affairs of CONTRACTOR; if CONTRACTOR shall make an assignment for the benefit of creditors; or there shall be filed against CONTRACTOR an involuntary petition in bankruptcy or any proceeding seeking to reorganize, dissolve, or liquidate CONTRACTOR; or if a trustee or receiver shall be appointed for CONTRACTOR over the business or property of CONTRACTOR, and such petition, proceeding, trustee, or receiver is not dismissed within sixty (60) days, and CONTRACTOR has failed to properly treat the primary effluent wastewater in accordance with **Section 11206 and Exhibit "H-2"** hereof.

SECTION 15. TERMINATION

A. NOTICE. The OWNER may, by given ten (10) calendar days' written notice to CONTRACTOR, terminate this Agreement in whole or in part at any time. Such termination may be for OWNER's convenience or because of the CONTRACTOR's failure to perform its duties and obligations under this Agreement, including, but not limited, to the failure of the CONTRACTOR to timely perform its Services. DISCONTINUANCE OF SERVICES: Upon receipt of written Notice of Termination, the CONTRACTOR shall immediately discontinue all affected services and shall, within ten (10) calendar days of receipt of the Notice, unless otherwise directed by the Notice, deliver to the OWNER all materials prepared or accumulated by the CONTRACTOR in performance of the Services, whether completed or in progress.

B. EFFECT OF TERMINATION FOR CONVENIENCE. If the termination is for the convenience of the OWNER, the OWNER shall compensate the CONTRACTOR in accordance with the Payment Schedule attached as **Exhibit "H-3"** hereto, for equipment provided and accepted by OWNER through the date of termination. The CONTRACTOR shall

provide documentation deemed adequate by OWNER's representatives to show the services actually completed by CONTRACTOR prior to the date of termination.

C. EFFECT OF TERMINATION FOR CAUSE. If the termination is due to the failure of the CONTRACTOR to fulfill its obligations under this Agreement, the CONTRACTOR shall be compensated for those goods, equipment and services which have been completed and accepted by OWNER, and which OWNER determines, in its sole discretion, are useful and of value to OWNER in completing its WWTP Expansion Project. In such case, the OWNER may take over the work and prosecute the same to completion by contract or otherwise. Following discontinuance of the services, the OWNER may arrange for a meeting with the CONTRACTOR to determine what steps, if any, the CONTRACTOR can take to adequately fulfill its requirements under this Agreement. In its sole discretion, the OWNER's representative may propose an adjustment to the terms and conditions of the Agreement, including the contract price and Payment Schedule. Such contract adjustments, if accepted in writing by the parties, shall become binding on the CONTRACTOR and shall be performed as part of this Agreement. In the event of termination for cause, unless otherwise agreed to in writing by the Parties, this Agreement shall terminate immediately upon receipt of the Notice of Termination by the CONTRACTOR. Termination of this Agreement for cause may be considered by the OWNER in determining whether to enter into future agreements with the CONTRACTOR.

D. TRANSFER OF TITLE. In the event of a termination for cause hereunder, where OWNER has determined to make use of certain goods and equipment provided or constructed by CONTRACTOR, immediately upon receipt of written request from OWNER, CONTRACTOR shall take those actions necessary to effectuate a complete transfer of title to and delivery of the designated goods and equipment to OWNER, including but not limited to causing CONTRACTOR to be removed from any applicable permits. OWNER shall fully cooperate in the transfer of the goods and equipment and removal of CONTRACTOR from all permits, as described in the request.

E. CUMULATIVE REMEDIES. The rights and remedies of the Parties provided in this Section are in addition to any other rights and remedies provided by law or elsewhere under this Agreement.

F. PROCUREMENT OF SIMILAR SERVICES. In the event this Agreement is terminated in whole or in part, as provided by this Section, the OWNER may procure, upon such terms and in such a manner as it deems appropriate, services similar to those terminated.

G. WAIVERS. The CONTRACTOR, in executing this Agreement, shall be deemed to have waived any and all claims for damages, which may otherwise arise from the OWNER's termination of this Agreement, for convenience or cause.

H. TERMINATION BY CONTRACTOR. This Agreement may be terminated by the CONTRACTOR only upon the OWNER's failure to substantially perform in accordance with the terms of this Agreement, and only upon thirty (30) days' advance written notice. If the CONTRACTOR provides notice to the OWNER under this subsection, the OWNER may expedite the termination of this Agreement by providing written notice to the CONTRACTOR to terminate its services on a date certain. If termination occurs under this subsection, the CONTRACTOR shall be compensated for those services, which have been completed and accepted by the OWNER.

SECTION 16. INDEMNIFICATION

A. RESPONSIBILITIES. The CONTRACTOR agrees, to the extent allowed by law, to defend, indemnify and hold harmless the OWNER, its officers, officials, agents, consultants, employees and volunteers from any and all claims, demands, costs, fines or penalties imposed on OWNER for any violations of permits, applicable laws, or regulations which directly and proximately arise from CONTRACTOR's intentional or willful misconduct, negligence, or breach of this Agreement, unless such damages, fines or penalties are attributable to the receipt at the MM Filtration System of primary effluent/wastewater which exceeds the MM Filtration System design specifications; which cannot, within the MM Filtration system design specifications, be treated to the degree required by applicable permits, laws or regulations, as amended from time to time; or the malfunction or failure of equipment which is not solely due to the negligent acts, errors or omissions of CONTRACTOR. The CONTRACTOR will reimburse the OWNER for any expenditures, including reasonable attorneys' fees, incurred by the OWNER in defending against claims ultimately determined to be due to the negligent acts, errors or omissions or willful misconduct of CONTRACTOR.

B. EFFECT OF ACCEPTANCE. The CONTRACTOR shall be responsible for the professional quality, technical accuracy and the coordination of CONTRACTOR's Services under this Agreement. The OWNER's review or acceptance of, or payment for any Services performed by the CONTRACTOR under this Agreement shall not be construed to operate as a waiver of any rights the OWNER may hold under this Agreement or any cause of action arising out of the CONTRACTOR's performance under this Agreement, and for all damages to the OWNER, caused by the CONTRACTOR's negligent performance of any of the Services.

C. AUTHORITY TO CONTEST. In the event of the imposition of fines or penalties against any Party for violations of permits, applicable laws, or regulations, the Party on which such fines or penalties are imposed shall be given full authority to contest such violations and the other Party shall assist such Party in all such proceedings.

SECTION 17. DISPUTE RESOLUTION

A. ARBITRATION. All claims, disputes and other matters in question between the Parties to this Agreement arising out of or relating to this Agreement or the breach thereof, may be decided by arbitration if the Parties mutually agree. No arbitration arising out of or relating to this Agreement shall include, by consolidation or joinder, or in any other manner, any additional person not a party to this Agreement except by written consent containing a specific reference to this Agreement and signed by the CONTRACTOR, the OWNER, and any other person sought to be joined. Any consent to arbitration involving an additional person or persons shall not constitute consent to arbitration of any dispute not described therein or with any person not named or described therein. This Agreement to arbitrate any agreement to arbitrate with an additional person or persons duly consented to by the Parties to this Agreement shall be specifically enforceable. Notice of request for arbitration shall be filed in writing with the other Party to this Agreement. The request shall be made within a reasonable time after the claim, dispute or other matter in question has arisen. In no event shall the request for arbitration be made after the date when institution of legal or equitable proceeding based on such claim, dispute or other matter in question would be barred by the applicable statute of limitation.

B. COVENANT TO CONTINUE WORK. During resolution of any dispute under this Section, CONTRACTOR and OWNER shall each continue to perform all of their respective obligations under this Agreement without interruption or slow-down. To the extent that the dispute is over the obligation to make any payments, any undisputed amounts shall be paid in accordance with the terms of this Agreement.

SECTION 18. INSURANCE AND WAIVER OF SUBROGATION

The CONTRACTOR shall obtain, and shall require its sub-consultants and sub-contractors to obtain, at a minimum, insurance of the types and in the amounts and in the form satisfactory to the Owner, as set forth in Section 6.04 of the General Conditions, and as follows:

A. COMMERCIAL GENERAL LIABILITY INSURANCE. The CONTRACTOR shall maintain occurrence version commercial general liability insurance or equivalent form with a combined single limit of not less than ONE MILLION DOLLARS ($1,000,000.00) per occurrence. If such insurance contains a general aggregate limit, it shall apply separately to this Agreement or be no less than two (2) times the occurrence limit. Such insurance shall:

1. Include the OWNER, its officials, officers, employees, agents, consultants and volunteers as additional insureds with respect to performance of services and shall contain no special limitations on the scope of coverage or the protection afforded to these additional insureds;

2. Be primary with respect to any insurance or self-insurance programs covering the OWNER, its officials, officers, employees, agents, consultants and volunteers; and

3. Contain standard separation of insureds provisions.

B. BUSINESS AUTOMOBILE LIABILITY INSURANCE. The CONTRACTOR shall maintain business automobile liability insurance or equivalent form with a combined single limit of not less than ONE MILLION DOLLARS ($1,000,000.00) per occurrence. Such insurance shall include coverage for owned, hired and non-owned vehicles.

C. OTHER INSURANCE PROVISIONS. The general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

1. The OWNER, its officers, officials, employees, agents, consultants and volunteers are to be covered as insureds with respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of the CONTRACTOR, and with respect to liability arising out of work or operations performed by or on behalf of the CONTRACTOR, and premises owned, occupied or used by the CONTRACTOR, including materials and parts of equipment furnished in connection with such work or operations. General liability coverage shall be provided in the form of an endorsement to the CONTRACTOR's insurance, or as a separate OWNER's policy. The coverage shall contain no special limitations on the scope of protection afforded to the OWNER, its officers, officials, employees, agents, consultants or volunteers.

2. For any claims related to the MM Filtration System Project, the CONTRACTOR's insurance coverage shall be primary insurance as respects the OWNER, its

officers, officials, employees, agents, consultants and volunteers. Any insurance or self-insurance maintained by the OWNER, its officers, officials, employees, agents, consultants or volunteers shall be excess of the CONTRACTOR's insurance and shall not contribute to it.

3. Any failure to comply with reporting or other provisions of the policies, including breaches of warranties, shall not affect coverage provided to the OWNER, its officers, officials, employees, agents, consultants or volunteers.

4. The CONTRACTOR's insurance shall apply separately to each insured against whom a claim is made or suit is brought, except with respect to the limits of the insurer's liability.

D. WORKERS' COMPENSATION AND EMPLOYERS' LIABILITY and its sub-contractor responsible for equipment installation, INSURANCE. The CONTRACTOR shall maintain workers' compensation insurance with statutory limits and employers' liability insurance with limits of not less than ONE MILLION DOLLARS ($1,000,000.00) per accident for bodily injury or disease.

E. CERTIFICATES OF INSURANCE AND ENDORSEMENTS. The CONTRACTOR shall, prior to commencement of services, furnish the OWNER with properly executed certificates of insurance and endorsements which clearly evidence all insurance required under this Agreement and provide that such insurance shall not be canceled, allowed to expire or be materially reduced in coverage, except on thirty (30) days' prior written notice to the OWNER. In addition, the CONTRACTOR shall allow the OWNER to view, at any reasonable time upon three (3) business days' notice, full copies of any policy required hereunder. The CONTRACTOR shall make such policies available at the offices of the OWNER. The OWNER shall have the sole discretion to determine whether the certificates and endorsements presented comply with the provisions of this Agreement.

F. INSURANCE TO PROTECT PROJECT (BUILDER'S RISK INSURANCE)

1. CONTRACTOR shall purchase and maintain property insurance upon CONTRACTOR's equipment, materials and supplies, which have not been accepted by the OWNER on the Project, **in accordance with Section 6.04(f) of the General Conditions,** for the full cost of replacement at the time of any loss. This insurance shall insure against loss from the perils of Fire, Extended Coverage, and shall include "All Risk" insurance for physical loss or damage including, without duplication of coverage, at least theft, vandalism, malicious mischief, transit, collapse, flood, earthquake, testing, and damage resulting from defective design, workmanship, or material ("Casualty"). In the event that all or any part of the MM Filtration System shall be destroyed by Casualty, CONTRACTOR shall put or rebuild the MM Filtration System in a condition as nearly as practicable as comparable to the condition prior to such Casualty.

G. SUBSTITUTE COVERAGE. In the event that CONTRACTOR does not provide continuous insurance coverage, the OWNER shall have the right, but not the obligation, to obtain the required insurance coverage at CONTRACTOR's cost, and the OWNER may deduct all such costs from moneys the OWNER owes to the CONTRACTOR or from moneys which it subsequently owes the CONTRACTOR.

H. COVERAGE MAINTENANCE. The CONTRACTOR shall replace certificates, policies and endorsements for any insurance expiring prior to completion of services under this Agreement. Further, the CONTRACTOR shall maintain such insurance form the time services commence until services are completed and any applicable statute of limitations has expired, except as otherwise provided by this Agreement.

I. LICENSED INSURER. The CONTRACTOR shall place all such insurance requirements contained herein with insurers having A.M. Best Company ratings of no less than A:VII and licensed to do business in California, unless otherwise approved, in writing, by the OWNER's Representative.

J. DEDUCTIBLES AND SELF-INSURANCE RETENTION. Any deductibles or self-insured retention must be declared to and approved by the OWNER. At the option of the OWNER, either the insurer shall reduce or eliminate such deductibles or self-insured retention that pertains to the OWNER, its officers, officials, employees, agents, consultants and volunteers, or the CONTRACTOR shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

K. VERIFICATION OF COVERAGE. The CONTRACTOR shall furnish the OWNER with original certificates and amendatory endorsements effecting coverage required by this Section. The endorsements should be on forms provided by the OWNER or on other than the OWNER's forms provided those endorsements conform to OWNER requirements. All certificates and endorsements are to be received and approved by the OWNER prior to CONTRACTOR's commencement of the Services. The OWNER reserves the right to require complete, certified copies of all required insurance policies, including endorsements effecting the coverages required by this Agreement at any time.

SECTION 19. REPRESENTATIONS

A. CONTRACTOR REPRESENTATIONS. CONTRACTOR represents and warrants to OWNER, and, in entering into this Agreement with CONTRACTOR, OWNER has relied on the following representations and warranties of CONTRACTOR:

1. CONTRACTOR is duly organized and validly existing under the laws of the State of Nevada and qualified to do business in California, with full legal right, power and authority to enter into and perform its obligations under this Agreement.

2. This Agreement has been duly authorized, executed, and delivered by CONTRACTOR and constitutes a legal, valid, and binding obligation of CONTRACTOR, enforceable against CONTRACTOR in accordance with its terms (except as the enforcement of this Agreement may be limited by applicable bankruptcy, reorganization, insolvency, moratorium, and similar laws affecting creditors' rights generally and by equitable principles of general application).

3. Neither the execution or delivery by CONTRACTOR of this Agreement, nor the performance by CONTRACTOR of its obligations in connection with the transactions contemplated hereby or thereby, or the fulfillment by CONTRACTOR of the terms or condition whereof or thereof (a) conflicts with, violates, or results in a breach of any constitution, laws, or governmental regulation applicable to CONTRACTOR; or (b) conflicts with, violates, or results

in a breach of any term or condition of any order, judgment or decree, or any agreement or instrument, to which CONTRACTOR is a party or by which CONTRACTOR or any of its properties or assets are bound, or constitutes a default thereunder.

4. No approval, authorization, order or consent of, or declaration, registration or filing with any governmental authority is required for the valid execution and delivery of this Agreement by CONTRACTOR, except such as have been duly obtained or made.

5. There is no action, suit, or proceeding, at law or in equity, before or by any court or governmental authority pending or, to the best of CONTRACTOR's knowledge, threatened against CONTRACTOR, which might materially adversely affect the performance by CONTRACTOR of its obligations hereunder or under the other transactions contemplated hereby, or which, in any way, questions the validity, legality or enforceability of this Agreement in connection with the transactions contemplated hereby.

6. OWNER further relies on the representations made by CONTRACTOR in the Micromedia Filtration, Inc. Brochure, which Brochure **is set forth at Exhibit "H-4" hereto, and** sets forth certain representations, warranties and assurances made by CONTRACTOR with respect to the construction and operation of the MM Filtration System. In addition, OWNER relies on the following representations and assurances made by principals of CONTRACTOR:

a. The MM Filtration System, which is the subject of this Agreement, has been reviewed and verified by Dr. George Tchobanoglous (or his designated representative) of the University of California, Davis, to achieve consistent removal of BOD, TSS and NH3 to levels below 5 mg/l, and Title 22 quality effluent, over a sustained period of time.

b. The MM Filtration System will satisfy all effluent water quality requirements of the "RWQCB Permit" issued for the WWTP Expansion Project, and will consistently meet all State requirements under the Permit with the amount of flow the System is designed to handle (average plant flow not to exceed 3 MGD).

c. The MM Filtration System shall provide full secondary wastewater treatment and filtration, with BOD and TSS levels of effluent well below the EPA standards for secondary effluent, and meeting all requirements of the RWQCB Permit.

d. The MM Filtration System will not generate offensive odors at ground level, emanating from or immediately adjacent to the MM Bio-Filtration System facilities.

e. The MM Filtration System is compatible with the Owner's existing WWTP, and will achieve the wastewater treatment capacity expansion required by the WWTP Expansion Project as described in **Part I-C** hereto.

f. Installation and activation of the MM Filtration System will result in no down time to the Owner's existing WWTP.

g. Incorporation of the MM Filtration System into the OWNER's WWTP Expansion Project, and operation of the MM Filtration System will result in substantial cost savings to OWNER compared with the cost of operating a more traditional form of

wastewater treatment plant.

h. CONTRACTOR has the right, title and interest required in the MM Filtration System design, components and engineering required to satisfy the requirements of this Agreement.

i. The Annamox bacteria required for the successful operation of the MM Filtration System are readily available to OWNER and/or can be easily re-created by OWNER at little or no expense and without special equipment or supplies.

7. Contractor's Commitment to Secure a Temporary/Portable Bio-solids Processing Unit. Contractor agrees to work with Owner's City Engineer and Operations Staff to make appropriate contacts with the firm that has capability to enter into a contract with the Owner to construct a permanent bio-solids processing facility (gasification plant which will convert bio-solids to equivalent fuel gas, which in turn will be used to produce electricity via gas run generators). Contractor further agrees to discuss and secure from this same firm a portable bio-solids processing unit to be temporary placed at the 1.5 acre site reserved for the permanent facility.

B. OWNER REPRESENTATIONS. OWNER represents and warrants to CONTRACTOR, and CONTRACTOR relies on OWNER's representations and warranties, as follows:

1. OWNER is a public agency, duly organized and validly existing under the constitution and laws of the State of California, with full legal right, power, and authority to enter into and perform its obligations under this Agreement.

2. This Agreement has been duly authorized, executed, and delivered by OWNER and constitutes a legal, valid, and binding obligation of OWNER, enforceable against it in accordance with its terms (except as the enforcement of this Agreement may be limited by applicable bankruptcy, reorganization, insolvency, moratorium, and similar laws affecting creditors rights generally and by equitable principles of general application).

3. Neither the execution or delivery by OWNER of this Agreement, nor the performance by OWNER of its obligations in connection with the transactions contemplated hereby or the fulfillment by OWNER of the terms or conditions hereof (a) conflicts with, violates, or results in a breach of any constitution, law, or governmental regulation applicable to OWNER, or (b) conflicts with, violates, or results in a breach of any term or condition of any order, judgment or decree, or any agreement or instrument, to which OWNER is a party or by which OWNER or any of its properties or assets are bound, or constitutes a default thereunder.

4. No approval, authorization, order or consent of, or declaration, registration or filing with, any governmental authority or referendum of voters is required for the valid execution and delivery by OWNER of this Agreement or the performance by OWNER of its payment or other obligations hereunder except such as have been duly obtained or made.

5. There is no action, suit, or proceeding, at law or in equity, before or by any court or governmental authority, or proceeding for referendum or other voters' initiative,

pending against OWNER, which might materially adversely affect the performance by OWNER of its obligations hereunder or under the other transactions contemplated hereby, or which, in any way, questions the validity, legality or enforceability of this Agreement, or any other agreement or instrument entered into by OWNER in connection with the transactions contemplated hereby.

6. OWNER further represents, and CONTRACTOR recognizes, that at the time this Agreement is approved, OWNER has not applied for or received a waste discharge permit from Lahontan RWQCB based on OWNER's proposed WWTP Expansion Project or the use of CONTRACTOR's MM Filtration System.

SECTION 20. MISCELLANEOUS

A. NON-WAIVER OF TERMS, RIGHTS AND REMEDIES. Waiver by either Party of any one or more of the conditions of performance under this Agreement shall not be a waiver of any other condition of performance under this Agreement. In no event shall the making by OWNER of any payment to CONTRACTOR constitute or be construed as a waiver by OWNER of any breach of covenant, or any default which may then exist on the part of CONTRACTOR, and the making of any such payment by OWNER shall in no way impair or prejudice any right or remedy available to OWNER with regard to such breach or default.

B. EXHIBITS; PRECEDENCE. All documents referenced as exhibits in this Agreement are hereby incorporated in this Agreement. In the event of any material discrepancy between the express provisions of this Agreement and the provisions of any document incorporated herein by reference, this provisions of the Agreement shall prevail.

C. ENTIRE AGREEMENT. This Agreement, and any other documents incorporated herein by specific reference, represent the entire and integrated agreement between CONTRACTOR and OWNER. This Agreement supersedes all prior oral or written negotiations, representations, or agreements. This Agreement may not be amended, nor any provision or breach hereof waived, except in a writing signed by the Parties which expressly refers to this Agreement.

D. COMPLIANCE WITH LAWS. CONTRACTOR shall comply with all applicable laws, ordinances, codes, and regulations of the federal, state, and local governments. CONTRACTOR and its Subcontractors shall obtain and maintain valid OWNER business licenses if required by OWNER's Municipal Code.

E. DELEGATION OF OWNER'S POWERS. Nothing contained in this Agreement shall be construed as a delegation by the OWNER of its powers of inspection under all applicable codes, laws, ordinances and regulations, nor of its power to enforce compliance with the same.

F. NOTICES. Any notices, bills, invoices, or reports required by this Agreement shall be given in writing and deemed received on (i) the day of delivery if delivered by hand or overnight courier service during the receiving Party's regular business hours or by facsimile before or during the receiving Party's regular business hours; or (ii) on the third business day following deposit in the United States mail, postage prepaid, to the addresses heretofore set forth in the Agreement, or to such other addresses as the Parties may, from time to time, designate in writing pursuant to the provisions of this Section.

If to OWNER:

ADELANTO PUBIC UTILITY AUTHORITY (APUA)
C/O CITY OF ADELANTO PUBLIC WORKS DEPARTMENT

11600 Air Expressway
P. O. Box 10
Adelanto, California 92301

Attention: City Engineer/Director of Public Works

If to CONTRACTOR:

MICROMEDIA FILTRATION, INC.

30336 Esperanza

Rancho Santa Margarita, CA 92688

Attention: Ken Stedman

G. HEADINGS. The headings contained in this Agreement are for reference purposes only and shall not affect in any way the meaning or interpretation of this Agreement.

H. THIRD PARTY RIGHTS. This Agreement shall not provide any third parties with any remedy, claim, liability, reimbursement, cause of action, or other right in excess of those existing without reference to this Agreement.

I. ATTORNEY'S FEES. If either Party commences an action against the other Party arising out of or in connection with this Agreement, the prevailing Party in such litigation shall be entitled to have and recover from the losing party reasonable attorneys' fees, expenses and costs of suit. Any attorneys' fees award shall be limited to the maximum hourly rate billed by the OWNER's legal counsel for the same services.

J. ENTIRE AGREEMENT. This Agreement, together with the exhibits attached hereto and made a part of this Agreement, constitutes the agreement and understanding among the Parties hereto, and supersedes all prior agreements and understandings of the Parties, with respect to the matters contemplated hereby.

K. COUNTERPARTS. This Agreement may be executed in two (2) or more counterparts, each of which shall be deemed an original and all of which shall constitute one and the same instrument.

L. CHOICE OF LAW; VENUE. This Agreement shall be interpreted and construed in accordance with the laws of the State of California. If any action is brought to interpret or enforce any term of this Agreement, the action shall be brought in a state or federal court situated in or with venue in the County of San Bernardino, State of California.

M. ASSIGNMENT. This Agreement and all of the provisions hereof shall be binding upon and inure to the benefit of the Parties and its respective permitted successors and assigns, but neither this Agreement nor any of the rights, interests, or obligations hereunder shall be assigned by any Party without the prior written consent of the other Parties hereto. Any attempt by any Party to so assign this Agreement or any rights, duties, or obligations arising hereunder shall be void and of no effect.

N. TIME OF THE ESSENCE. OWNER has special reasons for prompt completion of the Project, which are set forth herein. Based on the reasons stated, time is of the essence for each and every provision of this Agreement.

O. SET-OFF. The obligation of OWNER or CONTRACTOR to make payments hereunder shall not be subject to diminution by reason of any set-off, abatement, counterclaim, or any other reason.

P. CONSTRUCTION. In this Agreement:

1. The terms "hereby" "hereof," "hereto," "herein" "hereunder," and any similar terms, as used in this Agreement, refer to this Agreement;

2. Words of the masculine gender shall mean and include correlative words of the feminine and neuter genders and words importing the singular number shall mean and include the plural number and vice versa;

3. All documents referenced as exhibits in this Agreement are hereby incorporated in this Agreement in full by reference. The exhibits to this Agreement are:

Exhibit H-1: Escrow Agreement (licensed use of trade secrets)
Exhibit H-2: Performance Schedule
Exhibit H-3: Payment Schedule
Exhibit H-4: Micromedia Filtration, Inc. Brochure

4. References to Sections, Exhibits, or subsections without further identification of the document in which it is located are references to Sections of, Exhibits to, or subsections of such Sections or Exhibits of this Agreement, as the case may be.

Q. SEVERABILITY. If any provision of this Agreement is prohibited by or held to be invalid under applicable law, such provision will be ineffective to the extent of such prohibition or invalidity, without invalidating the remaining provisions of this Agreement. Each provision in this Agreement shall be read and construed independently of the other provisions hereof. If any provision of this Agreement, as applied to any party or to any circumstances, is adjudged by a court to be invalid or unenforceable for any reason, such judgment shall in no way affect any other provision of this Agreement, the application of such provision in any other circumstances or to any other Party, or the validity or enforceability of this Agreement.

R. FURTHER ASSURANCES. Each Party to this Agreement will execute and deliver such additional documents, and take such other action as may be required or reasonably requested, in order to carry out the terms of and give full effect to this Agreement.

COPY

ITNESS WHEREOF, the Parties have executed this Agreement as of the ve.

"OWNER"

ADELANTO PUBLIC UTILITY AUTHORITY

By: _____
JAMES NEHMENS
Chairman of the Board of Directors

ATTEST:

By: _____
CINDY HERRERA
Secretary to the Board

Approved as to form:

By: _____
PATRICK MUNOZ
General Counsel

"CONTRACTOR"
MICROMEDIA FILTRATION, INC.

By: _____
Its VP/ General Counsel

By: _____
Its CEO

Ken Stetina
President

Ulb2.02

C.O. # 01

CONTRACT CHANGE ORDER NO. 1

To "City of Adelanto Construction Contract for the Furnish-Install of Advanced Primary Fine Screens and Advanced Secondary Bio-filters"(the "Contract"), by and between the Adelanto Public Utility Authority ("Owner"), and Micromedia Filtration, Inc. ("Contractor") approved on June 13, 2007. Contractor has requested and Owner has consented to the following changes to the Progress Payment requirements of the Contract.

Exhibit H-3 Payment Schedule: Exhibit H-3 under "Section H - Agreement" of the overall Contract document, specifies the payment amount and various requirements to be completed by the Contractor before the Owner releases each of such construction payments. Under the first progress payment , Contractor is required to submit: "A progress report and written, verified testing data on the UC Davis validation review"of the proposed treatment process. Contractor has requested that the UC Davis validation review report be postponed to the second progress payment. The Owner has agreed to the above request. Therefore, Exhibit H-3 of the Contract is changed to require that the UC Davis validation report is required and must be provided to Owner prior to the Owner's Second Payment to the Contractor. Other requirements of the first progress payment shall remain unchanged, including:

- Official shop drawing submittals for all equipment to be furnished by Contractor, including detailed structural calculations stamped by a licensed civil engineer. Equipment to be fabricated by qualified firms with prior similar project experiences as set forth on Page G-2 of the contract documents. Submittals (hard copy) shall be furnished per the respective technical specifications in the contract documents by Contractor, to be reviewed and approved by Owner's Engineer.
- Spare parts list is to be provided by Contractor (hard copy similar to shop drawing submittal per Section 2.05 of the General Conditions as part of the contract documents).
- Opening size of the Clean-screens (primary treatment) shall be as recommended and approved by Owner's Engineer and Operations personnel prior to ordering of equipment by Contractor

	Total Decrease in Contract Amount:	$0.00	
	Total Increase in Contract Amount:		$ 0.00
	Net Change in Contract Amount:		$ 0.00
	Contract Amount Prior to Change:		$6,782,300.00
	Contract Amount Adjusted for Change		$6,782,300.00

It is mutually agreed that the terms of the original Contract shall remain in full force and effect, except for the change regarding the timing of the submittal of the UC Davis validation report described above in this Change Order. There shall be no change to the Contract performance time and completion schedule.

Recommended by (Engineer) _____ Date 8-16-2007

Accepted by (Contractor) _____ Date 8-16-2007

Approved by (Owner) _____ Date 8-23-2007

Mayor Nehmens

EXHIBIT "H-1"

ESCROW AGREEMENT

To: _____
_____
_____, Escrow Agent

To: OWNER and Declarant, Adelanto Public Utility Authority, or its designated representative

Micromedia Filtration, Inc. acknowledges that the OWNER under the terms of a valid, current Agreement which provides for licensed use of certain trade secrets and program source codes, is not in default (the "Declarant") is a beneficiary under this Escrow Agreement and entitled to enforce legal rights and remedies hereunder.

1. Upon receipt by Escrow Agent of a Statutory Declaration from the Declarant or an authorized officer of the Declarant containing the following provisions:

   (a) The Declarant is a party to the Micromedia Filtration System Agreement, dated _____, 2007 (the "Agreement") and the Declarant is not in default under the terms of the Agreement;

   (b) The Declarant has requested in writing performance of Agreement;

   (c) Micromedia Filtration, Inc. has not responded in writing to the Declarant within thirty (30) days from the date of the written request of the Declarant, with a response which did not reasonably include an identification of the problem, the timetable for resolution, and the proposed scope of the work required to solve the problem;

   (d) Notice of the intention of the Declarant to exercise the provisions of this Escrow Agreement has been served upon Micromedia Filtration System, Inc. not less than fourteen (14) days prior to the date of execution of the Statutory Declaration;

   (e) The Declarant undertakes to copy the trade secrets and/or program source codes, the subject of the Escrow Agreement, and to return the originals to Escrow Agent, and to use the trade secrets and/or program source codes only for the purposes of supporting and maintaining its Micromedia Filtration System for its own internal corporate purposes in its Waste Water Treatment Plant.

   Escrow Agent shall release to the Declarant the trade secrets and/or program source codes as deposited by Micromedia Filtration, Inc. in a sealed envelope with Escrow Agent pursuant to this Escrow Agreement;

2. Micromedia Filtration, Inc. shall, during the term of this Agreement, submit revised copies of trade secrets and/or source codes in a sealed envelope. Such revisions shall be accompanied by a certificate from Micromedia Filtration, Inc. stating that:

(a) The contents of the escrowed materials are complete and would be understandable and useable by a reasonably knowledgeable Waste Water Treatment Plant operator and computer programmer.

(b) The contents accurately reflect the most current version of the trade secrets and/or program source codes incorporated in OWNER's Waste Water Treatment Plan and identified by Micromedia Filtration, Inc. as such.

(c) The contents incorporate all changes made to the trade secrets or the source material as of the start-up date of the Micromedia Filtration System.

(d) The contents contain a separate CD or diskette that contains the trade secrets and/or program source materials required to operate, maintain or repair the Micromedia Filtration System.

(e) The contents contain no passwords, or other device that would prevent or prohibit the use of the escrowed materials at any time.

3. Micromedia Filtration, Inc. will ensure that revised copies of the trade secrets and/or source codes will be placed with Escrow Agent within thirty (30) days after the public release of a licensed program or a licensed program update.

4. Escrow Agent shall, upon receiving such a certificate from Micromedia Filtration, notify each of the declarants in (2) above, by mail of such receipt.

5. It is understood that the duties of Escrow Agent, as escrow holder are limited to those expressly set forth herein and, in addition to the carrying out of escrow instruction, are limited to taking reasonable care of the subject matter of this Agreement. Escrow Agent makes no representations or guarantee as to the escrow materials and shall not be obligated to inquire into the accuracy or completeness of the escrow materials or any declaration made hereunder. In the event that proceedings in a court of law arise in relation to the subject matter of this Escrow Agreement, Escrow Agent shall not be obligated to defend or enter an appearance and shall only be obligated to participate after the Declarant and Micromedia Filtration, Inc. have placed sufficient security for Escrow Agent's costs of such proceedings.

6. This Agreement shall terminate twenty (20) years from the date hereof, unless renewed by mutual written agreement. Escrow Agent may resign as Escrow Agent hereunder upon another party accepting the duties and obligations of Escrow Agent or upon providing the Declarant and Micromedia, Filtration, Inc. with sixty (60) days advance written notice.

[SIGNATURES CONTINUED TO NEXT PAGE]

DATED at _____, this _____ day of _____, 2007.

MICROMEDIA FILTRATION, INC.

The terms of this Agreement are hereby accepted by the firm of _____
Per:

_____
President

_____
, Escrow Agent

EXHIBIT "H-2"
PERFORMANCE SCHEDULE

OWNER has special reasons for prompt completion of the WWTP Expansion Project, which are set forth in the Agreement. Based on the reasons stated, strict compliance with the Performance Schedule is essential, and time is of the essence for each and every provision of this Agreement.

PERFORMANCE BENCHMARKS

1. Execution of Agreement; Certification of MM Filtration System.

a. Prior to commencement of services pursuant to this Agreement, CONTRACTOR shall have obtained from Dr. George Tchobanoglous (or his designated research assistant) and the University of California, Davis, certification of the ability of the MM Filtration System to provide a consistent source of advanced secondary (full biological and filtration) treated wastewater consistent with the terms of this Agreement.

b. If such certification has not been obtained at the time of execution of the Agreement, CONTRACTOR shall proceed at its own risk in ordering fabricated equipment, and OWNER's payment obligation shall not commence until such written certification, in a form acceptable to OWNER, has been delivered to OWNER.

2. Environmental Review of WWTP Expansion Project. Until thirty (30) days following OWNER's approval of and filing of a notice of environmental determination for the WWTP Expansion Project, CONTRACTOR's performance under this Agreement shall be limited to Project design and ordering of specialty fabrication components of the Project. If for any reason not within the OWNER's sole control the Project is prevented from moving forward as anticipated, or should litigation be filed contesting the Project approval or environmental determination therefore, such that construction of the Project will be delayed or rendered infeasible in the OWNER's sole discretion, OWNER may terminate this Agreement without further obligation to CONTRACTOR.

3. OWNER Approval of WWTP Expansion Project; Ordering of Fabricated Components.

a. Upon OWNER's receipt of written certification of the MM Filtration System as set forth in Paragraph 1 above, and full execution of this Agreement, CONTRACTOR will prepare and submit for OWNER's information an estimated progress schedule for fabrication, construction and installation of the MM Filtration System, including the key construction milestones set forth hereinbelow. This schedule shall indicate the estimated dates for shop drawing submittal. delivery of the fabricated Project components, the starting and completion of the construction, start-up, Acceptance Testing, and commencement of commercial operations. It shall be revised as required by the conditions of the WWTP Expansion Project and those conditions and events which are provided herein.

b. It is intended that the CONTRACTOR shall immediately commence fabrication of the tanks and other Project components necessary for the MM Filtration System upon execution of this Agreement, shop drawing approval. and satisfaction of all necessary insurance and bonding requirements. CONTRACTOR has the right at all times to enter upon the MM Filtration System site, to begin site preparation and finalize any design drawings and details. It is estimated that it will take no more than one hundred fifty (150) calendar days for the completion of fabrication of the tanks. Installation of the primary screens and biological filters by the CONTRACTOR shall be coordinated with City Engineer and OWNER's construction contractor.

c. It is also understood that OWNER will simultaneously commence all necessary environmental assessments and reviews pursuant to the California Environmental Quality Act, and that it is currently anticipated that such reviews will be completed on or about September of 2007.

d. Prior to fabrication and construction of the MM Filtration System. CONTRACTOR shall conduct a thorough review of OWNER's influent wastewater quality to ensure that the MM Filtration System and the bacteria group will provide an effective treatment system.

e. CONTRACTOR shall order and obtain specialty fabrication components of the MM Filtration System for delivery not later than one hundred fifty (150) calendar days following approval of this Agreement by OWNER and shop drawings as stipulated above.

f. Following OWNER's approval of the WWTP Expansion Project and environmental document in connection therewith, and OWNER's application of the wastewater discharge permit from Lahontan, and thirty (30) days thereafter, OWNER shall bid and award a contract to the lowest responsible bidder for the WWTP Expansion Project construction: all structural, building, other mechanical and electrical distribution components, including construction of the MM Filtration System Project infrastructure components thereof.

g. If the OWNER's final environmental report for the WWTP Expansion Project (including the MM Filtration System) is either: (a) rejected by the reviewing agency; or (b) disputed by litigation that, in OWNER's estimation, will takes more than 3 months to resolve, then, upon the OWNER's written request, CONTRACTOR will remove any fabricated tanks already placed upon the OWNER's property and purchase those tanks back from the OWNER at fair market value, which purchase price shall be the same as the total amount paid by OWNER to CONTRACTOR to date.

4. OWNER Completion of WWTP Expansion Project Headworks and Infrastructure. OWNER shall award the construction contract and complete construction

of the WWTP Expansion Project Headworks and infrastructure under a separate bid schedule. Time Schedule to complete Owner's Headworks expansion shall no effect on the installation and testing of the Micromedia Filtration equipment as this work is located at a separation location at the WWTP from the proposed Micromedia facility.

5. CONTRACTOR's Completion of MM Filtration System Installation and Start-Up of System.

a. CONTRACTOR shall have the MM Filtration System on line and in full operation within 90 days following OWNER's completion of the MM Filtration System support infrastructure. This shall be as coordinated after Owner completes the design and bidding of the support hydraulic structures and building to house the equipment.

b. Upon completion of installing the Micromedia Filtration System infrastructure and components, and within thirty (30) calendar days thereafter, CONTRACTOR shall test and start up the MM Filtration System ("Acceptance Testing")

c. The date of commencement of Commercial Operations of the MM Filtration System is the date when the System passes the Acceptance Test, as provided in Section 6 of this Exhibit, and begins regular uninterrupted operations.

d. If CONTRACTOR is delayed at any time in the progress of the Project by any act or neglect of OWNER or by other contractors employed by OWNER, by changes to the Project requested by OWNER, unavoidable casualties, a delay authorized by OWNER, pending arbitration, Force Majeure, or Uncontrollable Circumstances, then the Commercial Operations dates set out in this Section 5 shall be extended for the period of time caused by such delay, provided that CONTRACTOR shall notify OWNER with reasonable promptness, after becoming aware of any such delay, of the commencement and cessation of the delay. Any disputes pertaining to the delay shall be resolved in accordance with applicable sections of the General Conditions.

6. Acceptance Testing.

a. CONTRACTOR shall give OWNER at least five (5) working days' prior written notice of the estimated commencement date of start-up operations and Acceptance Testing. Upon three (3) days' prior written notice from CONTRACTOR, OWNER shall cause to be delivered to the MM Filtration System the quantities of Raw Wastewater necessary for start-up operations and Acceptance Testing.

b. OWNER and OWNER's WWTP Operator shall have the right to make reasonable observations of all testing pursuant to the Acceptance Test procedures. CONTRACTOR shall certify in writing to OWNER the results of the Acceptance Test, and its determination of whether or not the MM Filtration System has met the Acceptance Test criteria.

c. Within ten calendar (10) days after completion of Acceptance Testing, CONTRACTOR shall deliver to OWNER's Operator 2 copies of (with a copy to OWNER) the standard operating procedures and computerized preventive maintenance and process control programs, including documentation of operation and maintenance procedures conducted at the MM Filtration System. Such records shall be available for inspection by OWNER at all reasonable times.

d. CONTRACTOR shall, at its sole cost and expense:

(1) Develop operations and maintenance manuals for start-up and shut-down procedures and operation and troubleshooting guidelines consistent with Industry Practices; spare parts / coagulant / filter sand listing and supplier sources shall be provided in accordance with the technical specifications and included in the O & M manuals; the Operations and Maintenance manuals shall be written in a clear manner which includes diagrams, descriptions, and pictures of each element of equipment relates to the overall treatment process:

(2) Customize and fully implement computerized process control (using the programmable logic controllers) and maintenance programs to protect the capital investment in the MM Filtration System consistent with Industry Practices; and

(3) Customize standard operating procedures for the MM Filtration System, which will be made part of the MM Filtration System's permanent record.

e. Prior to turning the completely installed and tested MM Filtration System over to OWNER for operation. CONTRACTOR shall ensure thorough training of the operations personnel, including operators and maintenance staff.

f. Customize standard operating procedures for the MM Filtration System, which will be made part of the permanent record. If OWNER determines within ten (10) working days after the submittal of CONTRACTOR's certification that the standards set forth in the Acceptance Test procedures were in fact not completely satisfied, then OWNER, at its option, may either: (a) elect to require a second round of Acceptance Tests at CONTRACTOR's sole expense; or (b) terminate this Agreement for non-performance.

7. Permits and Regulatory Compliance.

a. Permits. OWNER's Operator shall obtain necessary operational permits, with CONTRACTOR providing all required technical assistance. All permit fees shall be the responsibility of OWNER.

b. Regulatory Compliance. If any regulatory agency with oversight jurisdiction, including DHS or RWQCB, has questions about the regulatory compliance of the MM Filtration System during the first year of operations, then CONTRACTOR

shall assist OWNER (at no cost to OWNER) in responding to any such inquiry and provide advice on any necessary alternatives to the MM-filtration system in order to ensure compliance with local, state, and federal regulatory requirements.

