

WATERSHED CONSERVATION AUTHORITY

REQUEST FOR PROPOSAL

for

WATER SYSTEM OPERATION SERVICES



100 North Old San Gabriel Canyon Road
Azusa, CA 91702

Primary Contact:

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Date Release: May 15, 2014

IMPORTANT DATES

REQUEST FOR PROPOSAL ISSUED	MAY 15, 2014
SITE VISIT / WALK-THROUGH	MAY 27, 2014
DEADLINE TO SUBMIT QUESTIONS	JUNE 5, 2014
PROPOSAL DUE DATE	JUNE 9, 2014 BY 12:00 PM
PROPOSALS ARE EVALUATED	JUNE 9-11, 2014
NOTIFICATION TO PREFERRED PROVIDER	JUNE 20, 2014
CONTRACT TO BEGIN	JULY 1, 2014

This is a Request for Proposal to provide water system operator services to the Watershed Conservation Authority (WCA), for oversight and operations of the Azusa Springs Water System (ASWS). The objective of this solicitation is to select a firm and/or individual that is best qualified to provide the requested treatment and distribution services for the Azusa Springs Water System. See Exhibit A- Water Treatment Plant Operations Plan and Technical Report, Exhibit B - EPD Filtration Plant Permit and Exhibit C - Site Plan of system for more detailed information.

The WCA is a joint powers authority of San Gabriel and Lower Los Angeles Rivers and Mountains (RMC) and the Los Angeles County Flood Control District whose mission is to provide for a comprehensive program to expand and improve the open space and recreational opportunities for the conservation, restoration, and environmental enhancement of the San Gabriel and Lower Los Angeles Rivers Watershed area consistent with the goals of flood protection, water supply, groundwater recharge and water conservation.

KEY DATES:

- You are invited to attend the *walk through of the system on May 27, 2014 at 9:30 am at the WCA office (address below).*The walk through is not mandatory to proposal acceptance. However, those firms or individuals who attend the walk through will receive an additional 5 pts. during the scoring process.
- You are invited to submit a proposal in accordance with this request **no later than 12:00 pm on June 9, 2014** to the address below. Proposals shall be marked on the outside as "Proposal for Water System Operator/Azusa Springs Water System". Information concerning the proposals may be obtained by contacting Debbie Enos, Deputy Executive Officer or Jennifer Thompson, Property Manager, at 626-815-1019 ext.109/ext.118 or at denos@wca.ca.gov / jthompson@wca.ca.gov.

WCA OFFICE ADDRESS:

Watershed Conservation Authority
100 N. Old San Gabriel Canyon Rd.
Azusa, CA 91702

The object of this Request for Proposals is to select a firm that is best qualified and whose proposal is determined to be the most beneficial to the WCA (see Exhibit D for sample contract). The factors to be considered in the evaluation of proposals and the relative importance are set forth below.

The firm shall perform all the necessary services to properly operate and maintain potable water standards for the Azusa Springs Water System, in accordance with state and federal prescribed rules, regulations, policies, and laws. The Azusa Springs Water System is a transient non-community (TNC) water system located off of Highway 39 in the San Gabriel Canyon and currently provides potable water to onsite administrative offices of the Watershed Conservation Authority and three residences. Future plans for the site include development of the River Wilderness Park, which will include providing potable water for public park use.

The System includes one water supply well with a total system active source capacity of .036MGD, dual-stage pressure filtration unit, chlorine injection facilities, two water storage tanks totaling 20,000 gallons, distribution pipelines, and computer water monitoring system. The ASWS is required to comply with the California Surface Water Treatment Rule (SWTR). See Exhibit A, B, and C for more detailed information.

The project includes as a minimum the following activities:

Frequency	Activity
Weekly	<ul style="list-style-type: none"> • Filter backwash for water quality purposes (including system blow-off). This can be done manually or automatically. • Review PLC/Data (on or offsite) for performance evaluation and reporting. Currently this is a spreadsheet format where the PLC data is fed to the computer located at the WCA offices.
Semi-Monthly	<ul style="list-style-type: none"> • Inspection of system, treatment, storage, filters • Conduct chlorine disinfection at wellhead • Flush distribution system at dead ends
Monthly	<ul style="list-style-type: none"> • Provide daily system check sheets; CT system calculations are required for monthly submittal • Analyze and report bacteriological quality • Monitor and provide production and distribution reports to the governing agencies, WCA, Los Angeles County Department of Environmental Public Health (LACDEHS) and others by the 10th of each month • Replace CL-17 - free chlorine reagent as required
Quarterly	<ul style="list-style-type: none"> • Rebuild chemical injection pump, liquid end • Calibrate C-17 – SC200 HACH Turbidity Analyzers (either quarterly or semiannual maintenance done by HACH Technicians)
Annual	<ul style="list-style-type: none"> • Filter Maintenance evaluation Bi-Annual and Yearly inspection reports; provide and add filter media to the primary and secondary filters as needed. Media comes from manufacturer, EPD (Environmental Products Division of Hoffinger Industries)
Ongoing	<ul style="list-style-type: none"> • Provide distribution reports as requested and/or required by WCA, LACDEHS, Drinking Water Program, California Department of Public Health • Supply and add Sodium Hypochlorite Solution (NSF61 Certified 12.5%) as needed for disinfection • Supply and use Polymer (Aluminum Sulfate) for coagulation treatment process and better filter performance. • Update the Sample Site Plan, Emergency Notification Plan, and Emergency Disinfection Plan, as required by LACDEHS. • Be present onsite for all LA County Department of Environmental Public Health Water System inspections, including inspection requests by WCA as needed • Perform storage tank cleaning as needed • Conduct water main valve exercises as needed • Be available for emergency response as needed, included as part of proposed fee

Water Quality Monitoring and appropriate reporting shall include but not be limited to the following:

- a. Form DHS 6477 (LT2 Rule)
- b. 2 Bacterial Samples, 3 alternating sampling points, biweekly for total of 26 samples (1 Raw + Distribution, Treatment plant discharge + Distribution sample)
- c. 4 Nitrate Samples if result is >45 mg/l (one per quarter), otherwise once per year
- d. 4 Nitrite Samples if result is >1.0 MCL (one per quarter), otherwise every 3 years

The contract shall be effective upon WCA Board approval and based on fees for services to be billed and invoiced monthly. The terms of the agreement shall be for three (3) years and options for two, one (1) year renewals. See Exhibit D for a sample contract. Those desiring consideration must submit three complete copies (two bound and one unbound) of the proposal by the time and date required (see page 1) to:

Watershed Conservation Authority
 100 N. Old San Gabriel Canyon Road
 Azusa, CA 91702
 Attention: Jennifer Thompson

The proposal must include a minimum of the following information:

- 1. Description of Services (10pts.)
- 2. Qualifications and Water System Operators Certifications –

Treatment Plant Certifications: The systems required to be operated by personnel certified in Water Treatment Facility Operation, CCR, Title 22. The Chief Treatment Operator and Shift Treatment Operator must possess the following minimum requirements:

Treatment Plant Site	Treatment Plant Classification	Minimum Certification Requirement	
		Chief Treatment Op.	Shift Treatment Op.
Water Treatment Plan	T2	T2	T1

Distribution Certifications: The system is required to be operated by a Chief distribution operator carrying a D1 certification and one person designated at the Shift distribution operator with a D1 certification.

The WCA prefers that the Chief System Operator carry a T3/D4 certification. If your qualifications are below a T3/D4 operator but meet the system requirements, please make that clear in the proposal. The WCA will take into account all factors in the proposal. Provide a resume for each principal member, the project manager, and employee(s) of the firm anticipated to be assigned to the project. List each person’s experience, qualifications, and tasks. Provide an organizational chart. (20 pts.)

- 3. Firm Experience – Information regarding the experience of the firm in water system

operations, distribution and treatment and any experience with WCA's specific type of water system. (20 pts.)

4. Capacity for Performance – Identify the number and title of staff available to be assigned to provide services. (10 pts.)
5. List of any sub-consultants or testing laboratories that may be utilized (5 pts.)
6. Local Government Familiarity - Familiarity with the project environment, local government (specifically Los Angeles County Department of Health Services), and community. (10 pts.)
7. References (5 pts.)
8. Fees and Budget (20 pts.)
9. **Extra:** Walk through/Site Visit Attendance (5 pts.)

All proposals will be reviewed and evaluated by the Watershed Conservation Authority evaluation committee on the above criteria to determine the most responsible and qualified firm. The committee will evaluate each firm in accordance with referenced criteria based on the content of the proposal. Negotiations shall be conducted to determine a mutually satisfactory contract with the firm receiving the highest evaluation, as selected by the committee. In addition to reaching a fair and reasonable price for the required work, the objective of negotiations will be to reach an agreement on the provisions of the proposed contract including scope and extent of work, and other essential requirements.

The Watershed Conservation Authority reserves the right to reject any and all proposals.

***WATER TREATMENT PLANT
OPERATIONS PLAN and
TECHNICAL REPORT***

***AZUSA SPRINGS WATER SYSTEM
WATERSHED CONSERVATION AUTHORITY
EL CANTO AZUSA RIVER WILDERNESS
PARK***

***State of California Water System
Number 1909644***

Located in
Azusa, CA

Published: May 31, 2011

Prepared By:

WREA

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2353-Ops Desc.DOC

Exhibit A
AZUSA SPRINGS
WATERSHED CONSERVATION AUTHORITY
EL ENCANTO AZUSA RIVER WILDERNESS PARK
WATER TREATMENT PLANT OPERATIONS PLAN AND TECHNICAL REPORT
Los Angeles County, CA

TABLE OF CONTENTS

CONTENTS	PAGE
SECTION 1 DESCRIPTION OF FACILITIES.....	1
A. Background	1
B. Brief Description of the System	1
C. Water Supply Well Number 921-4623, (State Well No. 001-01N / 10W-23E04s)	1
D. Transmission Facilities.....	2
E. Treatment Facilities.....	2
F. Storage and Distribution.....	2
SECTION 2 TREATMENT PLANT STAFFING	3
A. Operations Staff	3
B. Staffing.....	3
SECTION 3 PERFORMANCE MONITORING PROGRAM.....	3
A. Monitoring Points	3
B. Treatment Chemicals.....	4
C. Analytical Instrumentation.....	4
D. Initial Analyzer Setpoints.....	5
E. Turbidimeter Operation and Calibration	5
F. Chlorine Analyzer Operation and Calibration	6
G. Chlorine Contact Time (CT) Calculation	8
SECTION 4 UNIT PROCESS EQUIPMENT MAINTENANCE PROGRAM.....	8
A. Storage Level Control	8
B. Filter Operation	8
C. Filter Cleaning (Backwashing)	9
D. Returning Filter to Service.....	10
E. Operating Setpoints	10
F. Alarms	10
SECTION 5 EMERGENCY OPERATIONS.....	11
A. Elevated Turbidity Operations.....	11
SECTION 6 PERFORMANCE OPTIMIZATION	12
SECTION 7 RECORDKEEPING.....	12
A. Recordkeeping Procedures.....	12

Exhibit A
AZUSA SPRINGS
WATERSHED CONSERVATION AUTHORITY
EL ENCANTO AZUSA RIVER WILDERNESS PARK
WATER TREATMENT PLANT OPERATIONS PLAN AND TECHNICAL REPORT
Los Angeles County, CA

- B. Sample Forms.....12
- C. Turbidity Monitoring.....12
- D. Bacteriological Sampling.....12
- E. Cross Connections.....13

- SECTION 8 RELIABILITY.....13**
 - A. Alarm System.....13
 - B. Emergency Disinfection System.....13

- SECTION 9 MAINTENANCE15**
 - A. Maintenance Services.....15
 - B. Preventive Maintenance Schedule.....15

**AZUSA SPRINGS
WATERSHED CONSERVATION AUTHORITY
EL ENCANTO AZUSA RIVER WILDERNESS PARK
WATER TREATMENT PLANT OPERATIONS PLAN AND TECHNICAL REPORT
Los Angeles County, CA**

SECTION 1 DESCRIPTION OF FACILITIES

A. Background

The Watershed Conservation Authority (WCA) has proposed creation of Azusa River Wilderness Park (also known as El Encanto Azusa River Wilderness Park) for use as parkland and WCA offices. The site is along Highway 39 in San Gabriel Canyon near the northern boundary of the City of Azusa, CA.

The WCA occupies the site of the former El Encanto Restaurant. The Azusa Springs Water System, State System Number 1909644, is currently operating under a permit issued by the Los Angeles County Environmental Health Department. The current system configuration produces disinfected, filtered water. Present facilities include one water supply well, (Number 921-4623), with chlorine injection facilities, a pressure filter, two water storage tanks totaling 20,000-gallons and distribution pipelines. The Los Angeles Department of Public Health has cited Azusa Springs multiple times for failure to collect monthly bacteriological samples from the distribution system.