8. CONTRACTOR's Warranties. CONTRACTOR warrants that the MM Filtration System will continuously produce water meeting all Title 22 requirements (except for the disinfection operation) for an initial warranty period of one (1) year after commencement of Commercial Operations of the System. If Title 22 requirements are not continuously met for that one (1) year initial warranty period based upon written notifications from either DHS or the RWQCB, then OWNER shall pursue claims against the CONTRACTOR and Surety Company that provided the "warranty guarantee" for this Agreement upon given thirty (30) days' written notice. CONTRACTOR shall immediately take corrective actions or refund all amounts paid by OWNER to CONTRACTOR to the date of termination, less the initial value of those fabricated components of the MM Filtration System identified by OWNER as re-usable by OWNER in its WWTP Expansion Project. CONTRACTOR shall indemnify OWNER for any losses, charges, fines, or penalties it may incur as a result of such failure until the effective date of the OWNER's termination of CONTRACTOR.

CONTRACTOR further warrants the MM Filtration System, its design and its individual components to have a useful life of at least ten (10) years.

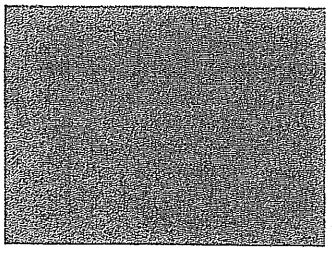


EXHIBIT "H-3"
PAYMENT SCHEDULE

Total Fixed Price for System: $6,782,300*, including:

- **Listed items (refer to Technical Specifications Sections 11206 and 11207**
- **Twenty (24) 8-Foot diameterVessels (12 tall and 12 short) with internals**
- **3 CleanScreen 1500 units with total flow capability of approx. 3,500 to 4,000 gpm**
- **One complete set of PLC (programmable logic controller) to operate and monitor the entire system (Primary Fine Screens and Advanced Secondary Bio-Filters), including certain equipment to be provided by Owner (primary effluent pumps with VFDs, starters, and relays).**
- **5,000 gallons of PACL coagulant (City to provide tank capable of storing chemical, poly-aluminum chloride).**
- **Installation, training, training manuals, as-builts, startup as described in the Agreement, and assistance during subsequent 6 months of commercial testing.**

Payment Schedule:

1. First Payment: 25 % of contract amount (**$1,695,575*, payable by joint check to stainless steel fabricator and Micromedia Filtration, Inc.**) upon execution and delivery of the Agreement by CONTRACTOR to OWNER of the following:

a) Shop drawings for all equipment to be furnished by CONTRACTOR including, but not limited to, Clean-Screens primary fine screens and filter tanks, with detailed structural calculations; to be reviewed and approved by OWNER.

b) Screen opening size (250 to 350 micron) for the Clean-Screens, to be reviewed/approved by OWNER's Representative and Operator prior to ordering by CONTRACTOR.

c) Spare parts list to be provided by CONTRACTOR.

d) A progress report and written, verified testing data on the UC Davis validation review. (Moved to Second Payment)

e) This initial payment is intended to cover CONTRACTOR's actual cost and required prepayment to the fabricator for construction of the stainless steel tanks and other equipment which has an advance ordering requirement in order to adhere to the OWNER's performance schedule for completion of the WWTP Expansion Project.

2. Second Payment:25% of contract ($1,695,575*) upon delivery by CONTRACTOR of all tanks and Clean-Screens to the project site, including component parts and spare parts, together with written lien waivers from fabricators.

3. Third Payment: 25% (**$1,695,575***) upon successful start-up of the installed equipment and upon turnover by CONTRACTOR to the OWNER's WWTP Operator for operation with first test result demonstrating that the system meets permitted discharge limits consistently for a period (not less than 14 calendar days nor more than 30 calendar days) satisfactory to Owner's contracted Operations Firm and as-reviewed by City Engineer via on-site observations and laboratory test results. Should the MM Filtration System fail to meet the required discharge requirements on any day during this initial operational period, this and all subsequent payments will be withheld by OWNER until the initial operational verification has been fully satisfied.

   In addition to the operational requirements of this progress payment, CONTRACTOR shall furnish at least two (2) sets of complete operations manuals on the MM Filtration System process control and MM Filtration System (including equipment purchased by the OWNER pursuant to CONTRACTOR specifications and incorporated in the MM Filtration System, and clear instruction regarding the cultivation of the bacteria group employed in the biological treatment); equipment maintenance manuals; and training and other deliverables required in the Agreement. During the equipment installation phase, OWNER's operational personnel shall be given opportunity to observe the progress and shall be trained in the operation and maintenance of all MM Filtration System components. One additional set of such manuals shall be provided to OWNER.

4. Fourth Payment: 12.5% (**$847,787.50***) upon completion of additional three (3) consecutive months of successful operation by the OWNER's WWTP Operator, achieving Title 22 quality effluent without any exception, verified based on laboratory testing of influent and effluent qualities, and substantiated by the OWNER's submission of monthly RWQCB reports without errors. Laboratory testing shall be in accordance with the frequency as specified in the RWQCB Permit or at sole discretion of OWNER. CONTRACTOR shall not be responsible for errors noted in testing which may be caused by excess flow or inadequate disinfection.

5. Fifth and Final Payment: 12.5% (**$847,787.50***) upon completion of additional three (3) consecutive months of successful operation by the OWNER's WWTP Operator, verified based on laboratory testing of influent and effluent qualities, and substantiated by the OWNER's submission of monthly RWQCB reports without errors. Laboratory testing shall be in accordance with the frequency as specified in the RWQCB Permit or at sole discretion of OWNER. CONTRACTOR shall not be responsible for errors noted in testing which may be caused by excess flow or inadequate disinfection.

BOND NO.

FAITHFUL PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS,

That _____ as

Contractor, and _____ as

Surety, are held firmly bound
unto_____

hereinafter called "Owner," in the sum of _____
_____

_____ Dollars,

for the payment of which sum will and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Contractor has been awarded and is about to enter into the annexed contract with said Owner to perform all work required under the bidding schedule(s) of the Owner's specifications entitled "Contract Documents and Specifications for the Construction of Furnish-Install Advanced Primary Fine Screens and Advanced Secondary Bio-Filters."

NOW THEREFORE, if said Contractor shall perform all the requirements of said contract required to be performed on his part, at the times and in the manner specified therein, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

PROVIDED, that any alterations in the work to be done or the materials to be furnished, or changes in the time of completion, which may be made pursuant to the terms of said contract, shall not in any way release said Contractor or said Surety thereunder, nor shall any extensions of time granted under the provisions of said contract release either said Contractor or said Surety, and notice of such alterations or extensions of the contract is hereby waived by said Surety.

SIGNED AND SEALED, this _____day of _____20_____.

(SEAL) (SEAL)

_____

(Contractor) (Surety)

By_____

(Signature) (Signature)

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)

BOND NO.

LABOR AND MATERIAL BOND

KNOW ALL MEN BY THESE PRESENTS,

That _____ as Contractor,

and _____ as Surety,

are held firmly bound unto _____,

hereinafter called "Owner," in the sum of

_____ Dollars,

for the payment of which sum will and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Contractor has been awarded and is about to enter into the annexed contract with said Owner to perform all work required under the bidding schedule(s) of the Owner's specifications entitled "Contract Documents and Specifications for the Construction of Furnish-Install Advanced Primary Fine Screens and Advanced Secondary Bio-Filters."

NOW THEREFORE, if said Contractor, or subcontractor, fails to pay for any materials, equipment, or other supplies, or for rental of same, used in connection with the performance of work contracted to be done, or for amounts due under applicable State law for any work or labor thereon, said Surety will pay for the same in an amount not exceeding the sum specified above, and, in the event suit is brought upon this bond, a reasonable attorney's fee to be fixed by the court. This bond shall insure to the benefit of any persons, companies, or corporations entitled to file claims under applicable State law.

PROVIDED, that any alterations in the work to be done or the materials to be furnished, or changes in the time of completion, which may be made pursuant to the terms of said contract, shall not in any way release said Contractor or said Surety thereunder, nor shall any extensions of time granted under the provisions of said contract release either said Contractor or said Surety, and notice of such alterations or extensions of the contract is hereby waived by said Surety.

SIGNED AND SEALED, this _____ day of _____ 20_____.

(SEAL) (SEAL)

_____ _____

(Contractor) (Surety)

By _____ _____

(Signature) (Signature)

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)

PART II
GENERAL CONDITIONS

GENERAL CONDITIONS

SECTION 1 - DEFINITIONS AND TERMS AND ABBREVIATIONS

Whenever in these specifications, or in any documents or instruments where these specifications govern, the following terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

1.01 OWNER

The word "Owner" used in the contract documents refer to City of Adelanto (also the Adelanto Public Utilities Authority), California.

1.02 CITY MANAGER

The City Manager or his duly authorized representative of the City of Adelanto, the Owner. The City Manager may also act in place of the Engineer.

1.03 ENGINEER

The word "Engineer" shall mean the individual or firm authorized by the Owner to oversee the execution of this contract, acting either directly or through properly authorized agents, each agent acting only within the scope of authority delegated to him by the Engineer.

1.04 BIDDER

Any individual, firm or corporation submitting a proposal for the work contemplated, acting directly or through a duly authorized representative.

1.05 CONTRACTOR

The word "Contractor" shall mean the party entering into contract with the Owner for performance of the work called for in these specifications and shown on the drawings, including the Contractor's authorized agents.

1.06 SUBCONTRACTOR

The word "Subcontractor" shall mean any person, firm, or corporation entering into agreement with the Contractor for performance of any part of the Contractor's obligation under the contract.

1.07 SUPERINTENDENT

The field representative of the Contractor, present on the work at all times during progress, authorized to receive and fulfill instructions of the Owner.

1.08 PROPOSAL

The offer of the bidder for the work when made out and submitted on the prescribed proposal form, properly signed and with proposal guarantee.

1.09 CONTRACT

The word "Contract" shall mean the contract documents and shall include the written Agreement entered into by the Owner and the Contractor for the performance of work described in the

Specifications and shown on the Drawings, together with Notice Inviting Bids, Instructions to Bidders, Accepted Proposal, Faithful Performance Bond, Labor and Material Bond, Special Provisions, Standard Specifications, Design Standards, Plans, Profiles and Detailed Drawings, Resolution of Intention and Related Proceedings, all addenda issued by the Owner with respect to the foregoing prior to the opening of bids, and all change orders issued by the Owner and signed by the Contractor pertaining to the contract after the contract is awarded.

1.10 SPECIFICATIONS

The word "Specifications" shall mean the General Conditions of the Contract and the Special Conditions of the Contract, together with all addenda and change orders issued with respect thereto.

1.11 DRAWINGS

The words "Drawings" or "Contract Drawings" or "Plans" shall mean those drawings accompanying the Specifications which show the locations, nature, extent and form of the work, together with applicable details.

1.12 WORK

All the work specified in the Special Provisions, Proposal, and Contract, or indicated on the Plans as the contemplated improvement covered by the Contract.

1.13 ADDENDA

Written or graphic instruments issued prior to the opening of bids which modify or interpret the contract documents, drawings and specifications, by addition, deletion, clarifications, or corrections.

1.14 NOTICE TO PROCEED

Written communication issued by the Owner to the Contractor authorizing him to proceed with the work and establishing the date of commencement of the work.

1.15 FIELD ORDER

A written order effecting a change in the work not involving an adjustment in the contract price or an extension of the contract time, issued by the Engineer or Owner or their authorized representatives to the Contractor during constructions.

1.16 CHANGE ORDER

A written order to the Contractor authorizing an addition, deletion or revision in the work within the general scope of the contract documents, or authorizing an adjustment in the contract price or contract time.

1.17 SUBSTANTIAL COMPLETION

That date as certified by the Engineer when the construction of the project or a specified part thereof is sufficiently completed, in accordance with the contract documents, so that the project or specified part can be utilized for the purposes for which it is intended.

1.18 ABBREVIATIONS

Wherever the following abbreviations are used they shall have the meanings indicated:

AASHTO	American Association of the State Highway and Transportation Officials
ACI	American Concrete Institute
AGA	American Gas Association
AI	The Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron & Steel Institute
ANSI	American National Standards Institute
API	American Petroleum Institute
ASA	American Standards Association, Inc. (Now ANSI)
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing Materials
AWS	American Welding Society
AWWA	American Water Works Association
CRSI	Concrete Reinforcement and Steel Institute
IEEE	Institute of Electrical and Electronics Engineers
IPCEA	Insulated Power Cable Engineers' Association
ISO	Insurance Services Office
NEMA	National Electrical Manufacturers Association
OSHA	Occupational Safety and Health Act of 1970
PCA	Portland Cement Association
SSPC	Steel Structures Painting Council
UBC	Uniform Building Code, International Conference of Building Officials, latest edition.
UPC	Uniform Plumbing Code, International Conference of Building Officials, latest edition.
U/L	Underwriters' Laboratories, Inc

SECTION 2 - SPECIFICATIONS, DRAWINGS, AND RELATED DATA

2.01 INTENT OF SPECIFICATIONS AND DRAWINGS

The intent of the Specifications and Drawings is that the Contractor shall furnish all plant, labor, materials, equipment and services, except as may be specifically noted otherwise, which are required or necessary to fully complete the work.

2.02 SPECIFICATIONS AND DRAWINGS COMPLEMENTARY

The Specifications and Drawings are complementary and what is called for in one shall be as binding as if called for in both.

2.03 DISCREPANCIES IN SPECIFICATIONS AND DRAWINGS

Any discrepancies, errors, or omissions found in the Specifications or Drawings shall be promptly reported to the Engineer who will issue a correction in writing. The Contractor shall not take advantage of any such discrepancies, errors, or omissions, but shall comply with any corrective measures regarding the same prescribed by the Engineer.

2.04 CONFLICTS BETWEEN SPECIFICATIONS AND DRAWINGS

In case of conflict between the Specifications and the Drawings, the Specifications shall govern over the Drawings. In cases of conflict between the General Conditions and Special Conditions of the Specifications, the Special Conditions shall govern over the General Conditions.

2.05 SHOP DRAWINGS

(a) Wherever called for in these Specifications or on the Drawings, or where required by the Engineer, the Contractor shall furnish to the Engineer for review, 6 prints of each shop drawing. The term "shop drawing" as used herein shall be understood to include detail design calculations, fabrication and installation drawings, lists, graphs, operating instructions, etc. Unless otherwise required, said drawings shall be submitted at a time sufficiently early to allow review of same by the Engineer, and to accommodate the rate of construction progress required under the Contract. The Contractor may authorize a material or equipment supplier to deal directly with the Engineer with regard to shop drawings; however, ultimate responsibility for the accuracy and completeness of the information contained in the submittal shall remain with the Contractor.

(b) Except as may otherwise be provided in the Special Conditions, the Engineer will return prints of each shop drawing to the Contractor, with his comments noted thereon, within 15 calendar days following their receipt at his office. It is considered reasonable that the Contractor shall make a complete and acceptable submittal to the Engineer by the second submission of shop drawing. The Owner reserves the right to withhold monies due the Contractor to cover additional costs of the Engineer's review beyond the second submission.

(c) Fabrication of an item shall not be commenced before the Engineer has reviewed the pertinent shop drawings and returned copies to the Contractor marked either "NO EXCEPTIONS TAKEN," "MAKE CORRECTIONS NOTED," or "AMEND-RESUBMIT." Revisions indicated on shop drawings shall be considered as changes necessary to meet the requirements of the Contract Drawings and Specifications and shall not be taken as the basis of claims for extra work. The Contractor shall have no claim for damages or extension of time due to any delay

resulting from the Contractor's having to make the required revisions to shop drawings (unless review by the Engineer of said drawings is delayed beyond a reasonable period of time and unless the Contractor can establish that the Engineer's delay in review actually resulted in a delay in the Contractor's construction schedule). The review of said drawings by the Engineer will be limited to checking for general agreement with the Specifications and Drawings, and shall in no way relieve the Contractor of responsibility for errors or omissions contained therein nor shall such review operate to waive or modify any provision contained in the Specifications or Contract Drawings. Fabricating dimensions, quantities of material, applicable code requirements, and other Contract requirements shall be the Contractor's responsibility.

2.06 REFERENCE TO STANDARDS OR PUBLICATIONS

Any reference made in the Specifications or Drawings to any specification, standard, or publication of any organization shall, in the absence of a specific designation to the contrary, be understood to refer to the latest edition of the specification, standard, or publication in effect as of the date of advertising the work.

2.07 REFERENCES TO PROPRIETARY PRODUCTS

(a) Where references to proprietary products appear in the Specifications or Drawings, whether or not followed by the words "or equal," it is for the purpose of establishing an acceptable standard of quality or design. Unless a substitute is expressly prohibited, the Contractor may request approval of a substitute for any such proprietary product. Such approval will not normally be given by the Engineer prior to award of a Contract. A request for substitution must be in writing and must include descriptive literature, specifications, test reports or samples, as appropriate, to enable the Engineer to determine the acceptability of the product proposed for substitution. If substitution is requested as part of a shop drawing submittal, the item(s) proposed for substitution shall be clearly indicated. No substitute product shall be used on the work until written approval has been received from the Engineer. Any revisions to structures, piping, mechanical, electrical, instrumentation, or any other work made necessary by such substitution must be approved by the Engineer and the entire cost of these revisions shall be borne by the Contractor.

(b) Where a particular type or model number for an item of equipment is specified in addition to a word description of the item, it shall be understood that the call out of type or model number is made solely for the convenience of the Contractor and no guarantee is made or should be assumed as to its accuracy. In the event an item of equipment as represented by a model number differs in any respect from the word description contained in the specification, the word description shall govern and the Contractor will be held to furnishing the item of equipment to meet the worded description of the specification.

2.08 SPECIFICATIONS AND DRAWINGS FURNISHED TO CONTRACTOR

The Owner will furnish to the Contractor 5 sets of Specifications and 5 sets of full-scale Drawings. Additional quantities of Specifications and Drawings will be furnished at reproduction cost.

2.09 AS-BUILT DRAWINGS

(a) Except where otherwise provided, the Contractor shall maintain, on the jobsite, a set of full-size reproducible contract drawings, or a set of blackline prints. On these he shall mark all as-built conditions, locations, configurations, and other details which may vary from the details represented on the original drawings. This master record of as-built conditions, including all revisions made necessary by addenda, change orders, and the like shall be maintained up-to-date during the progress of the work.

(b) In the case of those drawings which depict the detail requirement for equipment to be assembled and wired in the factory, such as motor control centers and the like, the as-built drawings shall be updated by indicating those portions which are superseded by final shop drawings, and by including a reference not describing the shop drawings by manufacturer, drawing and revision numbers, and date.

(c) Upon completion of the work and prior to final acceptance, the as-built drawings shall be turned over to the Owner.

SECTION 3 - ENGINEER-OWNER-CONTRACTOR RELATIONS

3.01 ENGINEER'S (OWNER'S REPRESENTATIVE) AUTHORITY

(a) The Engineer acting as Owner's Representative, will review all questions which may arise as to the quality and acceptability of materials and equipment furnished, work performed, rate of progress of the work, interpretation of the Specifications and Drawings, and all questions as to the acceptable fulfillment of the Contract by the Contractor.

(b) Any difference which may arise between the Contractor and any other contractors also under the surveillance of the Engineer will be arbitrated by the Engineer; however, the Engineer will not arbitrate disputes between the Contractor and his subcontractors.

3.02 CONTRACTOR'S DAILY REPORTS

Where called for in the Special Conditions, the Contractor shall complete a daily report indicating manpower, major equipment, subcontractors, etc., involved in the performance of the work. The daily report shall be completed on forms prepared by the Contractor and reviewed by the Engineer, and shall be submitted to the Engineer at the conclusion of each work day.

3.03 RIGHTS-OF-WAY

(a) Lands or rights-of-way for the work to be constructed under the Contract will be provided by the Owner as shown on the Drawings. Nothing contained in the Specifications or Drawings shall be interpreted as giving the Contractor exclusive occupancy of the lands or rights-of-way provided. Any additional lands or rights-of-way required for construction operations shall be provided by the Contractor at his own expense.

(b) Except as may otherwise be provided, the Contractor shall secure, from the agencies having jurisdiction, the necessary permits to create obstructions, to make excavations if required under the Contract, and to otherwise encroach upon rights-of-way, and present evidence to the Engineer that such permission has been granted, before work is commenced. Regulations and requirements of all agencies concerned shall be strictly adhered to in the performance of this Contract, including the furnishing of insurance and bonds if required by such agencies. The enforcement of such requirements under this Contract shall not be made the basis for claims for additional compensation.

(c) The Contractor shall not do any work that would affect any oil, gas, sewer, or water pipeline, any telephone, telegraph, or electric transmission line, fence, or any other structure, nor enter upon the rights-of-way involved until notified by the Engineer that the Owner has secured authority therefore from the proper party. After authority has been obtained, the Contractor shall give said party due notice of his intention to begin work, and shall give said party convenient access and every facility for removing, shoring, supporting, or otherwise protecting such pipeline, transmission line, ditch, fence, or structure, and for replacing same.

The Contractor shall not be entitled to any extension of time or extra compensation on account of any postponement, interference, or delay caused by any such pipeline, transmission line, fence, or structure being on the line of the work except as provided in Section 3.04.

3.04 CONSTRUCTION INTERFERENCES

(a) As used in this Section, the word "utility" shall be understood to include tracks, overhead or underground wires, cables, pipelines, conduits, ducts, sewers or storm drains. As used in this Section, the term "service connection" shall be understood to mean all or any portion of a pipeline (including sewer house laterals), conduit, wire, cable or duct, including meter, between a utility distribution line and an individual customer, or customers when served by a single service connection. As used in this Section, the term "construction interference" shall be understood to include any utility or service connection within the limits of excavation or overexcavation required for the work under the Contract as shown or as ordered by the Engineer, or any utility or service connection located in the space which will be required by any of the work under the Contract.

(b) In the event any utility or service connection is required to be disturbed or removed to permit construction of a pipeline or other structure under the Contract, such disturbance or removal shall be done only with the review of the Engineer, and following notification to the owner of the interfering utility or service connection. Any such utility or service connection removed or otherwise disturbed shall be reconstructed as promptly as possible in its original or other authorized location in a condition at least as good as prior to such removal or disturbance, subject to the inspection of the owner of same. The Contractor's responsibility under this Section to remove or replace shall apply even in the event such damage or destruction occurs after backfilling or is not discovered until after completion of backfilling. The owner of the utility or service connection shall be notified immediately after damage or destruction occurs or is discovered.

(c) During the performance of the work under this Contract, the owner of any utility affected by the work shall have the right to enter when necessary upon any portion of the work for the purpose of maintaining service and of making changes in or repairs to said utility.

(d) The Drawings show the approximate positions of known utilities in the immediate vicinity of the work, but the Owner does not guarantee that all existing utilities are shown. Service connections normally are not shown on the Drawings. The Contractor, before commencing any excavation, shall ascertain from records or otherwise, the existence, horizontal and vertical position, and ownership of all existing utilities and service connections. If the Contractor discovers any utility in the line of the work which is not shown on the Drawings, he shall immediately notify the Engineer of the existence of same. The Owner will not be liable for any consequences arising as a result of a service connection being incorrectly located in the field by the agency having jurisdiction over said service connection.

(e) All costs involved in removing, relocating, protecting, supporting, repairing, maintaining or replacing a main or trunkline utility facility which actually constitutes a construction interference, when said utility is not shown with reasonable accuracy as an interference or is omitted from the Drawings, will be paid for by the Owner as extra work. In such case, the Owner will also compensate the Contractor for equipment on the project necessarily idled during and by reason of such work. The Owner's obligation to repair damage to such a facility and to compensate the Contractor for idled equipment shall not extend to damage resulting from the failure of the Contractor to use reasonable care. The Contractor must promptly notify the Owner

by phone and in writing before any repair work is done.

(f) All costs involved in removing, relocating, protecting, supporting, repairing, maintaining or replacing any utility or service connection other than those described in Subsection (e) herein shall be borne by the Contractor.

(g) The Contractor shall be credited with time extensions, by means of contract change orders, for delays caused by failure of the Owner or of the agency having jurisdiction over the utility or service connection to authorize or otherwise provide for its removal, relocation, protection, support, repair, maintenance or replacement.

(h) The Owner reserves the right, upon determination of the actual position of existing utilities and service connections, to make changes in alignment or grade of the Owner's pipelines when, by so doing, the necessity for relocation of existing utilities or service connections will be avoided. Such changes will be ordered in writing by the Engineer. Where applicable, adjustment in the contract price for additional work will be on the basis of the unit prices stated in the Bidding Schedule. Where unit prices in the Bidding Schedule are not applicable, adjustment in contract price will be in accordance with change order negotiations.

3.05 LINES AND GRADES

(a) The Engineer will set permanent bench marks, as appropriate, near or on the site of the work, or will indicate the known reference bench marks for use by the Contractor. The Contractor shall furnish all other lines and grades required for proper execution of the work, and such work shall be performed by qualified land surveyor or civil engineer.

(b) The Contractor shall preserve all bench marks, stakes, and other survey marks, and in case of their removal or destruction by his own employees or by his subcontractor's employees, he shall be liable for the cost of their replacement.

3.06 LEGAL ADDRESS OF CONTRACTOR

The address given by the Contractor in the Bid Proposal is hereby designated as the place to which all notices, letters, and other communications to the Contractor will be mailed or delivered. The mailing or delivering to said address of any notice, letter, or other communication shall be deemed sufficient service thereof upon the Contractor. The date of such service shall be the date of such mailing or delivery. Said address may be changed at any time by a written notice signed by the Contractor and delivered to the Owner.

3.07 CONTRACTOR'S SUPERINTENDENCE

A qualified superintendent, acceptable to the Engineer, shall be responsible for the work and shall provide competent supervision of the work until its completion. The superintendent shall have full authority to act in behalf of the Contractor; and all directions given by the Engineer to the superintendent shall be considered given to the Contractor. If the superintendent is not present on a part of the work where the Engineer desires to give instructions, such instructions may be given by the Engineer to the foreman in charge of the particular work to which the instructions apply. Such instructions given to a foreman likewise shall be considered given to the Contractor. Such instructions given by the Engineer to the superintendent or to a foreman,

when they concern items of substantial importance, will be confirmed in writing. All instructions and directions given by the Engineer will be limited to matters properly falling within the Engineer's authority as specified in Section 3.01.

3.08 PROTESTS

If the Contractor considers any work demanded of him to be outside the requirements of the Contract, or if he considers any order, instruction, or decision of the Engineer or of any inspector to be unfair, he shall, immediately upon receipt of such order, instruction, or decision, ask for a written confirmation of the same, whereupon he shall proceed without delay to perform the work or to conform to the order, instruction, or decision; but, unless the Contractor finds such order, instruction, or decision satisfactory, he shall within 10 calendar days after receipt of same, file a written protest with the Engineer, stating clearly and in detail his objections and the reasons there-for. Except for such protests or objections as are made of record in the manner specified and within the time stated herein, the Contractor hereby waives all grounds for protests or objections to the orders, instructions, or decisions of the Engineer and hereby agrees that, as to all matters not included in such protest, the orders, instructions, and decisions of the Engineer shall be considered final and binding. All orders, instructions and decisions of the Engineer will be limited to matters properly falling within the Engineer's authority as specified in Section 3.01.

3.09 INSPECTION AND TESTING

(a) All materials furnished and all work performed under the Contract shall be subject to inspection by the Engineer. The Contractor will be held strictly to the true intent of the Specifications and Drawings in regard to quality of materials, workmanship, and diligent execution of the Contract. Such inspection may include mill, plant, shop, or field inspection as required. The Engineer shall be permitted access to all parts of the work, including plants where materials or equipment are manufactured or fabricated, and shall be furnished with such materials, information and assistance by the Contractor and his subcontractors and suppliers as is required to make a complete and detailed inspection.

(b) Work done in the absence of prescribed inspection may be required to be removed and replaced under the proper inspection, and the entire cost of removal and replacement, including the cost of all materials which may be furnished by the Owner and used in the work thus removed, shall be borne by the Contractor, regardless of whether the work removed is found to be defective or not. Work covered up without the inspection of the Engineer, shall, upon order of the Engineer, be uncovered to the extent required, and the Contractor shall similarly bear the entire cost of performing all the work and furnishing all the materials necessary for the removal of the covering and its subsequent replacement, as directed and inspected by the Engineer.

(c) Except as otherwise provided herein, the cost of inspection will be paid by the Owner. All inspection fees imposed by agencies other than the Owner shall be paid by the Contractor.

(d) The Engineer will make, or have made, such tests as he deems necessary to assure that the work is being accomplished in accordance with the requirements of the Contract. Unless otherwise specified in the Special Conditions, the cost of such testing will be borne by the Owner. In the event such tests reveal noncompliance with the requirements of the Contract, the Contractor shall bear the cost of such corrective measures deemed necessary by the Engineer, as

well as the cost of subsequent retesting. It is understood and agreed that the making of tests shall not constitute an acceptance of any portion of the work nor relieve the Contractor from compliance with the terms of the Contract.

3.10 ASSIGNMENT FORBIDDEN

The Contractor shall not assign, sublet, sell, transfer, or otherwise dispose of the Contract or any portion thereof, or his right, title, or interest therein, or his obligation thereunder, without the written consent of the Owner. If the Contractor violates this provision, the Contract may be terminated at the option of the Owner. In such event, the Owner shall be relieved of all liability and obligations to the Contractor and to his assignee or transferee, growing out of such termination.

3.11 SUBCONTRACT

(a) The Contractor shall perform not less than 25 percent of the work with his own forces (i.e., without subcontracting). The 25 percent requirement shall be understood to refer to work, the value of which totals not less than 25 percent of the contract price.

(b) In the Owner's discretion, subcontracts may be permitted to such extent as shall be shown to be necessary or advantageous to the Contractor in the prosecution of the work and without injury to the Owner's interests. The re-subletting of work by a subcontractor shall be subject to the same limitations as an original subletting. Each subcontractor shall be properly licensed for the type of work which he is to perform.

(c) A copy of each subcontract, if in writing (or if not in writing, then a written statement signed by the Contractor giving the name of the subcontractor and the terms and conditions of each subcontract), shall be filed promptly with the Owner upon the Owner's request. Each subcontract shall contain a reference to the Agreement between the Owner and the Contractor, and the terms of that Agreement shall be made a part of each subcontract insofar as applicable to the work covered thereby. Each subcontract shall provide for annulment of same by the Contractor upon written order of the Owner, if, in the Owner's opinion, the subcontractor fails to comply with the requirements of the prime contract insofar as the same may be applicable to this work.

(d) The Contractor shall be responsible to the Owner and its Engineer for the acts and omissions of his subcontractors and their employees to the same extent as he is responsible for the acts and omissions of his own employees. Nothing contained in this Section shall create any contractual relationship between any subcontractor and the Owner or its Engineer or relieve the Contractor of any liability or obligation under the prime contract.

3.12 SUSPENSION OF WORK

The Engineer acting on behalf of the Owner may, by written notice to the Contractor, suspend the work, in whole or in part, for such period or periods as he may deem necessary, due to unsuitable weather, delay in delivery of Owner-furnished equipment or materials, or such other conditions as are considered unfavorable for prosecution of the work, or failure on the part of the Contractor to carry out the provisions of the Contract or to provide materials or workmanship meeting the requirements of the Specifications. Suspended work shall be resumed by the

Contractor within 10 calendar days of receipt from the Engineer of written notice to proceed.

3.13 TERMINATION OF CONTRACT BY CONTRACTOR

Unless prior time extension has been agreed upon in a change order, the Contractor may terminate the Contract upon 10 calendar days written notice to the Owner, whenever (1) the entire work has been suspended in accordance with Section 3.12, for 60 consecutive calendar days through no fault or negligence of the Contractor, and notice to resume work or to terminate the Contract has not been received from the Owner within this time period; or (2) the Owner should fail to pay the Contractor any substantial sums due him in accordance with the terms of the Contract and within the time limits prescribed. In the event of such termination, the Contractor shall have no claims against the Owner except for those claims specifically enumerated in Section 3.14 and determined in accordance with that Section.

3.14 TERMINATION OF CONTRACT BY OWNER (CONTRACTOR NOT AT FAULT)

The Owner may terminate the Contract upon 10 calendar days written notice to the Contractor, if it is found that reasons beyond the control of either the Owner or Contractor make it impossible or against the Owner's interests to complete the work. In such a case, the Contractor shall have no claims against the Owner except (1) for the value of work performed up to the date the Contract is terminated, and (2) for the cost of materials and equipment on hand, in transit, or on definite commitment, as of the date the Contract is terminated, which would be needed in the work and which meet the requirements of the Specifications. The value of work performed and the cost of materials and equipment delivered to the site, as mentioned above, shall be determined by the Engineer in accordance with the procedure prescribed for the making of the final estimate and payment as described in Section 5.08.

3.15 TERMINATION OF CONTRACT BY OWNER (CONTRACTOR AT FAULT)

(a) The Owner may terminate the Contract upon 10 calendar days written notice to the Contractor in the event of any default by the Contractor. It shall be considered a default by the Contractor whenever he shall (1) declare bankruptcy, become insolvent, or assign his assets for the benefit of his creditors; (2) disregard or violate important provisions of the Contract documents or Engineer's instructions, or fail to prosecute the work according to the approved progress schedule; or (3) fail to provide a qualified superintendent, competent workmen, or subcontractors, or materials or equipment meeting the requirements of the Specifications and Drawings.

(b) In the event the Contract is terminated in accordance with Subsection 3.15(a), the Owner may take possession of the work and of all materials, tools, equipment, and property of the Contractor, which have been provided in connection with the work, and may complete the work by whatever method or means he may select. The cost of completing the work shall be deducted from the balance which would have been due the Contractor had the Contract not been terminated and the work completed in accordance with the Drawings and Specifications. If such cost exceeds the balance which would have been due, the Contractor shall pay the excess amount to the Owner. If such cost is less than the balance which would have been due, the Contractor shall not have claim to the difference except to such extent as may be necessary, in the opinion

of the Engineer, to reimburse the Contractor or the Contractor's sureties for any expense properly incurred for materials, tools, equipment, property, and labor, devoted to the prosecution of the work, of which the Owner shall have received the benefit. In computing such expenses, as it relates to equipment and property, the salvage value at completion of work shall be deducted from the depreciated value at the time the Contract was terminated, and the difference shall be considered as an expense.

SECTION 4 - MATERIALS AND WORKMANSHIP

4.01 SAFEGUARDING OF EQUIPMENT, MATERIALS AND WORK

The Contractor shall properly safeguard all equipment, materials, and work against loss, damage, malicious mischief, or tampering by unauthorized persons until acceptance of the work by the Owner. Locked and covered storage or continuous surveillance by a watchman shall be provided if required to accomplish this purpose.

4.02 MATERIALS AND EQUIPMENT

Unless specified otherwise in the Special Conditions, all materials required in the installation of water transmission or distribution mains will be furnished by the Owner. After award of the Contract, the successful bidder will prepare a list of all required pipe, gate valves, fire hydrants, fittings and other materials required to complete the work. Such materials sill be furnished to the Contractor at no cost and at the time set forth in his construction schedule.

All other materials and equipment incorporated in the work shall be new and of current manufacture unless otherwise specified, shown, or permitted by the Engineer. The Engineer may request the Contractor to furnish manufacturer's certificates to this effect.

4.03 RESPONSIBILITY FOR MATERIAL FURNISHED BY OWNER

The Contractor's responsibility for material furnished by the Owner shall begin upon Contractor's acceptance at the point of delivery to him. All such material shall be examined, and material defective in manufacture and/or otherwise damaged shall be rejected by the Contractor at the time and place of delivery to him and replaced by the Owner. Material furnished by the Owner which is accepted by the Contractor but which is discovered prior to final acceptance of the work, (1) to be defective in manufacture, shall be replaced by the Owner; (2) to have been damaged before or after acceptance by the Contractor, shall be replaced by the Contractor. Once accepted by the Contractor at the point of delivery to him, all defective and/or damaged material discovered prior to final acceptance of the work shall be removed by the Contractor and he shall install, at his own expense, the material required, in its stead, by the Owner or Contractor. In such case the Contractor shall furnish all labor, equipment and material incidental to replacement and necessary for the completion of the work to the satisfaction of the Engineer.

4.04 CONTRACTOR'S UTILITIES

(a) Unless otherwise specified in the Special Conditions, the Owner will furnish, without charge, reasonable quantities of water required by the Contractor in performance of the work under the Contract; however, the Contractor shall provide the facilities necessary to convey the water from the Owner-designated source to the points of use.

(b) The Contractor shall provide his own telephone and all electric power required in performance of the work under the Contract, and shall pay all installation charges and monthly bills in connection therewith.

(c) The Contractor shall provide and maintain such sanitary accommodations for the use of his employees and those of his subcontractors as may be necessary to comply with the requirements of State and local health departments.

4.05 TITLE TO MATERIALS FOUND ON THE WORK

The Owner reserves the right to retain title to all soils, stone, sand, gravel, and other materials developed and obtained from excavations and other operations connected with the work. Unless otherwise specified in the Special Conditions, neither the Contractor nor any subcontractor shall have any right, title, or interest in or to any such materials. The Contractor will be permitted to use in the work, without charge, any such materials which meet the requirements of the Specifications and Drawings.

4.06 DEFECTIVE EQUIPMENT, MATERIALS, OR WORK

(a) Inspection of the work shall not relieve the Contractor of any of his obligations under the Contract. Even though equipment, materials, or work required to be provided under the Contract have been inspected, accepted, and estimated for payment, the Contractor shall, at his own expense, replace or repair any such equipment, materials, or work found to be defective or otherwise not complying with the requirements of the Contract, up to the end of the maintenance and guarantee period as provided in Section 6.06.

(b) Any equipment or materials brought upon the job site by the Contractor and subsequently rejected by the Engineer as not complying with the requirements of the Contract shall be removed immediately by the Contractor from the job site.

(c) If the Contractor shall fail to repair or replace unsatisfactory equipment, materials, or work, or to remove unsatisfactory equipment or materials from the job site, within 10 calendar days after being ordered to do so by the Engineer, the Engineer, acting on behalf of the Owner, may make the ordered repairs or remove the condemned equipment or materials and the Owner will deduct the cost thereof from any money due or to become due the Contractor.

4.07 RUBBISH CONTROL

During the progress of the work, the Contractor shall keep the site of the work and other areas used by him in a neat and clean condition, and free from any accumulation of rubbish.

4.08 DUST CONTROL

The Contractor shall at all times conduct his work so as to avoid unnecessary dust. He shall provide adequate equipment and water as determined by the Engineer to be necessary for accomplishment of this objective.

4.09 CLEANING UP

The Contractor shall promptly remove from the vicinity of the completed work, all rubbish, unused materials, concrete forms, equipment, and temporary structures used during construction. Additional clean-up work, if provided in the Special Conditions, shall be performed by the Contractor.

4.10 CHARACTER OF WORKERS

None but skilled workers shall be employed on work requiring special qualifications. When required in writing by the Engineer, the Contractor or any subcontractor shall discharge any person who is, in the opinion of the Engineer, incompetent, disorderly, or otherwise unsatisfactory, and shall not again employ such discharged person on the work except with the consent of the Engineer. Such discharge shall not be the basis of any claim for damages against the Owner or any of his agents.

SECTION 5 - PROGRESS, ESTIMATES AND PAYMENT

5.01 BREAKDOWN OF CONTRACT PRICE

Prior to execution of Contract, if requested by the Engineer, the Contractor shall submit a detailed price breakdown of any or all of his bid items for the work. Such price breakdown shall include quantities, unit prices, and any other information required, in sufficient detail, to enable it to be used by the Engineer in checking monthly progress estimates.

5.02 CONSTRUCTION SCHEDULE

Within 5 calendar days after award of the Contract and prior to start of any construction work, or at such times as may be required by the Engineer, the Contractor shall submit a construction schedule showing the order in which he proposes to carry on the work and the dates when the various parts are to be begun and completed including the anticipated monthly payment amount. Construction schedules shall be subject to the review of the Engineer and if in his opinion a schedule submitted is inadequate to complete the work in the time agreed upon, or is otherwise not in accordance with the Specifications, he may require the Contractor to submit a new schedule which will assure timely completion of the work.

5.03 CHANGE ORDERS

(a) The Owner may, as the need arises, order changes in the work through additions, deletions or modifications, without invalidating the Contract. Such changes will be effected through written change orders delivered to the Contractor, describing the change required in the work, together with any adjustment in contract price or time of completion as hereinafter provided. No such change shall constitute the basis of claims for damages or anticipated profits; however, the Engineer will make reasonable allowance for the value of any work, materials, or equipment furnished and subsequently rendered useless because of such change. Any adjustment in contract price resulting from an executed change order will be considered in computing subsequent monthly payments due the Contractor. Any work performed in accordance with a change order shall be subject to all provisions of the original Contract, and the Contractor's sureties shall be bound thereby to the same degree as under the original Contract. The Contractor will not receive payment for extra work performed unless said extra work is ordered in writing.

(b) Any adjustment in contract price shall be based on unit price bid items or additive and deductive bid items submitted by the Contractor in his original bid on the work, where such bid items are applicable.

(c) If the original bid prices are not applicable, the adjustment in contract price shall be based on a lump sum or unit price agreed upon by the Owner and the Contractor prior to executing the change order.

5.04 FIELD ORDERS

The Engineer, also, may at any time, by issuing a field order, make changes in the details of the work. The Contractor shall proceed with the performance of any changes in the work so ordered

by the Engineer unless the Contractor believes that such field order entitles him to a change in contract price or time, or both, in which event he shall give the Engineer written notice thereof within seven (7) calendar days after the receipt of the ordered change. Thereafter the Contractor shall document the basis for the change in contract price or time within thirty (30) calendar days. The Contractor shall not execute such changes pending the receipt of an executed change order or further instruction from the Owner.