B. Brief Description of the System

A pressure filtration unit classified as Alternative Technology with a continuous capacity range of 2.4 Gal/Sq.Ft. to 12 Gal/Sq.Ft., or 20 to 98 GPM will be installed and operated at the facility. Normal system production will be 20 GPM. System storage capacity is 20,000-gallons comprised of two 10,000-gallon finished water storage tanks.

The filter station includes two pressure vessel media filters, First and Second Stage, with graded garnet sand, coagulant injection, static mixer, associated instrumentation, controls, alarms and electrical.

Raw water will be chlorinated at the well head as it is pumped uphill through the filter system and the two water storage tanks. At the filter, the water will be injected with a polymer coagulant before passing through a static mixer and the filter. An additional chlorine injection pump and chlorine storage will be connected downstream of the filter. Turbidimeters, chlorine analyzers, recording equipment, and all other instrumentation will be located with the filter, which will be located within a locked, ventilated industrial enclosure.

C. Water Supply Well Number 921-4623, (State Well No. 001-01N / 10W-23E04s)

The Azusa Springs Water System water supply well was developed in 1962 to a depth of 78-feet with an 8-inch steel casing. The well is currently equipped with a submersible pump that produces 20 GPM. The well is within 20-feet of the bank of

**AZUSA SPRINGS
WATERSHED CONSERVATION AUTHORITY
EL ENCANTO AZUSA RIVER WILDERNESS PARK
WATER TREATMENT PLANT OPERATIONS PLAN AND TECHNICAL REPORT
Los Angeles County, CA**

the San Gabriel River and thus, is classified as groundwater under the influence of surface water.

D. Transmission Facilities

The current raw water pipeline from the well to the filter is a 2-inch, steel pipeline. The exact location is unknown. However, site investigations have identified specific locations on either side of the river bank, at the filter, and at the storage tanks.

E. Treatment Facilities

System treatment facilities include a two-stage permanent, graded media pressure filter by EPD, coagulation by polymer injection, and disinfection by chlorine injection. Chlorinated water is pumped from the well through two pressure vessels and into two elevated 10,000-gallon storage tanks. Raw water turbidity will be monitored prior to the filters by a Hach Mfg. 1720 E continuous reading turbidimeter. Turbidimeter readings are recorded at the PLC. Each filter unit has a surface area of 8.2 SQ. FT. Based on the design filtration rate of 2.4 GPM/SQ. FT., the normal design capacity of the plant is 20 GPM or approximately 28,800 GPD. The EPD filter is approved to treat up to 6 NTU at 12 GPM/SQ. FT or up to 20 NTU @ 5 GPM/SQ. FT. by the State of California Department of Health Services, California Surface Water Treatment Alternative Filtration Technology Demonstration Report.

Each filter effluent is monitored by individual Hach 1720 continuous-reading turbidimeter and recorded to the PLC.

Chlorine is injected at the well before the water is pumped to the treatment facilities. The disinfection system consists of one liquid chlorine metering pump and a liquid chlorine storage vat at the well. The disinfection system starts automatically when the well water pump turns on. An additional storage vat and metering pump will be installed to inject chlorine downstream of the filter.

F. Storage and Distribution

The finished, filtered water will flow uphill to two 10,000-gallon storage tanks. The two tanks are interconnected for a total of 20,000-gallons. The water enters the tank(s) through a 2-inch overhead connection.

The existing distribution system is comprised 2-inch diameter steel pipe. Reportedly, there have been no significant additions constructed.

**AZUSA SPRINGS
WATERSHED CONSERVATION AUTHORITY
EL ENCANTO AZUSA RIVER WILDERNESS PARK
WATER TREATMENT PLANT OPERATIONS PLAN AND TECHNICAL REPORT
Los Angeles County, CA**

SECTION 2 TREATMENT PLANT STAFFING

A. Operations Staff

Operations and maintenance of Azusa Springs water system is performed by personnel of Waterworks Technology, Inc. (WTI), a Grade D3, T4 State certified water operator. WTI employs a full time staff of certified operators, maintenance workers, and electrical/mechanical technicians. Work scheduling and supervision is provided by the Water System Specialist and the Operations Supervisor, employed by the Operator.

The Operator has an established Emergency Response Program with personnel assigned to respond to after hour emergencies.

B. Staffing

All certified operators are supervised by WTI and the Operations Supervisor.

SECTION 3 PERFORMANCE MONITORING PROGRAM

A. Monitoring Points

Performance of the treatment process is monitored by continuous reading analyzers. Raw water and combined filter effluent turbidity analyzers and all other analyzers including residual chlorine, , flow meter and recycle pump run time are connected to a continuous data logger within the PLC. Operating conditions analyzed and recorded are as follows:

- Raw Water Turbidity
- Raw Water Total Coliform Bacteria
- Either Fecal Coliform Bacteria or E. Coli Bacteria
- First Stage Turbidity
- Combined Filter Effluent Turbidity
- Free Chlorine Residual
- Recycled Water Turbidity
- Recycle Pump run-time
- Station Flow
- pH/Temperature (Grab Sample)

Review of analyzer logs and inspection of facilities is performed by members of the Operation's Staff every 2-3 hours daily, between 7 AM – 4 PM.

Exhibit A
AZUSA SPRINGS
WATERSHED CONSERVATION AUTHORITY
EL ENCANTO AZUSA RIVER WILDERNESS PARK
WATER TREATMENT PLANT OPERATIONS PLAN AND TECHNICAL REPORT
Los Angeles County, CA

Sample points include raw water influent, first stage filter effluent, combined filter effluent, recycled water, and finished water. The analyses to be run are turbidity, disinfectant residuals, temperature, pH, hardness, taste, odor, and color. The analyses need to be performed at the plant a minimum four times daily. The intervals are outlined on the daily laboratory form and should be done not less than one-and-a-half-hours (1.5 hours) apart, ideally at least two hours apart during the operators' regular shift.

A listing of analytical instrumentation used to monitor treatment plant performance and instrument operation instructions is included at the end of this section.

B. Treatment Chemicals

Liquid chlorine sodium hypochlorite solution is used for disinfection purposes. Aqueous Aluminum Sulfate is used for coagulation purposes. No other chemicals are used.

C. Analytical Instrumentation

The following table lists data on the analyzing instruments that are used at the Azusa Springs Treatment Plant.

SAMPLE	TYPE	SAMPLE LOCATION	ANALYZER LOCATION	ANALYZER TYPE
N.T.U	Raw Water (Continuous)	Raw Water Line	Plant Enclosure	Hach Company Turbidimeter Model 1720-C
N.T.U	First Stage Effluent (Continuous)	After Filter No.1	Plant Enclosure	Hach Company Turbidimeter Model 1720-C
N.T.U	Combined Filter Effluent (Continuous)	After Filter No.2	Plant Enclosure	Hach Company Turbidimeter Model 1720-C
CL	Free Residual	Station Outlet Finished Water Line	Plant Enclosure	Hach Company CL Analyzer Model CL 17
pH/Temp	Distribution System	Distribution Sample Station	Portable Grab Sample	Hand Held
CL	Free Residual	Distribution Sample Station	Portable Grab Sample	Hand Held
N.T.U.	Recycle Backwash	Backwash Tank	Portable Grab Sample	Hand Held

Exhibit A
**AZUSA SPRINGS
WATERSHED CONSERVATION AUTHORITY
EL ENCANTO AZUSA RIVER WILDERNESS PARK
WATER TREATMENT PLANT OPERATIONS PLAN AND TECHNICAL REPORT
Los Angeles County, CA**

D. Initial Analyzer Setpoints

Raw water High Turbidity Alarm / well pump shutdown	20 NTU
First Stage Filter High Turbidity Alarm	1.0 NTU
Second Stage Filter (CFE) High Turbidity Alarm	0.2 NTU
Chlorine residual low level / well pump shutdown	1.8 mg/l

Analyzer setpoints will be evaluated and modified if required after start-up.

E. Turbidimeter Operation and Calibration

Instrument Operation

Once the turbidimeters are on line and normal operations are defined, operator requirements are limited to periodic calibration and standardization checks, and maintaining peripheral equipment such as a data logger. Also, any system warnings should be investigated promptly to avoid a more serious malfunction. The operator should monitor the control unit indicators frequently to be aware of any abnormalities.

NTU Indicator

During normal operation, the green NTU LED will be lit - indicating the digital display represents turbidity. A flashing light will occur if the alarms are locked out.

Digital Display

The digital readout will indicate the turbidity level of the sample in nephelometric turbidity units during normal operation. The turbidity reading will be interrupted only when the keyboard is used to enter or recall some other function. When that is done, the NTU indicator light will go out. If sample turbidity is above 100 NTU, the display will show 100.0 flashing on and off.

Alarms 1 and 2 Indicators

The alarm LEDs will be lit when the programmed alarm set points have been exceeded. If turbidity is within the set point limits, they will be off. An alarm condition may or may not require action by the operator, depending on how the alarm circuits are used. Alarm indicators will go off automatically if turbidity returns to within the set point limits. All alarms will be reported to the PLC and operator interface.

System Warning Indicator

A system warning light indicates a minor malfunction may have occurred and should be investigated. The display continues to indicate sample turbidity. By entering 10 DIAG, an error code indicating the cause of the malfunction will be displayed.

System Alarm Indicator

**AZUSA SPRINGS
WATERSHED CONSERVATION AUTHORITY
EL ENCANTO AZUSA RIVER WILDERNESS PARK
WATER TREATMENT PLANT OPERATIONS PLAN AND TECHNICAL REPORT
Los Angeles County, CA**

The system alarm indicator lights when a malfunction has prevented instrument operation. The operator must investigate the cause of the malfunction and take corrective action to restore operation. An error code indicating the cause of the alarm will be displayed by entering 11 DIAG.

Calibration

The Model 1720 Turbidimeter is factory-calibrated before shipment. Recalibration is required after any significant maintenance or repair and at least once every three months of normal operation. A standardization check should be performed on a monthly basis and may indicate the need for recalibration. There are two calibration methods: the ICE-PIC Calibration/Verification Module and the comparison method. Use of the Calibration/Verification Module method is strongly recommended for greatest calibration accuracy and ease of use.

Calibration shall be performed in accordance with the Hach 1720E Turbidimeter User's Manual.

During verification, the ICE-PIC Module reduces light from the instrument source and directs it to the instrument photocell. The proprietary design allows detected light to be set to a given NTU value, base on direct comparison to USEPA-accepted Formazin primary standards. Typical performance verifications can be completed in about one minute without instrument interruptions.

Standardization Checks

Monthly standardization checks should be performed by analyzing a grab sample with a properly calibrated laboratory turbidimeter.

F. Chlorine Analyzer Operation and Calibration

Instrument Observation

Once the instrument is installed on line, operator requirements are limited to replenishing buffer and indicator reagents at approximately one-month intervals and cleaning the sample cell when needed. The instrument is designed to function operator-free for a minimum of a month. However, a periodic visual check is good practice in order to become aware of any problem and investigate it promptly.

Mg/L Chlorine Indicator Light

During normal operation, this indicator light should be on continuously, indicating that the display is reading chlorine. A flashing light is an indication the alarms are locked out.

Digital Display

**AZUSA SPRINGS
WATERSHED CONSERVATION AUTHORITY
EL ENCANTO AZUSA RIVER WILDERNESS PARK
WATER TREATMENT PLANT OPERATIONS PLAN AND TECHNICAL REPORT
Los Angeles County, CA**

The digital readout will indicate the chlorine concentration of the sample in mg/L chlorine during normal operation. The concentration reading will be interrupted only when the keyboard is used to enter or recall some other function. When that is done, the mg/L chlorine indicator goes out. If the chlorine concentration is above 5 mg/L, the display flashes on and off.

Alarms 1 and 2 Indicators

These LEDs will be out unless the programmed alarm set point has been exceeded. An alarm condition may or may not require action from the operator, depending on how the alarm circuits are used. The alarm indicator goes out automatically when the alarm condition disappears. All alarms are reported to the PLC and operator interface.

System Alarm Indicator

This indicator lights when a malfunction has caused the analyzer to shut down. The operator must investigate the cause of the malfunction and take decisive action to correct the problem. By entering 11 DIAG, an error code indicating the cause of the malfunction will be displayed.

System Warning Indicator

A system warning light indicates a minor malfunction has occurred and should be investigated. The analyzer continues to run. By entering 10 DIAG, an error code indicating the cause of the malfunction will be displayed.

Hydraulic System

A visual check of the hydraulic components can detect leaks in the plumbing, tubing fatigue in the pump/valve module, a reagent straw not drawing from the bottom of the bottle or a low reagent supply. Early discovery and correction of any of these conditions will ensure reliable performance of the analyzer.

Calibration Requirements

Calibration of the CL17 Chlorine Analyzer is not necessary on a regular basis. The optical absorbance curve of the DPD chemistry with respect to chlorine concentration is well established and consistent. By measuring the sample blank absorbance with each measurement to provide an automatic zero reference, the accuracy of analyzer calibration is maintained.

There are two methods for checking analyzer calibration: introducing known standards to the analyzer in place of the normal sample or comparing the analyzer reading on the sample to the results with a reliable laboratory analysis. In either case, the CL17 can be recalibrated to agree with the correct value. Calibration shall be performed in accordance with the Hach CL17 User's Manual.