5.05 EXTENSION OF TIME

(a) The Contractor may be entitled to an extension of contract time: (1) if the work has been suspended by the Owner, in whole or in part; or (2) where weather or other circumstances occur which delay progress and which are clearly beyond the control of the Contractor; provided that, in either case, the Contractor is not at fault and is not negligent under the terms of the Contract. The extension of time allowed shall be as determined by the Engineer.

(b) To receive consideration, a request for extension of time must be made in writing to the Engineer stating the reason for said request, and such request must be received by the Engineer within 10 calendar days following the end of the delay-causing condition.

5.06 COMPENSATION FOR OVERTIME WORK

Except as otherwise provided in this Section, the Contractor shall receive no additional compensation for overtime work even though such overtime work may be required under emergency conditions and may be ordered by the Engineer in writing. Additional compensation will be paid to the Contractor for overtime work only in the event extra work is ordered by the Engineer and the change order specifically authorizes the use of overtime work and then only to such extent as overtime wages are regularly being paid by the Contractor for overtime work of a similar nature in the same locality.

5.07 LIQUIDATED DAMAGES

(a) The date of beginning and the time for completion of the work are essential conditions of the Contract Documents and the work embraced shall be commenced on a date specified in the Notice to Proceed.

(b) The Contractor will proceed with the work at such rate of progress to insure full completion within the contract time. It is expressly understood and agreed, by and between the Contractor and the Owner, that the contract time for the completion of the work described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the work.

(c) If the Contractor shall fail to complete the work within the contract time, or an extension of time is not granted by the Owner, then the Contractor will pay to the Owner the amount for liquidated damages as specified in the Special Conditions for each calendar day that the Contractor shall be in default after the time stipulated in the Contract Documents.

5.08 MEASUREMENT AND PAYMENT

(a) WATER SEWER PIPES. The quantity of water pipe for which payment will be made shall be the length actually installed by the Contractor complete, in place and ready for operation in accordance with the contract drawings and specifications. Measurement shall be made to the nearest foot along the center line of pipe or pipe fittings through the valves or flanges or to the center line of the intersecting pipe, as the case may be.

Payment will be made according to the applicable contract unit price for wate-sewer pipes which prices shall include full compensation for furnishing all labor, materials (including fittings) except those specifically to be furnished by Owner under Section 4.02 and 4.03 of these General Conditions. Tools and equipment and doing all work involved in furnishing and installing complete in place and ready for operation all water pipe, fittings, adapters, etc., as indicated on the contract drawings, unless stated otherwise in the Special Conditions.

(b) TESTING AND DISINFECTION OF WATER MAINS. The cost of all testing and disinfection which shall be done in accordance with the Specifications, shall be included in the contract unit or lump sum prices for the various items of work and no additional allowance shall be made therefore.

(c) GATE OR BUTTERFLY VALVES. Payment for gate or butterfly valves shall be at the contract unit price bid for gate or butterfly valves of each size and shall include full compensation for furnishing all labor, tools and equipment and doing all the work involved in installing the gate valves in place, as specified, including valve boxes, caps, operators, by-passes, and all material required and labor necessary for connection to the pipe. Payment for gate or butterfly valves that are indicated to be included in other items of work shall be included in the lump sum or unit price bid for those items of work.

(d) FIRE HYDRANT ASSEMBLY. The price paid for each fire hydrant assembly shall include full compensation for furnishing all labor, tools and equipment and doing all of the work involved in furnishing and installing the fire hydrant assemblies complete in place, including the coupling, elbow, extension pipe, valve, valve box and lid, fitting to connect to main line, and grading, as shown on the drawings and as specified.

(e) THRUST BLOCKS. The cost of all thrust blocks as shown on the Drawings or as specified shall be included in the contract unit or lump sum prices for the various items of work and no additional allowance shall be made therefore.

(f) PUMP STATIONS AND TREATMENT FACILITIES. The payment shall be based on cost break-down as submitted by contractor and as reviewed with Owner's representative and Engineer.

5.09 PROGRESS ESTIMATES AND PAYMENTS

(a) On or about the 1st of each month, the Contractor will prepare and submit to the Engineer for review and to make recommendation to Owner for payment, an estimate of the cumulative amount and value of work performed by the Contractor up to that date. Except as may otherwise be provided in the Special Conditions, said amount will include 80 percent of the value of all acceptable materials and equipment delivered to the site of the work. Said value will be based on certified copies of invoices delivered by the Contractor to the Engineer. To this figure will be added all amounts due or paid the Contractor for performance of extra work in accordance with change orders. Engineer's review of work completed will be based on daily construction reports

prepared by Owner's field inspector.

(b) The Contractor shall furnish the Engineer promptly, upon request, all information and records necessary to determine the cost of the work for purposes of estimating monthly payments, including an itemized statement, in a form satisfactory to the Engineer, of the actual cost of all acceptable materials delivered by the Contractor to the site.

(c) No progress payment shall be construed as an acceptance of the work or of any portion of the work, nor shall the making of such payment preclude the Owner from demanding and recovering from the Contractor such damages as it may sustain by reason of the Contractor's failure to comply with the requirements of the Contract.

5.10 WITHHOLDING OF PAYMENTS

(a) For progress payments submitted under Section 5.09, the Owner may retain a portion of the amount otherwise due the Contractor, as follows:

(1) Withholding of not more than 10 percent of the payment claimed until work is 100 percent complete.

(2) When work is substantially complete (operational or beneficial occupancy), the withheld amount may be further reduced below 10 percent to only that amount necessary to assure completion, at the discretion or the Owner.

(3) Pursuant to Chapter 13 (commencing with Section 4590, Division 5, Title 1 of the Government Code of State of California, securities may be substituted for any moneys withheld by a public agency to ensure performance under a Contract. At the request and expense of the Contractor, securities equivalent to the amount withheld shall be deposited with the public agency, or with a state or federally chartered bank as the escrow agent, who shall pay such moneys to the Contractor upon satisfactory completion of the Contract.

Securities eligible for substitution under this Section shall include those listed in Section 16430 of the Government Code of the State of California or bank or savings and loan certificate of deposit.

The Contractor shall be the beneficial owner of any securities substituted for moneys withheld and shall receive any interest thereon. Any escrow agreement entered into pursuant to this Section shall contain as a minimum, the following provisions:

- The amount of securities to be deposited;
- Their terms and conditions of conversion to cash in case of the default of the Contractor; and;
- The termination of the escrow upon completion of the Contract.

(b) In addition to the amount which the Owner may retain under the above, the Owner may

withhold a sufficient amount or amounts or any payment otherwise due to the Contractor as in its judgement may be necessary to cover:

(1) Payments which may be past due and payable for just claims against the Contractor or any subcontractors, for labor or materials furnished in or about the performance of the work on the project under this Contract.

(2) For defective work not remedied.

(3) For failure of the Contractor to make proper payments to his subcontractors, as well as a sufficient amount or amounts to provide for the Owner's reasonable cost of any litigation that may occur due to a failure to make payments to subcontractors.

(4) For amounts claimed by the Owner as liquidated damages or other offsets.

(5) Amounts required to be deducted by Federal, State, or local governmental authority.

The Owner may apply such withheld amount or amounts to the payment of such claims in its discretion. In so doing, the Owner shall be deemed the agent of the Contractor and any payments so made by the Owner shall be considered as a payment made under the Contract by the Owner to the Contractor, and the Owner shall not be liable to the Contractor for such payment made in good faith. Such payments may be made without prior judicial determination of the claim or claims. The Owner will render to the Contractor a proper account of such funds disbursed in behalf of the Contractor.

(c) In the event the Contract is terminated, any funds due the Contractor and retained by the Owner in accordance with Subsection 5.10(a) shall become the property of the Owner to the extent necessary to repay to the Owner any excess in the contract price above the cost of the work completed at the time of termination. After issuance of notice to discontinue work, no further payments will be made to the Contractor for the work covered by the notice until completion of the work and final settlement has been made.

5.11 FINAL ESTIMATE AND PAYMENT

(a) When the Engineer is of the opinion that the Contractor has completely performed all work required under the Contract, he will request the Contractor to submit a draft of the final estimate.

(b) Upon Engineer's satisfactory review of the Contractor's final estimate and the completed work, the Engineer will certify physical completion of the work to the Owner and will recommend acceptance of the work.

(c) After acceptance of the work by the Owner's governing body and 35 calendar days after filing of the Notice of Completion, the Owner will pay to the Contractor the amount remaining after deducting all prior payments and all amounts to be kept or retained under the provisions of the Contract. In the event acceptance of the work is delayed more than 30 calendar days beyond the date of the last progress payment under the Contract, the Owner may make a further progress payment in accordance with Section 5.09. Final payment will not be made until proof of guarantee under Section 6.06 has been presented to the Engineer.

5.12 FINAL PAYMENT TERMINATES LIABILITY OF OWNER

Contractor shall, before it shall be entitled to the final payment referred to in Subsection 5.11 (c), also execute and file with the Owner a release upon the form provided by Owner, releasing the Owner and its agents from all claims or liability relating to undisputed Contract amounts of work performed in relation to said amounts.

SECTION 6 - BONDS, INSURANCE, LEGAL RESPONSIBILITY, & PUBLIC SAFETY

6.01 CONTRACT BONDS

Bonds issued by a surety who is listed in the latest version of U.S. Department of Treasury Circular 570, who is authorized to issue bonds in California, and whose bonding limitation shown in said circular is sufficient to provide bonds in the amount required by the Contract shall be deemed to be approved unless specifically rejected by the Owner. Bonds from all other sureties shall be accompanied by all of the documents enumerated in Code of Civil Procedure 995.660(a). The Bidder shall pay all bond premiums, costs, and incidentals.

6.02 FAITHFUL PERFORMANCE AND LABOR AND MATERIAL BOND

The Contractor shall secure with a corporate surety or sureties satisfactory to the Owner, a bond in the amount equal to one hundred percent (100%) of the total contract price to guarantee faithful performance of the contract; AND a bond in the amount equal to one hundred percent (100%) of the total contract price to guarantee payment of claims of laborers and material under the Contract.

6.03 ADDITIONAL SURETY

If, during the life of the faithful performance bond, any of the sureties named in said bond become insufficient in the opinion of the Owner, he may require the Contractor to furnish additional sureties within 10 calendar days of receipt of written order to do so. In the event the Contractor fails or neglects to furnish sufficient additional sureties, when ordered, within the prescribed time period, the Owner may suspend the work or terminate the contract, and the Contractor shall have no claim for damages.

6.04 INSURANCE

(a) GENERAL. The Contractor shall not commence work under this Contract until he has obtained all the insurance required under this Section and such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work on his subcontract until the insurance required of the subcontractor has been so obtained and approved. All insurance required under this Section shall be maintained continuously during the life of the Contract up to the date of acceptance of the work by the Owner's governing body, but Contractor's liabilities under this Contract shall not be deemed limited in any way to the insurance coverage required.

The insurance required under Subsections (d), (e) and (f) hereof shall provide adequate protection for the Contractor and his subcontractors, respectively, against damage claims which may arise from operations under this Contract, whether such operations be by the insured or by anyone directly or indirectly employed by him. In addition, the insurance required under Subsections (d), (e) and (f) hereof shall name the Owner and Engineer, and their officers, agents and employees, as "additional insureds" under the policies; and shall be by an insurance company which is admitted and licensed to do business in the State of California and which is rated B+7 or better according to the most recent A.M. Best Company Rating Guide.

The insurance required under this Contract shall be primary with respect to any insurance or self-insurance programs covering Owner, its elected officials, officers, employees, agents, and volunteers, or if excess stand in an unbroken chain of coverage excess of the Contractor's scheduled underlying coverage. All certificates of insurance shall contain a standard separation of insured's provisions, and shall contain no special limitations on the scope of its protection to Owner, its elected officials, officers, employees, agents, and volunteers. A CG-10 (Rider) shall be submitted to the Owner prior to commencement of any work. **The contractor is responsible for the safety of its employees and subcontractors on the job site.**

(b) PROOF OF INSURANCE. The Contractor shall furnish the Owner with certificates showing the type, amount, class of operations covered, effective dates and date of expiration of policies. Such certificates shall also contain substantially the following statement: "The insurance covered by this certificate will not be canceled or materially altered, except after 30 days written notice has been received by the Owner."

(c) WORKERS' COMPENSATION INSURANCE. The Contractor shall procure and maintain Workers' Compensation Insurance as required by applicable State or territorial law for all of his employees to be engaged in work at the site of the project under this Contract and, in case of any such work sublet, the Contractor shall require the subcontractor similarly to provide Workers' Compensation Insurance for all of the latter's employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Workers' Compensation Insurance. In case any class of employees engaged in hazardous work on the project under this Contract is not protected under the Workers' Compensation Statute, the Contractor shall provide and shall cause each subcontractor to provide adequate Employer's Liability Insurance for the protection of such of his employees as are not otherwise protected.

(d) GENERAL LIABILITY INSURANCE. Contractor shall maintain limits no less than $1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. The general aggregate limit shall apply separately to this project/location or the general aggregate shall be twice the required occurrence limit. Higher limits may be required by the District if, in the opinion of District Staff or it's advisors, the exposure of the work to be performed warrants such. A CG-10 (Rider) shall be submitted to the Owner prior to commencement of any work specifically listing the City of Adelanto as an additional insured. Blanket additional insured are not acceptable.

(e) AUTOMOBILE LIABILITY INSURANCE. Contractor shall maintain limits no less than $1,000,000 combined single limit per accident for bodily injury and property damage.

(f) BUILDER'S RISK INSURANCE (ALL RISK COVERAGE). The Contractor shall procure and maintain Builder's Risk Insurance (All Risk Coverage) on a 100 percent completed value basis for the benefit of the Owner, the Contractor and subcontractors as their interest may appear.

6.05 UNPAID CLAIMS

If, upon or before the completion of the work, or at any time prior to expiration of the period within which claims of lien may be filed for record, any person claiming to have performed any labor or to have furnished any materials, supplies, or services toward the performance of this

Contract, or to have agreed to do so, shall file with the Owner a verified statement of such claim stating in general terms the kind of labor and materials, the value of same, and the name of the person to or for whom the same was furnished, together with a statement that the same has not been paid; or if any person shall bring against the Owner or any of its agents any action to enforce such claim, the Owner will, until the action is settled, withhold from money due the Contractor an amount sufficient to satisfy the decision of the court together with costs.

6.06 MAINTENANCE AND GUARANTEE

(a) The Contractor shall guarantee the entire work constructed by him under the Contract to be free of defects in materials and workmanship for a period of 1 year following the date of acceptance of the work by the Owner's governing body. The Contractor shall agree to make, at his own expense, any repairs or replacements made necessary by defects in materials and workmanship which become evident within said guarantee period. The Contractor shall further agree to indemnify and save harmless the Owner and Engineer, and their officers, agents and employees, against and from all claims and liability arising from damage and injury due to said defects. The Contractor shall make all repairs and replacements promptly upon receipt of written order from the Engineer. If the Contractor fails to make the repairs and replacements promptly, the Owner may do the work and the Contractor and his surety shall be liable to the Owner for the cost of such work.

(b) The guarantee and conditions specified in Subsection 6.06(a) shall be secured by a surety bond which shall be delivered by the Contractor to the Owner prior to the date on which final payment is made to the Contractor. Said bond shall be in an approved form and executed by a surety company or companies satisfactory to the Owner, in the amount of 100 percent of the contract price, or $1,000, whichever is greater. Said bond shall remain in force for the duration of the guarantee period specified in Subsection 6.06(a). Instead of providing such a bond as described above, the Contractor may, at his option, provide for the faithful performance bond furnished under the Contract to remain in force for said amount until the expiration of said guarantee period.

(c) Specific guarantees for periods longer than one year may be specified in the Special Conditions for certain items or portions of the work.

6.07 LIABILITY OF OWNER AND ENGINEER

Contractor shall defend, indemnify, and hold harmless Owner, its elected officials, officers, employees, agents, and volunteers, and Engineer from any and all claims, demands, causes of action, liability, loss, damage, or injury, to property or persons, including wrongful death, whether imposed by a court of law or by administrative action of any federal, state, or local governmental body or agency, arising out of or incident to any acts, omissions, negligence, or willful misconduct of Contractor, its personnel, employees, agents, or subcontractors in the performance of the Work or this Contract. This indemnification includes, without limitation, the payment of all penalties, fines, judgments, awards, decrees, attorneys fees, and related costs or expenses, and the reimbursement of Owner, its elected officials, officers, employees, agents, and/or volunteers, and Engineer for all legal expenses and costs incurred by each of them. Contractor's obligation to indemnify shall survive the expiration or termination of this Contract,

and shall not be restricted to insurance proceeds, if any, received by Owner, its elected officials, officers, employees, agents, or volunteers, or Engineer. The indemnification provided for herein excludes such portion of any claim, demand, cause of action, liability, loss, damage, penalty, fine or injury, to property or persons, including wrongful death, whether imposed by a court of law or by administrative action of any federal, state, or local governmental body or agency, which is due to the sole and exclusive negligence of Owner or Engineer as determined by a court or administrative body of competent jurisdiction.

6.08 LAWS AND REGULATIONS

The Contractor shall observe and comply with all Federal, State, and local laws, ordinances, codes, orders, and regulations which in any manner affect those engaged or employed on the work, the materials used in the work, or the conduct of the work. If any discrepancy or inconsistency should be discovered in this Contract in relation to any such law, ordinance, code, order, or regulation, the Contractor shall report the same in writing to the Engineer. The Contractor shall indemnify and save harmless the Owner and Engineer, and their officers, agents, and employees, against all claims or liability arising from violation of any such law, ordinance, code, order, or regulation, whether by himself or by his employees or subcontractors. Any particular law or regulation specified or referred to elsewhere in these Specifications shall not in any way limit the obligation of the Contractor to comply with all other provisions of Federal, State and local laws and regulations. The Contractor shall promptly advise the Owner in writing of any variance in the Drawings and Specifications.

6.09 PERMITS AND LICENSES

Unless otherwise provided in the Special Conditions, the Contractor shall obtain at his own expense all permits and licenses required for prosecution of the work, and shall pay all taxes properly assessed against his equipment or property used in connection with the work.

6.10 SALES AND USE TAXES

The Contractor shall pay all sales and use taxes assessed by Federal, State or local authorities on materials furnished by the Contractor in performance of the work.

6.11 PATENTS AND COPYRIGHTS

The Contractor shall indemnify and save harmless the Owner and Engineer, and their officers, agents, and employees, against all claims or liability arising from the use of any patented or copyrighted design, device, material, or process by the Contractor or any of his subcontractors in the performance of the work.

6.12 LABOR DISCRIMINATION

No discrimination shall be made in the employment of persons upon public works because of the race, religious creed, color, national origin or ancestry, physical handicap, medical condition, marital status, or sex of such persons, except as provided in Section 12940 of the Government Code, and every contractor for public works violating this section is subject to all the penalties imposed for a violation of this chapter.

6.13 PUBLIC SAFETY AND CONVENIENCE

(a) The Contractor shall at all times conduct his work so as to assure the least possible obstruction to traffic and inconvenience to the general public, and adequate protection of persons and property in the vicinity of the work. No street shall be closed to the public without first obtaining permission of the Engineer and proper governmental authority. Where excavation is being performed in primary streets or highways, one lane in each direction shall be kept open to traffic at all times unless otherwise provided or shown. Toe boards shall be provided to retain excavated material if required by the Engineer or the agency having jurisdiction over the street or highway. Fire hydrants on or adjacent to the work shall be kept accessible to fire-fighting equipment at all times. Temporary provisions shall be made by the Contractor to assure the use of sidewalks and the proper functioning of all gutters, sewer inlets, and other drainage facilities.

(b) The Contractor shall provide adequate barricades, signs, warning lights, temporary fencing, watchmen, and flagmen as required, in the opinion of the Engineer and agency having jurisdiction, to protect the work and the safety of the public. Warning lights using inflammable liquids will not be permitted; only electrically-operated warning lights will be approved for use. Warning lights shall be kept burning from sunset to sunrise, and barricades shall be painted to increase their visibility at night.

6.14 PROTECTION AND RESTORATION OF SITE

All fences, buildings, shrubs, lawns, gardens and other property in the vicinity of the work shall be protected by the Contractor. If they are damaged or destroyed by the Contractor's work, they and any other property damaged by the Contractor, his employees or agents, shall be restored to a condition as good as to prior to the start of construction, and without cost to the Owner. All trees along the work which are not to be removed, shall be protected from injury. If so required by the Owner, the trunks of trees shall be covered with burlap or stakes shall be driven around them for complete protection.

6.15 FEDERAL SAFETY AND HEALTH REGULATIONS

(a) Contractors and subcontractors shall comply with the provisions of the Safety and Health Regulations for Construction, promulgated by the Secretary of Labor under Section 107 of the "Contract Work Hours and Safety Standards Act," as set forth in Title 29, CFR.

(b) Contractors and subcontractors shall comply with the provisions of the Occupational Safety and Health Standards, promulgated by the Secretary of Labor under the "Occupational Safety and Health Act of 1970," as set forth in Title 29, CFR. Where an individual State act on occupational safety and health standards has been approved by Federal authority, then the provisions of said State act shall control.

6.16 ALTERNATIVE DISPUTE OR CLAIMS OF $375,000 OR LESS

(a) Claims Less Than $375,000. Notwithstanding any other provision herein, claims of $375,000 or less shall be resolved pursuant to the alternative dispute resolution procedures set forth in Public Contracts Code §§ 20104, *et seq*.

(b) Submission of Claims Less than $375,000. Contractor shall submit its claim of $375,000 or less to Owner in writing. Claims by Contractor must be made within ten (10) calendar days after occurrence of the event giving rise to such Claim or within ten (10) calendar days after a reasonable Contractor would have first recognized the condition giving rise to the Claim, but no later than before the final payment is made. Owner shall respond within the time provided by statute. If Contractor disagrees with the response or Owner fails to respond within the time permitted, Contractor shall notify Owner of the disagreement in writing within fifteen (15) days from the date of the response or expiration of the time permitted to respond and demand a meet-and-confer conference between duly authorized representatives of the Parties. Owner shall schedule a meet-and-confer conference within thirty (30) days of the demand. Representatives of both Parties shall meet at a mutually acceptable time and place, and thereafter as often as they deem reasonably necessary, to exchange relevant information and attempt to resolve the dispute. If the matter has not been resolved within twenty (20) days of first meet-and-confer conference, Contractor may initiate a civil action.

c) Time Limits Not Extended. Nothing in Subdivision (a) of Public Contract Code § 20104.2 shall extend the time limit or supersede the notice requirements provided in this Contract or filing claims by the Contractor.

SECTION 7 - STATE OF CALIFORNIA REQUIREMENTS

7.01 WORKING HOURS

Generally no work shall be done between the hours of 7:00 p.m., and 6:00 a.m., nor on Saturdays, Sundays, or legal holidays except such work as is necessary for the proper care and protection of the work already performed, or except in case of emergency. The Owner shall be notified when such work is considered by the Contractor.

The Contractor shall comply with all applicable provisions of Section 1810 to 1816, inclusive, of the California Labor Code relating to working hours. The Contractor shall, as a penalty to the Owner, forfeit $25.00 for each worker employed in the execution of the Contract by the Contractor or by any subcontractor, for each calendar day during which such worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week, unless such worker receives compensation for all hours worked in excess of 8 hours in any one calendar day, or in excess of 40 hours in any one calendar week, at not less than 1-1/2 times the basic rate of pay.

7.02 APPRENTICES ON PUBLIC WORKS

The Contractor shall comply with all applicable provisions of Section 1777.5 and 1776 of the California Labor Code relating to employment of apprentices on public works.

7.03 PROTECTION OF WORKERS IN TRENCH EXCAVATION

As required by Section 6705 of the California Labor Code and in addition thereto, whenever work under the Contract involves trench excavation 5 feet or more in depth, the Contractor shall submit for acceptance by a registered civil or structural engineer representing the Owner, in advance of excavation, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation. If such plan varies from the Shoring System Standards established by the Construction Safety Orders of the Division of Industrial Safety, the plan shall be prepared by a registered civil or structural engineer. Nothing in this Section shall be deemed to allow the use of a shoring, sloping or other protective system less effective than that required by the Construction Safety Orders. Nothing in this Section shall be construed to impose tort liability on the Owner, Engineer, or any of their officers, agents or employees.

7.04 CONCRETE FORMS, FALSEWORK AND SHORING

The Contractor shall comply fully with the requirements of Section 1717 of the Construction Safety Orders, State of California, Department of Industrial Relations, regarding the design of concrete forms, falsework and shoring, and the inspection of same prior to placement of concrete. Where the said Section 1717 requires the services of a registered civil engineer in the State of California to approve design calculations and working drawings of the falsework or shoring system, or to inspect such system prior to placement of concrete, the Contractor shall employ a registered civil engineer for these purposes.

7.05 CONTRACTOR NOT RESPONSIBLE FOR DAMAGE RESULTING FROM CERTAIN ACTS OF GOD

As provided in Section 7103 of the California Public Contracts Code, the Contractor shall not be responsible for the cost of repairing or restoring damaged portions of the work determined to have been approximately caused by an act of God, in excess of 5 percent of the contracted amount, provided, that the work damaged was built in accordance with accepted and applicable building standards and the Specifications and Drawings. The Contractor shall obtain insurance to indemnify the Owner for any damage to the work caused by an act of God if the premium of said insurance coverage is called for as a separate bid item in the bidding schedule for the work. For purposes of this section, the term "acts of God" shall include only the following occurrences or conditions and effects: earthquakes in excess of a magnitude of 3.5 on the Richter Scale, and tidal waves.

7.06 NOTICE OF COMPLETION

As required by the California Code of Civil Procedure, and within 10 calendar days after date of acceptance of the work by the Owner's governing body, the Owner will file, in the County Recorder's office, a Notice of Completion of the work.

7.07 STATE WAGE DETERMINATIONS

(a) As required by Sections 1770 and following, of the California Labor Code, the Contractor shall pay not less than the prevailing wage of per diem wages as determined by the Director of the California Department of Industrial Relations. Copies of such prevailing wage of per diem wages are on file at the office of the Owner, which copies shall be made available to any interested party on request. The Contractor shall post a copy of such determination at each job site.

(b) The Contractor shall, as a penalty to the Owner, forfeit $25.00 for each calendar day, or portion thereof, for each worker paid less than the specified prevailing rates for such work or craft in which such worker is employed, whether paid by the Contractor or by any subcontractors under him.

(c) In accordance with the provisions of Section 3700 of the California Labor Code, the Contractor shall secure the payment of compensation to his employees.

(d) State Law also requires Owner to withhold from any progress payments owed to a contractor any amounts that have been forfeited as penalties, or as wages owed to employees, who have not been paid the prevailing wage for work performed. After completion of the project and acceptance of the work by the Owner, all wages and penalties withheld will be directly transferred to the Labor Commissioner.

(e) Pursuant to California Labor Code Section 1776, Contractor shall keep accurate payroll records on forms provided by the Division of Labor Standards Enforcement, or alternatively, Contractor shall keep accurate payroll records containing the same information. Said

information shall include, but not be limited to, a record of the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and actual per diem wages paid to each journeyman, apprentice, or worker employed by Contractor. Such records shall be available for inspection at all reasonable hours, and a copy shall be made available to employee or his authorized representative, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards in compliance with California Labor Code Section 1776. Upon written notice from Owner or the Division of Labor Standards Enforcement, Contractor shall within ten (10) days file with Owner a certified copy of the payroll records. Contractor shall cause an identical clause to be included in every subcontract for Contract work.

PART III
SPECIAL CONDITIONS
(TECHNICAL SPECIFICATIONS)

SECTION 01000 - GENERAL REQUIREMENTS

01000.01 LOCATION OF WORK

All work is located in the existing Adelanto Wastewater Treatment Plant in the City of Adelanto, San Bernardino County, State of California.

01000.02 DESCRIPTION OF WORK

The Contractor (which is also the equipment supplier) shall furnish all labor, materials (including equipment fabricated off-site), tools, equipment, apparatus, facilities, transportation, and incidentals necessary to complete the proposed Work. The Project is to construct a 3 MGD (million gallons per day average) waste-water treatment plant expansion consisting of furnishing the following equipment, various auxiliary components as listed in the technical specifications, and the installation of the Advanced Primary Screens and Secondary Bio-filter equipment by a qualified and licensed sub-contractor:

- Three (3) Advanced Primary Fine Screens (clean-Screen Model 1500) with a total peak flow capacity at 6 million gallons per day as specified in Section 11206 of the Special Conditions (technical specifications). These Advanced Primary Screens shall be installed by the equipment supplier onto the concrete pads provided under another contract.
- Twelve units (consisting of primary and secondary filters) of Advanced Secondary Bio-filters as specified in Section 11207 of the Special Conditions, including all of the auxiliary components.
- The installation of the twelve ASBF units (total of 24 tanks) including connection to piping that will be installed by another general contractor under a separate plant expansion contract. Equipment supplier is required to coordinate this effort closely with the City's Engineer.

1000.03 COMPLETION OF WORK

Work shall be performed in accordance with the stages as described under "notice inviting bids" under Part I-A of these contract documents.

01000.04 LIQUIDATED DAMAGES

The Contractor shall, as provided in Section 5.07 of the General Conditions, pay to the Owner as fixed, agreed, and liquidated damages for each calendar day's delay in substantial completion and final completion of the work beyond the time agreed upon, the amount of $500 per calendar day.

01000.05 WORKING SPACE

The Equipment supplier and its sub-contractor shall limit his work activities, including the temporary storage of materials and equipment fabricated off-site inside the designated area as coordinated with Owner's Engineer and field inspection staff. Equipment supplier shall be responsible for the safe-guard of the stored materials and fabricated equipment.

01000.06 PRECONSTRUCTION MEETING

Following notification by Owner's Engineer that the installation open-period is ready to begin (after the structures are fully constructed and inspected), Equipment Supplier and its sub-

contractor shall, prior to commencement of work, meet with the City Engineer and other representatives of the Owner and shall furnish the following items:

- A schedule of completing the principal items of work.
- A list of names, titles, addresses, and telephone numbers of the contractor's responsible personnel indicating those who may be reached outside of the normal working hours.

01000.07 CONTRACTOR'S DAILY REPORTS

The installation contractor shall complete a brief daily report indicating manpower, major equipment, subcontractors, etc., involved in the performance of the work. The daily report shall be submitted to Owner's Resident Inspector at the conclusion of each workday.

01000.08 CONSTRUCTION UTILITIES

(a) POTABLE WATER: All drinking water on the site during construction shall be furnished by the contractor and shall be bottled water.

(b) CONSTRUCTION WATER: The contractor shall obtain construction water (if required) from the Owner at no cost to the contractor at the location as shown at the Pre-construction Meeting.

(c) SANITARY FACILITIES: The Contractor shall provide adequate temporary toilet and washing facilities for his workmen. The Contractor shall maintain such facilities in a sanitary condition throughout the construction period. After construction is complete, the temporary facilities shall be removed and the premises disinfected, as required. This may be coordinated with the Owner's Engineer and resident inspector.

(d) POWER: The Contractor shall be responsible for providing for his work under the contract all necessary power and special connections to a power supply.

01000.09 PERMITS AND LICENSE

At his own expense, the Contractor shall apply and obtain all permits and licenses required for the execution of work under this Contract. Work shall be performed in accordance with said permits.

01000.10 AS-BUILT DRAWINGS

The Contractor shall maintain on the job site a set of full size black-line drawings. On these, he shall mark all as-built conditions, locations, configurations, and other details which may vary from the details shown on the original Contract Drawings (or approved shop drawings). Upon completion of work and prior to final acceptance, the as-built drawings shall be turned over to the Owner's City Engineer.

01000.11 PROTECTION OF EXISTING UTILITIES

The Contractor shall exercise his best effort and care to protect existing utilities (influent waste-water distribution force mains, effluent pipelines, chemical feed mains, power distribution and

telemetry conduits, etc.) against damage from his operations. All damages shall be repaired by the Contractor at his own expense.

01000.12 SUB-SOILS INFORMATION / INSPECTION OF SITE

A sub-soils investigation was made for this project (applicable only to the building and concrete structure general contractor under a separate contract). It is generally understood that the contractor has reviewed the construction drawings prepared by City Engineer, inspected the site of the work and is familiar with the site conditions and restrictions before commencing with the equipment installation.

01000.13 ACCIDENT PREVENTION

It shall be required that precautions shall be exercised at all times for the protection of any and all persons (including employees) and property and that the safety provisions of applicable laws, building and construction codes shall be observed and that all machinery, equipment, and all hazards shall be guarded or eliminated in accordance with the safety provisions of the Manual of Accident Prevention in Construction published by the Associated General Contractor of America, to the extent that such provisions are not in contravention of applicable laws.

01000.14 CONSTRUCTION STAKING (Related Work)

Owner's Engineer will assist in field-marking the location of the bio-filter tanks. Contractor is required to submit a template relative to the setting of the equipment as stipulated in the technical specifications.

01000.15 SITE MAINTENANCE

The Contractor shall at all times maintain the site in a neat and orderly condition, free from trash and waste construction materials. All construction materials, equipment and trash shall be stored only within a temporary fenced construction site. Unattended construction materials, equipment, and trash shall be left in a manner such that they do not constitute fire hazards or become or cause nuisance or dangers due to forces of nature such as rain, wind or an attractive nuisance.

01000.16 TECHNICAL MANUALS

(a) The Equipment Supplier shall furnish to the Owner Three (3) identical sets of technical manuals. Each set shall be bound in a standard size, 3-ring, looseleaf, vinyl plastic hard cover binder suitable for bookshelf storage.

(b) The technical manuals shall include for each item of mechanical an electrical equipment:

(1) Complete operating instructions, including location of controls, special tools or other equipment required, related instrumentation, and other equipment needed for

other equipment required, related instrumentation, and other equipment needed for operation.

(2) Lubrication schedules.

(3) Preventive maintenance procedures and schedules.

(4) Parts lists, by generic title and identification number, complete, with exploded views of each assembly.

(5) Disassembly and reassembly instructions.

(6) Name and location of nearest supplier and spare parts warehouse.

(7) Recommended trouble-shooting and start-up procedures.

(8) Reproducible prints of the as-built diagrams, schematics, and installation drawings required under the electrical, instrumentation and telemetry portions of these specifications (if applicable).

01000.17 SPARE PARTS REFERENCE LISTING

The contractor shall furnish to the Owner three (3) identical sets of spare parts information for all mechanical, electrical, and instrumentation equipment (published technical bulletins acceptable). The spare parts list shall be limited to those spare parts which each manufacturer recommends to be maintained by the Owner in inventory at the plant site. Each manufacturer or supplier shall indicate the name, address, and telephone number of its nearest outlet of spare parts to facilitate the Owner in ordering. The Contractor shall cross-reference all spare parts lists to the equipment numbers designated in the specifications or on the drawings. The spare parts lists shall be bound with the Technical Manuals specified in Section 01000.16 above. A set of spare parts shall be furnished based on the approved shop drawings, as coordinated by Owner's operations staff, and to be reimbursed by the Owner.

01000.18 EQUIPMENT TESTING AND START-UP

(a) GENERAL. Equipment testing and start-up are requisite to satisfactory completion of the contract. Except where otherwise provided, all work specified in this section shall be performed at no additional cost to the Owner.

(b) EQUIPMENT TESTING

(1) An experienced and authorized representative of the manufacturer or supplier of each item of equipment shall visit the site of the work and inspect, check, adjust or calibrate if necessary, and approve the equipment installation.

(2) Each equipment supplier's representative shall furnish a written report addressed

to the Owner certifying that the equipment has been properly installed and lubricated, is in accurate alignment, is free from any undue stress imposed by connecting piping or conduit or anchor bolts, and has been operated satisfactorily under design conditions.

(3) The contractor shall be responsible for scheduling all operations testing. The contractor is advised that the Engineer and Owner's operating personnel will witness operations testing and that the equipment supplier's representative shall be required to instruct the Owner's operating personnel in correct operation and maintenance procedures. Such instruction shall be scheduled at a time arranged with the Owner at least 2 weeks in advance and shall be provided while the respective representative's equipment is fully operational.

SECTION 09900 - COATINGS AND PAINT (WASTEWATER SYSTEMS)

09900.01 GENERAL

(a) All coating and painting shall conform to applicable standards of the National Association of Corrosion Engineers and the Steel Structures Painting Council Manual. Material applied prior to approval of surface by the Engineer shall be removed and reapplied to the satisfaction of the Engineer at the expense of the Contractor.

(b) Work shall be performed by skilled craftsmen qualified to perform the required work in a manner comparable with the best standards of practice. Continuity of personnel shall be maintained and transfers of key personnel shall be coordinated with the Engineer.

(c) The Contractor shall provide a supervisor at the work-site during cleaning and application operations. The supervisor shall have the authority to sign any change orders, coordinate work and make decisions pertaining to the fulfillment of their contract.

(d) Dust, dirt, oil, grease or any foreign matter that will affect the adhesion or durability of the finish must be removed by washing with clean rags dipped in a grease solvent and wiped with clean rags.

(e) The Contractor's coating and painting equipment shall be designed for application of materials specified and shall be maintained in first class working condition. Compressors shall have suitable traps and filters to remove water and oils from the air. Contractor's equipment shall be subject to approval of the Engineer.

(f) Application of the first coat shall follow immediately after surface preparation and cleaning and within an eight-hour working day. Any cleaned areas not receiving first coat within eight-hour period shall be recleaned prior to application of first coat.

09900.02 DELIVERY, HANDLING AND STORAGE

(a) Materials shall be delivered in their original, unopened containers bearing the manufacturer's name, product identification, and batch number.

(b) Coatings, thinners, and cleaners shall be stored in tightly closed containers in a covered, well-ventilated area where they will be protected from exposure to extreme cold or heat, sparks, flame, direct sunlight, or rainfall.

(c) All coatings and paints shall be stored in enclosed structures to protect them from weather and excessive heat or cold. Flammable coatings or paints must be stored to conform with City, County and State safety codes for flammable coating or paint materials. Emulsion type coatings shall be protected from freezing.

09900.03 PROTECTION OF EQUIPMENT AND ADJACENT SURFACES

(a) All equipment and adjacent surfaces shall be protected from damage such as, but not

limited to, abrasive intrusion, overblast, and overspray.

(b) Drop cloths shall be placed where required to protect floors and equipment from splatter and droppings.

(c) Spray painting shall be conducted under controlled conditions, and the Contractor shall be fully responsible for any damage to adjacent work or adjoining property occurring from spray painting.

(d) Each coat will be inspected by the Engineer prior to application of the next coat. Areas found to contain runs, overspray, roughness, or other signs of improper application shall be required to be recoated in accordance with the Engineer's and coating manufacturer instructions.

09900.04 PERSONNEL SAFETY

Necessary precautions shall be taken in accordance with OSHA regulations to ensure safety of personnel engaged in these operations and personnel who may be affected by such operations. Some of the materials to be handled under this specification are combustible or toxic, or both. Using material safety information provided by the manufacturer, the Contractor shall be responsible for providing equipment as required for safe application and instructing the users regarding the hazards and proper handling procedures to prevent health hazards or possible explosion.

09900.05 WORKMANSHIP

Where practicable, each succeeding coat of paint shall be of a different color. Where a particular color is specified herein, it is for bidding purposed only. Finish colors shall be as selected by the Owner.

No coating or paint shall be applied: when the surrounding air temperature or the temperature of the surface to be coated or painted is below 40 degrees F; to wet or damp surfaces or in rain, snow, fog, or mist; when the temperature is less than 5 degrees F above the dewpoint; when it is expected the air temperature will drop below 40 degrees F or less than 5 degrees F above the dewpoint within eight hours after application of coating and paint.

Dewpoint shall be measured by use of an instrument such as a Sling Psychrometer in conjunction with U. S. Department of Commerce Weather Bureau Psychrometer Tables. If above conditions are prevalent, coating or painting shall be delayed or postponed until conditions are favorable. The day's coating or painting shall be completed in time to permit the film sufficient drying time prior to damage by atmospheric conditions.

09900.06 SURFACE PREPARATION

a) The latest revision of the following surface preparation specifications of the Steel Structures Painting Council and the National Association of Corrosion Engineers shall form a part of this specifications.

b) Solvent Cleaning (SSPC-SP 1) - Removal of oil, grease, soil and other contaminants by use of solvents, emulsions, cleaning compounds, steam cleaning or similar materials and methods, which involve a solvent or cleaning action.

c) Hand Tool Cleaning (SSPC-SP 2) - Removal of loose rust, loose mill scale and other detrimental foreign matter to a degree specified by hand chipping, scraping, sanding and wire brushing.

d) Power Tool Cleaning (SSPC-SP 3) - Removal of loose rust, loose mil scale and other detrimental foreign matter to degree specified by power wire brushing, power impact tools or power sanders.

e) Power Tool Clean to Bare Metal (SSPC-SP-11)- Differs from SSPC-SP-3 in that it requires more thorough cleaning and a surface profile not less than 1 mil (25 microns).

f) Commercial Blast Cleaning (SSPC-SP 6 and NACE No. 3) - Blast cleaning until at least two-thirds of each element of surface area is free of all visible residues.

g) Brush-Off Blast Cleaning (SSPC-SP 6 and NACE NO. 4) - Blast cleaning to remove loose rust, loose mil scale and other detrimental foreign matter to degree specified.

h) Near White Blast Cleaning (SSPC-SP 10 and NASE NO. 2) - Blast cleaning to nearly white metal cleanliness until at least 95 percent of each element of surface areas is free of all visible residues.

i) Surface preparation of Galvanized Surfaces:

a. Prepare galvanized steel and nonferrous metal surfaces in accordance with ASTM D 6386-Surface Preparation of Galvanized Surfaces and manufacturer's instructions.

b. Ensure surfaces are dry.

c. Interior Exposure (Dry/Benign): Remove visible oil, grease, dirt, dust, protective mill coatings, and other soluble contaminants in accordance with SSPC-SP 1 or manufacturer's instructions as specified for coating system. Hand or Power tool clean to remove all insoluble contaminants

d. Interior and exterior Exposure (moderate to severe): Remove visible oil, grease, dirt, dust, protective mill coatings, and other soluble contaminants in accordance with SSPC-SP 1 or manufacturer's instructions as specified for coating system. Follow initial cleaning with one of the following Methods:

1) SURFACE PREPARATION METHOD A (Preferred): Thoroughly roughen the entire surface to be coated using compressed air brush off blast cleaning with a fine abrasive to achieve a uniform anchor profile of 1-2 mils. Reference ASTM D 6386-99 (2005) Section 5.4.1.

2) SURFACE PREPARATION METHOD B (Alternate method when Method A is not feasible): Chemically Treat with one of the following products to etch the galvanized surface to be coated: Henkel Galvaprep 5 or Clean & Etch by Great Lakes Laboratory. Reference ASTM D 6386-99 (2005) Section 5.4.2.

j) Field blast cleaning for all surfaces shall be by dry sand blasting unless otherwise directed.

k) Maximum particle size of abrasives used in blast cleaning shall be that which will produce a profile in accordance with recommendations of the manufacturer of the specified system.

l) Sand used in blast cleaning operations shall be washed, graded and free of contaminants that would interfere with adhesion of coating or paint.

m) During blast cleaning operations, caution shall be exercised to insure that existing coatings or paint are not exposed to abrasion from blast cleaning.

n) The Contractor shall keep the area of his work in a clean condition and shall not permit blasting materials to accumulate to constitute a nuisance or hazard to the prosecution of the work or operation of the existing facilities.

o) Blast-cleaned surfaces shall be dry-cleaned prior to application of specified coatings or paint. No coating or paint shall be applied over damp surfaces.

p) Interior Surfaces - Interior surfaces to receive protective coating shall be blast-cleaned to "near-white" metal in conformance with Steel Structures Painting Council Surface Preparation Specifications SSPC-SP 10 and National Association of Corrosion Engineers Surface Finish (NACE NO. 2).

09900.07 APPLICATIONS

(a) Coating and paint application shall conform to the requirements of Steel Structures Painting Council Paint Application Specifications SSPC-PA 1, latest revision, for "Shop, Field and Maintenance Painting" and National Association of Corrosion Engineers recommended practices.

(b) Thinning shall be permitted as recommended by the manufacturer and approved by the Engineer. Thinners used in interior tank coating materials SHALL NOT contain trichloroethylene (TCE) or perchloroethylene (PCE).

(c) Each application of coating or paint shall be applied evenly, free of brush marks, sags,

runs, with no evidence of poor workmanship. Care shall be exercised to avoid lapping on glass or hardware. Coating and paint shall be sharply cut to lines. Finished surfaces shall be free from defects or blemishes.

(d) When two coats of a coating or paint are specified, the first coat shall contain sufficient approved color additive to act as an indicator of coverage or the two coats must be of contrasting color.

(e) All material shall be applied as specified.

(f) All welds and irregular surfaces shall receive a brush coat of the specified product prior to application of the first complete coat.

09900.08 FACTORY-APPLIED COATINGS AND TOUCH-UP

Except where factory application of finish coatings is permitted elsewhere in these Specifications or by the Engineer in writing, all items of equipment shall be finish-painted after installation with the color selected or approved by the Engineer. Shop priming will be permitted in all cases. Materials and applications as specified herein shall govern regardless of whether coatings are factory-applied or field-applied. After installation, any damaged areas in prime or finish coatings shall be repaired as directed by the Engineer.

09900.09 SYSTEM A - UNGALVANIZED FERROUS METAL, GENERAL

(a) AREA OF APPLICATION. All ungalvanized ferrous metal, interior and exterior, not buried, submerged, or inside a hydraulic structure, and excluding surfaces specifically included elsewhere.

(b) SURFACE PREPARATION. Sandblasted per SSPC-SP-6, except that SSPC-SP- 11 will be permitted if Engineer determines that sandblasting will damage adjacent work.

(c) COATINGS (Alternate 1, 2, 3 or equal) Please note: This chemistry is becoming non-VOC compliant. The new system recommended is an upgrade in coating protection and is VOC compliant.

(1) TNEMEC ALTERNATE. Prime coat Tnemec V69 (4 mils). Finish coat Tnemec 1075 (2-3 mils). Total thickness of system (6-7 mils).

(2) ENGARD ALTERNATE. Prime coat Engard 126 (1 mil). First finish coat Engard 222 (3½ mils). Second finish coat Engard 222 (3½ mils). Total thickness of system (8 mils).

(3) KOPPERS ALTERNATE. Prime coat Koppers 662 HB (1 mil). Intermediate coat Koppers 501 (3½ mils). Finish coat Koppers 501 (3½ mils). Total thickness of system (8 mils).

SECTION 09900 - COATINGS AND PAINT (WASTEWATER SYSTEMS)

09900.10 SYSTEM B - GALVANIZED FERROUS METAL, GENERAL

(a) AREA OF APPLICATION. All galvanized ferrous metal, interior and exterior, not buried, submerged, or inside a hydraulic structure, and excluding surfaces specifically included elsewhere.

(b) SURFACE PREPARATION. Cleaned per SSPC-SP-1

a. Prepare galvanized steel and nonferrous metal surfaces in accordance with ASTM D 6386-Surface Preparation of Galvanized Surfaces and manufacturer's instructions.

b. Ensure surfaces are dry.

c. Interior Exposure (Dry/Benign): Remove visible oil, grease, dirt, dust, protective mill coatings, and other soluble contaminants in accordance with SSPC-SP 1 or manufacturer's instructions as specified for coating system. Hand or Power tool clean to remove all insoluble contaminants

d. Interior and exterior Exposure (moderate to severe): Remove visible oil, grease, dirt, dust, protective mill coatings, and other soluble contaminants in accordance with SSPC-SP 1 or manufacturer's instructions as specified for coating system. Follow initial cleaning with one of the following Methods:

1) **SURFACE PREPARATION METHOD A (Preferred)**: Thoroughly roughen the entire surface to be coated using compressed air brush off blast cleaning with a fine abrasive to achieve a uniform anchor profile of 1-2 mils. Reference ASTM D 6386-99 (2005) Section 5.4.1.

2) SURFACE PREPARATION METHOD B (Alternate method when Method A is not feasible): Chemically Treat with one of the following products to etch the galvanized surface to be coated: Henkel Galvaprep 5 or Clean & Etch by Great Lakes Laboratory. Reference ASTM D 6386-99 (2005) Section 5.4.2.

(c) COATINGS (Alternate 1, 2, 3 or equal) Please note: This chemistry is becoming non-VOC compliant. The new system recommended is an upgrade in coating protection and is VOC compliant. Also it is not a good idea to apply alkyd paint to galvanized metals.

(1) TNEMEC ALTERNATE. Thoroughly clean and scarify the entire surface. See Tnemec Technical Memo #98-09. Prime coat Tnemec V69 (4 mils). Finish coat Tnemec 1075 (2-3 mils). Total thickness of system (6-7 mils).

(2) ENGARD ALTERNATE. Pretreatment coat Engard 135. Prime coat Engard 126 (1 mil). First finish coat Engard 222 (3½ mils). Second finish coat Engard 360

(3½ mils). Total thickness of system (8 mils).

(3) KOPPERS ALTERNATE. Pretreatment coat Koppers 30. Prime coat Koppers 622 HB (1 mil). Intermediate coat Koppers 500 HB (3½ mils). Finish coat Koppers 500 HB (3½ mils). Total thickness of system (8 mils).

09900.11 SYSTEM C - UNGALVANIZED FERROUS METAL, CORROSIVE ENVIRONMENT

(a) AREA OF APPLICATION. All ungalvanized ferrous metal, indoors and outdoors; exclusive of surfaces which are buried, submerged, inside a hydraulic structure, or specified elsewhere.

(b) SURFACE PREPARATION. Sandblasted per SSPC-SP-6 (Commercial Blast Cleaning). except that SSPC-SPC -11 (Power Tool Cleaning to Bare Metal) will be permitted if the Engineer determines that sandblasting will damage adjacent work.

(c) COATINGS (Alternate 1, 2, 3,4 or equal)

(1) Ameron Alternate. Prime coat Amercoat 187 (1 mil). Finish coats (minimum of 2) Amercoat 99 Semi-Gloss (7 mils). Total thickness of system (8 mils).

(2) Engard Alternate. Prime coat Engard 101 (2 mils). Intermediate coat Engard 352 (3 mils). Finish coat Engard 362 (3 mils). Total thickness of system (8 mils).

(3) Koppers Alternate. Prime coat Koppers 10 (1½ mils). Intermediate coat Koppers 35HB (3½ mils). Finish coat Koppers 401 (3 mils). Total thickness of system (8 mils).

(4) A. TNEMEC ALTERNATE NOT NSF CERTIFIED. Prime coat Tnemec V69 (4 mil). Finish coat Tnemec V69 (4 mils). Total thickness of system (8 mils).

B. TNEMEC ALTERNATE NSF CERTIFIED. Prime coat Tnemec V140F (4-6 mil). Finish coat Tnemec V140F (4-6 mils). Total thickness of system (8-12 mils).

09900.12 SYSTEM D - GALVANIZED FERROUS METAL, CORROSIVE ENVIRONMENT

(a) AREA OF APPLICATION. All galvanized ferrous metal, indoors and outdoors; exclusive of surfaces which are buried, submerged, inside a hydraulic structure, or specified elsewhere.

(b) SURFACE PREPARATION. Cleaned per SSPC-SP-1 (Solvent Cleaning).

a. Prepare galvanized steel and nonferrous metal surfaces in accordance with ASTM D 6386-Surface Preparation of Galvanized Surfaces and manufacturer's instructions.

b. Ensure surfaces are dry.

c. Interior Exposure (Dry/Benign): Remove visible oil, grease, dirt, dust, protective mill coatings, and other soluble contaminants in accordance with SSPC-SP 1 or manufacturer's instructions as specified for coating system. Hand or Power tool clean to remove all insoluble contaminants

d. Interior and exterior Exposure (moderate to severe): Remove visible oil, grease, dirt, dust, protective mill coatings, and other soluble contaminants in accordance with SSPC-SP 1 or manufacturer's instructions as specified for coating system. Follow initial cleaning with one of the following Methods:

1) **SURFACE PREPARATION METHOD A (Preferred)**: Thoroughly roughen the entire surface to be coated using compressed air brush off blast cleaning with a fine abrasive to achieve a uniform anchor profile of 1-2 mils. Reference ASTM D 6386-99 (2005) Section 5.4.1.

2) SURFACE PREPARATION METHOD B (Alternate method when Method A is not feasible): Chemically Treat with one of the following products to etch the galvanized surface to be coated: Henkel Galvaprep 5 or Clean & Etch by Great Lakes Laboratory. Reference ASTM D 6386-99 (2005) Section 5.4.2.

(c) COATINGS (Alternate 1, 2, 3, 4 or equal)

(1) Ameron Alternate. Pretreatment coat Amercoat 178. Prime coat Amercoat 187 (1 mil). Finish coats (minimum of 2) Amercoat 99 Semi-Gloss (7 mils). Total thickness of system (8 mils).

(2) Engard Alternate. Pretreatment coat Engard 135. Prime coat Engard 101 (2 mils). Intermediate coat Engard 352 (3 mils). Finish coat Engard 362 (3 mils). Total thickness of system (8 mils).

(3) Koppers Alternate. Pretreatment coat Koppers 40. Prime coat Koppers 10 (1½ mils). Intermediate coat Koppers 35HB (3½ mils). Finish coat Koppers 401 (3 mils). Total thickness of system (8 mils).

(4) TNEMEC ALTERNATE. Thoroughly clean and scarify the entire surface. See Tnemec Technical Memo #98-09 R1.

A. TNEMEC ALTERNATE NOT NSF CERTIFIED. Prime coat Tnemec V69 (4 mil). Finish coat Tnemec V69 (4 mils). Total thickness of system (8 mils).

B. TNEMEC ALTERNATE NSF CERTIFIED. Prime coat Tnemec V140F (4-6 mil). Finish coat Tnemec V140F (4-6 mils). Total thickness of system (8-12 mils).

09900.13 SYSTEM E - FERROUS METAL. BURIED, OR SUBMERGED IN WASTEWATER

(a) AREA OF APPLICATION. All ungalvanized and galvanized ferrous metal, buried, submerged, intermittently submerged, or inside a hydraulic structure, except where another coating system is specifically indicated.

(b) SURFACE PREPARATION. Sandblasted per SSPC-SP-5 (White Metal Blast Cleaning).

(c) COATINGS (Alternate 1, 2, 3 or equal)

(1) Ameron Alternate. Prime coat Amercoat 71 (1½ to 2 mils). Finish coats (minimum of 2) Amercoat 78 HB (16 mils). Total thickness of system (18 mils).

(2) Engard Alternate. Prime coat Engard 422 1½ to 2 mils). Finish coats (minimum of 2) Engard 464 (16 mils). Total thickness of system (18 mils).

(3) Koppers Alternate. Prime coat Koppers 654 (1½ to 2 mils). Finish coats (minimum of 2) Koppers 300-M (16 mils). Total thickness of system (18 mils).

(4) TNEMEC ALTERNATE. Prime coat Tnemec V69 (3-5 mil). Finish coat Tnemec 46H-413 (16 mils) (Two finish coats of L69 @4-6 mils DFT per coat.) . Total thickness of system (18-21 mils). (11-17 mils).

NOTE: Prime coat is for use as a shop primer only. Prime coat shall be omitted when both surface preparation and coating are to be performed in the field.

09900.14 SYSTEM F - BURIED GALVANIZED AND BLACK STEEL PIPE

(a) SURFACE PREPARATION. Cleaned per SSPC-SP-3.

(b) WRAPPING. Prior to wrapping the pipe with PVC tape, the pipe first shall be primed using a primer recommended by the PVC tape manufacturer. After being primed, the pipe shall be wrapped with a 20-mil adhesive PVC tape, half-lapped, to a total thickness of 40 mils.

09900.15 SYSTEM G - BURIED MISCELLANEOUS FERROUS SURFACES. VALVES. AND FLANGED JOINTS (EXCLUDING PIPE)

(a) SURFACE PREPARATION. Surfaces shall be thoroughly cleaned of all oil, grease. or other foreign materials.

(b) COATINGS. Rich cement mortar coating to a minimum thickness of 1/8-inch, following which such surfaces shall be enclosed in 8-mil thick polyethylene sheet with all joints and edges lapped and sealed with tape.

09900.16 SYSTEM H - NON FERROUS METAL, PLASTIC. FIBER GLASS-CORROSIVE ENVIRONMENT

(a) AREA OF APPLICATION. Non-ferrous metal, plastic and fiber-glass, indoors and outdoors, not buried, submerged or inside a hydraulic structure. Non-ferrous metal, plastic and fiber glass in Chlorinator Room and Chlorine Storage Room.

(b) SURFACE PREPARATION. Cleaned per SSPC-SP-1 (Solvent Cleaning) following which aluminum surfaces shall receive a pre-treatment coat as specified in the printed recommendations of the finish coating manufacturer.

(c) COATINGS (Alternate 1, 2, 3 or equal)

(1) Ameron Alternate. Two coats Amercoat 99, semi-gloss.

(2) Engard Alternate. Two coats Engard 362.

(3) Koppers Alternate. Two coats Koppers 401.

(4) TNEMEC ALTERNATE. Two coats Tnemec V69. Total thickness of system (8 mils).

09900.17 SYSTEM I - POLYURETHANE COATING SYSTEM CONCRETE SURFACES

(a) AREA OF APPLICATION. This system applies to concrete which is subject to intermittent submergence in wastewater and which is exposed to wastewater gases (sewage lift station wet well).

(b) SURFACE PREPARATION. All surfaces shall be cleaned of all dirt, dust, form oil, curing compounds, and other deleterious compounds. In general, the concrete shall be reasonably smooth and free of pockets and cavities. Vertical walls shall be cleaned by brush blasting (NACE #4 or SSPC-SP7). All surfaces shall completely dry before application of the coating. After concrete repair, fill all voids with coating manufacturer's approved epoxy putty or

filler.

(C- PREFERRED LINING) Epoxy Lining System- The coating material will be a two component, 100% solid, fiber reinforced high build hybrid epoxy liner specifically designed to withstand waster water conditions, particularly resistant to H2S permeation, such as Perma-Shield FR Series 436 at 60 mils DFT.

Performance Criteria:

a. Abrasion; ASTM D4060, (CS-17 Wheel, 1,000 grams load): No more than 124 mg. Loss, average of three trials.
b. Adhesion: ASTM D4541 (Method E-Type V Tester_Exceeds the cohesive strength of the concrete substrate (680 psi).
c. Chemical Resistance: ASTM C 868 (Atlas Cell): No blistering, cracking, erosion, softening, swelling, loss of adhesion or gloss loss after 98 days continuous immersion at 100°F (38°C) in 25% sulfuric acid.
e. Severe Accelerated Wastewater Test (EIS): H2S Autoclave: 65°C, 536 ppm H2S, 4000 ppm NaCl, 10% H2SO4 System: Series 435 Perma-Shield H2S applied to NACE No. 1/SSPC-SP5 White Blast Cleaned steel and cured 30 days at 75°F (24°C): Initial impedance of 10.2 Log Z . No blistering, cracking, checking or loss of adhesion. No reduction in electrical impedance after 28 days exposure.

(c) POLYURETHANE LINING SYSTEM.

(1) Material - The coating material will be a two component. 100% solid. polyurethane elastomer, such as "Sancon" 100, Tnemec 406 or equal. The coating shall be applied by high pressure airless equipment as specified or approved by the coating manufacturer.

The cured polyurethane lining shall be spark tested for pinholes with a high voltage spark tester at 8,000 volts. All pinholes shall be repaired to the satisfaction of the Engineer.

Manufacture materials and Contractor workmanship shall provide a five (5) year guarantee.

The Contractor shall specify in his bid proposal the type and make of lining to be used. A description of the coating product and the manufacturer's recommended procedures of performing the work will be required to be enclosed with the bid.

The material shall be approved by the Engineer prior to commencing the application. Once the coating formulation is accepted and approved by the Engineer. it shall not be changed except by authority of the Engineer.

The lining shall be 80-100 mil coating of high build, anti-corrosive and antiabrasive impact resistant, two component, 100% solids, non-solvented, hybrid polyurethane coating, with a shore "D" hardness of 57 @ 77 degrees fahrenheit. The material must be able to pass flexibility as prescribed by A.S.T.M D-1737, using cylinder mandrel of 0.5" (12.7mm). The flash point of the fluid mixture is 450 degrees fahrenheit open zahn cup.

The coating material shall meet the following specifications:

Solution	Concentration
Acetic Acid	5%
Sulfuric Acid	20%*
Sodium Hydroxide	5%
Ammonium Hydroxide	5%*
Nitric Acid	1%
Ferric Acid	1%
Soap	0.1%
Detergent (Linear Alkyl Benzyl Sulfonate or Las)	0.1%
Bacteriological	Bod not less than 700 PPM

* Volumetric percentages of concentrated C.P. Grade regents.

Petroleum Oils and Greases

Vegetable and Animal Oils

The color shall be white or cream. The complete coating shall be impermeable to sewer gases and liquids and nonconductive to bacterial or fungus growth. The lining shall be capable of repair at any time during its life.

(2) All interior surfaces, including grade rings and shelves, shall be coated with polyurethane lining. The coating thickness shall be a minimum of 60 mils and shall be applied in accordance with the manufacturer's specifications.

(3) Installation - The coating application shall be performed only by workmen trained and experienced with the specific material.

The finished product coating thickness shall be a minimum of 60 mils and shall be without seams, holes and defects. Application of the coating upon all interior concrete surfaces shall be in accordance with the coating manufacturer's specifications.

During the coating application, the Contractor shall take wet gauge thickness readings as required to insure correct coating thickness. The coating contractor shall also furnish two plugs to permit measurement of the thickness.

Coating material shall be applied within 48 hours of cleaning or application of air blown mortar or in accordance with the coating manufacturer's specifications, whichever is more stringent.

The finished coating must be continuous, without seams, free from any holes or defect on all surfaces above the lowest water level. All questionable areas shall be removed and reworked to the satisfaction of the Engineer.

The Contractor shall take all necessary measures to prevent damage to installed coating from equipment and materials used in or taken through the work.

(3) SAFETY - In accordance with the requirements of the OSHA Regulations for Construction, the Contractor shall provide and require the use of personal protective and lifesaving equipment for all persons working in or about the project.

Head and Face Protection and Respiratory Devices - Such equipment shall include protective helmets conforming to the requirements of ANSI Z89.2-1971 which shall be worn by all persons on-site. All persons engaged in or near the work area during sandblasting or water-blasting shall wear eye and face protection devices meeting the requirements of ANSI Z87.1-1968 and air purifying half-mask or mouthpiece respirator with appropriate filter.

Ventilation - Where ventilation is used to control potential exposures to workers as set forth in Section 1910.94 of the OSHA Regulation for Construction, ventilation shall be adequate to reduce the concentration of the air contaminant to the degree that a hazard to the worker does not exist. Methods of ventilation shall meet the requirements set forth in ANSI Z9.2-1960.

Temporary Ladders and Scaffolding - All temporary ladders and scaffolding shall conform to the applicable requirements of Subpart L Section 1926.45 and 1926.451 of the OSHA Regulations for Construction. They shall be erected to facilitate proper application of the lining.

09900.18 SYSTEM J – GYPSUM BOARD

Gypsum Board at Operations Building, after taping, patching, and sanding for a smooth uniform surface, shall receive two coats of semi-gloss paint by Sinclair, Dunn-Edwards, or equal.

Exposed wood framing (all three sludge pump stations) and fascia board for buildings shall be waterproofed and stained. Stain color shall be as selected by Owner's representative.

09900.19 FINAL CLEAN-UP

Upon completion of the work, all staging, scaffolding and containers shall be removed from the

site and disposed of in a manner approved by the Engineer. Coating or paint sports and oil or stains upon adjacent surfaces resulting from the work of this Section shall be cleaned, repaired, or refinished to the satisfaction of the Engineer at no cost to the Owner.

09900.20 OMISSIONS

Care has been taken to delineate herein those surfaces to be painted and those surfaces not to be painted. However, if painting requirements have been inadvertently omitted from this section or other sections of these specifications, it is intended that all exposed metal, wood, concrete and masonry surfaces, unless specifically exempted herein, shall receive a first class protective coating equal to that given the same type of surface pursuant to these specifications.

SECTION 11206 – ADVANCED PRIMARY FINE SCREENS

11206.01 GENERAL

This Section covers the furnishing and installation of three (3) advanced Primary Fine Screens (or Filters), a modular primary wastewater treatment process. Each Advanced Primary Fine Screen equipment shall be . capable of handling up to 1.5 to 2.0 million gallons per day of flow (about 1,040 to 1,390 US gallons per minute; or 2.32 to 3.10 cubic feet per second of flow). These units are to be installed by the "equipment supplier" onto concrete platforms under an open structure, constructed under a separate contract for the Owner.

(a) Unit Operation Description: The process incorporates an endless "mesh screen" which rotates upwards (at an incline angle) continuously, concurrent with the influent flow. The process is an equivalent of traditional primary sedimentation unit-operation. The process creates a solid underflow which has solids concentration from 25% to as high as 40%. The Primary Fine Screens is expected to remove SS (suspended solids) to upwards of 40% and 70%, including biochemical oxygen demand in the contents of the solids.

(b) The units shall be designed compact, easy for serving and maintenance. These screens shall be self-cleaning and therefore should require minimum operator attention.

(c) Shop Drawings shall be submitted to the Engineer for approval in accordance with the General Conditions (minimum five sets required) Shop Drawings shall contain the following information:

- Equipment dimensions and sheet metal thickness
- All auxiliary components such as drive motor and gear, blower with motor
- Mesh screen size for selection by Engineer and operations personnel
- Operation Instructional and Maintenance Manuals shall be furnished in triplicate.

11206.02 APPLICABLE CODES AND SECTIONS:

(a) All equipment and materials shall conform to the latest revision of the following standards wherever it is applicable:

- American National Standards Institute (ANSI)
- Underwriters' Laboratories (UL)
- American Society for Testing and Materials (ASTM)

(b) The following Sections in the Specifications shall govern the manufacturing and furnishing of auxiliary equipment and components:

- Section 09900 – Coating and Paint (wastewater systems) – for all ferrous metal surfaces after installation of Primary Fine Screens by its equipment supplier.
- Section 15100 – Mechanical Work General Requirements
- Section 16010 – General Electrical Requirements for connecting up the electric motors and components

- Section 16154 – Solid State Reduced Voltage AC Motor Starter where applicable for the blowers with the Primary Fine Screens
- Section 16600 Motor Control Equipment.

11206.03 MATERIALS AND CONSTRUCTION

(a) The filter structures shall be constructed of 304 stainless steel, of sufficient thickness (minimum of 3/16 inch thick) and structural reinforcement to meet California earthquake design requirments.

(b) The mesh screen (filter belts) shall be made from Kevlar-coated polyurethane and openings shall range from 250 to 350 micron. Equipment manufacturer has the option to recommend other materials. The openings shall be selected by Owner's Operations staff.

(c) Blower for removal of the screened solids shall be of sufficient size and motor shall be suitable for near out-door (totally enclosed fan cooled) installation.

(d) Each primary fine screen shall be provided with a controller to regulate the speed of the mesh screen based on the incoming wastewater flow to maintain the water level inside the screen structure below a certain level.

11206.04 DELIVERY, HANDLING, TEMPORARY STORAGE, AND INSTALLATION

(a) All equipment components shall be delivered in their original, unopened containers bearing the part numbers etc.

(b) Prior to the equipment's installation, the equipment supplier (Micromedia) and its sub-contractor responsible for the installation shall coordinate with Owner's Engineer and personnel to identify a special guarded area within the treatment plant for the temporary storage.

(c) The Advanced Primary Fine Screens are to be installed on the concrete platforms specifically designed to house these equipment. The equipment supplier shall review and acknowledge the construction plans to be furnished by the City Engineer at a later date when bidding of the structural phase of the Wastewater Treatment Plant Expansion is underway. Equipment supplier shall provide a template for setting the floor anchor details before the concrete slab is poured.

(d) Equipment shall be installed and connected to the appropriate piping per the construction plans as furnished by the City Engineer.

(e) Following completion of installation, a qualified factory representative shall be present at the job site for up to two (2) working days to instruct plant operations personnel in the operation and maintenance of these Advanced Primary Fine Screens.

(f) The installed equipment shall be subject to "Acceptance Testing" as stated in Exhibit "H-2" Performance Schedule under the Agreement Section.

END OF SECTION

SECTION 11207– ADVANCED SECONDARY BIO-FILTRATION EQUIPMENT

11207.01 GENERAL

This Section covers the furnishing and installation of twelve (12) units of Advanced Secondary Bio-Filtration (ASBF) equipment, a modular secondary wastewater treatment and filtration process capable of meeting California Department of Health Services (DHS) Title 22 regulations (relative to removal of biochemical oxygen demand, organic/ammonia/nitrate nitrogen, and suspended solids etc.). Each Advanced Secondary Bio-Filtration Equipment unit is comprised of two 8-ft diameter tanks in series (one taller primary and one shorter secondary), each capable of treating minimum 250,000 gallons per day of screened primary effluent. The 12 units will provide a total plant expansion capacity of 3 million gallons per day (average, MGD). These units are to be installed by the "equipment supplier" onto concrete platforms under an open modular structure with modular roofs sections.

(a) Unit Operation Description: Each unit of the treatment equipment incorporates a continuous backwash process (producing a recycle rate of between 3% to 5%). Wastewater from the Advanced Primary Fine Screens (as described in Section 11206 of these specifications), with inoculated bacteria and added poly-aluminum chloride (PACl) coagulant will be delivered by individual primary effluent pumping units and individual supply pipes to the ASBF filter beds. Each primary effluent pumping unit will be of sufficient capacity to feed to two ASBF-Units and each pump is equipped with variable frequency drives, capable of regulating the primary effluent flow to the bio-filters. Under the combined influence of biological reaction and flocculation, the primary effluent is treated as it flows through the dual filters, both in an upward flow pattern. The biomass growth in the filter-bed is regulated by a continuous controlled washing of the granular sand from the filter bottom using compressed air, resulting in the very slow downward movement of the sand-bed. The "biomass containing sand" is rinsed in the "sand washer" and put back on top the each ASBF filter-bed. The ASBF treatment equipment is expected to remove TSS, BOD, and ammonia to a level that meets DHS Title 22 requirements to make the effluent water suitable for landscape irrigation and other beneficial reuses.

(b) The units shall be designed and fabricated to meet California earthquake conditions, ready for mounting to the concrete floor, and for easy inspection access and maintenance. The equipment are to be operated with PLC controls (Programmable Logic Controllers - regulating the Primary Effluent pumping, chemical feed, compressed air volume, and other related functions) furnished by the ASBF equipment supplier.

(c) Shop Drawings shall be submitted to the Engineer for approval in accordance with Section 2.05 of the General Conditions (minimum five sets required) Shop Drawings shall contain the following information:

- Filter dimensions, and internal sheet metal thickness. Filters shall be designed to meet AWWA seismic zone 4 design criteria with minimum wall thickness of ¼ inch. Structural calculations shall be provided; including filter sand gradation and supplier.
- Submittals applicable to all auxiliary components as listed hereinafter.
- Operation Instructions and Maintenance Manuals shall be furnished in triplicate.
- Spare parts list.

SECTION 11207 – ADVANCE SECONDARY BIO-FILTRATION EQUIPMENT

11207.02 APPLICABLE CODES AND SECTIONS:

(a) All equipment and materials shall conform to the latest revision of the following standards wherever it is applicable:

- American National Standards Institute (ANSI)
- Underwriters' Laboratories (UL)
- American Society for Testing and Materials (ASTM)
- American Water Works Association (AWWA) – Seismic Zone 4 tank construction requirements.

(b) The following Sections in the Specifications shall govern the manufacturing and furnishing of auxiliary equipment and components:

- Section 09900 – Coating and Paint (wastewater systems) – for all ferrous metal surfaces after installation of ASBF Units by its equipment supplier.
- Section 15100 – Mechanical Work General Requirements
- Section 16010 – General Electrical Requirements for connecting up the electrical parts and components
- Section 16154 – Solid State Reduced Voltage AC Motor Starter where applicable such as the air compressor motors
- Section 16600 – Motor Control Equipment and Programmable Logic Controllers.

11207.03 COMPONENT LISTING (Non-proprietary)

Total Each	Component Listing	Reference Supplier, or Equal
24	Pressure sensors with 5D-100 ft cords	Esterline
24	Mass-flow controllers	Alicat Scientific
24	Manual air flow controllers	Dwyer
24	Air shut-off solenoid valves	Reno Company
24	Air inline check valves	Reno Company
12	Small air Compressors, 1/3 horsepower	Thomas / Cal Controls
12	Distribution manifold	Grainger
12	Relief valves	Grainger
12	Pressure gage for manifold	Grainger
2,000 LF	Stainless Steel Chemical Tubing (estimate only)	US supplier
24	NTU Meters (turbidity with digital output)	HF Scientific
2,000 LF	3/8-inch OD (1/4 inch ID) tubings	US supplier
24	Chemical Feed Pump (Coagulant)	Neptune
12	Chemical Feed Pump (Hypo-chlorite to Secondary Filters)	Neptune
480 tons	Granular Sand (0.9 to 1.2 mm) per AWWA Standards	Source to be confirmed
3,500 SF	Non-slip protective coating for concrete foundation	Concrete platform area

11207.04 MATERIALS AND CONSTRUCTION

(a) The filter tanks shall be constructed of 304 stainless steel, of sufficient thickness (minimum

of ¼ inch thick) and structural reinforcement to meet California earthquake design requirements per AWWA seismic zone 4 requirements.

(b) Filter sand and gradation design shall be in accordance with AWWA standards.

(c) The mass-flow controllers, manual air flow controls, valves, chemical feed pumps, coagulant pumps etc. shall be of standard US manufacturers, where as the APUA could obtain replacement components in the future.

(e) All chemical feed tubing and stainless steel tubing shall be furnished as presented in the component schedule presented above.

11207.05 DELIVERY, HANDLING, TEMPORARY STORAGE, AND INSTALLATION

(a) All equipment components shall be delivered in their original, unopened containers bearing the part numbers etc.

(b) Prior to the equipment's installation, the equipment supplier and its sub-contractor responsible for the installation shall coordinate with Owner's Engineer and personnel to identify a special guarded area within the treatment plant site for the temporary storage.

(c) The ASBF bio-filter tanks shall be installed per the floor plan lay-out as provided by City Engineer and as reviewed by equipment supplier (copy included). The equipment supplier shall review and approve the final construction plans to be furnished by the City Engineer at a later date when bidding of the structural portion of the Wastewater Treatment Plant Expansion is underway. Equipment supplier shall provide a template for setting the floor anchor details before the concrete slab is poured. All twelve (12) primary and secondary tanks are manufactured in the same pattern per floor plan layout by City Engineer's design team.

(d) Equipment shall be installed and connected to the appropriate piping (feed line, chemical line etc.) per the construction plans as furnished by the City Engineer.

(e) Following completion of installation of the treatment equipment, a qualified factory representative(s) shall be present at the job site to successfully start-up the treatment process and to instruct plant operations personnel in the operation and maintenance of these ASBF treatment system. The installed equipment shall be subject to "Acceptance Testing" as stated in Exhibit "H-2" Performance Schedule under the Agreement Section.

(f) During successive observation periods until the two final construction payments have been paid, representative of the equipment supplier shall be present to make the process control adjustments. A minimum of ten (10) days shall be allowed for such assistance during each post installation period.

END OF SECTION

SECTION 15100 - MECHANICAL WORK GENERAL REQUIREMENTS

15100.01 GENERAL

(a) The requirements set forth in this Section generally shall apply to all mechanical equipment specified elsewhere. They shall supplement the detailed equipment specifications, but in case of conflict, the detailed equipment specifications shall take precedence. Where special items are referenced in this Section, they shall be furnished only if required with individual mechanical equipment.

(b) All equipment shall meet CAL-OSHA noise level requirements, unless otherwise specified.

(c) All vibrating equipment shall be provided with vibration isolation or pads per manufacturer's recommendation, unless otherwise specified.

(d) Installation drawings such as foundation bolt plans, matching pieces and all items that may have field interface, shall be made available, as required, to other parties who perform work relating to the interface.

(e) Welding, where required, shall conform to American Welding Society (AWS) standards.

15100.02 SUBSTITUTION OF EQUIPMENT

Equipment shall be readily adaptable for installation and operation in the structures as shown on the drawings.

Equipment of equal quality and performance may be substituted for those shown or specified unless no equal is specified. Any revisions to structures, piping, electrical, or other work as a result of the substitution shall be approved by the Engineer, and the cost of all such revisions shall be borne by the Contractor.

15100.03 SHOP DRAWINGS

Complete assembly, support, and installation drawings together with detailed specifications and/or catalog data covering equipment, parts, material used, weights and outline dimensions, controls, and other accessories forming a part of the equipment furnished shall be submitted for review by the Engineer in accordance with the General Conditions. Methods of anchoring with consideration of seismic design for restraint per Uniform Building Code and/or mechanical stops shall be included in the submittals. Show size, location, and spacing of foundation bolts, including vertical and/or horizontal adjustments available for installation and future adjustment.

15100.04 OPERATION AND MAINTENANCE INSTRUCTIONS

(a) The Contractor shall deliver to the Engineer three (3) sets of manufacturer's operation and maintenance instructions covering each piece of equipment or equipment assembly furnished under this Contract as early in the construction phase as possible and prior to substantial completion of the

project. Failure of the Contractor to deliver the O&M instructions when the work is substantially completed may be a cause for the Owner to withhold payments due the Contractor as stipulated in the General Conditions.

(b) The operation and maintenance instructions shall include, as a minimum, the following data for each item of mechanical, electrical, and instrumentation equipment. Information not applicable to equipment installed in the work shall be excluded.

(1) Recommended start-up and trouble shooting procedures

(2) Disassembly and reassembly instructions

(3) Lubrication schedule

(4) Recommended preventative maintenance procedures and schedules

(5) Recommended spare parts

(6) Parts lists, by generic title and identification number, complete with section views of each assembly

(7) Name, address, and telephone number of nearest supplier and spare parts warehouse

In addition, the O&M instructions shall contain reproducible prints of the as-built wiring diagrams, schematics, and installation drawings.

15100.05 MATERIALS AND WORKMANSHIP

(a) All equipment shall be designed, fabricated, and assembled in accordance with the best modern practice in the manufacture of high grade machinery.

(b) Individual parts shall be manufactured to standard sizes and gauges so that repair parts, furnished at any time, can be installed in the field. Like parts of duplicate units shall be interchangeable. Equipment shall not have been in service at any time prior to delivery, except as required by tests.

(c) Materials shall be suitable for the service conditions to be encountered. Iron castings shall be of tough, close-grained gray iron, free from blow-holes, flaws, or other imperfections and shall conform to ASTM A48. All mechanisms or parts shall be amply proportioned for the stresses which may occur during operation or for any other stresses which may occur during fabrication and erection.

(d) Unless otherwise specified, all materials shall conform to the structural and miscellaneous Standards of the American Institution of Steel Construction.

(e) Surfaces requiring painting or coating for corrosion protection shall be smooth, free from sharp edges, burrs, and projections, and shall have all welds ground smooth and all edges and corners of structural members rounded.

(f) All steel bars, shapes, and plates shall be clean and straight before being worked. Straightening or flattening, if necessary, shall be done by a process and in a manner that will not injure the metal. Sharp kinks or bends shall be cause for rejection.

Steel that has been heated partially shall be annealed, unless it is to be used in minor parts. Finished members shall be true to form and free from twists, bends, or other joints.

(g) Tolerances and clearances shall be as shown on the shop drawings and these tolerances and clearances shall be closely followed to secure proper operation of the equipment.

15100.06 EQUIPMENT INSTALLATION

(a) The Contractor shall take measurements from his work at the installation sites, verify all subcontractor's drawings and be responsible for the proper installations within the available space of the equipment as specified and shown on the Drawings and must secure the approval of the Engineer for any variations before making any changes.

(b) The Contractor shall obtain installation instruction booklets and other recommendations from the equipment manufacturers. In general, the manufacturer's recommendations as to grout spaces required, type of grout to be used, and tolerances for level and alignment, both vertical and horizontal, shall be obtained and followed.

(c) Skilled workmen experienced in installation of the equipment or similar equipment shall be used. Applicable special tools and equipment, such as precision machinist levels, dial indicators, and gauges shall be utilized as required in the installations. The work shall be accomplished with good workmanship to produce satisfactory equipment installation free of vibration or other defects. Whenever applicable, the Contractor shall obtain the service of a manufacturer's representative specifically trained in erection of his equipment to supervise the installation.

(d) Prior to installation of equipment, all sacking and concrete preparation shall be completed and the work area shall be maintained in a broom-clean condition during the equipment installation.

(e) Equipment not intended to vibrate during normal operation shall be rigidly attached to the foundation or other adequate support to prevent lateral and vertical displacement. Equipment intended to vibrate during normal operation shall be provided with isolators with mechanical stops which are securely anchored to foundation or other adequate support.

15100.07 PROTECTIVE COATINGS

All equipment shall be provided with protective coatings in accordance with Section 09800, unless otherwise approved by the Engineer. Nonferrous and corrosion-resisting steel surfaces shall be coated with grease or lubricating oil. Coated surfaces shall be protected from abrasion or other damage during handling, testing, storing, assembly, and shipping.

15100.08 TOLERANCES

Tolerances and clearances shall be as shown on the shop drawings and shall be closely adhered to. Machine work shall in all cases be of high-grade workmanship and finish, with due consideration to the special nature or function of the parts. Best accuracy shall be required to ensure proper operation of the equipment. Members without milled ends and which are to be framed to other steel parts of the structure may have a variation in the detailed length of not greater than 1/16 of an inch for members 30 ft or less in length, and not greater than 1/8 of an inch for member over 30 ft in length.

15100.09 BEARINGS

(a) Bearings shall be selected in conformance with the Standards of the Anti-Friction Bearing Manufacturers Association, Inc. (AFBMA)

(b) To assure satisfactory bearing application, fitting practice, mounting, lubrication, sealing, static rating, housing strength other important factors shall be considered in bearing selection.

(c) All re-lubricatable type bearings shall be equipped with hydraulic grease fitting and shall have sufficient grease capacity in bearing chamber.

(d) All lubricated-for-life bearings shall be factory-lubricated with manufacturer's recommended grease to ensure bearing life and best performance.

(e) Bearings shall be designed for rated life expectancy (B- 10) corresponding to the type of service:

Type of Service	Design Life (Years)	B-10 Design Life (Hours)
8-Hour Shift	10	20,000
16-Hour Shift	10	40,000
Continuous	10	100,000

(f) Bearing housing shall be of cast iron or steel. Bearing mounting arrangement shall be as specified or shown or as recommended by manufacturer. Split-type housing may be used to facilitate installation, inspection and disassembly.

(g) Sleeve-type bearings shall have a babbit, bronze liner, unless otherwise shown.

SECTION 15100 - MECHANICAL WORK GENERAL REQUIREMENTS

15100.10 COUPLINGS

Flexible couplings shall be provided between the driver and the driven equipment to accommodate angular misalignment, parallel misalignment, end float, and to cushion shock loads.

(a) Equipment manufacturer shall select or recommend the size the type of coupling required to suit each specific application.

(b) Coupling installation shall be per equipment manufacturer's recommendations. Taperlock bushings may be used for each installation and removal on shafts of various diameters.

(c) Where shown, universal-type couplings with needle bearings and commercial type grease fittings shall be furnished.

15100.11 SHAFTING

(a) All shafting shall be continuous between bearings and sized to transmit the power required. Keyways shall be accurately cut in line and phase with the sprocket teeth. Shafting shall not be turned down at the ends to accommodate bearings or sprockets whose bore is less than the diameter of the shaft. All shafts shall rotate in the end bearings and shall be turned and polished, straight and true.

(b) Shafting materials shall be compatible with the type of service and torque transmitted. Environmental elements, such as corrosive gases, moisture and fluids, shall be taken into consideration. Materials shall be as shown or specified unless furnished as part of an equipment assembly.

(1) Low carbon cold rolled steel shafting shall be in conformance with ASTM A108 Grade 1018.

(2) Medium carbon cold rolled shafting shall be in conformance with ASTM A108 Grade 1045.

(3) Corrosion resistant shaftings shall be Type 18-8 stainless steel or Monel.