**AZUSA SPRINGS
WATERSHED CONSERVATION AUTHORITY
EL ENCANTO AZUSA RIVER WILDERNESS PARK
WATER TREATMENT PLANT OPERATIONS PLAN AND TECHNICAL REPORT
Los Angeles County, CA**

G. Chlorine Contact Time (CT) Calculation

CT must be logged and determined using data collected from field samples. Samples include Free Chlorine Residual, pH and temperature. Using historic data, the following CT calculation is provided as a guideline:

Calculation for CT 1 log inactivation for Giardia Lamblia Cysts:
Total Pipeline Volume, 2.067" ID, 508 L.F.: 139 gallons.
Short-Circuiting factor for Transmission Lines = 1
Total Stored Volume: 20,000
Short-Circuiting Factor for Clearwell(S) = 0.10
Peak Demand Outflow = 30 GPM (estimated)
Free Chlorine Residual Required: 1.8 mg/l
$139 + (20,000 \times 0.10) / 30 = 71$ Minutes
$71 \times 1.8 = 127$
CT Value is 127
CT Value for 1 log inactivation for pH 7.5 @ 10° C = 41

SECTION 4 UNIT PROCESS EQUIPMENT MAINTENANCE PROGRAM

A. Storage Level Control

The storage tank water level is controlled by a pressure / level transducer and is transmitted to the treatment facilities via communication cables. The signal is processed by a programmable logic controller mounted in the plant control center, and is identified as the PLC. The PLC controls signals the start/stop of the well pump.

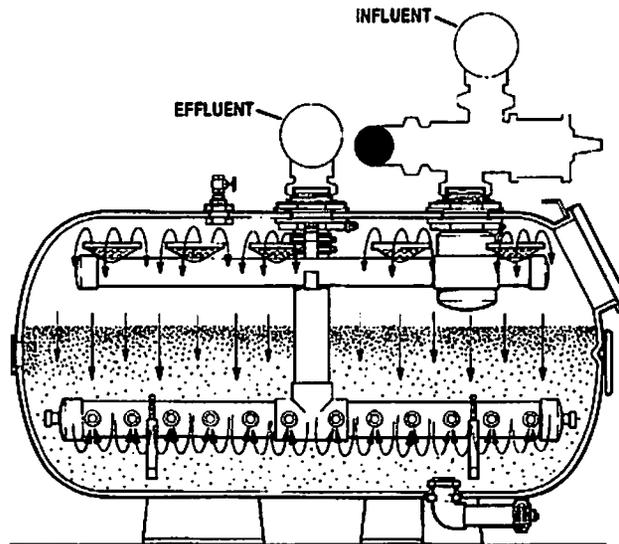
As the water level in the storage tanks lowers to the programmed level setpoint (P₁ ON), the PLC will call the well pump and begin pumping. The well pump will turn off when the full tank level setpoint is reached, (P₁ OFF).

B. Filter Operation

Influent water is directed into the filter vessel through a hydraulically balanced distributor. Filtration is achieved through balanced hydraulic flow, resulting in low differential pressure losses through the filter. Water turbulence is reduced to very low limits, and flow paths at the media surface are almost wholly parallel and vertical. Flow rates in excess of 20 gpm/sq.ft. of filter area can be achieved without channeling the media bed. At high flow rates, collected solids are forced into the media, but selection of small media enables excellent filtration to be achieved. The

**AZUSA SPRINGS
WATERSHED CONSERVATION AUTHORITY
EL ENCANTO AZUSA RIVER WILDERNESS PARK
WATER TREATMENT PLANT OPERATIONS PLAN AND TECHNICAL REPORT
Los Angeles County, CA**

lower collection system receives water through "V" slotted laterals, which retain very fine filter media. The filtered water exits via the effluent tank port.

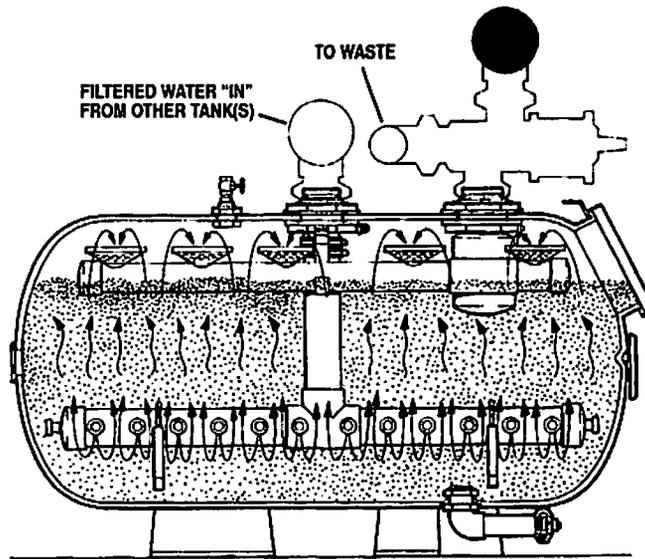


Flow diagram of tank in filtration

C. Filter Cleaning (Backwashing)

Backwashing is a reversal through the filter tank. The backwash valve being activated, routes water from the storage tanks through the underdrain collection system of the filter tank to be backwashed. This reversal of flow direction fluidizes the media bed, causing the release of collected solids. Circulation patterns are established to progressively present each particle of the media at the surface on approximately 30-second cycles. The balanced flow conditions, induced by the collection system, reduces water velocity to below that of the settling rate, preventing loss of filter media during this phase of operation. The unwanted solids, which are released from the media bed, are collected by influent diverter and are discharged out of the tank to the waste line piping.

Exhibit A
**AZUSA SPRINGS
WATERSHED CONSERVATION AUTHORITY
EL ENCANTO AZUSA RIVER WILDERNESS PARK
WATER TREATMENT PLANT OPERATIONS PLAN AND TECHNICAL REPORT
Los Angeles County, CA**



Flow diagram of tank in filtration

D. Returning Filter to Service

The filter will “filter-to-waste” and not be returned to production service until turbidity readings are consistently less than 1.0 NTU. When turbidity samples are satisfactory, the filter-to-waste valve will close and the filtering valve will open. The filter would then be on line.