(c) Where differential settlement between the driver and the driven equipment may occur, a shaft of sufficient length with two sets of universal-type coupling shall be installed.

15100.12 GASKETS AND PACKINGS

(a) Gaskets shall be 1/16-inch thick compressed white asbestos as manufactured by Garlock, JohnsManville, or equal.

(b) Packing around shafts shall be compressible and compatible with fluid being used. Chevron-type packing shall be Garlock, Johns-Manville, or equal.

15100.13 V-BELT DRIVES

(a) V-belts and sheaves shall be best commercial type and shall be in conformance with ANSI, MPTA, and RMA Standards.

(b) Sheaves shall be machined from the finest quality gray cast iron.

(c) Unless otherwise specified, all sheaves shall be statically and where vibration is a problem, shall be dynamically balanced. Sheaves operating at belt speeds exceeding 6500 fpm may have to be of special materials and construction.

15100.14 FLANGES AND PIPE THREADS

Unless otherwise noted, all flanges on equipment and appurtenances provided under this section shall conform in dimensions and drilling to ANSI B16.1, Class 125. All pipe threads shall be in accordance with ANSI B2.1.

15100.15 TOOLS

The Contractor shall supply one complete set of special wrenches or other special tools necessary for the assembly, adjustment, and dismantling of the equipment. All wrenches and spanners shall be of best quality, hardened steel forgings with bright, finished heads and with work faces dressed to fit nuts. The set of tools shall be neatly mounted in a labeled toolbox of suitable design provided with hinged cover.

15100.16 NAMEPLATES

Equipment nameplates shall be engraved or stamped on stainless steel plate and fastened to the equipment in an accessible location with No. 4 or larger oval head stainless steel screws or drive pins. Nameplates shall contain manufacturer's name, model, size, characteristics and all data describing the machine performance ratings.

15100.17 SUPPORTS

(a) GENERAL. Unless otherwise specified, all equipment supports shall be adequately designed for static, dynamic, and seismic loads. Shop drawings shall be submitted to the Engineer for review in conformance with Section 2-5.3 of the General Conditions. Equipment foundations shall be as per manufacturer's recommendation and shop drawings.

(b) PIPE HANGERS, SUPPORTS AND GUIDES

(1) All supports and parts thereof shall conform to the latest requirements of the ANSI Code for Power Piping B31.1 and MSS Standard Practice SP-58, except as supplemented or modified by the requirements of these Specifications.

(2) Pipe supports, wherever applicable, shall be in accordance with the latest edition of the Uniform Plumbing Code or local administration requirements.

(3) Pipe hangers shall be capable of supporting the pipe in all conditions of operation. They shall allow free expansion and contraction of the piping, and prevent excessive stress involving from transferred weight being induced into the pipe or connected equipment.

(4) Wherever possible, horizontal piping shall be secured with pipe clamps.

(5) Wherever possible, suspended pipes shall be attached to structural beams.

(6) All rigid hangers shall provide a means of vertical adjustments after erection.

(7) Where the piping system is subject to shock loads, such as seismic disturbances or thrusts imposed by the actuation of safety valves, hanger design shall include provision of shock absorbing devices of approved design.

(8) Hanger rods shall be subject to tensile loading only. At hanger locations where lateral or axial movement is anticipated, suitable linkage shall be provided to permit such movement.

(9) Where horizontal piping movement is greater than ½-inch, or where the hanger rod deflection from the vertical is greater than 4 degrees from the cold to the hot position of the pipe, the hanger pipe and structural attachment shall be offset in such manner that the rod is vertical in the hot position.

(10) Hangers shall be designed so that they cannot become disengaged by movement of the supported pipe.

(11) Where practical, risers shall be supported independently of the connected horizontal piping with riser lugs.

(12) Supports, guides, and anchors shall be so designed that excessive heat will not be transmitted to the structure.

15100.18 BOLTS

(a) The Contractor shall furnish and set all bolts and anchor bolts. Except where otherwise shown or specified, all bolts, anchor bolts, and nuts shall be steel, galvanized after fabrication in

accordance with ASTM A153. Threads on galvanized bolts and nuts shall be formed with suitable taps and dies such that they retain their normal clearance after hot-dip galvanizing.

(b) Except as otherwise provided, steel for bolts, anchor bolts and cap screws shall be in accordance with "Specifications for Carbon Steel Externally and Internally Threaded Standard Fasteners," Grade B (ASTM A307) or threaded parts of ASTM A36 and shall meet the following additional requirements: (1) The nut material shall be free cutting steel, and (2) The nuts shall be capable of developing the full strength of the bolts. Threads shall be Coarse Thread Series conforming to the requirements of the American Standard for Screw Threads. All bolts and cap screws have hexagon heads and nuts shall be heavy hexagon series.

(c) Where specified or shown, all bolts, anchor bolts and nuts which are buried, submerged, or below the top of the wall inside any hydraulic structures shall be of Type 18-8 stainless steel.

SECTION 16010 - GENERAL ELECTRICAL REQUIREMENTS

16010.01 GENERAL

(a) This Section of the Specifications describes the material, management, and methods to be utilized by the Contractor for the installation of the work and systems described in other Sections.

(b) The work includes the work of the Sections listed below as well as the connection of equipment furnished under Sections not specifically mentioned herein. The work includes all appurtenances required for a complete facility ready for service.

(1) Section 16200 - Power, Lighting and Miscellaneous Electrical Systems.
(2) Section 16600 - Motor Control Equipment.

16010.02 CODES AND STANDARDS

(a) All equipment and materials shall conform to the latest revision of the following standards:

(1) American National Standards Institute (ANSI).

(2) Institute of Electrical and Electronic Engineers (IEEE).

(3) National Electrical Manufacturers Association (NEMA).

(4) Underwriters' Laboratories (UL).

(5) Insulated Power Cable Engineers Association (IPCEA).

(6) American Society for Testing and Materials (ASTM).

(7) National Electrical Code.

(8) Standard Specifications for Public Works Construction.

(9) Federal Communications Commission (FCC).

(b) All electrical equipment and materials, and the design, construction, and installation thereof, shall comply with all applicable provisions of the Federal Occupational Safety and Health Act (OSHA), State Building Standards, and applicable local codes and regulations.

(c) Where the Drawings or these Specifications require a higher degree of workmanship or better quality of material than implied by the above codes and Standards, then these Drawings and Specifications shall prevail.

16010.03 WORKING DRAWINGS

(a) The electrical Drawings constitute an integral part of this Contract and serve as the working drawings. They indicate how pump motors shall be wired and how they shall operate. Installed locations must be determined after a careful review of site conditions, contract drawings, and approved shop drawings, to assure a workable installation.

000423

(b) All items not specifically shown on the Drawings, but obviously required to obtain a workable installation, shall be a part of this contract.

16010.04 AS-BUILT DRAWINGS

As-Built drawings shall be in accordance with the requirements set forth in Section 2 of the General Conditions or Section 01000 of the Special Conditions.

16010.05 EQUIPMENT, MATERIALS AND WORKMANSHIP

(a) It is the intent of these Specifications and of the Drawings to establish quality and performance standards for all equipment and materials and to require first-class workmanship in order to facilitate trouble-free operation and minimum maintenance of the project.

(b) All equipment and materials shall be new. Where specified, equipment and material shall be listed by UL, and shall bear the UL label. All equipment and materials shall be products of reputable, experienced manufacturers. Similar items in the project shall be the products of the same manufacturer. All equipment and materials shall be of industrial grade and standard of construction, shall be of sturdy design and manufacture, and shall be capable of long, reliable, trouble-free service.

(c) All work, including installation, connection, testing, and adjustment, shall be accomplished by qualified, experienced personnel working under continuous, competent supervision. The final completed installation shall display superior work, employing industrial standards and methods.

16010.06 TESTING

The Contractor shall perform on-site tests, in the presence of the Engineer, to demonstrate compliance with the requirements of this Specification; submittal procedure shall be as required for shop drawings. Such testing shall include but not be limited to:

(1) Testing for the ground resistance value specified under Grounding.

(2) Insulation resistance tests as specified under Wire and Cable.
(3) Operational testing of all equipment furnished and/or connected in Sections 16200, 16250, and 16600.

16010.07 SHOP DRAWINGS AND CATALOG DATA

(a) All submittals required by this Section shall be made in accordance with the General Conditions.

(b) Within 30 days after contract award, the Contractor shall submit complete material lists for this Section of the work. Such lists shall state manufacturer and brand name of each class of material.

(c) Shop drawings are required for material and equipment which are listed in the appropriate sections. Shop drawings shall provide sufficient information to evaluate the suitability of the proposed material for the intended use and for compliance with this Specification; data shall include but not be limited to:

(1) Front, side, rear elevations and top views.

(2) Location of conduit entrances and access plates.

(3) Component data: Part numbers, model numbers, style etc.

(4) Connection diagrams, terminal diagrams, internal wiring diagrams, conductor size, voltages, current ratings etc.

(5) Method of anchoring, weight, lifting method etc.

(6) Finish.

(7) Nameplates.

(d) Catalog data shall be submitted to supplement the shop drawings. Catalog cuts, bulletins, brochures or the like, or photocopies of applicable pages thereof, or shop drawings, shall be submitted for mass produced, non-custom manufactured material. These catalog data sheets shall be stamped to indicate the project name, applicable Specification section and the model number and options shall be marked in space designated for such data in the stamp.

16010.08 AREA DESIGNATIONS

All outside locations are exposed to weather and are classified as wet locations. In this area classification, raceway shall be rigid steel conduit, entrances shall be threaded; fittings shall have gasket covers; and covers shall be vertical or preferable horizontal at a low point to drain the fitting or conduit system. Threaded fastening hardware shall be stainless steel; mounting brackets galvanized. Attachments or assembly by welding must be galvanized after fabrication. Outside enclosures shall be "Weatherproof".

16010.09 UTILITY SERVICE FACILITIES

(a) Electric service to the facilities will be by Southern California Edison(SCE). Transformers furnished and installed by SCE will be located in close proximity to the Motor Control Centers (MCC). Transformers to reduce line voltage to 480 volts will be mounted on a new transformer pad approximately 10 feet from the service meter panel. Spaces shall be provided for the installation of the remote mounted electric meter, to be furnished by SCE, as shown on the Electrical

Drawings and approved shop drawings. Service and metering installation shall comply with SCE requirements.

(b) Material and work performed by Southern California Edison will be paid for by the Owner directly. The Contractor shall coordinate his work schedule with the Engineer. The Contractor shall furnish and install all appurtenant materials and devices that are required by the electric utility company. Excavation and backfill of trenches shall also be by the Contractor.

16010.10 GROUNDING

(a) Ground continuity throughout the facility shall be maintained by installing a raceway system with a grounding conductor. Metallic raceway shall be installed with double lock nuts or hubs at enclosures; non-metallic raceway containing DC conductors operating at more than 50 volts to ground and any AC conductors shall contain a copper grounding conductor either bare, or green if insulated; such conductor shall be bonded to terminal and intermediate metallic enclosures.

(b) Metal equipment platforms which support any electrical equipment shall be bonded to the nearest ground bus or to the nearest switchgear ground bus; this grounding requirement is in addition to the raceway grounding required in paragraph (a) above.

(c) Ground rods shall conform to UL Specification 467 and shall be 3/4-inch copper-clad steel, sectional type, joined by threaded copper alloy couplings. Locations shall be as shown on the drawings; length of rods forming an individual ground array shall be equal in length and of a length as required to obtain a maximum ground resistance of 5 ohms. Top of ground rod shall be fitted with coupling and steel driving stud. Rods and fittings shall be Copperweld, Blackburn, Weaver, or equal.

(d) Connection to ground electrodes and ground conductors shall be exothermic welded where concealed and shall be bolted pressure type where exposed. Connectors shall be of copper alloy and shall be made up wrench tight.

(e) Grounding cable shall be copper and sized in accordance with Code requirements, when not sized on the Drawings.

(f) Insulated grounding bushings shall be employed for all grounding connections to steel conduits in motor control centers, in pull boxes and elsewhere where conduits do not terminate at a hub or a sheet metal enclosure.

(g) Where insulated bushings are required, they shall be installed in addition to double lock-nuts.

16010.11 CONDUCTOR AND EQUIPMENT IDENTIFICATION

000426

(a) Completed electrical installation shall be provided with adequate identification to facilitate the proper control of circuits and equipment and to reduce maintenance effort.

(b) The Contractor shall assign to each control wire and cable a unique identification number. This number shall be assigned to all conductors having common terminals and shall be shown on all shop drawings. These numbers shall appear within three inches of conductor terminals. "Control" shall be defined as any conductor used for alarm, or signal purposes, or connect switch or relay contacts, or relay coils.

(1) The method of identification shall be either imprinted plastic coated cloth by Brady, or Thomas & Betts, imprinted heat shrink tubing or imprinted split-sleeve markers cemented in place, or equal.

(2) Multiconductor cable shall be assigned a number which shall be attached to the cable at intermediate pull boxes and at stub-up locations beneath free-standing equipment. It is expected that the cable number will form a part of the individual wire number. Individual control conductors shall all be identified at pull points as described above.

c) 120/240 volt system feeder cable and branch circuit conductors shall be color coded black, Phase A; red, Phase B; blue, Phase C and white, neutral. 480/277 volt system conductors shall be color coded brown, Phase A; orange, Phase B; yellow, Phase C and gray, neutral. Color coding tape shall be used where colored insulation is not available. Branch circuit switch shall be yellow. Insulated ground wire shall be green, and gray neutral. Color coding and phasing shall be consistent throughout the site, but bars at motor control centers shall be connected Phase A-B-C, top to bottom, or left to right facing connecting lugs.

(d) General purpose AC control conductors shall be pink. General purpose DC control conductors shall be blue.

(e) All spare conductors shall be terminated on terminal screws and shall be identified with a unique number as well as with destination.

(f) Nameplates shall be provided for all panels, starters, switches, pushbutton stations, etc. In addition to the nameplates, shown on the Drawings, control devices shall be equipped with standard collar type legend plates, as required.

(g) Control devices within enclosures shall be identified in accordance with the Drawings; identification shall be embossed plastic tape.

(h) Terminal strips shall be identified by imprinted, varnished, marker strips, attached under the terminal strip.

16010.12 FINISH

(a) General purpose enclosures and other than general purpose enclosures which are smaller in volume than 500 cubic inches shall be finished in accordance with the manufacturer's standard procedures; finish color shall be ANSI 61.

(b) NEMA 3, 4, and 12 enclosures larger in volume than 500 cubic inches shall be finished according to Section 09800 of these Specifications, except see Section 16600 for finish requirements pertaining to motor control centers.

SECTION 16150 - ELECTRIC MOTORS

16150.01 GENERAL

All electric motors shall conform with these Specifications unless otherwise specified or shown. Motors for valve operators, submersible pumps or motors which are an integral part of standard-manufactured equipment are exceptions to these specifications. For further motor details, individual equipment specifications shall be referred to. Painting and Coating of electric motors shall be as specified in Section 09800.

16150.02 MANUFACTURER AND SUPPLIER

(a) The process or mechanical equipment manufacturer shall be responsible for the selection and supply of suitable electric motors for his equipment. The choice of motor manufacturer shall be his responsibility, subject to favorable review by the Engineer.

(b) Electric motors driving identical machines shall be identical.

(c) The motor horsepower shall be not less than the estimated minimum specified for each driven machine. The nominal horsepower shall be adequate for the driven machine without infringement upon the motor service factor. If the estimated minimum horsepower specified is not adequate to satisfy the foregoing requirement or any other requirements of these Specifications, the motor with next larger horsepower shall be supplied at no additional cost to the Owner. In addition, any changes caused by increase in motor horsepower, shall be made by the Contractor at no additional cost to the Owner; such changes may involve circuit breakers, magnetic starters, motor feeder conductors, conduit sizes, and the like.

16150.03 DESIGN CHARACTERISTICS

(a) All electric motors shall comply with NEMA Standard MG-1.

(b) Electric motors shall be NEMA Design B, constant speed squirrel-cage induction motors having normal starting torque with low starting current. In no case shall starting torque or breakdown torque be less than value specified in NEMA Standard MG-1.

16150.04 MOTOR VOLTAGE

Motors shall be rated in accordance with the following, unless otherwise specified. Motors with obsolete voltage rating will not be accepted.

(a) Motors below 1/2 horsepower shall be rated 115-volts, single-phase, 60 HZ. Dual-voltage motors rate 115/230-volts, 115/208-volts are acceptable.

(b) Motors 1/2 horsepower and larger shall be rated 460-volts, 3-phase, 60 HZ. Dual-voltage motors rated 230/460-volts or 208/230/460-volts are acceptable.

SECTION 16150 - ELECTRIC MOTORS

16150.05 THERMAL PROTECTION

Motors shall be equipped with 120 volt thermal sensors, one for each phase, affixed to or embedded in motor windings, set to open control circuit at 135 °C. All thermal sensor leads shall terminate in motor terminal box. Control modules and reset switches shall be furnished with the thermal sensors.

16150.06 NON-REVERSE PROTECTION

Motors shall be equipped with non-reverse mechanisms which shall limit maximum reversal to within 10° of rotation.

16150.07 MOTORS INSTALLED OUTDOORS

(a) All motors installed outdoors 25 hp or smaller shall be totally enclosed, fan-cooled (TEFC) with service factor of 1.0.

(b) All motors installed outdoors larger than 25 hp shall be Weather Protected, Type I, unless specified otherwise. All outdoor motors shall have winding encapsulation with a minimum service factor of 1.15. Encapsulation shall be General Electric "Polyseal", U.S. Motors "Everseal", or equal.

(c) All motors installed within 50 ft of flammable fuel or gas storage area shall be of explosion-proof construction.

16150.08 MOTORS INSTALLED INDOORS

All motors installed indoors shall be open drip-proof with a service factor of 1.15 minimum. EXCEPTION: All motors located in damp environment such as in pump and pipe galleries, tunnels, chemical feed and sludge areas, shall have winding encapsulation.

16150.09 INSULATION

All electric motors shall be furnished with Class B minimum insulation, with Class A temperature-rise or Class F insulation with Class B temperature-rise in conformance with the latest NEMA recommendations, based upon 40 °C maximum ambient temperature.

13010.10 SPACE HEATERS

Unless otherwise indicated, all motors 15 hp and larger shall be provided with belted space heaters. Space heater rating shall be 115-volts, single-phase, unless otherwise shown.

16150.11 BEARINGS

(a) Bearings shall conform to Section 13010, except as modified herein.

(b) Fractional horsepower through 2 hp motors shall be furnished with lubricated for life ball bearings.

(c) Motors larger than 2 hp shall be furnished with re-lubricatable ball bearings, except for vertical pump motors.

(d) Vertical pump motors larger than 2 hp shall be furnished with re-lubricatable ball, spherical, or plate-type thrust bearings. Lubrication shall be per manufacturer's recommendation for smooth operation and to ensure long life of the bearings.

(e) If motors are subjected to overhanging loads, they shall be designed for such loads. The magnitude of overhanging load shall not exceed the recommendations of the motor manufacturer.

16150.12 NAMEPLATE

All motors shall be fitted with a permanent, non-corrosive nameplate stamped or engraved with NEMA Standard motor data, including bearing description and lubrication instructions.

16150.13 MISCELLANEOUS

(a) All motors of frame size 254 and larger shall have suitable lifting devices for installation and removal.

16150.14 SHOP DRAWINGS

(a) Complete motor data shall be included in the submittal of driven machinery shop drawings. Motor manufacturer shall prepare motor data to include:

(1) Machine name and specification of driven machine

(2) Motor manufacturer

(3) Motor type or model and dimension drawing

(4) Nominal horsepower

(5) NEMA design

(6) Frame size

(7) Enclosure

(8) Winding insulation class, treatment, and derating (for example, Class F with B rise)

(9) Ambient temperature

(10) Service factor

(11) Voltage, phase and frequency rating

(12) Full-load current at nominal horsepower for application voltage

(13) Starting code letter, or locked rotor, KVA, or current

Note: Driven machinery shop drawing submittal without the above information will not be favorable reviewed by the Engineer.

(b) The Contractor shall provide the electrical subcontractor with the latest approved (by the Engineer) copy of the motor data. This information shall be used in the selection and installation of overload protection devices and for verification and setting of circuit trip elements.

16150.15 INFORMATION TO MANUFACTURERS

The bidders shall furnish a copy of these electric motor specifications to all prospective suppliers of motors for their comprehensive use prior to opening of bid. Thereafter, the Contractor shall ensure that his equipment suppliers are provided with copies of this Section 16150 for use in motor selections and in preparation of shop drawings.

SECTION 16154 - SOLID STATE REDUCED VOLTAGE AC MOTOR STARTER

16154.01 GENERAL

This Specification describes the operation and features of the Solid State Reduced Voltage Starters which shall provide the following application requirements:

- Reduced voltage starting for standard NEMA design B squirrel Cage AC Motors
- Smooth and stepless acceleration ramp to eliminate hydraulic surges when starting a centrifugal pump.
- Smooth and stepless deceleration ramp to eliminate hydraulic surges when stopping a centrifugal pump.
- State of the art protection of the starter and motor in case of component or system fault.

16154.02 SERVICE CONDITIONS

(a) AC System Voltage: Nominal voltage (±10%)

(b) Frequency: 50/60 Hz (±3 Hz)

(c) Ambient Temperature: 0 to 50 Deg C (32 to 122 Deg F)

(d) Altitude: Sea level to 3,300 feet ±

(e) Efficiency at Rated Output: 98% or better

16154.03 PERFORMANCE SPECIFICATIONS

(a) Current Limit: 150 to 400% rated current

(b) Accel/Decel: .5 to 30 seconds, independently adjustable

(c) Current Limit Time Shutdown: 1 to 30 seconds

(d) Current Unbalance/Phase loss Alarm: 5 to 50% unbalance

(e) Overload Capacity (% FLA):

Continuous operation	115%
60 seconds	250%
30 seconds	300%
15 seconds	500%

(f) SCR Ratings (6 - SCR Full Wave Bridge): 1200 PIV at any operating voltage up to 460 Volts.

16154.04 DESIGN FEATURES

(a) The starter shall utilize six SCR's in a three phase bridge configuration for stepless application of power from zero to full voltage. The SCR's (two each) shall be mounted in aluminum heatsinks that are fully isolated and have readily accessible line and load termination.

(b) SCR's assemblies shall contain resistor - capacitor and metal oxide varistor (MOV) circuits to protect the SCR from potentially damaging voltage spikes.

(c) Current transformers shall be mounted on each power line to provide current feedback for protection against phase loss (single phasing), phase unbalance, instantaneous overload (IOL) and shorted SCR's.

(d) Digital logic circuits shall control the firing of the six power silicon controlled rectifiers (SCR's). The line sync signals and the command output from the analog section shall interface with the digital logic to turn each SCR on at the precise instant to allow a smooth balanced current to the motor. The digital logic shall NOT be sensitive to phase rotation and can operate from 45 to 60 Hertz. All SCR firing reference data is updated on every cycle.

(e) A Full Voltage Output signal shall be generated when the motor is receiving full voltage. The signal shall not be based on a timed function, but directly derived from internal control information. A shunt or bypass contactor shall be energized by this signal.

When a stop signal is received, the bypass contactor shall drop out and the motor current shall be carried by the SCR's which provides a smooth deceleration and turnoff.

(f) A "Bypass contactor" shall be provided as a standard feature of the starter assembly.

(g) Starters equivalent to NEMA size 3, 40 HP @ 460 volts or smaller, shall utilize air break contactors with full current ratings for motor starter duty. The contactors shall have 2NO & 2NC auxiliary contacts, and 120 volt coils.

(h) Starters equivalent to NEMA size 3, 50 HP @ 460 volts or larger, shall utilize low-voltage vacuum contactors with full current ratings for motor starter duty. The contactors shall have 2NO & 2NC auxiliary contacts, and rated control voltage of 120 volts. Vacuum contactors shall be the product of Toshiba, Model CV212 or approved equal.

(i) A NEMA design standard overload relay shall be supplied for motor protection as follows:

(1) For starter applications 100 HP and smaller, a thermal ambient compensated, bi-

metallic overload relay shall be supplied. Relay shall have a manual trip reset, from C contact output, test feature and be rated Class 20. Current trip setting adjustments shall be made directly in motor amperes.

(2) For starter applications 125 HP and larger, a solid state motor protection overload relay shall be supplied. The relay shall provide three phase overload and single phase protection; and be infinitely adjustable from Class 3 through Class 40 to provide optimum protection. The following features shall be included:

LED trip indicator
Manual test feature
Manual reset
75 to 150% adjustment of rated ampere-turns
Operating time setting range of 3 to 30 seconds
Separate CT's will meet ANSI Metering Class 1% @ 60 Hz.

(j) Circuit protection for 3 phase power shall be a molded case circuit breaker of the Motor Circuit Protector type, provided with a Shunt Trip feature which shall be activated by the fault protection circuits of the starter. The circuit breaker shall have an interlocked, through-the door operator handle which shall indicate ON/OFF/TRIPPED conditions.

(k) Control power shall be 120 Volts and be provided from a separate source. A warning label shall be mounted at the door indicating separate control power from the disconnect breaker.

16154.05 OPERATION

(a) A "Power On" lockout time shall be integral to the control circuity to eliminate random SCR firing during the period in which control power supplies are turning on after energization. The SCR firing circuit power shall be enabled after this delay.

(b) An adjustable "Current Limit Timer" shall shut down the control if the motor does not come up to speed within a specified period of time after starting current is reached.

(c) Control circuitry shall monitor motor current even when the starter is off. Any current to the motor is considered to be the result of circuit failure or shorted SCR's. The control shall produce an output signal to operate the shunt trip feature of the main circuit breaker.

(d) Additional control circuit monitoring shall be:

(1) Instantaneous overload trip circuit by overload or fault current in excess of preset level. Trip time shall be less than 1/2 cycle.

(2) SCR's shall be protected against false firing due to SCR DV/DT characteristics.

(3) Phase Loss or Unbalanced Line Current shall cause a fault trip when preset levels are exceeded.

(4) Thermistor sensors shall be utilized to monitor SCR's and provide a fault trip on overtemperature.

16154.06 CONTROL AND MONITORING

(a) A door mounted HAND-OFF-AUTO selector switch shall be provided for operation and interface with system controls.

(b) Output contacts shall be available to remote monitor the starter operational status.

(c) A door mounted "FAULT RESET" pushbutton shall be provided to reset fault conditions by the operator.

(d) A door mounted NORMAL-BYPASS selector switch shall be provided.

(e) A door mounted display shall provide lighted indication of status for each of the following:

(1) POWER ON/READY
(2) STARTER ON
(3) CURRENT ON
(4) START COMPLETE
(5) CURRENT LIMIT TIMER
(6) CONTACTOR FAILURE
(7) PHASE LOSS/IOL
(8) THERMAL OVERLOAD
(9) CONTROL FAILURE

(f) A door mounted digital Amp-Volt meter shall be provided to monitor current and voltage each phase or phase to phase.

(g) A door mounted elapsed time meter, 6 digit, graduated in hours, and non-resettable shall be supplied.

16154.07 ENCLOSURES

(a) "Stand alone" starters shall be supplied in NEMA 1 enclosures, floor standing type. The enclosure shall be constructed of heavy gauge steel having a very high quality paint finish and corrosion resistant hardware. Enclosure interiors and mounting pans shall be painted white.

(b) Starters may be incorporated into standard Motor Control Centers. Starter sections shall be

generous in size to provide maintenance accessibility and interiors shall be white in color.

16154.08 DRAWINGS AND DATA

(a) Complete fabrication, assembly, installation drawings, wiring and schematic diagrams, details, specifications and data covering the materials used and the parts, devices, and accessories forming a part of the equipment furnished, shall be submitted in accordance with the submittals section. The submittal shall be substantially complete for all items and equipment furnished under this section. Individual drawings and data sheets submitted at random intervals shall not be accepted for review.

(b) Operation and maintenance Manuals shall include complete product instruction books for each item of equipment furnished. Where instruction booklets cover more than one specific model or range of instrument, product data sheets shall be included which indicate the instrument model number, calibrated range, and all other special features.

16154.09 QUALITY ASSURANCE

Upon completion of manufacturing, each starter shall be inspected and load tested prior to shipment. Certification that the factory inspections and load test have been successfully performed shall be submitted to the owner.

16154.10 WARRANTY AND TRAINING

(a) The system furnished under these Specifications shall be covered by the manufacturer's standard guarantee or warranty and shall be for a minimum period of one year after acceptance.

(b) Included in the scope of this specification shall be allowance for factory-trained service personnel, other than sales representatives, to supervise field installation, inspect, make final adjustments and operational checks, make functional checks, and prepare a final report for record purposes. A minimum of one day shall be allowed for this startup service.

Also included, shall be training of personnel in the operating and maintenance of the furnished equipment by the factory service personnel. A minimum of one day shall be allowed for this training.

SECTION 16600 - MOTOR CONTROL EQUIPMENT

16600.01 GENERAL

(a) The work of this Division shall comply with all applicable provisions for Division 16010, Electrical Work - General.

(b) SCOPE. This Section covers the design, manufacture, and delivery to the site of a complete Power and Motor Control Center (MCC) assembly as shown on the plans (or applicable electrical submittals) and in the specifications. This Section sets forth specific requirements for:

(1) Service sections.
(2) Motor Control Centers.
(3) Control Devices.

16600.02 MAIN SERVICE PANEL

(a) GENERAL. The main service panel shall consist of one floor-mounted commercial metering section and a main circuit breaker section house inside a NEMA 3R enclosure, which is listed by Underwriters Laboratories and manufactured to comply with EUSERC, ANSI, the NEC and NEMA Standards. The service panel shall be designed for 277/480-volt, 3-phase, 4-wire, 60-Hz, service with a minimum bus capacity as indicated on the Drawings. The bus bars shall be rigidly supported to withstand short circuit forces, and clearances between all live parts and ground shall be in accordance with the approved practice of the NEC. The service panels shall be manufactured by circuit breaker manufacturer and shall conform to the single-line diagram and general arrangement as shown. The service panel shall be complete and ready for operation when set in place.

Enclosure shall be zinc coated steel, minimum 14 gauge thickness. Cabinet shall be protected against corrosion in accordance with U.L. 50, Cabinets and Boxes, Section 13. Exterior covers to be minimum 14 gauge steel and shall have padlocking provisions. All factory installed components shall be U.L. listed. All factory installed conductors shall be copper, size and type to conform to NEC and U.L. requirements.

Enclosure finish shall consist of one coat zinc chromate primer and two coats baked enamel paint. Finish shall conform to California Department of Transportation Specifications, Section 86-2.16. Color of paint shall be color number 14672 of Federal Specification 595a.

(b) METERING SECTION. The metering section shall be for underground service conforming to the requirements of the Southern California Edison Company. All sockets shall be rated for indoor, 600 volt AC, three phase four wire, 1000 amp service, complete with factory installed test blocks.

(c) MAIN CIRCUIT BREAKER SECTION. A circuit breaker rated at 600 volts with ampere rating and trip as indicated on Construction Drawings or as specified shall be provided to open the circuit for normal switching, overload, or short circuit. The main circuit breakers shall have trip ratings as shown, 480-volt, 3-pole, 65,000-ampere, minimum interrupting capacity, and shall be molded-cast type, mounted on an insulating base panel, bolted rigidly to the service panel framework.

000438

SECTION 16600 - MOTOR CONTROL EQUIPMENT

16600.03 480-VOLT MOTOR CONTROL CENTERS

(a) GENERAL. The Contractor shall furnish and install motor control centers, as shown. Each shall be industrial-type grouped motor control, completely metal-enclosed, dead-front, dead-rear, freestanding, shall incorporate all the components shown on the Drawings, or otherwise necessary, and shall be housed in a NEMA Type 1 enclosure as indicated on the Drawings. It shall be rated for operation on a 480-volt, 3-phase, 3-wire, 60-Hz, solidly-grounded service. The main bus shall be braced to withstand a symmetrical short circuit current of 42,000 RMS amperes at 480 volts.

(b) MANUFACTURER. The motor control center shall be Allen-Bradley 2100 line, Cutler-Hammer F200 Line, Furnas, or equal.

(c) ARRANGEMENT. Arrangement and grouping of units within the motor control centers shall be as shown.

(d) CONSTRUCTION. The motor control centers shall conform to applicable NEMA Standards. They shall be an assembly or pre-engineered, standardized and special units, and shall be NEMA Class II, Type B construction or otherwise as indicated on Drawings. All wiring required between sections or units shall be factory-installed. Each assembly shall consist of vertical free-standing sections, each approximately 90-inches high and depth as shown. Each unit shall have an individual door with heavy duty hinges; doors shall be held shut with 3-point latch. The door of each unit having a circuit breaker shall be interlocked so that the door cannot be opened unless the circuit breaker is in the "off" position and so that the unit cannot be energized when the door is open. Conduit entry shall be through the top and bottom.

(e) BUSES

(1) The main buses within the motor control centers shall have a standard, continuous current-carrying capacity, as indicated on the Drawings. Main and tap bus bars shall be copper of not less than 98% conductivity with plated joints.

Shop splices and tap connections shall be brazed, pressure welded, or bolted; all field splices at shipping splits shall be bolted. All bolted connections shall be made using high strength bolts and belleville washers. Barriers shall be provided to meet all code requirements.

(2) Each motor control center shall include a continuous interior copper ground bus to which the enclosure, framework, and all non-current carrying metallic parts and all steel conduits shall be grounded. The ground bus shall be not less than 1/4-inch thick by 1-inch wide, shall run the entire length of the motor control center and shall be fully plated. Connections factory-installed shall be made by copper-to-copper or copper-to-steel welds, or by NEMA standard bolted clamp-type connectors.

(f) CIRCUIT BREAKERS. Circuit breakers shall be molded-case type, manually--operated, shall have trip-free operating mechanisms of the quick-make, quick-break type, and except as noted, shall be of automatic-trip type with combination thermal and instantaneous magnetic-trip units. Circuit breakers in combination with motor starters shall be of the motor-circuit protector type with instantaneous magnetic trip only.

The instantaneous magnetic trip units shall be adjustable on circuit breakers larger than 255-ampere frame. All poles of each circuit breaker shall be operated simultaneously by means of a common handle, and shall be enclosed in a common molded plastic case. The contacts of the multiple pole circuit breakers shall open simultaneously when the breaker is tripped manually or automatically. The operating handle shall indicate clearly whether a circuit breaker is in its "on", "off", or "tripped" position. Circuit breakers shall have trip sizes as shown, 480-volt ratings, and minimum interrupting capacities (RMS symmetrical, UL listing), of 30,000-amperers. Circuit breaker handles shall have suitable means of padlocking in the "off" position.

All circuit breakers in all the motor control centers shall be products of the same manufacturer, which shall be General Electric, ITE, Westinghouse, or equal.

(g) MAGNETIC STARTER UNITS

(1) Each full voltage magnetic starter unit shall consist of a molded case circuit breaker in combination with a full-voltage, reversing/non-reversing type starter with three overload relays, one in each phase. Overload relays shall be ambient temperature compensated with manual reset. Magnetic starters shall have auxiliary contacts, as shown. The combination motor starters shall be draw-out-type for size 3 and below. The fixed-type unit assembly shall be so constructed that it can be easily removed from its panel after disconnecting the wires to the terminal block and withdrawing from primary bus. Removal of a unit assembly shall be practicable with rear access and without disturbing any other unit in the motor control center.

(2) Control power transformers, selector switches, lights, etc., shall be provided with each starter as shown on the Drawings and as described elsewhere in these Specifications. Control power transformers shall be protected by fuses or circuit breakers as required by the NEC and shall be of adequate size to supply power to loads as shown without exceeding its normal operating temperature.

(3) Unless specified otherwise, each starter unit shall have a green indicating light to show "operating", a yellow indicating light to indicate fault, and a red indicating light to shown "off".

(4) Each starter shall be complete with a keyed three-position hand-off-automatic selector switch, and a start-stop pushbutton station, minimum, unless specified otherwise. All lock-out stop switches shall be keyed, when they are specified.

(5) Control wiring shall be provided as shown on control diagrams. All panels, starters, transformers, circuit breakers, control devices, pushbuttons, and relays shall be located in the motor control center, unless specifically noted otherwise.

(6) Starters for fan motors and pump motors shall include full phase failure and phase reversal protection, Diversified, Time Mark, Westinghouse, or equal. Each phase protector shall include a set of three current transformers with 5 amperes secondary at motor rated full load current.

(h) TRANSFORMER UNIT. Lighting transformers shall be dry-type, three phase, 60 Hertz, self-cooled, 480 volt primary with two 2.5 percent taps above and below 480 volts, and 120/240 volt secondary; the secondary neutral terminal shall be grounded. Each transformer shall be protected by a circuit breaker, as shown.

16600.04 CONTROL DEVICES

(a) As indicated elsewhere, it is the intention of this Specification that products of the same type shall be of the same make. This requirement applies to control devices; insofar as practical, it applies to equipment manufactured on a production basis and does apply without exception to equipment custom fabricated for this project.

(1) SELECTOR AND PUSHBUTTON SWITCHES. Selector switches shall be rated 10-amperes at 600 volts, shall be heavy-duty, oil-tight, and shall be General Electric Type CR294OU; Square D, Class 9001, Type K; Cutler-Hammer, Type 10250T; or equal. All shall be the products of one and the same manufacturer. Each shall have a factory-engraved legend plate, as shown.

(2) INDICATING LIGHTS. Indicating lights shall be full voltage push-to-test type, and shall be heavy-duty, oil-tight as specified above for selector switches. Each shall be nickel-plated with screwed-on glass prismatic lens approximately 1-inch in diameter. All lights shall be the products of the same manufacturer as selector switches. Lamps shall be long-life type.

(3) MAGNETIC RELAYS. Magnetic relays shall be control type with 115 V, AC coils and 10-amp contacts, unless noted otherwise. Relays shall be base-mounted to a common mounting channel; mounting dimensions and drilling for AC and DC relays shall be identical. AC relays shall be equal to Westinghouse Type ARD, Square D, Class 8501, Type G; DC relays shall be equal to Westinghouse Type BFD, Square D, Class 8501, Type H, or equal.

(4) ELAPSED TIME METER. Elapsed time meter (EM) shall be non-reset type, shall register hours and tenths of an hour, shall have flush panel-mounted cast not less than 3-inches square, shall be suitable for operation at 120-volts, 60-Hz, AC,

and shall be General Electric Type KT; or Eagle Bulletin 605, Type HK; or equal.

(5) TIME DELAY RELAY. Time delay relays shall be solid state, and shall be Toshiba ER-2, or equal. Pneumatic timing devices shall not be used.

(6) TERMINAL BLOCKS. Terminal blocks for control wiring shall be molded type with barriers, rated not less than 600 volts. Crimped eyelets or equal, shall be used on all stranded control wire wherever wires are terminated on screw terminals. White or other light colored marking strips, fastened by screws to the molded sections at each block, shall be provided for circuit designation. Each connection terminal of each block shall have the circuit designation or wire number placed on the marking strip with permanent marking fluid. Foreign circuits in all compartments and panels shall be connected to pull-apart terminal blocks or plunger-type door interlocks.

(7) CONTROL CIRCUIT WIRING. Control circuit conductor shall be flexible-stranded machine tool wire not smaller than No. 14 AWG, shall be UL listed type MTW and shall be rated 600 volts. Insulation for all conductors in AC circuits shall be red, except that the grounded control circuit conductors uniformly shall be white. The interwiring from devices mounted on a door to those mounted inside a compartment shall be made together to form a laced and flexible bundle of wires which shall be secured to the door and to the fixed structure to prevent flexing of wires at their terminals.

All control circuit wires shall be continuous from terminal to terminal without splices for any purpose. Every conductor in each control circuit shall be designed by a unique number which shall be shown on all shop drawings.

(8) NAMEPLATES. Nameplates shall be fabricated from white center, black-face, laminated engraving plastic. Engraving shall be as shown or directed by the Engineer. Characters shall be block style not smaller than 1/8-inch. Nameplates shall be secured using cadmium plated screws.

The motor control center shall be fitted with its manufacturer's nameplate which shall include NEMA Standard electrical rating data and other pertinent data.

16600.05 PUMP CONTROL PANELS.

The Contractor shall also furnish and install pump control panels integral with the motor control centers, as shown. The control panels shall be provided a gasketed-hinged (heavy duty type) door with a vault-type handle and tumbler lock. The control panels shall be equipped with components as described elsewhere in this Specification and shall be wired in accordance with the schematic diagram shown on the Drawings.

Other components such as transmitters, and the like are described in the instrumentation division of this Specification.

16600.06 INSTALLATION

Install power and motor control equipment as recommended by manufacturer and as required by Code.

16600.07 PREPARATION AND FINISH SYSTEMS

Motor control center enclosures shall be prepared and finished in strict accordance with the following standard and/or special requirements.

(a) OUTDOOR RAINTIGHT ASSEMBLIES (NEMA 3R). Outdoor raintight assemblies (NEMA 3R) shall be prepared and finished with a system which is suitable for an outdoor application. The average dry film thickness of the preparation and finish system shall be not less than 5 mils for a baked systems of 7.5 mils for an air-dryed system. Final finish color of each outer enclosure shall be selected by the Engineer.

(b) PREPARATION AND FINISH DATA SUBMITTAL. Shop drawings shall shown compliance with all of the above requirements. In the case of the raintight enclosures, a complete list of materials, by manufacturer's name, product identification, and description, and a description of methods, shall be included with the shop drawings.

(c) DAMAGE. Any marks, scratches, or damages to any enclosures shall be touched up to the satisfaction of the Engineer using paint of the same type used on the original factory application. The manufacturer of the motor control centers shall supply a one-quart can of each final finish color used on the equipment supplied, and shall include instructions for its field applications.

(d) FINISH. The finish coat of all panels shall be of the same color (preferably grey). If repair is required for panels damaged during installation, they shall be repaired in accordance with item (c) above and then finish to match the other panels.