E. Operating Setpoints

(To be filled in by system Operator)
Storage Tank Controller (STC)

- ___ feet – WELL PUMP START
- ___ feet - LOW STORAGE TANK LEVEL ALARM
- ___ feet - HIGH STORAGE TANK LEVEL ALARM
- ___ feet – WELL PUMP STOP

F. Alarms

Exhibit A
AZUSA SPRINGS
WATERSHED CONSERVATION AUTHORITY
EL ENCANTO AZUSA RIVER WILDERNESS PARK
WATER TREATMENT PLANT OPERATIONS PLAN AND TECHNICAL REPORT
Los Angeles County, CA

The following alarms and functions are provided:

ALARM CONDITION	LOCAL ALARM	SETPOINT	ACTION
LOW CHLORINE RESIDUAL	YES	1.8 MG/L	Lockout: Well Pump
HIGH RAW WATER TURBIDITY	YES	20 NTU	Activate: Filter to Waste
FILTER #1 HIGH TURBIDITY	YES	1.0 NTU	Alarm: PLC notification
FILTER #2 HIGH TURBIDITY	YES	0.20 NTU	Lockout: Filters and Well Pump
HIGH RAW WATER TURBIDITY	YES	20 NTU	Activate: Autodialer

SECTION 5 EMERGENCY OPERATIONS

A. Elevated Turbidity Operations

Occasionally, high turbidity levels may occur in the raw water supply. The filters are capable of removing up to 20 NTU's of turbidity for short periods of time, but are inefficient at higher levels. Excessive turbidities typically occur during the winter months associated with heavy rainfall and watershed runoff. These events usually last from one to three days. High raw water turbidities will actuate a local alarm light in the plant to alert operators. If possible, the plant should be shut down until the turbidity event has passed. If high turbidities persist, operations may have to be resumed to avoid depletion of the storage tanks. Operation of the filters at reduced flow rates may provide filtered water turbidity levels below the 1.0 NTU maximum allowances. In the event the 1.0 NTU filtration turbidity standards cannot be achieved and water storage levels are critically low, the plant may be operated with special precautions to maintain the water supply as indicated below:

These mandatory actions must be followed when operating at levels above 1.0 NTU:

1. Contact State Department of Health Services (Phone number) and advice immediately of failure to meet turbidity standards.
2. Begin weekly coliform sampling of each filter effluent prior to disinfection. Coliform samples must be taken within 24 hours and must verify that no chlorine residual was present.
3. Increase chlorine dose as required maintaining free chlorine residual in the storage tanks of 2.0 milligrams per liter.
4. Under no circumstances may the filters be by-passed

Exhibit A
**AZUSA SPRINGS
WATERSHED CONSERVATION AUTHORITY
EL ENCANTO AZUSA RIVER WILDERNESS PARK
WATER TREATMENT PLANT OPERATIONS PLAN AND TECHNICAL REPORT
Los Angeles County, CA**

SECTION 6 PERFORMANCE OPTIMIZATION

Performance optimization is determined by evaluation of turbidity analysis recorded data. Under normal raw water quality conditions, filters should be able to consistently produce water with 0.2 turbidity units or less.

Increased filtering performance may be achieved by reducing the flow rate through the filters. Ideally the filtration rate should be adjusted to allow for continuous operation of the filters. Start/stop cycling of the filtration process should be routinely avoided. The filtration rate may be decreased by manipulation of the flow control valves.

SECTION 7 RECORDKEEPING

A. Recordkeeping Procedures

Weekday Plant Checks

Within the first hour of the morning, the operator shall gather plant data to enter on the daily read sheet. This information is pertinent for calculating chemical dosages. At this time the operator shall check all plant equipment for apparent abnormalities while making morning inspections. The information gathered and entered on the daily read sheet includes high and low ambient air temperatures evaporation and rainfall from the previous 24-hour period, chemical tank levels, chemical pump settings, plant influent and effluent flow readings and totalizer readings.

B. Sample Forms

The following forms and charts are maintained for record keeping purposes; examples are included at the end of this section.

FORMS:

- OPERATIONS LOG
- TURBIDITY MONITORING SPREADSHEETS
- CT COMPLIANCE SPREADSHEETS
- BACTERIOLOGICAL SAMPLE SITING PLAN

C. Turbidity Monitoring

Results of raw water, first stage filter effluent, combined filter effluent and recycled water turbidity.

D. Bacteriological Sampling

**AZUSA SPRINGS
WATERSHED CONSERVATION AUTHORITY
EL ENCANTO AZUSA RIVER WILDERNESS PARK
WATER TREATMENT PLANT OPERATIONS PLAN AND TECHNICAL REPORT
Los Angeles County, CA**

Raw water shall be monitored for total coliform and either fecal coliform or *E. coli* bacteria using density analysis no less than once each month.

E. Cross Connections

The filter waste and backwash water supply connections are both protected with reduced pressure backflow preventers. No other connections shall be made between the clearwell tanks and the system storage tanks.

SECTION 8 RELIABILITY

A. Alarm System

The Water Treatment Plant is equipped with several process control monitoring systems, which will lock-out plant operations if setpoints are exceeded. Other system status alarms are provided to alert the operator of equipment or subprocess failures. A tabulation of alarm conditions and effects is included in Section 4. Simulation of alarm conditions and confirmation of alarm setpoints is performed on a MONTHLY basis.

B. Emergency Disinfection System

The primary disinfection system consists of one (1) liquid chlorine container and electric metering pump located at the well head. A controlled electric outlet for the metering pump provides automatic on/off operation. A spare liquid metering pump of the same type and capacity and associated hardware/tubing is in stock at the plant. Should the primary metering pump fail, the in-stock replacement can be quickly installed. A second chlorination system is located at the treatment facility and doses the backwash/recycled water. This chlorinator can be used to adjust the chlorine dose and residual chlorine levels.

Case 1 – Emergency disinfection plan – Chlorine residual into the system is less than 0.2 mg/L but not completely absent:

- If any measurement of treatment facility effluent residual chlorine is lower than 0.5 mg/L, determine the cause.
- If the problem cannot be remedied by one person (i.e. chlorine leak, chlorine water supply line leak, etc.), contact Operations Supervisor or the plant operator immediately if it is during regular working hours.
- Plant Supervisor or Plant Operator will notify any other persons that may be affected by the plant shutdown or lack of disinfectant in the water supply. Other agencies that may need to be notified include LADPH and

Exhibit A
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WATERSHED CONSERVATION AUTHORITY
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WATER TREATMENT PLANT OPERATIONS PLAN AND TECHNICAL REPORT
Los Angeles County, CA**

CDPH. The phone numbers and the persons to shall be attached to this manual and kept on site. Each Treatment Plant Operator has access to each staff member's home phone, cell phone, and pager numbers.