KEN STEDMAN
PRESIDENT

MICRO MEDIA FILTRATION

P: 949.380.9600 x22
F: 949.380.9801
KSTEDMAN@MMFWATER.COM

REVOLUTIONIZING THE PROCESS OF WASTEWATER TREATMENT™

September 29, 2009

ADELANTO PUBLIC UTILITY AUTHORITY
c/o City of Adelanto Public Works Department
11600 Air Expressway
P.O. Box 10
Adelanto, CA 92301
Attention: City Engineer/Director of Public Works

Re: *Agreement between MicroMedia Filtration, Inc. and the Adelanto Public Utility Authority (the "Owner") to Furnish and Install a Title 22 Compatible Wastewater Treatment and Filtration Treatment System dated August 23, 2007 as amended by that certain Contract Change Order No. 1, that certain Contract Change Order No. 2 and that certain Contract Change Order No. 3 (collectively, the "Agreement")*

Ladies and Gentlemen:

MicroMedia Filtration, Inc., a Nevada corporation ("MMF Nevada"), is a party under the above-referenced Agreement. On or about October 12, 2009, MMF Nevada will merge with and into MicroMedia Filtration, Inc., a Delaware corporation ("MMF Delaware"), for the purpose of reincorporating under the laws of the State of Delaware (the "Reincorporation"). MMF Delaware will continue to perform the same activities and provide the same services as are currently being conducted under the Agreement.

Nonetheless, because the Reincorporation will result in a new "legal" entity taking the place of MMF Nevada under the Agreement, Section 5(A) of the Agreement requires that MMF Nevada obtain the written consent of the Owner. In connection therewith, please consent in writing to the transfer by MMF Nevada to, and the assumption by, MMF Delaware of all of the rights and obligations of MMF Nevada under the Agreement (the "Transfer") and waive the restrictions of Section 5(A) of the Agreement with respect to the Transfer by executing and returning this consent (the "Consent"), or by providing such documentation as you deem required to effectuate the Transfer. Should you have any questions or comments please contact me at (949) 380-9800, or our legal counsel, Lindsay M. Gehman of Stradling Yocca Carlson & Rauth, at (949) 725-4247.

Sincerely,

Ken Stedman,
President

CONSENTED AND AGREED TO
AS OF DATE WRITTEN BELOW:

By:
Name: D. James Hart, Ph.D.
Title: City Manager
Date: 10/6/09

21076 BAKE PKWY
SUITE 106
LAKE FOREST, CA. 92630

CONTRACT CHANGE ORDER NO. 1

To "City of Adelanto Construction Contract for the Furnish-Install of Advanced Primary Fine Screens and Advanced Secondary Bio-filters"(the "Contract"), by and between the Adelanto Public Utility Authority ("Owner"), and Micromedia Filtration, Inc. ("Contractor") approved on June 13, 2007. Contractor has requested and Owner has consented to the following changes to the Progress Payment requirements of the Contract.

Exhibit H-3 Payment Schedule: Exhibit H-3 under "Section H - Agreement" of the overall Contract document, specifies the payment amount and various requirements to be completed by the Contractor before the Owner releases each of such construction payments. Under the first progress payment , Contractor is required to submit: "A progress report and written, verified testing data on the UC Davis validation review"of the proposed treatment process. Contractor has requested that the UC Davis validation review report be postponed to the second progress payment. The Owner has agreed to the above request. Therefore, Exhibit H-3 of the Contract is changed to require that the UC Davis validation report is required and must be provided to Owner prior to the Owner's Second Payment to the Contractor. Other requirements of the first progress payment shall remain unchanged, including:

- Official shop drawing submittals for all equipment to be furnished by Contractor, including detailed structural calculations stamped by a licensed civil engineer. Equipment to be fabricated by qualified firms with prior similar project experiences as set forth on Page G-2 of the contract documents. Submittals (hard copy) shall be furnished per the respective technical specifications in the contract documents by Contractor, to be reviewed and approved by Owner's Engineer.
- Spare parts list is to be provided by Contractor (hard copy similar to shop drawing submittal per Section 2.05 of the General Conditions as part of the contract documents).
- Opening size of the Clean-screens (primary treatment) shall be as recommended and approved by Owner's Engineer and Operations personnel prior to ordering of equipment by Contractor

	Total Decrease in Contract Amount:	$0.00	[redacted]
	Total Increase in Contract Amount:	[redacted]	$ 0.00
	Net Change in Contract Amount:		$ 0.00
	Contract Amount Prior to Change:		$6,782,300.00
	Contract Amount Adjusted for Change		$6,782,300.00

It is mutually agreed that the terms of the original Contract shall remain in full force and effect, except for the change regarding the timing of the submittal of the UC Davis validation report described above in this Change Order. There shall be no change to the Contract performance time and completion schedule.

Recommended by (Engineer) _____ Date 8-16-2007

Accepted by (Contractor) _____ Date 8-16-2007

Approved by (Owner) _____ Date 8-23-2007

Mayor Nehmens

CONTRACT CHANGE ORDER NO. 2

To "City of Adelanto Construction Contract for the Furnish-Install of Advanced Primary Fine Screens and Advanced Secondary Bio-filters"(the "Contract"), by and between the Adelanto Public Utility Authority ("Owner"), and Micromedia Filtration, Inc. ("Contractor") approved on June 13, 2007. Contractor and Owner has discussed a number of issues and both have agreed to the following changes to the Progress Payment requirements of the Contract.

Contract - Regarding Exhibit H-3 Payment Schedule: Exhibit H-3 under "Section H - Agreement" of the overall Contract document, specifies the payment amount and various requirements to be completed by the Contractor before the Owner releases each of such construction payments:

(1) Under the first full progress payment, Contractor is required to submit: "A progress report and written, verified testing data on the UC Davis validation review" of the proposed treatment process. **Per Change Order No. 1,** Contractor requested that the UC Davis validation review report be postponed to the second progress payment and Owner had agreed to the above request. Exhibit H-3 of the Contract was changed to require that the UC Davis validation report is still required and must be provided to Owner prior to the Owner's release of any portion of Second Payment to the Contractor. The Contractor substituted an incomplete validation report prepared by Dr. Petros Gikas of the Technical University of Crete which was not accepted by the Regional Water Quality Control Board.

(2) Under the second full progress payment, it stated that payment will be made upon delivery of all tanks, Clean-screens, and all component parts, and lien waivers from fabricators. Contractor had already requested via the City Manager/Council and received a first sub-payment in the amount of $321,724.50 without satisfying the UC Davis Report requirement under Change Order No. 1. The Owner may further negotiate a future settlement due to Contractor's failure to submit such a report.

(3) Under the second full progress payment, Owner further agrees to release 50% of the second sub-payment (50% x $321,724.50) to enable the Contractor to complete the equipment delivery and installation. The balance of the 50% sub-payment will not be released until and after meeting the following requirements:

a) Complete the review and submit a signed Change Order No. 2;

b) Provide performance bond and labor/materials bond for executing construction per Contract requirements to the City;

c) Submit certified payroll records to the City (care of City Engineer) as required by the Contract and State Labor Laws.

(4) Under the third full progress payment, it stated an amount to be released upon successful start-up of the installed equipment (full 3 MGD capacity) – system to meet permitted discharge for a period from 14 to 30 days based on laboratory results (meeting full California Title 22 regulations). Release of any portion of this payment will be reduced by the following adjustment amount as recently discussed with the Contractor and agreed upon:

a) Electrical changes requested by MMF which was performed by City's contractor in the amount of $27,000;

b) Sharing the security cost for up to three months at an estimated amount of $10,500.

c) Any settlement on the failure of Contractor's manufacturer to provide 3/16-inch thick stainless steel plate for the three Clean-screens will be further confirmed under a separate change order.

d) Contractor agrees to have its structural engineer for the bio-filter vessels to provide the design of a steel framework to counter the over-turning moment of each group of four tanks (two tall and two shorter tanks). This modified design was a mutually agreed solution as Contractor did not provide anchoring details or template for City's general contractor during placement of the housing slab. Such design shall be submitted to the City Engineer for review. The horizontal movement restraining anchor bolts for each leg of the pressure vessels (four per tank) shall be tie down also by the Contractor as soon as possible.

(5) Under the fourth and fifth payment (each equivalent to 12.5% of the full original contract amount), Contractor agrees to commence now (or as soon as practicable) to develop a vessel design modification such that a biological chamber can be incorporated at the tall-tank of each bio-filtration train (each train rated for a minimum of 0.25 million gallons per day of treatment capacity). This pressure vessel design modification is to enhance the cultivation and growth of the special treatment micro-organisms.

	Total Decrease in Contract Amount (by Change Order No. 2)	$ 37,500.00	
	Total Increase in Contract Amount:		$ 0.00
	Net Change in Contract Amount:		$ 0.00
	Contract Amount Prior to Change:		$6,782,300.00
	Contract Amount Adjusted with Change Order No. 2		$6,744,800.00

It is mutually agreed that the terms of the original Contract shall remain in full force and effect, except for the above changes as described above in this Change Order. There shall be no change to the Contract performance time and completion schedule.

Recommended by (Engineer) _____ Date 1-7-2009

Accepted by (Contractor) _____ Date 4-7-2009

Approved by (Owner) _____ Date 1-14-2009

Staff responded that the requirements were not in the original bid package, however, the contractor had made a lot of last minute changes, that are now being completed by another contractor that the City is having to pay. The City contacted the original contractor and told their counsel that the costs would be taken out of the payments to them, and the contractors counsel agreed. Mr. So stated that other discrepancies had also been found and staff was still discussing the issues with the contractor. If a dollar amount is to be applied to the other issues, another Change Order would be brought to the Council.

Council Member Camargo asked if the contractors not signing the Change Order is holding the project.

Staff responded that the project was not being held, that the Change Order was being done in a spirit of cooperation, and that it is being done to adjust future payments. Staff stated that the workings of the contract were difficult to explain, but it was a very comprehensive contract and the payments were broken down by percentages due after testing.

Mayor Glasper inquired about the contractor's ability to back out of parts of the contract if the Change Order was signed.

Staff spoke about a dispute regarding the contractors bonds and stated that there was nothing that stated the contractor did not have to complete the contract if the Change Order was signed.

City Attorney Litfin suggested that a way to resolve the issue with the bonds was to have the City change section 3-B of the Change Order to read "at the discretion of the City Attorney and the City Manager". The new language would allow the City to have the ability to look at what would be required and sign off on the issue for the project to move forward, without having to come back to the Council.

It was agreed that the language suggested by the City Attorney should be added. The Chair asked for a motion to approve the Change Order with the changes.

MOTION: Moved by Piehe, seconded by Camargo.

Motion carried 5-0.

ORIGINAL

CONTRACT CHANGE ORDER NO. 3

To "City of Adelanto Construction Contract for the Furnish-Install of Advanced Primary Fine Screens and Advanced Secondary Bio-filters"(the "Contract"), by and between the Adelanto Public Utility Authority ("Owner"), and Micromedia Filtration, Inc. ("Contractor") approved on June 13, 2007. Contractor and Owner's representatives (City Manager and City Engineer) have discussed a number of issues and both have agreed to the following changes to the Progress Payment requirements of the Contract.

Contract - Regarding Exhibit H-3 Payment Schedule: Exhibit H-3 under "Section H - Agreement" of the overall Contract document, specifies the payment amount and various requirements to be completed by the Contractor before the Owner releases payment during the start-up and operational certification stages;

(1) Under the third full progress payment, it stated an amount to be released upon successful start-up of the installed equipment (full 3 MGD capacity) – system to meet permitted discharge for a period from 14 to 30 days based on laboratory results (meeting full California Title 22 regulations). Release of any portion of this payment will be reduced by the following adjustment amount as discussed with the Contractor and agreed upon under previously approved Change Order No. 2 as follows:

a) Electrical changes requested by MMF which was performed by City's contractor in the amount of $27,000;

b) Sharing the security cost for up to three months at an estimated amount of $10,500.

c) Any settlement on the failure of Contractor's manufacturer to provide 3/16-inch thick stainless steel plate for the three Clean-screens will be further confirmed under a separate change order.

d) Contractor agrees to have its structural engineer for the bio-filter vessels to provide the design of a steel framework to counter the over-turning moment of each group of four tanks (two tall and two shorter tanks). This modified design was a mutually agreed solution as Contractor did not provide anchoring details or template for City's general contractor during placement of the housing slab. Such design shall be submitted to the City Engineer for review. The horizontal movement restraining anchor bolts for each leg of the pressure vessels (four per tank) shall be tie down also by the Contractor as soon as possible.

(2) Under the fourth and fifth payment (each equivalent to 12.5% of the full original contract amount), Contractor agrees to commence now (or as soon as practicable) to develop a vessel design modification such that a biological chamber can be incorporated at the tall-tank of each bio-filtration train (each train rated for a minimum of 0.25 million gallons per day of treatment capacity). This pressure vessel design modification is to enhance the cultivation and growth of the special treatment micro-organisms.

(3) Payment changes as described under Change Order No. 2 will be further amended as follows:

a) Contractor has agreed to a $60,000 contract reduction to enable the services of senior electrical engineer and environmental engineer from City Engineer's office to assist the Contractor in making biological and control adjustments to achieve the optimal treatment results. The fee budget is based on City Engineer office to provide the coordination service of no more than 8 hours per week for up to 50 weeks (total at 400 hours) and up to 24 hours of a senior designer to provide supplemental operational diagrams.

b) Contractor has requested the support of City's engineer's project staff in the development of the Final Process Operations and Maintenance Manual (addressing the clean screen operations, the biological filter operations, the kinetics of the bio-filters attached growth process, and the control logics in ladder language etc.). The control logics in ladder language will be subject to protection under "patent law" and "copy right", and all personnel trained to make adjustments will be required to sign "Non-disclosure" statement. Some of the other sections of the O&M Manual (such as instrument operations and adjustment) will still be furnished by MMF staff. It is estimated that the City Engineer's effort will be about $40,000 (with allowance for printing 10 sets of manual) plus another $15,000 for Dr. Gikas to prepare the "kinetics" and one more trip of travel to the United States.

c) City Engineer's senior staff will be reimbursed directly by the City of Adelanto via a separate Amendment in the project engineering fee budget. This will be prepared directly by City Engineer for City Council's approval after this Change Order is fully signed by both parties.

d) The resulting total payment during "operational stage" will be reduced to a total of $3,293,650 as shown in the table below. It will be divided into twelve monthly payments as follows: 11-payments at $269,887 each upon successful demonstration of actions taken and the 12th payment at $269,893 at the conclusion of the near 1-year of successful operation of the Primary Clean Screens and Biological treatment filters (to produce effluent meeting California Title 22 regulations and water quality standards).

	Total Decrease in Contract Amount (by Change Order No. 2 and No. 3)	$ 142,500.00	
	Total Increase in Contract Amount:		$ 0.00
	Net Change in Contract Amount:		$ 152,500.00
	Contract Amount Prior to Change:		$6,782,300.00
	Contract Amount Adjusted with Change Order Nos. 2 & 3		$6,629,800.00
	Less Amount paid under Contract Payments No. 1 and No. 2		$3,391,150.00
	Contract Amount remaining during Start-up & Operational Phase		$3,238,650.00

e) The 1st payment will be released upon the Contractor's evidence of hiring a sub-contractor to install the earth-quake tie-downs as required under Change Order No. 2 per plans prepared by structural engineer for Mr. Elmer Pease, as approved by City Engineer. Contractor will also develop means to make adjustments to the bio-filter air back-wash weirs from the man-lift platform.

f) The subsequent 2nd and 3rd payments will be released upon receiving adequate bi-monthly influent (to the bio-filters) and effluent (from the bio-filters) water quality laboratory data including but not limited to: BOD, suspended solids, turbidity, total nitrogen, and nitrate/nitrite nitrogen. Further, Contractor shall submit contract evidence of purchasing the Replacement Primary Clean Screen No. 1 using 3/16 thick stainless steel plates.

g) The subsequent 4th and 5th payments will be released upon having the first Clean Screen replacement completed, commencement of fabrication of the 2nd Replacement Clean Screen; and receiving the bi-monthly influent and effluent water quality laboratory data.

h) The subsequent 6th and 7th payments will be released upon having the second Clean Screen replacement completed, commencement of fabrication of the 3rd Replacement Clean Screen; and receiving the bio-monthly influent and effluent water quality laboratory data.

i) The subsequent 8th to 10th payments will be released upon receiving of bi-monthly influent and effluent water quality laboratory data, continuous successful operations, having the full 3-MGD capacity of biological filters ready to be placed into operation with close coordination with City Engineer to permit successful conversion of the north Biolac aeration pond into a flow equalization facility; further, the Contractor shall have successfully furnished and installed a bio-tank in each of the twelve (12) biological filter trains (2 trains make up each treatment module to be fed from a single secondary influent pump). The actual full operation of the 3 MGD biological filters will be contingent on the City completing the improvements for flow equalization and to have 3 MGD of flow to be processed.

j) The subsequent 11th and 12th payments will be released upon receiving bi-monthly influent and effluent water quality laboratory data, continuous successful operations, and having coordinated with City Manager and City Engineer relative to the disposal of screenings (energy recovery) from the Primary Clean Screens. The release of these two final operational payments will be carefully reviewed and will not be released until 30 calendar days from the City's filing of Notice of Completion.

k) The June 30, 2009 letter submitted from Ken Stedman to City Manager is hereby included as part of this Change Order No. 3 to support the above requirements. In each of the twelve payments above, City will make payments to the sub-contractors for Contractor (Micromedia Filtration) directly, provided that Contractor lists the work performed by each sub-contractor.

It is mutually agreed that the terms of the original Contract shall remain in full force and effect, except for the above changes as described above in this Change Order. There shall be no change to the Contract performance time and completion schedule.

Recommended by (Engineer) _____ Date 8-5-09

Accepted by (Contractor) _____ Date 8-3-09

Approved by (Owner) _____ Date 8-12-09

D·R·HORTON® DHI NYSE
America's Builder

January 26, 2011

Dr. Jim Hart, Ph,D.
City of Adelanto
11600 Air Expressway
Adelanto, CA 92301

RE: Proposal Moratorium on Sewer Connections

Dear Dr. Hart:

It is our understanding that the Regional Board intends to place a moratorium on sewer connections in the City of Adelanto. This will adversely impact our project, Tract 16356 at the northeast corner of Palmdale Road and Verbena and the economy in general.

D.R. Horton is projecting to start 83 homes within Tract 16356 in 2011. Any interruption of these starts will negatively affect our business plan and may threaten the future development of this project. Beyond the direct impact to D.R. Horton, hundreds of jobs will be affected. When we build homes we create jobs for manufacturers, suppliers, contractors and many other ancillary businesses associated with construction. Subsequently, these employees funnel money back into the local economy through restaurants, retail and services.

We would be glad to join forces with the City of Adelanto to prevent the moratorium from going into effect. Please let us know what we can do to help.

If you have any questions or comments, please do not hesitate to contact me at 949-678-2877.

Sincerely,
D.R. Horton "America's Builder"

BM Murakami

Barbara M. Murakami
Vice President, Forward Planning

cc: Steve Fitzpatrick, DRH
Keith Alex, DRH
Dan Boyd, DRH

2280 Wardlow Circle • Suite 100 • Corona, CA 92880
(951) 272-9000 • Fax: (951) 272-9797
www.drhorton.com

Baldy View Chapter

Building Industry Association
of Southern California, Inc.

8711 Monroe Court, Suite B
Rancho Cucamonga,
California 91730
ph 909.945.1884
fx 909.948.9631
www.biabuild.com

January 27th, 2011

Mr. D. James Hart, Ph.D.
City of Adelanto
P.O. Box 10
Adelanto, CA

RE: Lahontan Cease and Desist Letter

Dear Mr. Hart:

The Building Industry Association Baldy View Chapter received the correspondence from the Lahontan Regional Water Board to the City of Adelanto that could potentially prohibit any new sewer connections in the City. We are concerned that the Water Board's proposed action could cause severe economic impacts to the City's and region's economies and negatively affect Adelanto's ability to build safe and reliable sewer infrastructure going forward.

As you know, the nation currently faces some uncertain and challenging economic times. Adelanto, like many cities in Southern California, has seen a large drop in permit activity in the past two years. In 2005, Adelanto issued 1,040 single family building permits. It issued 329 in 2006 and 307 in 2007. In 2008, the City issued only 1 building permit. The City issued only 36 building permits in 2009, and issued 54 permits in 2010.

Furthermore, the economic crisis and the widespread job losses have hurt our citizen's ability to spend money on consumer goods; spending on everything from cars to homes has dropped significantly. Unfortunately, the high unemployment rate and the reduction in wages have only exacerbated the problem. The housing market has played a key role in Adelanto's economy in the past years, and it will be the cornerstone of the economic recovery. Simply put, home prices will have to recover for the economy as a whole to recover. **That is why we are urging Lahontan to support job growth and economic revitalization from the construction industry by allowing Adelanto to continue to issue building permits.**

Of course the safety of current and future residents is the most important priority. Through our discussions with you on this matter, we believe that the City is taking the appropriate steps to address the issues that caused the most recent spill. Calling for a building moratorium will do nothing to help alleviate the situation. Further, the development impact fees that accompany new growth will give the City vital funding to build sewer infrastructure that will provide safe and reliable services to residents and businesses in the future. **As such, we believe that a building moratorium will only make it harder for Adelanto to provide safe and reliable sewer service, and we urge Lahontan's reconsideration of this measure.**

Respectfully,

Carlos Rodriguez

Carlos Rodriguez, CEO
BIA Baldy View Chapter

DAILY PRESS
Tuesday, January 4, 2011 VVDAILYPRESS.COM Victor Valley & The High Desert 75¢ plus tax

Wastewater leaking into Mojave River

Storms cause millions in damage to VVWRA infrastructure

BY BROOKE EDWARDS
STAFF WRITER

APPLE VALLEY • Wastewater is leaking into the sand bed of the Mojave River and threatening to contaminate up to 100 private drinking wells after recent heavy storms caused an estimated $8 million in damage to the local sewer system.

Though officials said public water is safe to drink, elevated bacteria levels have been found in three wells near the Mojave Narrows, according to San Bernardino County spokesman David Wert. Those public wells have been shut down and there's no threat of contamination for anyone serviced by a municipal water company, Wert said.

However, the county is advising that anyone with a private well downstream from the Narrows toward Highway 18 should use caution and have their water tested before consuming it. Wert estimated between 50 and 100 area wells could be at risk.

Residents are also advised not to have contact with river

SEE WASTEWATER • PAGE 7

WASTEWATER: River water infiltrated VVWRA's system

FROM PAGE 1

water in that area, according to Ryan Orr, spokesman for the Victor Valley Wastewater Reclamation Authority.

"Our number one priority is always to protect human health and the environment, no exceptions," Logan Olds, VVWRA's general manager, said in a statement. "We are working very closely with federal, state and local agencies to make the repairs as quickly and safely as possible."

It appears water from the swollen river, currently flowing at record levels, infiltrated VVWRA's system with sand and debris sometime after the Christmas-week storms.

TEST YOUR WATER

Victor Valley Wastewater Reclamation Authority is contracting with a certified company to test private wells that may have been affected by a recent wastewater leak in the Mojave River. To make an appointment, call Toni Henning with VVWRA at (760) 948-9849, ext. 106.

For a list of state-certified labs that test private wells in San Bernardino County, call the county Department of Environmental Health at (909) 387-4666.

The debris created a partial blockage in a main pipeline that transports wastewater from across the Victor Valley to the agency's treatment facility in Victorville, throwing the pipe off-kilter.

Orr said the majority of wastewater is still contained within the pipeline and crews had bypassed flows by Sunday afternoon. However a mixture of river water and wastewater was still being released at unknown levels below the sand Monday.

VVWRA is working with contractors from as far away as Florida to address the situation. Olds said he's in close contact with the San Bernardino County Office of Emergency Services to repair the damage inflicted by the storm.

Brooke Edwards may be reached at (760) 955-5358 or at bedwards@VVDailyPress.com.

ROTO-ROOTER PLUMBERS For All Your CLICK HERE PLUMBING & SEPTIC NEEDS 24 Hours A Day
And Away Go Troubles Down The Drain Se Habla Español Many Locations To Serve You! CA. STATE LIC. #752077

Rain, high winds expected

Comments 6

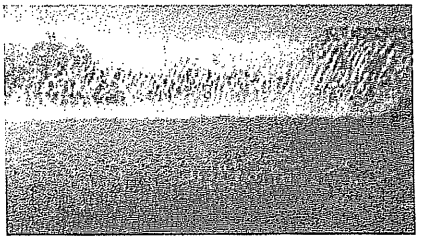
December 28, 2010 4:50 PM

Beatriz Valenzuela

Live radar: Watch the storm move in: To get up to the minute weather updates, along with live Doppler radar images, weekly forecasts and breaking weather alerts, click here.

With the latest weather system expected to bring more rain to the Victor Valley, rescuers are remaining vigilant and advising residents to prepare for potential complications.

"With the amount of rain that we received over the last week the ground is super-saturated to the point that runoff is inevitable," Jay Hausman, spokesman for the San Bernardino County Fire Department, said. "It won't take much to end up with flooding."



enlarge

FILE PHOTO: DAILY PRESS

Recommend 4 recommendations. Sign Up to see what your friends recommend.

2 Share 2 tweets retweet Email

Authorities suggest anyone in the flood-prone areas take measures to protect their property, including using sandbags. Empty sandbags will be made available at all county fire stations and at the Apple Valley Fire Protection District headquarters.

San Bernardino County Sheriff's officials also remind residents to respect the barricades placed along streets and roadways. Many times potholes can become filled with water and motorists will not be aware of the condition of the road underneath the moving or standing water.

The system's expected to bring more than a half an inch of rain to the area, according to the National Weather Service. The Victor Valley will also be under a high wind advisory until late

DAIL VVD

Victorville

HESI CLINIC/UR CLICK HERE

National t

Truck cr Median

Wednesday night. The system should pass through the area by late Wednesday night, leading to mostly sunny skies on Thursday.

The Wrightwood area is forecast to receive several inches of fresh snow from the storm, weather officials said.

Get complete stories every day with the "exactly as printed" Daily Press E-edition, only $5 per month! Click here to try it free for 7 days. To subscribe to the Daily Press in print or online, call (760) 241-7755, 1-800-553-2006 or click here.

Beatriz E. Valenzuela may be reached at (760) 951-6276 or at BValenzuela@VVDailyPress.com.

Recommendations

Sign Up Create an account or **log in** to see what your friends are recommending.


California courts throwing out red light camera tickets
148 people shared this.


Video shows parents giving pot pipe to toddler
484 people shared this.

Facebook social plugin

Most Viewed Stories

Crash shuts down Highway 395 at Phelan Road
Setting the story straight at the coroner's office
Work begins at Hesperia Walmart site
Metal thieves snatch catalytic converters, tailgates
New home for Victorville Best Buy

Most Commented Stories

Work begins at Hesperia Walmart site
Donnelly calls on feds to pay for criminal aliens
How do you assess the state of the union?
Metal thieves snatch catalytic converters, tailgates
California courts throwing out red light camera tickets

See archived 'Local News' stories »

Ads by Google

Things to
Events

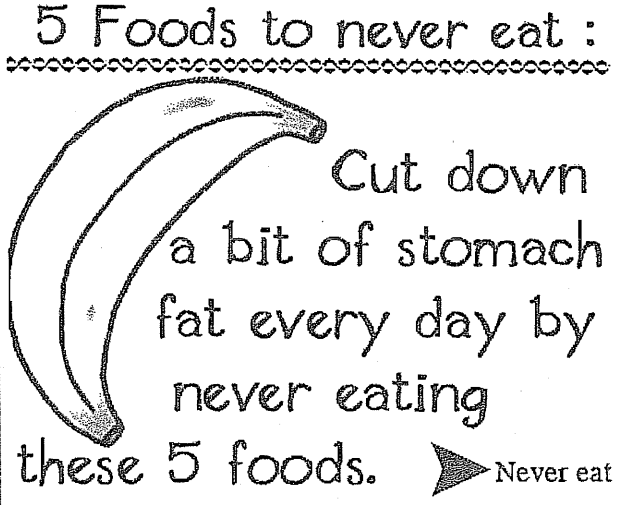
Click for Mc
Find an Ever
what
Go

Publisl
Log In

you pl



Poll



Sponsored Links

Weather | Weather Forecast | Weather Instruments | Vacation | Discount Travel

Reader Comments

From the editor: Many of you have expressed concerns about some of the harsh anonymous comments from readers. To remedy that, we are introducing new features. You can create your own blog, publish your news and share your photos with the community. Once you fill out a simple form and leave a verifiable e-mail address, you can set up your profile page. It will display all of your contributions and allow you to track issues and easily connect with others.
We want our site to be a place where people discuss and debate ideas that foster stronger communities. We built this for you. Please take care of it. Tolerate broad thinking, but take action against obscene or hateful material. Make it a credible and safe place worth preserving and sharing.

Share your thoughts about this story

You must be logged in to leave a comment. Login | Register

To leave a comment, you need to sign up.

Sign up Log in

Forgot password?

6 comments Sort: Oldest to Newest

ADVERTISEMENT



Fashion Design
The Art Institutes - Get Info on Fashion Design Degrees.
www.artinstitutes.edu



nerakk Score: 2 Report Abuse
7:14 PM on December 28, 2010

No Duh?



shelbygirl
7:30 PM on December 28, 2010
Score: 0
Report Abuse

yea nerakk it's a no-brainer, but I'll bet we'll still have rescues in the flood waters and houses flooded from the rain.



jerryn
8:00 PM on December 28, 2010
Score: -1
Report Abuse

I'll be waiting to read the stories of the idiots who thought a car was also a boat! LOL!



ryansmith
9:34 PM on December 28, 2010
Score: 2
Report Abuse

this is snuggling weather in front of the fireplace... you wanna come over kona?

1 reply



nuckinfutz5150
11:28 AM on December 29, 2010
Score: -1
Report Abuse

The ground is saturated

1 reply



tmarnell74
6:59 PM on December 29, 2010
Score: 0
Report Abuse

Think me strange, but I absolutley love this weather. I am sick of the sun sometimes, and its a nice change. Don't care for all the flooding, or having to drive 30 minutes out of my way to my inlaws house when normally if Rocks Springs was open would take me only 10 minutes. but still I love it, especially when I am at home.

Pluck

Ads by Google

Knock Points Off License
Take Traffic Scool 100% Online. DMV Certified & Only $21.95. Start Now!
www.LowestPriceTrafficSchool.com

Defensive Driving Online
Teach Your Drivers the Basics of Defensive Driving in Just 7 Minutes
www.JJKeller.com

Liberty Mutual Insurance
Get An Auto Quote In 10 Minutes See How Much You could Be Saving
www.LibertyMutual.com

Search: ○ Web ◉ Site

Advertising Info
Place An Ad

Archives
Story Archive
Obituary Archive
Photo Archive

Subscriber Services
E-Paper Help
Home Delivery
Report a Problem

Online Services
RSS Feeds RSS
Newsletters/Alerts
Coupons
Article Map

Copyright © 2011 Freedom Communications

Contact Us | Victorville Directory | Real Estate | Cars & Autos | Jobs | Obituaries | N.I.E. | Health | Dinin
Privacy Policy | User Agreement

Freedom Communications, Inc.


Glenn A. Travis, Richard H. Travis, Jr., Donna P. Travis, Dona F. Travis

CLICK HERE to STOP
CHAPTER 7 & 13
Attorneys at Law

BILL COLLECTORS • FORECLOSURES
• GARNISHMENTS
• REPOSSESSIONS • LAWSUITS

THE TRAVIS LAW FIRM
Serving You Since 1980

Storm damage tops $59 million in county

Comments 3

Apple Valley, Hesperia among cities hardest hit

December 29, 2010 3:51 PM

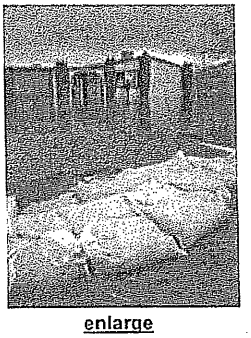
From Staff Reports

SAN BERNARDINO • Current estimates indicate San Bernardino County has experienced more significant property damage from winter storms occurring since Dec. 18 than any other county in the state, with damage currently estimated at $59,501,466.

Damage assessments are ongoing, but at this time, the County Emergency Operations Center reports five homes destroyed, 57 homes with major damage, one business with major damage, 317 homes, businesses and outbuildings with minor damage, and 28 other structures affected but not physically damaged by the floods, officials reported Wednesday. These estimated losses of private and businesses properties total $16,939,500.

Of the five destroyed homes, three were in the City of Highland, one in the City of San Bernardino, and one in Forest Falls. The majority of the homes with major damage were in the City of Highland and the Town of Apple Valley. Cities sustaining the most damage in private property include Highland, Apple Valley and Hesperia.

To read more about the damage, see the full story in Thursday's Daily Press. Get complete stories every day with the "exactly as printed" Daily Press E-edition, only $5 per month! Click here to try it free for 7 days. To subscribe to the Daily Press in print or online, call (760) 241-7755, 1-800-553-2006 or click here.



enlarge

JONATHAN BERG, FOR THE DAILY PRESS

1 of 4

Recommend Sign Up to see what your friends recommend.

0 tweets

Share tweet Email

GARAGE SALE MAP
Victorville

All Patie
HESPERIA
760-9
15781 Be
DPE

VICTO
760-9
15526 Hesp
Mon - Fri
Sat-Sun

BAR
760-2
7416 E
Mon - Fri
Sat-Sun

National t

James H

Recommendations

Sign Up Create an account or **log in** to see what your friends are recommending.



California courts throwing out red light camera tickets
148 people shared this.



Video shows parents giving pot pipe to toddler
484 people shared this.

Facebook social plugin

Most Viewed Stories

- Crash shuts down Highway 395 at Phelan Road
- Setting the story straight at the coroner's office
- Work begins at Hesperia Walmart site
- Metal thieves snatch catalytic converters, tailgates
- New home for Victorville Best Buy

Most Commented Stories

- Work begins at Hesperia Walmart site
- Donnelly calls on feds to pay for criminal aliens
- How do you assess the state of the union?
- Metal thieves snatch catalytic converters, tailgates
- California courts throwing out red light camera tickets

See archived 'Local News' stories »

Ads by Google

Things to

Events



Click for Mc

Find an Ever
what

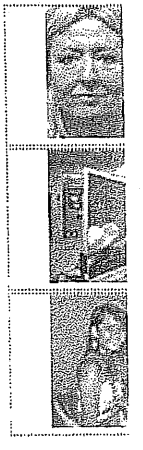
Go

Publisl

Log In

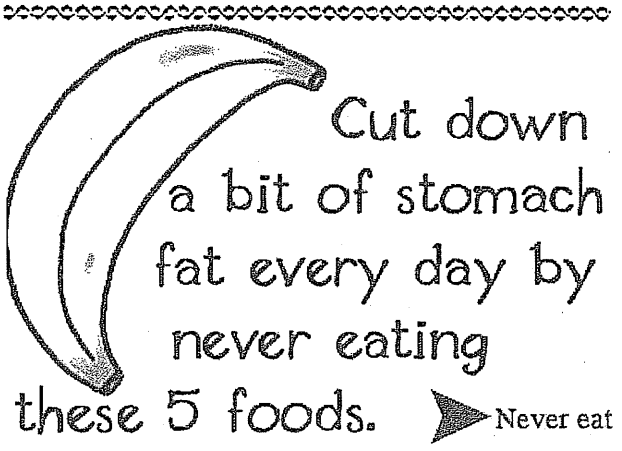


you pl



Poll

5 Foods to never eat :



Sponsored Links

Auto Rental | Hotel | Airline Ticket | Vacation | Discount Travel

Reader Comments

From the editor: Many of you have expressed concerns about some of the harsh anonymous comments from readers. To remedy that, we are introducing new features. You can create your own blog, publish your news and share your photos with the community. Once you fill out a simple form and leave a verifiable e-mail address, you can set up your profile page. It will display all of your contributions and allow you to track issues and easily connect with others.
We want our site to be a place where people discuss and debate ideas that foster stronger communities. We built this for you. Please take care of it. Tolerate broad thinking, but take action against obscene or hateful material. Make it a credible and safe place worth preserving and sharing.

Share your thoughts about this story

You must be logged in to leave a comment. Login | Register

To leave a comment, you need to sign up.

Sign up Log in

Forgot password?

3 comments Sort: Oldest to Newest

ADVERTISEMENT



Irvine: How To Make $6,795/Month!
Unemployed Mom Turned $34 Into $6,795/Mo At Home. Read How She Did It.
www.World3News.com



4square
6:43 PM on December 29, 2010

Score: 0 Report Abuse

Just look what a little water can do.

dezracer
9:57 AM on December 30, 2010
Score: 0
Report Abuse

Unfortunately, we lost our house to this storm. What a great X-Mas present, eh?? Also have to say "two thumbs up" (sarcastically) to AAA for denying our claim after 10 years of paying home, auto and umbrella premiums...looks like we're shopping for a new insurance company come April.

All we can do at this point is hope for some kind of relief from the state to help get the house repaired and back into livable conditions again.

2 replies

burritoe
10:58 PM on December 30, 2010
Score: 0
Report Abuse

Dangerous when wet....

Pluck

Ads by Google


Apple iPad 3G G4GB
Sold for: $113.51
87%


Eylet Chic Shopper
Sold for: $18.00
81%


Sharp 40" Aquos TV
Sold for: $189.04
79%

THE HOTTEST DEALS ONLINE!

Copyright © 2011 Freedom Communications



Freedom Communications, Inc.

Worst Case Scenario No new connections for 5+ year													
Project	Status	Development Type	EDUs	Sewer Connection Fees Lost ($3054.96 per EDU)	Water Connection Fee Lost ($2855 per EDU)	Development Impact Fee Loss ($10709 per EDU)	Permit and Inspection Fees Lost ($435 per unit based on 1,800 to 2,000SF)	Sub Total	Sewer Service Fees Lost ($0.79/ unit per month*12 months)	Water Service Fees Lost ($6.90 per month for 20 units *12 months)	Annual Property Tax Income Lost (@.0065% of unit est value $120,000)	Annual Sub Total
15636	APPROVED	Residential	311	$ 950,092.56	$ 2,570,415.00	$ 3,330,499.00	$ 446,285.00	$ 7,297,291.56	$ 189,548.28	$ 249,540.00	$ 21,100.00	$ 470,319.08
16530	APPROVED	Residential	39	$ 119,143.44	$ 322,335.00	$ 417,651.00	$ 55,965.00	$ 915,094.44	$ 23,769.72	$ 33,509.20	$ 3,900.00	$ 58,978.97
16530	APPROVED	Residential	151	$ 461,294.96	$ 1,248,015.00	$ 1,617,259.00	$ 216,685.00	$ 3,543,057.96	$ 92,031.48	$ 129,732.80	$ 15,100.00	$ 228,354.28
16549	APPROVED	Residential	64	$ 201,617.36	$ 545,490.00	$ 706,794.00	$ 94,710.00	$ 1,548,621.36	$ 40,225.88	$ 57,984.80	$ 6,600.00	$ 99,810.68
16603	APPROVED	Residential	77	$ 235,231.92	$ 636,405.00	$ 824,593.00	$ 110,495.00	$ 1,806,724.92	$ 46,939.96	$ 61,835.60	$ 7,700.00	$ 116,445.56
16618	APPROVED	Residential	45	$ 137,473.20	$ 371,925.00	$ 481,905.00	$ 64,575.00	$ 1,055,878.20	$ 27,426.60	$ 36,124.60	$ 4,500.00	$ 68,052.80
16674	APPROVED	Residential	96	$ 293,258.72	$ 794,280.00	$ 1,028,832.00	$ 137,760.00	$ 2,254,130.72	$ 58,579.20	$ 77,188.80	$ 9,600.00	$ 145,178.88
16691	APPROVED	Residential	12	$ 36,659.52	$ 99,285.00	$ 128,604.00	$ 17,220.00	$ 281,766.52	$ 7,322.40	$ 9,648.60	$ 1,200.00	$ 18,147.36
16692	APPROVED	Residential	40	$ 122,198.40	$ 330,600.00	$ 428,360.00	$ 57,400.00	$ 938,558.40	$ 24,379.20	$ 32,112.00	$ 4,000.00	$ 60,491.20
16693	APPROVED	Residential	18	$ 54,989.28	$ 148,770.00	$ 192,762.00	$ 25,830.00	$ 422,351.28	$ 10,970.64	$ 14,450.40	$ 1,800.00	$ 27,221.04
16916	APPROVED	Residential	156	$ 476,573.76	$ 1,289,340.00	$ 1,670,604.00	$ 223,860.00	$ 3,660,377.76	$ 95,078.88	$ 125,236.80	$ 15,600.00	$ 235,915.68
16918	APPROVED	Residential	75	$ 229,122.00	$ 619,875.00	$ 803,175.00	$ 107,625.00	$ 1,759,797.00	$ 45,711.00	$ 60,210.00	$ 7,500.00	$ 113,421.00
16930-2	APPROVED	Residential	160	$ 488,793.60	$ 1,322,400.00	$ 1,713,440.00	$ 229,600.00	$ 3,754,233.60	$ 97,516.80	$ 128,448.00	$ 16,000.00	$ 241,964.80
16949	APPROVED	Residential	103	$ 314,615.28	$ 851,070.00	$ 1,102,927.00	$ 147,810.00	$ 2,416,422.28	$ 62,753.64	$ 82,646.80	$ 10,300.00	$ 155,700.44
17005	APPROVED	Residential	77	$ 235,231.92	$ 636,405.00	$ 824,593.00	$ 110,495.00	$ 1,806,724.92	$ 46,939.96	$ 61,835.60	$ 7,700.00	$ 116,445.56
17006	APPROVED	Residential	54	$ 164,967.84	$ 446,310.00	$ 578,286.00	$ 77,490.00	$ 1,267,053.84	$ 32,911.92	$ 43,351.20	$ 5,400.00	$ 81,663.12
17044	APPROVED	Residential	147	$ 449,079.12	$ 1,214,955.00	$ 1,574,223.00	$ 210,945.00	$ 3,449,202.12	$ 89,593.56	$ 118,011.60	$ 14,700.00	$ 222,305.16
17155	APPROVED	Residential	39	$ 119,143.44	$ 322,335.00	$ 417,651.00	$ 55,965.00	$ 915,094.44	$ 23,769.72	$ 31,109.20	$ 3,900.00	$ 58,978.97
17171	APPROVED	Residential	36	$ 109,978.56	$ 297,540.00	$ 385,524.00	$ 51,660.00	$ 844,702.56	$ 21,941.28	$ 28,900.80	$ 3,600.00	$ 54,442.08
17193	APPROVED	Residential	121	$ 369,650.16	$ 1,000,065.00	$ 1,295,789.00	$ 173,635.00	$ 2,839,139.16	$ 73,747.08	$ 97,138.80	$ 12,100.00	$ 182,985.88
17210	APPROVED	Residential	80	$ 244,396.80	$ 661,200.00	$ 856,720.00	$ 114,800.00	$ 1,877,116.80	$ 48,758.40	$ 64,224.00	$ 8,000.00	$ 120,982.40
17230	APPROVED	Residential	256	$ 782,069.76	$ 2,115,840.00	$ 2,741,504.00	$ 367,360.00	$ 6,006,773.76	$ 156,026.88	$ 205,516.80	$ 25,600.00	$ 387,143.68
17285	APPROVED	Residential	197	$ 601,817.12	$ 1,628,205.00	$ 2,109,673.00	$ 282,695.00	$ 4,622,400.12	$ 120,067.56	$ 158,151.60	$ 19,700.00	$ 297,919.16
17312	APPROVED	Residential	57	$ 174,132.72	$ 471,105.00	$ 610,413.00	$ 81,795.00	$ 1,337,445.72	$ 34,740.36	$ 45,759.60	$ 5,700.00	$ 86,199.96
17319	APPROVED	Residential	46	$ 140,522.16	$ 380,190.00	$ 492,614.00	$ 66,010.00	$ 1,079,342.16	$ 28,036.08	$ 36,938.80	$ 4,600.00	$ 69,564.88
17369	APPROVED	Residential	40	$ 122,198.40	$ 330,600.00	$ 428,360.00	$ 57,400.00	$ 938,558.40	$ 24,379.20	$ 32,112.00	$ 4,000.00	$ 60,491.20
17387	APPROVED	Residential	40	$ 122,198.40	$ 330,600.00	$ 428,360.00	$ 57,400.00	$ 938,558.40	$ 24,379.20	$ 32,112.00	$ 4,000.00	$ 60,491.20
17417	APPROVED	Residential	68	$ 207,737.28	$ 562,070.00	$ 728,212.00	$ 97,580.00	$ 1,595,549.28	$ 41,444.64	$ 54,590.40	$ 6,800.00	$ 102,835.04
17503	APPROVED	Residential	93	$ 284,143.84	$ 768,915.00	$ 996,201.00	$ 133,455.00	$ 2,182,714.84	$ 56,685.48	$ 74,685.60	$ 9,300.00	$ 140,671.08
17543	APPROVED	Residential	125	$ 381,870.00	$ 1,033,125.00	$ 1,338,625.00	$ 179,375.00	$ 2,932,995.00	$ 76,185.00	$ 100,350.00	$ 12,500.00	$ 189,035.00
17593	APPROVED	Residential	66	$ 201,627.36	$ 545,490.00	$ 706,794.00	$ 94,710.00	$ 1,548,621.36	$ 40,225.68	$ 52,984.80	$ 6,600.00	$ 99,810.48
17639	APPROVED	Residential	40	$ 122,198.40	$ 330,600.00	$ 428,360.00	$ 57,400.00	$ 938,558.40	$ 24,379.20	$ 32,112.00	$ 4,000.00	$ 60,491.20
17726	APPROVED	Residential	9	$ 27,494.64	$ 74,385.00	$ 96,381.00	$ 12,915.00	$ 211,175.64	$ 5,485.32	$ 7,225.20	$ 900.00	$ 13,610.52
17743	APPROVED	Residential	19	$ 58,044.24	$ 157,035.00	$ 203,471.00	$ 27,265.00	$ 445,815.24	$ 11,580.12	$ 15,253.20	$ 1,900.00	$ 28,733.32
17940	APPROVED	Residential	71	$ 216,957.12	$ 587,080.00	$ 771,044.00	$ 103,320.00	$ 1,689,405.12	$ 43,882.56	$ 57,801.60	$ 7,200.00	$ 108,884.16
18383	APPROVED	Residential	10	$ 30,549.60	$ 82,650.00	$ 107,090.00	$ 14,350.00	$ 234,639.60	$ 6,094.80	$ 8,028.00	$ 1,000.00	$ 15,122.80
18351	APPROVED	Residential	8	$ 24,439.68	$ 66,120.00	$ 85,672.00	$ 11,480.00	$ 187,711.68	$ 4,875.84	$ 6,422.40	$ 800.00	$ 12,098.24
18311	APPROVED	Residential	180	$ 549,892.80	$ 1,487,700.00	$ 1,927,620.00	$ 258,300.00	$ 4,223,512.80	$ 109,706.40	$ 144,504.00	$ 18,000.00	$ 272,210.40
18231	APPROVED	Residential	22	$ 67,208.52	$ 181,830.00	$ 235,598.00	$ 31,570.00	$ 516,707.52	$ 13,428.36	$ 17,681.60	$ 2,200.00	$ 33,270.16
18226	APPROVED	Residential	7	$ 21,384.72	$ 57,855.00	$ 74,963.00	$ 10,045.00	$ 164,247.72	$ 4,268.76	$ 5,619.60	$ 700.00	$ 10,588.36
18301	APPROVED	Residential	18	$ 54,989.28	$ 148,770.00	$ 192,762.00	$ 25,830.00	$ 422,351.28	$ 10,970.64	$ 14,450.40	$ 1,800.00	$ 27,221.04
18408	APPROVED	Residential	8	$ 24,439.68	$ 66,120.00	$ 85,672.00	$ 11,480.00	$ 187,711.68	$ 4,875.84	$ 6,422.40	$ 800.00	$ 12,098.24
18513	APPROVED	Residential	8	$ 24,439.68	$ 66,120.00	$ 85,672.00	$ 11,480.00	$ 187,711.68	$ 4,875.84	$ 6,422.40	$ 800.00	$ 12,098.24
18643	APPROVED	Residential	75	$ 229,122.00	$ 619,875.00	$ 803,175.00	$ 107,625.00	$ 1,759,797.00	$ 45,711.00	$ 60,210.00	$ 7,500.00	$ 113,421.00
17032	PROPOSED	Residential	38	$ 116,068.48	$ 314,070.00	$ 406,942.00	$ 54,530.00	$ 891,610.48	$ 23,162.24	$ 30,506.40	$ 3,800.00	$ 57,468.64
17213	PROPOSED	Residential	107	$ 326,880.72	$ 884,235.00	$ 1,145,863.00	$ 153,545.00	$ 2,510,543.72	$ 65,214.36	$ 85,899.60	$ 10,700.00	$ 161,813.96
17268	PROPOSED	Residential	10	$ 30,549.60	$ 82,650.00	$ 107,090.00	$ 14,350.00	$ 234,639.60	$ 6,094.80	$ 8,028.00	$ 1,000.00	$ 15,122.80
17336	PROPOSED	Residential	20	$ 61,099.20	$ 165,300.00	$ 214,180.00	$ 28,700.00	$ 469,279.20	$ 12,189.60	$ 16,056.00	$ 2,000.00	$ 30,245.60
17542	PROPOSED	Residential	96	$ 293,258.56	$ 794,280.00	$ 1,028,832.00	$ 137,760.00	$ 2,254,130.56	$ 58,579.20	$ 77,188.80	$ 9,600.00	$ 145,178.88
17578	PROPOSED	Residential	19	$ 58,044.24	$ 157,035.00	$ 203,471.00	$ 27,265.00	$ 445,815.24	$ 11,580.12	$ 15,253.20	$ 1,900.00	$ 28,733.32
17853	PROPOSED	Residential	57	$ 174,132.72	$ 471,105.00	$ 610,413.00	$ 81,795.00	$ 1,337,445.72	$ 34,740.36	$ 45,759.60	$ 5,700.00	$ 86,199.96
17854	PROPOSED	Residential	35	$ 106,923.60	$ 289,275.00	$ 374,815.00	$ 50,225.00	$ 821,238.60	$ 21,311.80	$ 28,098.00	$ 3,500.00	$ 52,929.80
17869	PROPOSED	Residential	52	$ 158,857.92	$ 429,780.00	$ 556,868.00	$ 74,620.00	$ 1,220,125.92	$ 31,692.96	$ 41,745.60	$ 5,200.00	$ 78,638.56
18096	PROPOSED	Residential	30	$ 91,648.80	$ 247,950.00	$ 321,270.00	$ 43,050.00	$ 703,918.80	$ 18,284.40	$ 24,084.00	$ 3,000.00	$ 45,368.40
18085	PROPOSED	Residential	39	$ 119,143.44	$ 322,335.00	$ 417,651.00	$ 55,965.00	$ 915,094.44	$ 23,769.72	$ 31,109.20	$ 3,900.00	$ 58,978.92
18171	PROPOSED	Residential	5	$ 15,274.80	$ 41,325.00	$ 53,545.00	$ 7,175.00	$ 117,319.80	$ 3,047.40	$ 4,014.00	$ 500.00	$ 7,561.40
18177	PROPOSED	Residential	78	$ 238,258.88	$ 644,670.00	$ 835,322.00	$ 111,930.00	$ 1,830,188.88	$ 47,533.44	$ 62,618.40	$ 7,800.00	$ 117,951.84
18205	PROPOSED	Residential	60	$ 183,297.60	$ 495,900.00	$ 642,540.00	$ 86,100.00	$ 1,407,837.60	$ 36,568.80	$ 48,168.00	$ 6,000.00	$ 90,736.80
18276	PROPOSED	Residential	19	$ 58,044.24	$ 157,035.00	$ 203,471.00	$ 27,265.00	$ 445,815.24	$ 11,580.12	$ 15,253.20	$ 1,900.00	$ 28,733.32
18336	PROPOSED	Residential	96	$ 293,276.16	$ 793,440.00	$ 1,028,064.00	$ 137,760.00	$ 2,252,540.16	$ 58,510.08	$ 77,068.80	$ 9,600.00	$ 145,178.88
18526	PROPOSED	Residential	121	$ 522,378.16	$ 1,413,315.00	$ 1,831,219.00	$ 245,385.00	$ 4,012,317.16	$ 104,221.08	$ 137,178.80	$ 17,100.00	$ 258,599.88
18596	RECORDED	Residential	50	$ 152,748.00	$ 413,250.00	$ 535,450.00	$ 71,750.00	$ 1,173,198.00	$ 30,474.00	$ 40,140.00	$ 5,000.00	$ 75,614.00
16456	RECORDED	Residential	315	$ 962,312.40	$ 2,601,675.00	$ 3,373,135.00	$ 452,025.00	$ 7,391,147.40	$ 192,042.20	$ 252,882.00	$ 31,500.00	$ 476,368.20
16490	RECORDED	Residential	11	$ 33,604.56	$ 90,915.00	$ 117,799.00	$ 15,785.00	$ 258,103.56	$ 6,704.28	$ 8,830.80	$ 1,100.00	$ 16,635.08
16654	RECORDED	Residential	32	$ 97,758.72	$ 264,480.00	$ 342,752.00	$ 45,920.00	$ 750,910.72	$ 19,503.36	$ 25,689.60	$ 3,200.00	$ 48,392.96
16668	RECORDED	Residential	41	$ 125,253.36	$ 338,865.00	$ 439,069.00	$ 58,835.00	$ 962,022.36	$ 24,998.28	$ 32,914.80	$ 4,100.00	$ 62,013.08
16983	RECORDED	Residential	30	$ 91,648.80	$ 247,950.00	$ 321,270.00	$ 43,050.00	$ 703,918.80	$ 18,284.40	$ 24,084.00	$ 3,000.00	$ 45,368.40
17029	RECORDED	Residential	56	$ 171,077.76	$ 462,840.00	$ 599,704.00	$ 80,360.00	$ 1,313,981.76	$ 34,130.88	$ 44,956.80	$ 5,600.00	$ 84,687.68
17045	RECORDED	Residential	63	$ 192,452.88	$ 520,695.00	$ 674,667.00	$ 90,405.00	$ 1,478,273.88	$ 38,397.24	$ 50,576.40	$ 6,300.00	$ 95,273.64
17120	RECORDED	Residential	37	$ 113,031.52	$ 305,805.00	$ 396,231.00	$ 53,095.00	$ 868,166.52	$ 22,550.76	$ 29,703.60	$ 3,700.00	$ 55,954.36
17250	RECORDED	Residential	187	$ 571,280.88	$ 1,545,405.00	$ 2,002,483.00	$ 268,345.00	$ 4,387,513.88	$ 113,995.32	$ 150,186.80	$ 18,700.00	$ 282,882.12
17259	RECORDED	Residential	45	$ 137,473.20	$ 371,925.00	$ 481,905.00	$ 64,575.00	$ 1,055,878.20	$ 27,426.60	$ 36,124.60	$ 4,500.00	$ 68,052.80
17600	RECORDED	Residential	21	$ 64,154.16	$ 173,565.00	$ 224,889.00	$ 30,135.00	$ 492,743.16	$ 12,799.08	$ 16,856.80	$ 2,100.00	$ 31,757.88
16930-3	RECORDED	Residential	40	$ 122,198.40	$ 330,600.00	$ 428,360.00	$ 57,400.00	$ 938,558.40	$ 24,379.20	$ 32,112.00	$ 4,000.00	$ 60,491.20
		Sub Total	4601	$ 15,396,998.40	$ 41,455,600.00	$ 53,971,160.00	$ 7,232,400.00	$ 118,018,158.40	$ 3,073,779.30	$ 4,046,112.00	$ 504,000.00	$ 7,623,891.30

000467

Project	Status	Development Type	EDU's (Water / Sewer)	Sewer Connection Fees Lost ($854.96 per EDU)	Water Connection Fee Lost ($265 per EDU)	Development Impact Fee Loss ($9,710 per Acre)	Permit and Inspection Fees Lost ($,682 per Acre)	Sub Total	Sewer Service Fees Lost ($0.75/edu per month*12 months)	Water Service Fees Lost (3" meter (13 1-10Tunits @3.4, 10B+ @3.4*12 months)	Annual Property Tax Income Lost (@.0005% of est value @ $160/SF)	Annual Sale Tax Income Lost (@.75% of $270 per SQFT)	Annual Sub Total
04-01	APPROVED	Commercial	18	$ 54,989.28	$ 144,770.00	$ 232,535.00	$ 73,797.00	$ 510,091.28	$ 10,970.64	$ 11,838.48	$ 8,187.04	$ 165,763.95	$ 196,610.11
04-02	APPROVED	Commercial	27	$ 82,483.92	$ 221,155.00	$ 439,708.00	$ 128,493.60	$ 871,840.52	$ 16,455.96	$ 17,795.28	$ 14,601.60	$ 301,199.25	$ 357,454.93
07-13	APPROVED	Commercial	10	$ 30,549.60	$ 57,855.00	$ 186,283.70	$ 54,416.34	$ 329,122.64	$ 6,166.16	$ 6,557.72	$ 5,033.64	$ 103,788.20	$ 123,154.93
07-15	APPROVED	Commercial	6	$ 9,164.88	$ 49,590.00	$ 56,746.10	$ 16,582.62	$ 132,083.60	$ 1,818.44	$ 6,034.80	$ 6,543.04	$ 2,517.60	$ 24,750.00	$ 31,780.42
07-17	APPROVED	Commercial	10	$ 30,549.60	$ 82,550.00	$ 122,533.60	$ 36,117.32	$ 272,910.32	$ 6,034.80	$ 6,543.04	$ 2,517.60	$ 51,925.50	$ 67,084.95
08-07	APPROVED	Commercial	41	$ 125,253.36	$ 338,885.00	$ 1,049,060.10	$ 306,561.42	$ 1,819,759.88	$ 24,988.58	$ 27,060.96	$ 22,400.00	$ 462,000.00	$ 596,449.54
09-04	APPROVED	Commercial	4	$ 12,219.84	$ 24,795.00	$ 142,608.80	$ 41,671.60	$ 221,296.44	$ 2,413.92	$ 2,610.25	$ 3,641.60	$ 75,108.00	$ 83,797.81
06-10	IN CONSTRUCTION	Commercial	4	$ 12,219.84	$ 39,685.00	$ 149,655.00	$ 160,617.00	$ 1,038,530.84	$ 17,674.92	$ 19,117.61	$ 11,680.00	$ 240,900.00	$ 289,372.53
07-17	PROPOSED	Commercial	29	$ 88,593.84	$ 239,485.00	$ 649,655.00	$ 160,617.00	$ 1,038,530.84	$ 17,674.92	$ 19,117.61	$ 11,680.00	$ 240,900.00	$ 289,372.53
		Sub Total	145	$ 433,804.92	$ 1,165,365.00	$ 2,800,167.50	$ 818,278.50	$ 5,217,615.32	$ 84,717.72	$ 93,635.37	$ 69,112.48	$ 1,425,444.50	$ 1,672,810.47

Project	Status	Development Type	EDU's (Water / Sewer)	Sewer Connection Fees Lost ($854.96 per EDU)	Water Connection Fee Lost ($265 per EDU)	Development Impact Fee Loss ($9,710 per Acre)	Permit and Inspection Fees Lost ($,682 per Acre)	Sub Total	Sewer Service Fees Lost ($0.75/edu per month*12 months)	Water Service Fees Lost (3" meter (13 1-10Tunits @3.4, 10B+ @3.4*12 months)	Annual Property Tax Income Lost (@.0005% of est value @ $160/SF)	Annual Sale Tax Income Lost (@.75% of $75 per SQFT)	Annual Sub Total
05-07	APPROVED	Industrial	43	$ 122,198.40	$ 247,950.00	$ 564,490.00	$ 184,938.00	$ 1,099,596.40	$ 24,379.20	$ 19,779.36	$ 14,720.00	$ 103,500.00	$ 162,378.58
07-14	APPROVED	Industrial	7	$ 6,109.92	$ 16,530.00	$ 126,810.00	$ 95,502.00	$ 444,953.92	$ 1,218.96	$ 2,141.35	$ 1,320.00	$ 7,875.00	$ 11,357.11
07-14	APPROVED	Industrial	655	$ 2,000,998.80	$ 5,413,575.00	$ 10,013,067.00	$ 2,951,911.40	$ 70,379,537.20	$ 199,209.40	$ 433,415.90	$ 546,810.88	$ 3,844,904.63	$ 5,274,360.81
08-03	APPROVED	Industrial	10	$ 30,549.60	$ 66,120.00	$ 669,127.20	$ 193,782.24	$ 959,579.04	$ 6,094.80	$ 5,219.50	$ 1,716.00	$ 12,206.25	$ 25,256.55
08-04	APPROVED	Industrial	10	$ 30,549.60	$ 66,120.00	$ 669,127.20	$ 193,782.24	$ 959,579.04	$ 6,094.80	$ 2,141.35	$ 1,248.32	$ 8,777.25	$ 13,887.88
08-06	APPROVED	Industrial	2	$ 6,109.92	$ 16,530.00	$ 59,420.00	$ 17,164.00	$ 99,421.92	$ 1,218.96	$ 1,656.88	$ 4,011.08	$ 33,750.00	$ 40,218.84
06-03	IN CONSTRUCTION	Industrial	6	$ 18,329.76	$ 49,590.00	$ 148,260.00	$ 43,410.00	$ 259,879.76	$ 3,656.88	$ 4,011.08	$ 4,800.00	$ 33,750.00	$ 46,218.84
		Sub Total	735	$ 2,184,296.40	$ 5,810,375.00	$ 11,795,464.20	$ 3,446,917.64	$ 23,336,981.24	$ 435,378.20	$ 466,733.07	$ 576,455.30	$ 4,011,013.13	$ 5,483,958.60

Project	Status	Development Type	EDU's (Water / Sewer)	Sewer Connection Fees Lost ($854.96 per EDU)	Water Connection Fee Lost ($265 per EDU)	Development Impact Fee Loss ($7694 per unit)	Permit and Inspection Fees Lost ($,682 per acre)	Sub Total	Sewer Service Fees Lost ($5.40/unit per month*12 months)	Water Service Fees Lost ($6.96 per month for 20 units *12 months)	Annual Property Tax Income Lost (@.0005% of est value @ $160/SF)		Annual Sub Total
07-05	APPROVED	Multi Family	83	$ 250,506.72	$ 677,730.00	$ 1,371,040.00	$ 373,640.00	$ 2,332,916.72	$ 48,768.00	$ 328,448.00	$ -		$ 197,216.00
07-09	APPROVED	Multi Family	44	$ 133,363.28	$ 363,660.00	$ 307,760.00	$ 81,412.34	$ 844,196.42	$ 12,192.00	$ 12,112.00	$ 3,933.00		$ 46,216.00
07-09	PROPOSED	Multi Family	19	$ 159,143.44	$ 350,600.00	$ 246,208.00	$ 35,596.20	$ 731,547.64	$ 9,753.60	$ 25,689.60	$ -		$ 15,443.20
07-08	PROPOSED	Multi Family	77	$ 219,957.12	$ 593,080.00	$ 1,077,160.00	$ 151,335.00	$ 2,044,332.12	$ 42,672.00	$ 112,392.00	$ 10,335.00		$ 165,399.00
07-20	PROPOSED	Multi Family	77	$ 329,970.56	$ 1,967,070.00	$ 2,693,168.00	$ 403,584.34	$ 5,913,792.90	$ 113,385.60	$ 298,641.60	$ 14,357.00		$ 476,284.20

Project	Status	Development Type	EDU's (Water / Sewer)	Sewer Connection Fees Lost ($854.96 per EDU)	Water Connection Fee Lost ($265 per EDU)	Development Impact Fee Loss ($9,710 per Acre)	Permit and Inspection Fees Lost ($,682 per acre)	Sub Total	Sewer Service Fees Lost ($0.75/edu per month*12 months)	Water Service Fees Lost (3" meter (13 1-10Tunits @3.4, 10B+ @3.4*12 months)	Annual Property Tax Income Lost (@.0005% of est value @ $160/SF)	$0.75 per bed/ per day fee	Annual Sub Total
05-02	APPROVED	Prison	47	$ 143,583.12	$ 358,455.00	$ 1,515,210.00	$ 442,782.00	$ 2,490,030.12	$ 28,645.56	$ 31,026.96	$ 15,086.80	$ 602,350.00	$ 677,012.34
NA	IN CONSTRUCTION	Prison (County Prison)	347	$ 1,142,555.04	$ 1,091,110.00	$ 297,100.00	$ 86,820.00	$ 4,617,585.04	$ 227,945.52	$ 247,445.02	$ -	$ -	$ 475,390.54
		Sub total	394					$ 7,107,615.16					$ 1,152,402.88
		Total	6092				Total	$ 159,772,365.03				Yearly Total	$ 18,377,348.35

Intermediate Scenario

No new connections for 1-3 year

Project	Status	Development Type	EDU's	Sewer Connection Fees Lost ($954.96 per EDU)	Water Connection Fee Lost ($2105 per EDU)	Development Impact Fee Loss ($3707.09 per EDU)	Permit and Inspection Fees Lost (1435 per unit based on 1,800 to 2,000SF)	Sub Total	Sewer Service Fees Lost ($0.79 per month*12 months)	Water Service Fees Lost ($66.90 per month for 28 units *12 months)	Annual Property Tax Income Lost (@.005% of unit est value $200,000)	Annual Sale Tax Income Lost (@.75% of projected sales)	Annual Sum Total
15636	APPROVED	Residential	311	$ 950,097.56	$ 2,570,415.00	$ 3,330,499.00	$ 446,285.00	$ 7,297,291.56	$ 189,548.24	$ 249,573.60	$ 31,200.00		$ 470,319.04
16530	APPROVED	Residential	39	$ 119,143.44	$ 322,335.00	$ 417,651.00	$ 55,965.00	$ 915,094.44	$ 23,769.72	$ 31,309.20	$ 3,900.00		$ 58,978.92
16549	APPROVED	Residential	153	$ 461,238.96	$ 1,248,015.00	$ 1,617,959.00	$ 216,665.00	$ 3,543,057.96	$ 92,038.44	$ 121,223.80	$ 15,300.00		$ 228,354.28
16603	APPROVED	Residential	66	$ 201,627.36	$ 545,490.00	$ 706,794.00	$ 94,710.00	$ 1,548,621.36	$ 40,225.68	$ 52,984.80	$ 6,600.00		$ 99,810.48
16618	APPROVED	Residential	77	$ 235,231.92	$ 636,405.00	$ 824,593.00	$ 110,495.00	$ 1,806,724.92	$ 46,939.96	$ 61,835.60	$ 7,700.00		$ 116,445.56
16674	APPROVED	Residential	45	$ 137,473.20	$ 371,925.00	$ 481,905.00	$ 64,575.00	$ 1,055,878.20	$ 27,426.60	$ 36,126.00	$ 4,500.00		$ 68,052.60
16691	APPROVED	Residential	12	$ 36,658.72	$ 99,180.00	$ 128,508.00	$ 17,220.00	$ 281,566.72	$ 7,313.48	$ 9,634.80	$ 1,200.00		$ 18,148.28
16692	APPROVED	Residential	40	$ 122,198.40	$ 330,600.00	$ 428,360.00	$ 57,400.00	$ 938,558.40	$ 24,378.20	$ 32,112.00	$ 4,000.00		$ 60,491.20
16693	APPROVED	Residential	18	$ 54,989.28	$ 148,770.00	$ 192,762.00	$ 25,830.00	$ 422,351.28	$ 10,970.64	$ 14,450.40	$ 1,800.00		$ 27,221.04
16916	APPROVED	Residential	156	$ 476,571.76	$ 1,289,340.00	$ 1,670,604.00	$ 223,860.00	$ 3,660,377.76	$ 95,078.88	$ 125,236.80	$ 15,600.00		$ 235,915.68
16918	APPROVED	Residential	75	$ 229,121.00	$ 619,875.00	$ 803,175.00	$ 107,625.00	$ 1,759,797.00	$ 45,711.00	$ 60,210.00	$ 7,500.00		$ 113,421.00
16933-2	APPROVED	Residential	360	$ 484,793.60	$ 1,327,400.00	$ 1,713,440.00	$ 229,600.00	$ 3,754,233.60	$ 97,516.80	$ 128,448.00	$ 16,000.00		$ 241,964.80
16949	APPROVED	Residential	108	$ 329,935.68	$ 892,620.00	$ 1,156,572.00	$ 154,980.00	$ 2,534,107.68	$ 65,823.84	$ 86,702.40	$ 10,800.00		$ 163,326.24
17005	APPROVED	Residential	77	$ 235,231.92	$ 636,405.00	$ 824,593.00	$ 110,495.00	$ 1,806,724.92	$ 46,939.96	$ 61,835.60	$ 7,700.00		$ 116,445.56
17006	APPROVED	Residential	54	$ 164,967.84	$ 446,310.00	$ 578,286.00	$ 77,490.00	$ 1,267,053.84	$ 32,911.52	$ 43,351.20	$ 5,400.00		$ 81,663.12
17044	APPROVED	Residential	147	$ 449,079.12	$ 1,214,955.00	$ 1,574,223.00	$ 210,945.00	$ 3,449,202.12	$ 89,593.56	$ 118,011.60	$ 14,700.00		$ 222,305.16
17155	APPROVED	Residential	39	$ 119,143.44	$ 322,335.00	$ 417,651.00	$ 55,965.00	$ 915,094.44	$ 23,769.72	$ 31,309.20	$ 3,900.00		$ 58,978.92
17173	APPROVED	Residential	36	$ 109,978.56	$ 297,540.00	$ 385,524.00	$ 51,660.00	$ 844,702.56	$ 21,943.28	$ 28,900.80	$ 3,600.00		$ 54,443.28
17193	APPROVED	Residential	121	$ 369,650.16	$ 1,000,065.00	$ 1,295,789.00	$ 173,635.00	$ 2,839,139.16	$ 73,747.08	$ 97,138.80	$ 12,100.00		$ 182,982.40
17210	APPROVED	Residential	80	$ 244,396.80	$ 661,200.00	$ 856,720.00	$ 114,800.00	$ 1,877,116.80	$ 48,758.40	$ 64,224.00	$ 8,000.00		$ 120,982.40
17250	APPROVED	Residential	356	$ 782,069.76	$ 2,115,840.00	$ 2,741,504.00	$ 367,360.00	$ 6,006,773.76	$ 156,026.88	$ 205,516.80	$ 25,600.00		$ 387,143.68
17285	APPROVED	Residential	197	$ 601,827.12	$ 1,628,205.00	$ 2,109,673.00	$ 282,695.00	$ 4,623,400.12	$ 120,067.56	$ 158,151.60	$ 19,700.00		$ 297,919.16
17312	APPROVED	Residential	57	$ 174,132.72	$ 471,105.00	$ 610,413.00	$ 81,795.00	$ 1,337,445.72	$ 34,740.36	$ 45,750.60	$ 5,700.00		$ 86,189.96
17319	APPROVED	Residential	46	$ 140,538.16	$ 380,190.00	$ 492,514.00	$ 66,010.00	$ 1,079,342.16	$ 28,035.08	$ 36,918.80	$ 4,600.00		$ 69,554.88
17369	APPROVED	Residential	40	$ 122,198.40	$ 330,600.00	$ 428,360.00	$ 57,400.00	$ 938,558.40	$ 24,378.20	$ 32,112.00	$ 4,000.00		$ 60,491.20
17387	APPROVED	Residential	40	$ 122,198.40	$ 330,600.00	$ 428,360.00	$ 57,400.00	$ 938,558.40	$ 24,378.20	$ 32,112.00	$ 4,000.00		$ 60,491.20
17417	APPROVED	Residential	68	$ 207,737.28	$ 562,070.00	$ 728,212.00	$ 97,580.00	$ 1,595,549.28	$ 41,444.64	$ 54,590.40	$ 6,800.00		$ 102,835.04
17503	APPROVED	Residential	79	$ 241,341.84	$ 652,935.00	$ 846,011.00	$ 113,365.00	$ 1,853,652.84	$ 48,249.92	$ 63,431.20	$ 7,900.00		$ 119,470.12
17543	APPROVED	Residential	125	$ 381,870.00	$ 1,033,125.00	$ 1,338,625.00	$ 179,375.00	$ 2,932,995.00	$ 76,365.00	$ 100,350.00	$ 12,500.00		$ 189,015.00
17592	APPROVED	Residential	66	$ 201,627.36	$ 545,490.00	$ 706,794.00	$ 94,710.00	$ 1,548,621.36	$ 40,225.68	$ 52,984.80	$ 6,600.00		$ 99,810.48
17619	APPROVED	Residential	40	$ 122,198.40	$ 330,600.00	$ 428,360.00	$ 57,400.00	$ 938,558.40	$ 24,378.20	$ 32,112.00	$ 4,000.00		$ 60,491.20
17726	APPROVED	Residential	9	$ 27,494.64	$ 74,385.00	$ 96,381.00	$ 12,915.00	$ 211,375.64	$ 5,483.31	$ 7,225.26	$ 900.00		$ 13,610.52
17873	APPROVED	Residential	39	$ 58,044.24	$ 157,005.00	$ 203,471.00	$ 27,265.00	$ 445,815.24	$ 11,580.12	$ 15,253.80	$ 1,900.00		$ 28,733.32
17940	APPROVED	Residential	72	$ 219,957.12	$ 594,540.00	$ 771,048.00	$ 103,320.00	$ 1,689,405.12	$ 43,883.56	$ 57,801.60	$ 7,200.00		$ 108,884.30
18183	APPROVED	Residential	10	$ 30,549.60	$ 82,650.00	$ 107,090.00	$ 14,350.00	$ 234,639.60	$ 6,094.80	$ 8,028.00	$ 1,000.00		$ 15,122.80
18191	APPROVED	Residential	3	$ 24,439.68	$ 66,120.00	$ 85,672.00	$ 11,480.00	$ 187,711.68	$ 4,875.84	$ 6,422.40	$ 800.00		$ 12,098.24
18211	APPROVED	Residential	180	$ 549,892.80	$ 1,487,700.00	$ 1,927,620.00	$ 258,300.00	$ 4,223,512.80	$ 109,706.40	$ 144,504.00	$ 18,000.00		$ 272,210.40
18226	APPROVED	Residential	27	$ 82,509.12	$ 223,155.00	$ 289,143.00	$ 38,745.00	$ 633,552.12	$ 16,459.56	$ 21,675.60	$ 2,700.00		$ 40,815.16
18301	APPROVED	Residential	7	$ 21,384.72	$ 57,855.00	$ 74,963.00	$ 10,045.00	$ 164,247.72	$ 4,266.36	$ 5,619.60	$ 700.00		$ 10,583.96
18408	APPROVED	Residential	18	$ 54,989.28	$ 148,770.00	$ 192,762.00	$ 25,830.00	$ 422,351.28	$ 10,970.64	$ 14,450.40	$ 1,800.00		$ 27,221.04
18511	APPROVED	Residential	8	$ 24,439.68	$ 66,120.00	$ 85,672.00	$ 11,480.00	$ 187,711.68	$ 4,875.84	$ 6,422.40	$ 800.00		$ 12,098.24
18643	APPROVED	Residential	8	$ 24,439.68	$ 66,120.00	$ 85,672.00	$ 11,480.00	$ 187,711.68	$ 4,875.84	$ 6,422.40	$ 800.00		$ 12,098.24
18895	RECORDED	Residential	50	$ 152,748.00	$ 413,250.00	$ 535,450.00	$ 71,750.00	$ 1,173,198.00	$ 30,474.00	$ 40,140.00	$ 5,000.00		$ 75,614.00
16856	RECORDED	Residential	315	$ 961,312.40	$ 2,601,475.00	$ 3,371,335.00	$ 451,725.00	$ 7,385,847.40	$ 191,986.20	$ 252,882.00	$ 31,500.00		$ 476,368.20
16490	RECORDED	Residential	11	$ 33,604.56	$ 90,915.00	$ 117,799.00	$ 15,785.00	$ 258,103.56	$ 6,709.28	$ 8,838.80	$ 1,100.00		$ 16,638.08
16454	RECORDED	Residential	33	$ 100,848.80	$ 272,850.00	$ 353,670.00	$ 47,850.00	$ 775,218.80	$ 20,147.60	$ 26,528.40	$ 3,300.00		$ 49,928.40
16668	RECORDED	Residential	41	$ 125,253.36	$ 338,865.00	$ 439,069.00	$ 58,835.00	$ 962,022.36	$ 25,011.88	$ 32,944.20	$ 4,100.00		$ 62,003.48
16693	RECORDED	Residential	33	$ 100,848.80	$ 272,850.00	$ 353,670.00	$ 47,850.00	$ 775,218.80	$ 20,147.60	$ 26,528.40	$ 3,300.00		$ 49,928.40
17029	RECORDED	Residential	56	$ 171,077.76	$ 462,840.00	$ 599,704.00	$ 80,360.00	$ 1,313,981.76	$ 34,130.88	$ 44,956.80	$ 5,600.00		$ 84,687.68
17045	RECORDED	Residential	63	$ 192,461.28	$ 520,695.00	$ 674,667.00	$ 90,405.00	$ 1,478,229.28	$ 38,397.24	$ 50,576.40	$ 6,300.00		$ 95,273.64
17110	RECORDED	Residential	37	$ 113,013.52	$ 305,805.00	$ 396,233.00	$ 53,095.00	$ 868,166.52	$ 22,550.76	$ 29,701.60	$ 3,700.00		$ 55,954.36
17150	RECORDED	Residential	107	$ 326,890.72	$ 884,355.00	$ 1,145,963.00	$ 153,545.00	$ 2,510,661.72	$ 65,214.36	$ 85,893.60	$ 10,700.00		$ 161,813.96
17259	RECORDED	Residential	45	$ 137,473.20	$ 371,925.00	$ 481,905.00	$ 64,575.00	$ 1,055,878.20	$ 27,426.60	$ 36,126.00	$ 4,500.00		$ 68,052.60
17600	RECORDED	Residential	21	$ 64,154.16	$ 173,565.00	$ 224,889.00	$ 30,135.00	$ 492,743.16	$ 12,799.08	$ 16,854.60	$ 2,100.00		$ 31,757.88
17620	RECORDED	Residential	40	$ 122,198.40	$ 330,600.00	$ 428,360.00	$ 57,400.00	$ 938,558.40	$ 24,378.20	$ 32,112.00	$ 4,000.00		$ 60,491.20
16930-1	RECORDED	Residential	40	$ 122,198.40	$ 330,600.00	$ 428,360.00	$ 57,400.00	$ 938,558.40	$ 24,378.20	$ 32,112.00	$ 4,000.00		$ 60,491.20
		Sub Total	846	$ 12,581,757.88	$ 32,498,045.00	$ 48,401,577.00	$ 5,816,055.00	$ 99,099,429.88	$ 2,470,227.44	$ 3,253,748.40	$ 405,300.00		$ 6,129,270.84

Project	Status	Development Type	EDU's	Sewer Connection Fees Lost	Water Connection Fee Lost	Development Impact Fee	Permit and Inspection Fees	Sub Total	Sewer Service Fees Lost	Water Service Fees Lost (2	Annual Property Tax Income	Annual Sale Tax Income Lost	Annual Sub Total
04-01	APPROVED	Commercial	38	$ 54,949.28	$ 148,770.00	$ 253,535.00	$ 73,797.00	$ 530,051.28	$ 10,970.64	$ 11,338.48	$ 8,017.04	$ 165,763.95	$ 196,610.13
04-02	APPROVED	Commercial	29	$ 82,482.72	$ 223,155.00	$ 439,708.00	$ 328,493.60	$ 873,840.52	$ 16,455.96	$ 17,795.28	$ 14,603.60	$ 301,199.25	$ 350,054.09
04-03	APPROVED	Commercial	10	$ 30,549.60	$ 57,855.00	$ 186,281.70	$ 54,436.14	$ 329,322.44	$ 6,094.80	$ 4,557.72	$ 5,022.64	$ 103,798.20	$ 117,654.92
07-18	APPROVED	Commercial	6	$ 9,164.88	$ 49,560.00	$ 56,716.10	$ 16,582.61	$ 132,023.60	$ 1,828.44	$ 4,011.78	$ 1,700.00	$ 24,750.00	$ 31,790.43
07-19	APPROVED	Commercial	6	$ 9,164.88	$ 49,560.00	$ 133,553.60	$ 16,582.61	$ 208,861.09	$ 1,828.44	$ 4,011.78	$ 1,700.00	$ 24,750.00	$ 31,790.43
08-07	APPROVED	Commercial	10	$ 30,549.60	$ 82,650.00	$ 133,553.60	$ 16,582.61	$ 263,335.81	$ 6,094.80	$ 6,541.06	$ 2,517.60	$ 51,925.50	$ 67,080.95
08-08	APPROVED	Commercial	43	$ 131,353.36	$ 338,865.00	$ 1,049,900.10	$ 306,561.47	$ 1,826,679.93	$ 26,202.84	$ 27,060.96	$ 22,409.00	$ 462,000.00	$ 536,449.64
09-04	APPROVED	Commercial	3	$ 12,219.84	$ 24,795.00	$ 142,668.00	$ 41,673.60	$ 221,296.44	$ 2,437.92	$ 2,630.28	$ 3,643.50	$ 75,108.00	$ 83,797.81
06-10	IN CONSTRUCTION	Commercial	4	$ 12,219.84	$ 24,795.00	$ 142,668.00	$ 41,673.60	$ 221,296.44	$ 2,437.92	$ 2,630.28	$ 57,433.44	$ 3,184,544.90	$ 3,885,437.84
		Sub Total	116	$ 345,210.48	$ 935,640.00	$ 2,350,532.50	$ 657,561.50	$ 4,379,068.48	$ 67,043.80	$ 74,417.76	$ 57,433.44	$ 3,184,544.90	$ 4,885,437.84

Project	Status	Development Type	EDU's	Sewer Connection Fees Lost	Water Connection Fee Lost	Development Impact Fee	Permit and Inspection Fees	Sub Total	Sewer Service Fees Lost	Water Service Fees Lost (2	Annual Property Tax Income	Annual Sale Tax Income Lost	Annual Sub Total
05-07	APPROVED	Industrial	40	$ 122,198.40	$ 247,950.00	$ 564,680.00	$ 164,958.00	$ 1,099,596.40	$ 24,378.20	$ 19,779.38	$ 14,720.00	$ 103,590.00	$ 162,378.58
05-07	APPROVED	Industrial	2	$ 6,109.92	$ 18,570.00	$ 324,410.60	$ 95,501.00	$ 444,591.92	$ 1,218.96	$ 2,143.15	$ 1,120.00	$ 7,875.00	$ 12,357.11
07-14	APPROVED	Industrial	655	$ 2,000,998.80	$ 5,413,575.00	$ 10,013,067.05	$ 2,931,511.40	$ 20,359,152.20	$ 399,209.40	$ 433,415.90	$ 368,200.00	$ 2,844,504.63	$ 3,714,330.81
08-03	APPROVED	Industrial	10	$ 30,549.60	$ 66,120.00	$ 663,177.20	$ 193,787.24	$ 953,579.04	$ 6,094.80	$ 5,219.50	$ 1,736.00	$ 12,206.25	$ 25,256.55
03-04	APPROVED	Industrial	1	$ 3,109.92	$ 16,530.00	$ 59,420.00	$ 17,464.00	$ 96,423.92	$ 1,218.96	$ 1,141.15	$ 1,248.32	$ 8,772.25	$ 13,387.68
08-05	APPROVED	Industrial	1	$ 18,329.76	$ 49,590.00	$ 148,550.00	$ 43,410.00	$ 259,879.76	$ 3,656.88	$ 4,011.98	$ 4,800.00	$ 33,750.00	$ 46,218.86
06-03	IN CONSTRUCTION	Industrial	6	$ 18,329.76	$ 49,590.00	$ 148,550.00	$ 43,410.00	$ 259,879.76	$ 3,656.88	$ 4,011.98	$ 4,800.00	$ 33,750.00	$ 46,218.86
		Sub Total	715	$ 2,384,296.40	$ 5,810,395.00	$ 11,795,464.20	$ 3,446,927.64	$ 23,236,983.24	$ 435,778.20	$ 466,711.07	$ 396,824.32	$ 3,044,607.13	$ 4,013,129.64