- If an emergency exists, shut down the plant if it has not been shut down already. **USE CAUTION, THINK SAFETY FIRST**, especially if you are alone.
- If there are no apparent leaks and residuals are low, begin manual chlorination of the clearwell and bring the free chlorine residual up to 3.0 mg/L.
- Begin taking free chlorine residuals and Bac-T samples downstream of the clearwell. Add sodium hypochlorite wherever needed.
- Start repairs on the chlorine equipment and test when completed.
- Restart the treatment facility and closely observe the operations until everything has stabilized.

Case 2 – Emergency disinfection plan – Chlorine residual in the system is completely absent:

- If any measurement of treatment facility effluent indicates that residual chlorine is absent, shut down the plant if it has not been shut down already. **USE CAUTION, THINK SAFETY FIRST**, especially if you are alone. Determine the cause.
- If the problem cannot be remedied by one person (i.e. chlorine leak, chlorine water supply line leak, etc.), contact the Operations Supervisor or the plant operator immediately if it is during regular working hours.
- Plant Supervisor or Plant Operator will notify any other persons that may be affected by the plant shutdown or lack of disinfectant in the water supply. Other agencies that may need to be notified include CDPH, Department of Fish and Game, and the County Fire Department. The phone numbers and the persons to shall be attached to this manual and kept on site. Each Treatment Plant Operator has access to each staff member's home phone, cell phone, and pager numbers.
- If there are no apparent leaks and residuals are low, begin manual chlorination of the clearwell and bring the free chlorine residual up to 3.0 mg/L.

**AZUSA SPRINGS
WATERSHED CONSERVATION AUTHORITY
EL ENCANTO AZUSA RIVER WILDERNESS PARK
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Los Angeles County, CA**

- Begin taking free chlorine residuals and Bac-T samples downstream of the clearwell. Add sodium hypochlorite (bleach) wherever needed.
- Start repairs on the chlorine equipment and test when completed.
- Restart the treatment facility and closely observe the operations until everything has stabilized.

SECTION 9 MAINTENANCE

A. Maintenance Services

Plant and system maintenance is provided by WTI staff. Maintenance routines are categorized into WEEKLY, MONTHLY, SEMI-ANNUAL, and ANNUAL Task Groups. Specific information relating to maintenance of equipment within a Task Group is included within the manufacturers' data provided with the plant equipment.

B. Preventive Maintenance Schedule

In-house preventive maintenance will be provided in all but the most extreme cases. Emergency maintenance will also be performed by the Operator's specialized staff as required to render instrumentation, electrical, heavy mechanical and heavy equipment services to the facility.

WEEKLY: Check well pump for proper operation. Check for vibration, noise, leaks, or other unusual conditions. Check chlorination system for leaks. Test automatic dialer.

MONTHLY: Check packing leakage rate on pumps (if applicable). Drain and flush turbidimeter vessels. Verify correct operation of sample pumps. Check alarm indicator lights.

SEMI-ANNUAL: Lubricate door locks & hinges. Operate all valves within treatment facility and cistern well sites.

ANNUAL: Drain and inspect storage tank tanks. Clean Storage tanks as necessary. Inspect well. Check all pump fasteners and mounting bolts. Check piping restraints and support bolts. Inspect filter media. Tighten all electrical connections.

**County of Los Angeles
Department of Public Health**

PERMIT NO. 131018-1909644

AZUSA SPRINGS WATER SYSTEM

Los Angeles County

System 1909644

August 2013

STATE OF CALIFORNIA

DOMESTIC WATER SUPPLY PERMIT

Issued To

Azusa Spring Water System

Public Water System No. 1909644

By The

**County of Los Angeles
Department of Public Health**



PERMIT NUMBER: 131018-1909644

DATE: 10/18/2013

WHEREAS:

- I. Since the original domestic water permit No. 394-4623-921 for the ***Azusa Springs Water System*** was issued by the County of Los Angeles Department of Public Health (hereinafter, County) on March 6, 2002, there have been numerous changes and improvements being made, including the projects described in Section C-3 of the attached Sanitary Survey Report, and, therefore, a revised full operating permit is warranted and initiated by the County.
- II. This public water system is known as the ***Azusa Springs Water System (hereinafter, ASWS)*** whose headquarters is located at ***100 N. Old San Gabriel Canyon Road, Azusa, California 91702.***
- III. The legal owner of ***ASWS*** is ***Watershed Conservation Authority.*** The ***Watershed Conservation Authority,*** therefore, is responsible for compliance with all statutory and regulatory drinking water requirements and the conditions set forth in this permit.
- IV. The public water system is described briefly below (more detailed description of the permitted system is described in the attached Sanitary Survey Report):

The facilities include one active well with associated chlorination unit, one local surface water treatment plant with associated chlorination unit, two storage facilities, and various pipelines and appurtenances as required.

- V. The service area of **ASWS** is shown on the service area map in **Appendix 1** of the Sanitary Survey Report.

And WHEREAS:

- I. All of the required information relating to the proposed operation of **ASWS's** water system has been submitted.
- II. The County has evaluated all of the information submitted and has conducted a physical investigation of **ASWS's** water system.
- III. The County has the authority to issue domestic water supply permits pursuant to Health and Safety Code Section 116540.

THEREFORE: The County of Los Angeles, Department of Public Health has determined the following:

- I. **ASWS's** water system meets the criteria for and is hereby classified as a ***transient non-community*** water system.
- II. The applicant has demonstrated that **ASWS's** water system has sufficient source capacity to serve the peak water demand.
- III. The design of the water system complies with the California Waterworks Standards and all applicable regulations.
- IV. The applicant has demonstrated adequate technical, managerial, and financial capacity to reliably operate the existing water system and proposed facilities.
- V. Provided the following conditions are complied with, **ASWS's** water system should be capable of providing water to consumers that is pure, wholesome, and potable and in compliance with statutory and regulatory drinking water requirements at all times.

THE WATERSHED CONSERVATION AUTHORITY IS HEREBY ISSUED THIS DOMESTIC WATER SUPPLY PERMIT TO OPERATE THE AZUSA SPRINGS WATER SYSTEM'S WATER SYSTEM.

ASWS’s water system shall comply with the following permit conditions:

GENERAL

1. ASWS shall comply with all state laws applicable to public water systems and any regulations, standards, or orders adopted thereunder.
2. The only approved source of domestic water supply is listed in Table 1.

Table 1: Groundwater Sources Under the Influence of Surface Water

Source	PS Code	Status	Capacity (gpm)
Well 1	1909644-001	Active	20

3. The only approved treatment facilities are listed in Table 3.

Table 3: Treatment

Facility	Treatment	Location/Remark
Surface Water Treatment Plant	Alternative Direct filtration technology – treat raw water from Well 1	EPD Plant – two dual-stage high-rate filters, located at site of storage tanks
Chlorination	Liquid sodium hypochlorite solution at Well 1 and at Water Treatment Plant effluent. The storage tanks provide disinfection contact time.	