Project	Status	Development Type	EDU's	Sewer Connection Fees Lost (3054.96 per EDU)	Water Connection Fee Lost (4265 per EDU)	Development Impact Fee Loss (7958 per unit)	Permit and Inspection Fees Lost (8,683 per acre)	Sub Total	Sewer Service Fees Lost (25.40/unit per month*12 months)	Water Service Fees Lost (66.90 per month for 20 units *12 months)	Annual Property Tax Income Lost (@.0004% of ert value @ $100/SF)		Annual Sub Total
07-05	APPROVED	Multi Family	82	$ 250,506.72	$ 677,730.00	$ 1,231,040.00	$ 177,640.00	$ 2,332,916.72	$ 48,768.00	$ 128,648.00	$ -		$ 177,216.00
07-09	APPROVED	Multi Family	43	$ 131,361.28	$ 343,660.00	$ 307,760.00	$ 41,413.14	$ 844,196.42	$ 12,197.00	$ 32,111.00	$ 3,932.00		$ 48,236.00
		Sub Total	125	$ 2,590,606.08	$ 8,917,805.00	$ 13,547,734.20	$ 2,721,754.78	$ 3,177,113.14	$ 501,814.04	$ 832,428.31	$ 540,455.57		$ 225,452.00
Project	Status	Development Type	EDU's (Water / Sewer)	Sewer Connection Fees Lost	Water Connection Fee Lost	Development Impact Fee	Permit and Inspection Fees	Sub Total	Sewer Service Fees Lost.	Water Service Fees Lost (2"	Annual Property Tax Income	$0.75 per bed/ per day fee	Annual Sub Total
09-02	APPROVED	Prison	47	$ 143,583.12	$ 388,455.00	$ 1,515,210.00	$ 442,782.00	$ 2,490,030.12	$ 28,645.56	$ 31,029.58	$ 15,086.80	$ 602,250.00	$ 697,012.94
n/a	IN CONSTRUCTION	Prison (County Prison)	147	$ 1,142,555.04	$ 3,093,110.00	$ 197,100.00	$ 85,820.00	$ 4,617,585.04	$ 237,945.52	$ 247,645.02	$ -	$ -	$ 479,590.54
		Sub Total	194					$ 7,107,615.16					$ 1,176,603.48
		Total	2196				Total	$ 233,800,725.00				Yearly Total	$ 14,394,523.76

Total Impact Scenario

No new connection for Less than 1 year

Project	Status	Development Type	EDU's	Sewer Connection Fees Lost ($3054.96 per EDU)	Water Connection Fee Lost ($8265 per EDU)	Development Impact Fee Lost ($10709 per EDU)	Permits and Inspection Fees Lost ($435 per unit based on 1,800 to 2,000SF)	Sub Total	Sewer Service Fees lost ($20.79 per month*12 months)	Water Service Fees Lost ($66.90 per month for 20 series *12 months)	Annual Property Tax Income Lost (@.0026% of unit est value $200,000)	Annual Sale Tax Income Lost (@.75% of projected sales)	5erm Total
13856	RECORDED	Residential	50	$ 152,748.00	$ 413,250.00	$ 535,450.00	$ 71,750.00	$ 1,173,198.00	$ 30,474.00	$ 40,140.00	$ 5,000.00		$ 75,614.00
16356	RECORDED	Residential	115	$ 351,312.40	$ 2,603,475.00	$ 3,373,335.00	$ 452,035.00	$ 7,391,147.40	$ 191,986.20	$ 253,887.00	$ 31,500.00		$ 476,308.20
16490	RECORDED	Residential	11	$ 33,604.56	$ 90,915.00	$ 117,799.00	$ 15,785.00	$ 258,103.56	$ 6,704.28	$ 8,830.80	$ 1,100.00		$ 16,635.08
16654	RECORDED	Residential	30	$ 91,648.80	$ 247,950.00	$ 321,270.00	$ 43,050.00	$ 703,918.80	$ 18,284.40	$ 24,084.00	$ 3,000.00		$ 45,368.40
16668	RECORDED	Residential	41	$ 125,253.36	$ 338,865.00	$ 439,069.00	$ 58,835.00	$ 962,022.36	$ 24,988.68	$ 32,914.80	$ 4,100.00		$ 62,003.48
16971	RECORDED	Residential	30	$ 91,648.80	$ 247,950.00	$ 321,270.00	$ 43,050.00	$ 703,918.80	$ 18,284.40	$ 24,084.00	$ 3,000.00		$ 45,368.40
17029	RECORDED	Residential	56	$ 171,077.76	$ 462,840.00	$ 599,704.00	$ 80,360.00	$ 1,313,981.76	$ 34,130.88	$ 44,956.80	$ 5,600.00		$ 84,687.68
17045	RECORDED	Residential	63	$ 192,462.48	$ 520,695.00	$ 674,667.00	$ 90,405.00	$ 1,478,229.48	$ 38,397.24	$ 50,576.40	$ 6,300.00		$ 95,273.64
17120	RECORDED	Residential	37	$ 113,033.52	$ 305,805.00	$ 396,233.00	$ 53,095.00	$ 868,166.52	$ 22,550.76	$ 29,703.60	$ 3,700.00		$ 55,954.36
17250	RECORDED	Residential	107	$ 326,880.72	$ 884,355.00	$ 1,145,863.00	$ 153,545.00	$ 2,510,643.72	$ 65,314.36	$ 85,899.60	$ 10,700.00		$ 161,813.96
17259	RECORDED	Residential	45	$ 137,473.20	$ 371,925.00	$ 481,905.00	$ 64,575.00	$ 1,055,878.20	$ 27,426.60	$ 36,126.00	$ 4,500.00		$ 68,052.60
17200	RECORDED	Residential	21	$ 64,154.16	$ 173,565.00	$ 224,889.00	$ 30,135.00	$ 492,743.16	$ 12,799.08	$ 16,858.80	$ 2,100.00		$ 31,757.88
16910-1	RECORDED	Residential	40	$ 122,198.40	$ 330,600.00	$ 428,360.00	$ 57,400.00	$ 938,558.40	$ 24,378.20	$ 32,112.00	$ 4,000.00		$ 60,491.20
		Sub Total	845	$ 2,584,496.16	$ 6,942,190.00	$ 8,959,814.00	$ 1,214,010.00	$ 19,890,510.16	$ 515,830.08	$ 679,168.80	$ 84,600.00		$ 1,279,388.88

Project	Status	Development Type	EDU's	Sewer Connection Fees Lost	Water Connection Fee Lost	Development Impact Fee	Permits and Inspection Fees	Sub Total	Sewer Service Fees Lost	Water Service Fees Lost (2"	Annual Property Tax Income	Annual Sale Tax Income Lost	Annual Sub Total
06-10	IN CONSTRUCTION	Commercial	6	$ 12,219.84	$ 24,795.00	$ 142,608.00	$ 41,673.60	$ 221,296.44	$ 3,417.92	$ 2,610.24	$ 3,641.60	$ 75,108.00	$ 83,797.81
Project	Status	Development Type	EDU's (Water / Sewer)	Sewer Connection Fees Lost	Water Connection Fee Lost	Development Impact Fee	Permit and Inspection Fees	Sub Total	Sewer Service Fees Lost	Water Service Fees Lost (2"	Annual Property Tax Income	Annual Sale Tax Income Lost	Annual Sub Total
	Status	Development Type	EDU's (Water / Sewer)	Sewer Connection Fees Lost	Water Connection Fee Lost	Development Impact Fee	Permit and Inspection Fees	Sub Total	Sewer Service Fees Lost	Water Service Fees Lost (2"	Annual Property Tax Income	Annual Sale Tax Income Lost	Annual Sub Total
06-01	IN CONSTRUCTION	Industrial	6	$ 18,329.76	$ 49,590.00	$ 148,550.00	$ 43,410.00	$ 259,879.76	$ 3,556.68	$ 4,011.96	$ 4,600.00	$ 33,750.00	$ 46,218.88
Project	Status	Development Type	EDU's (Water / Sewer)	Sewer Connection Fees Lost	Water Connection Fee Lost	Development Impact Fee	Permit and Inspection Fees	Sub Total	Sewer Service Fees Lost	Water Service Fees Lost (2"	Annual Property Tax Income	50.75 per bed/ per day Ice	Annual Sub Total
NA	IN CONSTRUCTION	Prison (County Prison)	547	$ 1,142,553.04	$ 3,291,110.00	$ 787,300.00	$ 86,420.00	$ 4,617,585.04	$ 277,945.57	$ 247,445.01	$ -	$ -	$ 475,390.54
		Total	1203				Total	$ 24,949,271.40				Yearly Total	$ 1,884,796.09

Active Development Impact Scenario

Project	Status	Development Type	EDU's	Sewer Connection Fees Lost ($2054.96 per EDU)	Water Connection Fee Lost ($263 per EDU)	Development Impact Fee Loss ($8709 per EDU)	Permit and Inspection Fees Lost ($435 per unit based on 1,800 to 2,000SF)	Sub Total	Sewer Service Fees lost ($0.79 per month*12 months)	Water Service Fees Lost ($6.90 per month for 20 units *12 months)	Annual Property Tax Income Lost (@ 0.005% of unit est value $200,000)	Annual Sale Tax Income Lost (@.75% of projected sales)	Sum Total
13896	RECORDED	Residential	50	$ 153,744.00	$ 413,250.00	$ 535,450.00	$ 71,750.00	$ 1,173,194.00	$ 30,474.00	$ 49,140.00	$ 5,000.00		$ 76,614.00
16356	RECORDED	Residential	115	$ 954,312.40	$ 2,603,475.00	$ 3,373,135.00	$ 452,015.00	$ 7,391,147.40	$ 191,986.20	$ 257,882.00	$ 51,500.00		$ 476,368.20
16971	RECORDED	Residential	10	$ 91,648.80	$ 247,950.00	$ 321,270.00	$ 41,050.00	$ 701,918.80	$ 18,284.40	$ 24,084.00	$ 3,000.00		$ 45,368.40
		Sub Total	175	$ 1,199,705.20	$ 3,264,675.00	$ 4,230,055.00	$ 564,815.00	$ 9,268,264.20	$ 240,744.60	$ 317,106.00	$ 59,500.00		$ 597,150.60
Project	Status	Development Type	EDU's	Sewer Connection Fees Lost	Water Connection Fee Lost	Development Impact Fee	Permit and Inspection Fees	Sub Total	Sewer Service Fees Lost	Water Service Fees Lost (2"	Annual Property Tax Income	Annual Sale Tax Income Lost	Annual Sub Total
06-10	IN CONSTRUCTION	Commercial	4	$ 12,219.84	$ 24,795.00	$ 142,608.00	$ 41,671.50	$ 221,296.44	$ 2,437.92	$ 2,410.29	$ 1,641.60	$ 75,109.00	$ 82,599.81
Project	Status	Development Type	EDU's	Sewer Connection Fees Lost	Water Connection Fee Lost	Development Impact Fee	Permit and Inspection Fees	Sub Total	Sewer Service Fees Lost	Water Service Fees Lost (2"	Annual Property Tax Income	Annual Sale Tax Income Lost	Annual Sub Total
06-01	IN CONSTRUCTION	Industrial	6	$ 18,329.76	$ 49,590.00	$ 148,550.00	$ 49,410.00	$ 265,879.76	$ 3,656.88	$ 4,011.68	$ 4,800.00	$ 33,750.00	$ 48,218.86
Project	Status	Development Type	EDU's	Sewer Connection Fees Lost	Water Connection Fee Lost	Development Impact Fee	Permit and Inspection Fees	Sub Total	Sewer Service Fees Lost	Water Service Fees Lost (2"	Annual Property Tax Income	$0.75 per bed/per day fee	Annual Sub Total
NA	IN CONSTRUCTION	Prison (County Prison)	147	$ 1,142,555.04	$ 3,091,110.00	$ 297,100.00	$ 86,820.00	$ 4,617,585.04	$ 227,945.52	$ 247,495.02	$ -	$ -	$ 475,390.54
		Total	752				Total	$ 14,347,035.44				Yearly Total	$ 1,202,757.83

Worse Case Scenario
No new connections for 5+ year

Project	Status	Development Type	EDU's	Sewer Connection Fees Lost ($3054.96 per EDU)	Water Connection Fee Lost ($2625 per EDU)	Development Impact Fee Loss ($10703 per EDU)	Permit and Inspection Fees Lost ($435 per unit based on 1,800 to 2,000SF)	Sub Total	Sewer Service Fees Lost ($0.75/ unit per month)*12 months)	Water Service Fees Lost ($6.00 per month for 20 units *12 months)	Annual Property Tax Income Lost (0.0005% of unit est value $200,000)	Annual Sub Total
15618	APPROVED	Residential	311	$ 950,052.55	$ 2,570,415.00	$ 3,330,499.00	$ 446,385.00	$ 7,297,391.56	$ 189,548.28	$ 249,670.80	$ 31,100.00	$ 470,319.08
16510	APPROVED	Residential	39	$ 119,143.44	$ 322,335.00	$ 417,551.00	$ 55,965.00	$ 915,094.44	$ 23,769.72	$ 31,309.20	$ 3,900.00	$ 58,978.92
16549	APPROVED	Residential	153	$ 461,258.96	$ 1,248,015.00	$ 1,617,059.00	$ 216,585.00	$ 3,543,057.96	$ 92,031.45	$ 121,221.80	$ 15,100.00	$ 228,354.28
16603	APPROVED	Residential	56	$ 201,627.36	$ 545,490.00	$ 706,794.00	$ 94,710.00	$ 1,548,621.36	$ 40,225.68	$ 57,984.60	$ 6,600.00	$ 99,810.48
16618	APPROVED	Residential	77	$ 235,231.92	$ 636,405.00	$ 824,593.00	$ 110,495.00	$ 1,806,724.92	$ 46,929.96	$ 61,815.60	$ 7,700.00	$ 116,445.56
16674	APPROVED	Residential	45	$ 137,471.20	$ 371,925.00	$ 481,905.00	$ 64,575.00	$ 1,055,878.20	$ 27,426.60	$ 36,126.00	$ 4,500.00	$ 68,052.60
16691	APPROVED	Residential	32	$ 97,758.72	$ 264,480.00	$ 342,624.00	$ 45,920.00	$ 750,866.72	$ 19,503.36	$ 25,689.60	$ 3,200.00	$ 48,392.96
16692	APPROVED	Residential	40	$ 122,198.40	$ 330,600.00	$ 428,280.00	$ 57,400.00	$ 938,558.40	$ 24,379.20	$ 32,112.00	$ 4,000.00	$ 60,491.20
16693	APPROVED	Residential	18	$ 54,989.28	$ 148,770.00	$ 192,762.00	$ 25,830.00	$ 422,351.28	$ 10,970.64	$ 14,450.40	$ 1,800.00	$ 27,221.04
16916	APPROVED	Residential	155	$ 476,573.76	$ 1,289,340.00	$ 1,670,604.00	$ 223,060.00	$ 3,660,377.76	$ 95,078.88	$ 125,236.80	$ 15,600.00	$ 235,915.68
16918	APPROVED	Residential	75	$ 229,122.00	$ 619,875.00	$ 803,175.00	$ 107,625.00	$ 1,759,797.00	$ 45,711.00	$ 60,210.00	$ 7,500.00	$ 113,421.00
16930-2	APPROVED	Residential	160	$ 488,793.60	$ 1,322,400.00	$ 1,713,440.00	$ 229,600.00	$ 3,754,233.60	$ 97,516.80	$ 128,448.00	$ 16,000.00	$ 241,964.80
16949	APPROVED	Residential	103	$ 329,935.68	$ 892,620.00	$ 1,156,572.00	$ 154,950.00	$ 2,534,107.68	$ 65,823.84	$ 86,702.40	$ 10,800.00	$ 163,326.24
17005	APPROVED	Residential	77	$ 235,231.92	$ 636,405.00	$ 824,593.00	$ 110,495.00	$ 1,806,724.92	$ 46,929.96	$ 61,815.60	$ 7,700.00	$ 116,445.56
17006	APPROVED	Residential	54	$ 164,987.84	$ 446,310.00	$ 578,286.00	$ 77,490.00	$ 1,267,053.84	$ 32,911.92	$ 43,351.20	$ 5,400.00	$ 81,663.12
17044	APPROVED	Residential	147	$ 449,079.12	$ 1,214,955.00	$ 1,574,223.00	$ 210,945.00	$ 3,449,202.12	$ 89,593.56	$ 118,011.60	$ 14,700.00	$ 222,305.16
17155	APPROVED	Residential	39	$ 119,143.44	$ 322,335.00	$ 417,551.00	$ 55,965.00	$ 915,094.44	$ 23,769.72	$ 31,309.20	$ 3,900.00	$ 58,978.92
17171	APPROVED	Residential	18	$ 54,989.28	$ 148,770.00	$ 192,762.00	$ 25,830.00	$ 422,351.28	$ 10,970.64	$ 14,450.40	$ 1,800.00	$ 27,221.04
17193	APPROVED	Residential	123	$ 375,770.16	$ 1,016,025.00	$ 1,316,529.00	$ 176,505.00	$ 2,884,829.16	$ 74,952.36	$ 98,703.60	$ 12,300.00	$ 185,955.96
17210	APPROVED	Residential	80	$ 244,396.80	$ 661,200.00	$ 856,720.00	$ 114,800.00	$ 1,877,116.80	$ 48,758.40	$ 64,224.00	$ 8,000.00	$ 120,982.40
17230	APPROVED	Residential	256	$ 782,069.76	$ 2,115,840.00	$ 2,741,504.00	$ 367,360.00	$ 6,006,773.76	$ 156,026.88	$ 205,516.80	$ 25,600.00	$ 387,143.68
17283	APPROVED	Residential	197	$ 601,827.12	$ 1,628,205.00	$ 2,109,673.00	$ 282,695.00	$ 4,622,400.12	$ 120,067.56	$ 158,151.60	$ 19,700.00	$ 297,919.16
17312	APPROVED	Residential	57	$ 174,132.72	$ 471,105.00	$ 610,413.00	$ 81,795.00	$ 1,337,445.72	$ 34,740.36	$ 45,759.00	$ 5,700.00	$ 86,199.96
17319	APPROVED	Residential	46	$ 140,528.16	$ 380,190.00	$ 492,614.00	$ 66,010.00	$ 1,079,342.16	$ 28,036.08	$ 36,936.80	$ 4,600.00	$ 69,564.88
17359	APPROVED	Residential	40	$ 122,198.40	$ 330,600.00	$ 428,280.00	$ 57,400.00	$ 938,558.40	$ 24,379.20	$ 32,112.00	$ 4,000.00	$ 60,491.20
17367	APPROVED	Residential	40	$ 122,198.40	$ 330,600.00	$ 428,280.00	$ 57,400.00	$ 938,558.40	$ 24,379.20	$ 32,112.00	$ 4,000.00	$ 60,491.20
17417	APPROVED	Residential	68	$ 207,717.28	$ 562,020.00	$ 728,212.00	$ 97,580.00	$ 1,595,549.28	$ 41,444.64	$ 54,590.40	$ 6,800.00	$ 102,835.04
17503	APPROVED	Residential	79	$ 241,341.84	$ 652,935.00	$ 846,011.00	$ 113,365.00	$ 1,853,652.84	$ 48,148.92	$ 63,421.20	$ 7,900.00	$ 119,470.12
17543	APPROVED	Residential	125	$ 381,870.00	$ 1,033,125.00	$ 1,338,625.00	$ 179,375.00	$ 2,932,995.00	$ 76,185.00	$ 100,350.00	$ 12,500.00	$ 189,035.00
17592	APPROVED	Residential	65	$ 201,627.36	$ 545,490.00	$ 706,794.00	$ 94,710.00	$ 1,548,621.36	$ 40,225.68	$ 52,984.80	$ 6,600.00	$ 99,810.48
17639	APPROVED	Residential	40	$ 122,198.40	$ 330,600.00	$ 428,280.00	$ 57,400.00	$ 938,558.40	$ 24,379.20	$ 32,112.00	$ 4,000.00	$ 60,491.20
17725	APPROVED	Residential	9	$ 32,494.64	$ 74,385.00	$ 96,381.00	$ 12,915.00	$ 211,175.64	$ 5,485.32	$ 7,225.20	$ 900.00	$ 13,610.52
17873	APPROVED	Residential	19	$ 58,044.24	$ 157,035.00	$ 203,471.00	$ 27,265.00	$ 445,815.24	$ 11,580.12	$ 15,253.20	$ 1,900.00	$ 28,733.32
17940	APPROVED	Residential	77	$ 219,557.12	$ 595,080.00	$ 771,048.00	$ 103,320.00	$ 1,689,405.12	$ 43,882.56	$ 57,801.60	$ 7,200.00	$ 108,884.16
18183	APPROVED	Residential	10	$ 30,549.60	$ 82,650.00	$ 107,070.00	$ 14,350.00	$ 234,619.60	$ 6,094.80	$ 8,028.00	$ 1,000.00	$ 15,122.80
18191	APPROVED	Residential	8	$ 24,419.68	$ 66,120.00	$ 85,672.00	$ 11,480.00	$ 187,711.68	$ 4,875.84	$ 6,422.40	$ 800.00	$ 12,098.24
18211	APPROVED	Residential	160	$ 549,872.80	$ 1,487,700.00	$ 1,927,620.00	$ 258,500.00	$ 4,223,512.80	$ 109,706.40	$ 144,504.00	$ 18,000.00	$ 272,210.40
18276	APPROVED	Residential	77	$ 235,231.92	$ 636,405.00	$ 824,593.00	$ 110,495.00	$ 1,806,724.92	$ 46,929.96	$ 61,815.60	$ 7,700.00	$ 116,445.56
18301	APPROVED	Residential	7	$ 21,384.72	$ 57,855.00	$ 74,963.00	$ 10,045.00	$ 164,247.72	$ 4,266.36	$ 5,619.60	$ 700.00	$ 10,585.96
18408	APPROVED	Residential	18	$ 54,989.28	$ 148,770.00	$ 192,762.00	$ 25,830.00	$ 422,351.28	$ 10,970.64	$ 14,450.40	$ 1,800.00	$ 27,221.04
18533	APPROVED	Residential	8	$ 24,419.68	$ 66,120.00	$ 85,672.00	$ 11,480.00	$ 187,711.68	$ 4,875.84	$ 6,422.40	$ 800.00	$ 12,098.24
18643	APPROVED	Residential	8	$ 24,419.68	$ 66,120.00	$ 85,672.00	$ 11,480.00	$ 187,711.68	$ 4,875.84	$ 6,422.40	$ 800.00	$ 12,098.24
17032	PROPOSED	Residential	75	$ 229,122.00	$ 619,875.00	$ 803,175.00	$ 107,625.00	$ 1,759,797.00	$ 45,711.00	$ 60,210.00	$ 7,500.00	$ 113,421.00
17213	PROPOSED	Residential	38	$ 116,068.48	$ 314,070.00	$ 406,942.00	$ 54,530.00	$ 891,630.48	$ 23,160.24	$ 30,506.40	$ 3,800.00	$ 57,466.64
17258	PROPOSED	Residential	107	$ 326,860.72	$ 884,355.00	$ 1,145,853.00	$ 153,545.00	$ 2,510,643.72	$ 65,214.36	$ 85,899.60	$ 10,700.00	$ 161,813.96
17336	PROPOSED	Residential	20	$ 61,099.20	$ 165,300.00	$ 214,140.00	$ 28,700.00	$ 469,239.20	$ 12,189.60	$ 16,056.00	$ 2,000.00	$ 30,245.60
17547	PROPOSED	Residential	36	$ 109,978.56	$ 297,540.00	$ 385,524.00	$ 51,660.00	$ 844,702.56	$ 21,941.28	$ 28,900.80	$ 3,600.00	$ 54,442.08
17578	PROPOSED	Residential	19	$ 58,044.24	$ 157,035.00	$ 203,471.00	$ 27,265.00	$ 445,815.24	$ 11,580.12	$ 15,253.20	$ 1,900.00	$ 28,733.32
17851	PROPOSED	Residential	57	$ 174,132.72	$ 471,105.00	$ 610,413.00	$ 81,795.00	$ 1,337,445.72	$ 34,740.36	$ 45,759.60	$ 5,700.00	$ 86,199.96
17854	PROPOSED	Residential	35	$ 106,923.60	$ 289,275.00	$ 374,815.00	$ 50,225.00	$ 821,238.60	$ 21,331.80	$ 28,098.00	$ 3,500.00	$ 52,929.80
17869	PROPOSED	Residential	52	$ 158,857.92	$ 429,780.00	$ 556,856.00	$ 74,620.00	$ 1,220,133.92	$ 31,692.96	$ 43,745.60	$ 5,200.00	$ 80,638.56
18006	PROPOSED	Residential	80	$ 244,396.80	$ 661,200.00	$ 856,720.00	$ 114,800.00	$ 1,877,116.80	$ 48,758.40	$ 64,224.00	$ 8,000.00	$ 120,982.40
18045	PROPOSED	Residential	39	$ 119,143.44	$ 322,335.00	$ 417,551.00	$ 55,965.00	$ 915,094.44	$ 23,769.72	$ 31,309.20	$ 3,900.00	$ 58,978.92
18131	PROPOSED	Residential	5	$ 15,274.80	$ 41,325.00	$ 53,545.00	$ 7,175.00	$ 117,319.80	$ 3,047.40	$ 4,014.00	$ 500.00	$ 7,561.40
18177	PROPOSED	Residential	78	$ 238,285.83	$ 644,670.00	$ 835,302.00	$ 111,930.00	$ 1,830,188.88	$ 47,533.44	$ 62,618.40	$ 7,800.00	$ 117,951.84
18205	PROPOSED	Residential	60	$ 183,297.60	$ 495,900.00	$ 642,540.00	$ 86,100.00	$ 1,407,837.60	$ 36,569.80	$ 48,168.00	$ 6,000.00	$ 90,736.80
18276	PROPOSED	Residential	19	$ 58,044.24	$ 157,035.00	$ 203,471.00	$ 27,265.00	$ 445,815.24	$ 11,580.12	$ 15,253.20	$ 1,900.00	$ 28,733.32
18336	PROPOSED	Residential	95	$ 293,216.16	$ 793,440.00	$ 1,028,064.00	$ 137,750.00	$ 2,252,540.16	$ 58,510.68	$ 77,068.80	$ 9,600.00	$ 145,178.88
18926	PROPOSED	Residential	171	$ 522,398.16	$ 1,413,315.00	$ 1,831,233.00	$ 245,385.00	$ 4,012,331.16	$ 104,221.08	$ 137,278.80	$ 17,100.00	$ 258,599.88
18996	RECORDED	Residential	50	$ 152,748.00	$ 413,250.00	$ 535,450.00	$ 71,750.00	$ 1,173,198.00	$ 30,474.00	$ 40,140.00	$ 5,000.00	$ 75,614.00
15256	RECORDED	Residential	315	$ 962,312.40	$ 2,603,475.00	$ 3,373,335.00	$ 452,025.00	$ 7,391,147.40	$ 191,986.20	$ 252,882.00	$ 31,500.00	$ 476,368.20
16490	RECORDED	Residential	11	$ 33,604.56	$ 90,915.00	$ 117,799.00	$ 15,785.00	$ 258,103.56	$ 6,704.28	$ 8,835.60	$ 1,100.00	$ 16,639.88
16654	RECORDED	Residential	30	$ 91,648.80	$ 247,950.00	$ 321,270.00	$ 43,050.00	$ 703,918.80	$ 18,284.40	$ 24,084.00	$ 3,000.00	$ 45,368.40
16668	RECORDED	Residential	41	$ 125,253.36	$ 338,865.00	$ 439,069.00	$ 58,835.00	$ 961,022.36	$ 24,964.68	$ 32,914.80	$ 4,100.00	$ 62,003.48
16673	RECORDED	Residential	30	$ 91,648.80	$ 247,950.00	$ 321,270.00	$ 43,050.00	$ 703,918.80	$ 18,284.40	$ 24,084.00	$ 3,000.00	$ 45,368.40
17029	RECORDED	Residential	56	$ 171,077.76	$ 462,840.00	$ 599,704.00	$ 80,360.00	$ 1,313,981.76	$ 34,130.88	$ 44,956.80	$ 5,600.00	$ 84,687.68
17045	RECORDED	Residential	63	$ 192,452.48	$ 520,695.00	$ 674,647.00	$ 90,405.00	$ 1,478,229.48	$ 38,403.24	$ 50,576.40	$ 6,300.00	$ 95,273.64
17120	RECORDED	Residential	37	$ 113,033.52	$ 305,805.00	$ 396,233.00	$ 53,095.00	$ 868,166.52	$ 22,550.76	$ 29,703.60	$ 3,700.00	$ 55,954.36
17250	RECORDED	Residential	107	$ 326,860.72	$ 884,355.00	$ 1,145,853.00	$ 153,545.00	$ 2,510,643.72	$ 65,214.36	$ 85,899.60	$ 10,700.00	$ 161,813.96
17259	RECORDED	Residential	45	$ 137,473.20	$ 371,925.00	$ 481,905.00	$ 64,575.00	$ 1,055,878.20	$ 27,426.60	$ 36,126.00	$ 4,500.00	$ 68,052.60
17600	RECORDED	Residential	71	$ 216,954.16	$ 587,115.00	$ 760,813.00	$ 101,935.00	$ 1,666,817.16	$ 43,279.08	$ 57,007.20	$ 7,100.00	$ 107,386.28
16430-1	RECORDED	Residential	40	$ 122,198.40	$ 330,600.00	$ 428,280.00	$ 57,400.00	$ 938,558.40	$ 24,379.20	$ 32,112.00	$ 4,000.00	$ 60,491.20
		Sub Total	4601	$ 15,196,998.40	$ 41,855,600.00	$ 53,973,360.00	$ 7,232,600.00	$ 118,258,558.40	$ 3,021,279.20	$ 4,048,132.00	$ 504,600.00	$ 7,621,891.20

000473

Project	Status	Development Type	EDU's (Water / Sewer)	Sewer Connection Fees Lost ($3054.96 per EDU)	Water Connection Fee Lost ($8265 per EDU)	Development Impact Fee Loss ($29,710 per Acre)	Permit and Inspection Fees Lost ($1,682 per Acre)	Sub Total	Sewer Service Fees Lost ($0.79/edu per month*12 months)	Water Service Fees Lost (2" meter (13 1-107units @2.4, 108+ @3.4*12 months)	Annual Property Tax Income Lost (@.0005% of est value @ $160/SF)	Annual Sale Tax Income Lost (@.75% of $220 per SQFT)	Annual Sub Total
06-01	APPROVED	Commercial	18	$ 54,989.28	$ 148,770.00	$ 252,535.00	$ 75,797.00	$ 530,091.28	$ 10,970.64	$ 18,838.48	$ 8,037.04	$ 165,763.95	$ 196,610.31
04-02	APPROVED	Commercial	27	$ 82,483.92	$ 223,155.00	$ 419,708.00	$ 128,493.60	$ 873,840.52	$ 16,455.96	$ 17,795.28	$ 14,603.60	$ 301,199.25	$ 350,054.09
07-18	APPROVED	Commercial	10	$ 30,549.60	$ 57,855.00	$ 146,281.70	$ 54,435.14	$ 329,122.44	$ 4,266.36	$ 4,567.72	$ 5,032.64	$ 103,790.20	$ 117,654.92
07-19	APPROVED	Commercial	6	$ 9,164.88	$ 49,590.00	$ 54,746.10	$ 16,582.12	$ 132,083.60	$ 1,828.44	$ 4,011.98	$ 1,200.00	$ 24,750.00	$ 31,790.42
04-07	APPROVED	Commercial	10	$ 30,549.60	$ 82,650.00	$ 123,593.60	$ 16,117.12	$ 272,910.32	$ 6,094.80	$ 8,343.05	$ 2,517.60	$ 51,825.50	$ 67,080.95
09-04	APPROVED	Commercial	41	$ 125,251.36	$ 338,685.00	$ 1,049,060.18	$ 106,561.42	$ 1,819,737.88	$ 24,988.68	$ 27,060.56	$ 22,400.00	$ 462,000.00	$ 536,449.64
06-10	IN CONSTRUCTION	Commercial	4	$ 12,219.84	$ 24,795.00	$ 142,668.00	$ 41,673.60	$ 221,356.44	$ 2,437.92	$ 2,610.29	$ 3,641.60	$ 75,106.00	$ 83,797.81
07-17	PROPOSED	Commercial	29	$ 88,593.84	$ 239,685.00	$ 549,635.00	$ 160,617.00	$ 1,038,530.84	$ 17,674.92	$ 19,117.61	$ 11,680.00	$ 240,900.00	$ 289,372.53
		Sub Total	145	$ 433,804.32	$ 1,165,385.00	$ 2,800,167.50	$ 618,278.50	$ 5,217,615.32	$ 64,717.72	$ 93,535.37	$ 69,112.48	$ 1,425,444.90	$ 1,872,810.47

Project	Status	Development Type	EDU's (Water / Sewer)	Sewer Connection Fees Lost ($3054.96 per EDU)	Water Connection Fee Lost ($8265 per EDU)	Development Impact Fee Loss ($29,710 per Acre)	Permit and Inspection Fees Lost ($1,682 per Acre)	Sub Total	Sewer Service Fees Lost ($0.79/edu per month*12 months)	Water Service Fees Lost (2" meter (13 1-107units @2.4, 108+ @3.4*12 months)	Annual Property Tax Income Lost (@.0005% of est value @ $160/SF)	Annual Sale Tax Income Lost (@.75% of $75 per SQFT)	Annual Sub Total
05-07	APPROVED	Industrial	40	$ 122,198.40	$ 247,950.00	$ 564,490.00	$ 164,958.00	$ 1,099,596.40	$ 24,379.20	$ 19,779.33	$ 14,720.00	$ 103,500.00	$ 162,378.58
07-14	APPROVED	Industrial	2	$ 6,109.92	$ 16,530.00	$ 376,810.00	$ 99,502.00	$ 444,951.92	$ 1,218.96	$ 2,143.15	$ 1,120.00	$ 7,875.00	$ 12,357.11
04-03	APPROVED	Industrial	655	$ 2,000,998.80	$ 5,413,575.00	$ 10,031,067.00	$ 2,931,931.40	$ 20,379,552.20	$ 399,209.40	$ 433,415.90	$ 346,830.84	$ 3,644,904.10	$ 5,224,360.81
08-03	APPROVED	Industrial	10	$ 30,549.60	$ 82,650.00	$ 663,317.70	$ 193,782.24	$ 993,579.04	$ 6,094.80	$ 9,219.50	$ 1,736.00	$ 12,206.25	$ 29,256.55
08-04	APPROVED	Industrial	2	$ 6,109.92	$ 16,530.00	$ 59,430.00	$ 17,164.00	$ 99,421.92	$ 1,218.96	$ 2,143.15	$ 1,248.32	$ 8,777.25	$ 13,387.68
08-06	APPROVED	Industrial	6	$ 18,329.76	$ 49,590.00	$ 148,590.00	$ 43,410.00	$ 259,879.76	$ 3,656.88	$ 4,011.98	$ 4,800.00	$ 33,750.00	$ 46,218.86
06-03	IN CONSTRUCTION	Industrial	6	$ 18,329.76	$ 49,590.00	$ 148,590.00	$ 43,410.00	$ 259,879.76	$ 3,656.88	$ 4,011.98	$ 4,800.00	$ 33,750.00	$ 46,218.86
		Sub Total	721	$ 2,204,726.40	$ 5,810,295.00	$ 11,795,464.20	$ 3,449,927.64	$ 23,236,983.24	$ 439,778.20	$ 466,713.07	$ 370,455.20	$ 4,011,013.13	$ 5,483,959.60

Project	Status	Development Type	EDU's (Water / Sewer)	Sewer Connection Fees Lost ($3054.96 per EDU)	Water Connection Fee Lost ($8265 per EDU)	Development Impact Fee Loss ($7694 per unit)	Permit and Inspection Fees Lost ($1,682 per acre)	Sub Total	Sewer Service Fees Lost ($5.40/unit per month*12 months)	Water Service Fees Lost ($66.90 per month for 20 units *12 months)	Annual Property Tax Income Lost (@.0005% of est value @ $160/SF)		Annual Sub Total
07-05	APPROVED	Multi Family	82	$ 250,506.72	$ 677,730.00	$ 1,231,040.00	$ 173,640.00	$ 2,332,916.72	$ 48,758.00	$ 128,448.00	$ -		$ 177,206.00
07-01	APPROVED	Multi Family	44	$ 131,363.28	$ 363,660.00	$ 307,760.00	$ 41,413.14	$ 844,196.42	$ 32,392.00	$ 32,112.00	$ 3,911.00		$ 68,216.00
07-03	PROPOSED	Multi Family	19	$ 119,141.44	$ 330,600.00	$ 348,208.00	$ 53,596.20	$ 731,547.64	$ 9,753.60	$ 25,689.60	$ -		$ 35,443.20
07-20	PROPOSED	Multi Family	72	$ 219,957.12	$ 595,080.00	$ 1,077,160.00	$ 151,935.00	$ 2,044,132.12	$ 47,577.00	$ 112,392.00	$ 10,335.00		$ 165,389.00
			217	$ 720,968.56	$ 1,967,070.00	$ 2,963,168.00	$ 420,584.34	$ 5,952,792.90	$ 138,480.60	$ 298,641.60	$ 14,257.00		$ 426,284.20

Project	Status	Development Type	EDU's (Water / Sewer)	Sewer Connection Fees Lost ($3054.96 per EDU)	Water Connection Fee Lost ($8265 per EDU)	Development Impact Fee Loss ($29,710 per Acre)	Permit and Inspection Fees Lost ($1,682 per acre)	Sub Total	Sewer Service Fees Lost ($0.79/edu per month*12 months)	Water Service Fees Lost (2" meter (13 1-107units @2.4, 108+ @3.4*12 months)	Annual Property Tax Income Lost (@.0005% of est value @ $160/SF)	$0.75 per bed/per day fee	Annual Sub Total
09-02	APPROVED	Prison	47	$ 143,583.12	$ 388,455.00	$ 1,515,310.00	$ 442,742.00	$ 2,490,030.12	$ 28,645.56	$ 33,029.98	$ 15,086.80	$ 602,250.00	$ 697,012.34
NA	IN CONSTRUCTION	Prison (County Prison)	347	$ 1,142,555.04	$ 3,091,310.00	$ 297,100.00	$ 86,820.00	$ 4,617,585.04	$ 227,345.52	$ 247,445.02	$ -	$ -	$ 475,390.54
		Sub Total	394					$ 7,107,615.16					$ 1,172,402.88
		Total	6092				Total	$ 359,773,365.82				Yearly Total	$ 18,177,348.35

Active Development Impact Scenario

Project	Status	Development Type	EDU's	Sewer Connection Fees Lost ($054.96 per EDU)	Water Connection Fee Lost ($265 per EDU)	Development Impact Fee Loss ($0709 per EDU)	Permit and Inspection Fees Lost ($435 per unit based on 1,800 to 2,900SF)	Sub Total	Sewer Service Fees Lost ($0.79 per month*12 months)	Water Service Fees Lost ($6.90 per month for 20 units *12 months)	Annual Property Tax Income lost (@.0005% of unit est value $200,000)	Annual Sale Tax Income Lost (@.75% of projected sales)	Sum Total
31896	RECORDED	Residential	50	$ 152,748.00	$ 413,250.00	$ 535,450.00	$ 71,750.00	$ 1,173,198.00	$ 39,474.00	$ 40,140.00	$ 5,000.00	$	$ 75,614.00
16356	RECORDED	Residential	115	$ 562,312.40	$ 2,603,475.00	$ 3,371,335.00	$ 457,075.00	$ 7,391,147.40	$ 191,986.20	$ 257,882.00	$ 31,500.00	$	$ 476,368.20
16973	RECORDED	Residential	10	$ 91,648.80	$ 247,950.00	$ 321,270.00	$ 43,050.00	$ 703,918.80	$ 18,284.40	$ 24,084.00	$ 3,000.00	$	$ 45,368.40
		Sub Total	395	$ 1,206,709.20	$ 3,264,675.00	$ 4,230,055.00	$ 565,875.00	$ 9,268,264.20	$ 240,744.60	$ 317,106.00	$ 39,500.00	$	$ 597,350.60
Project	Status	Development Type	EDU's	Sewer Connection Fees Lost	Water Connection Fee Lost	Development Impact Fee Loss	Permit and Inspection Fees	Sub Total	Sewer Service Fees Lost	Water Service Fees Lost (2"	Annual Property Tax Income	Annual Sale Tax Income Lost	Annual Sub Total
06-10	IN CONSTRUCTION	Commercial	4	$ 12,219.84	$ 24,795.00	$ 142,608.00	$ 41,671.60	$ 221,294.44	$ 3,417.07	$ 3,610.29	$ 3,641.60	$ 75,108.00	$ 83,797.81
Project	Status	Development Type	EDU's	Sewer Connection Fees Lost	Water Connection Fee Lost	Development Impact Fee Loss	Permit and Inspection Fees	Sub Total	Sewer Service Fees Lost	Water Service Fees Lost (2"	Annual Property Tax Income	Annual Sale Tax Income Lost	Annual Sub Total
05-03	IN CONSTRUCTION	Industrial	6	$ 18,329.76	$ 49,590.00	$ 148,560.00	$ 43,410.00	$ 259,879.76	$ 3,556.88	$ 4,013.98	$ 4,500.00	$ 33,750.00	$ 46,218.86
Project	Status	Development Type	EDU's	Sewer Connection Fees Lost	Water Connection Fee Lost	Development Impact Fee Loss	Permit and Inspection Fees	Sub Total	Sewer Service Fees Lost	Water Service Fees Lost (2"	Annual Property Tax Income	$0.75 per bed/ per day fee	Annual Sub Total
NA	IN CONSTRUCTION	Prison (County Prison)	347	$ 1,147,555.04	$ 3,093,130.00	$ 297,100.00	$ 86,820.00	$ 4,617,585.04	$ 227,945.57	$ 247,445.02	$ -	$ -	$ 475,390.54
		Total	752				Total	$ 14,367,035.44				Yearly Total	$ 1,202,757.83