4. No additions, changes or modifications to the sources of water supply or water treatment facilities outlined in Conditions 2 and 3 shall be made without prior receipt of an amended domestic water supply permit from the County.
5. All treatment facilities shall be operated by personnel who have been certified in accordance with the Regulations relating to Certification of Water Treatment Facility Operation, CCR, Title 22. The Chief Treatment Operator and Shift Treatment Operator shall have the minimum certifications designed in Table 4.

Table 4: Treatment Plant Classification and Minimum Operator Certification Requirement

Treatment Plant Site	Treatment Plant Classification	Min. Certification Requirement	
		Chief Treatment Operator	Shift Treatment Operator
Water Treatment Plant	T2	T2	T1

6. ASWS shall have one person designated as the Chief distribution operator with a D1 certification and one person designated as the Shift distribution operator with

a D1 certification, at a minimum. ASWS shall have one person designated as the Chief treatment operator with a T2 certification and one person designated as the Shift distribution operator with a T1 certification, at a minimum.

7. All water produced by ASWS for domestic purposes shall meet the Maximum Contaminant Levels (MCLs) established by the California Department of Public Health (State). If the water quality does not comply with the California Drinking Water Standards, treatment shall be provided to meet those standards.
8. ASWS shall maintain a program for the protection of the domestic water system against possible backflow from premises having dual or unsafe water systems in accordance with the Cross-Connection Regulations, Title 17 of CCR. All backflow devices shall be tested annually.

SURFACE WATER TREATMENT PLANT

9. The Well 1 groundwater under the direct influence of surface water (GWUDI) source shall be deemed an approved source that shall meet 99.9 percent (3-log) reduction of Giardia, 99.99 percent (4-log) reduction of viruses, and 99 percent (2-log) reduction of Cryptosporidium through removal and inactivation.
10. ASWS shall comply with requirements of the Surface Water Treatment Rule (SWTR). The EPD (Environmental Products Division) filtration technology is an approved alternative technology with the credit of 2.0 log removal of Giardia, 1.0 log removal of virus, and 2.0 log removal of Cryptosporidium, provided that operating and performance criteria are met. The disinfection process must therefore provide at least 1.0 log inactivation of Giardia and 3.0 log inactivation of viruses, provided that operating and performance criteria are met.
11. The EPD Plant shall not be operated above the design capacity of 20 gpm during normal operation. The filter bed shall not be operated above the filtration rates of 5.0 and 12.0 gpm/sq. ft for treating raw water turbidity up to 20 and 6 NTU, respectively, as established by the State's Alternative Filtration Demonstration Studies.
12. There shall be no bypassing of any treatment process, at any time. These processes include coagulant feed, dual-stage filtration, and disinfection.
13. The turbidity level of the filtered water shall be equal to or less than 0.2 NTU in 95 percent (95%) of the measurements taken each month, shall not exceed 5 NTU at any time, and shall not exceed 1.0 NTU for more than eight (8) consecutive hours while in operation.

14. Following any backwashing event, the turbidity of the effluent shall not exceed any of the following:
 - a) 2.0 NTU.
 - b) 1.0 NTU in at least 90 percent of the interruption events during any consecutive 12-month period.
 - c) 0.2 NTU after the filter has been in operation for 4 hours.
15. ASWS shall contact the County by phone within four (4) hours of any acute violation or occurrence of a hazardous situation.
16. ASWS is required to notify the County within 24 hours by telephone whenever:
 - a) The turbidity of the plant effluent exceeds 5.0 NTU at any time.
 - b) More than two consecutive turbidity samples of the plant effluent taken every four hours exceed 1.0 NTU.
16. The plant effluent must be continuously chlorinated and shall have a minimum chlorine residual of at least 0.2 mg/L. The plant effluent shall be monitored daily for chlorine residual, pH, and temperature, and a daily CT calculation must be performed.
17. The disinfection residual shall be detectable in at least 95 percent of the samples taken from the distribution system based on the samples collected during two consecutive months. The presence of heterotrophic plate count (HPC) of 500 CFU/mL or less may be substituted for a detectable residual. The residual measurements shall be made in conjunction with coliform sampling.
18. The plant effluent turbidity shall be measured and recorded continuously. Continuous turbidity measurements may be substituted for grab sample monitoring provided ASWS validates the accuracy of the measurements on a weekly basis. Monitoring shall be conducted in accordance with the approved Water Treatment Plant Operations Plan and Technical Report (Operations Plan).
19. ASWS shall submit a monthly operation report to the County by the 10th day of the following month. The report shall include the daily turbidity measurements for raw water and treated water, chlorine residual measurements of the treated water, CT calculations, and a log of turbidimeter calibrations, a list of water quality complaints and reports of water borne illness received from consumers. Treatment plant records shall be maintained for at least five (5) years.

20. ASWS shall comply with the SWTR's reliability features including:
 - a) Alarm - for all critical functions including pressure-sensing devices on the discharge of all chemical feed equipment to signal a failure of chemical feed pumps, motors, and power outages
 - b) Dedicated standby replacement and chemical storage available to assure continuous operation and control of unit processes for coagulation, filtration and disinfection
 - c) Backup power supply

21. ASWS shall physically inspect and evaluate the EPD filters annually for such factors as media condition, mud ball formation, and short-circuiting. The filter evaluation report shall be submitted to the County by January of every year.

22. The raw water alarm and automatic plant shutdown shall be activated at a raw water turbidity of 10 NTU for more than 10 minutes. The plant operator shall perform an on site inspection every time the influent turbidity exceeds 6 NTU. Otherwise, the plant should be taken off-line within 30 minutes of notification until the inspection can be done.

23. Operation of the plant should be adjusted so that the effluent recording turbidimeter and chlorine residual recorder will shut down the plant whenever the treated water turbidity exceeds 0.5 NTU for more than 30 minutes and/or the chlorine residual in the effluent of plant falls below 0.2 mg/L for more than 4 hours.

24. Each on-line turbidimeter should be calibrated at least every three months. Also, the on-line units should be standardized against the bench top turbidimeter weekly. Logbooks shall be maintained for each unit that details calibration, cleaning, and maintenance. The logbooks shall include date, model, location of turbidimeter, and procedures used.

25. ASWS shall maintain daily records of flow, chlorine residuals, and filtered water turbidity measurements. Also, ASWS should keep records of the raw water turbidity, and treated water pH and temperature necessary for calculation of disinfection residual effectiveness.

26. ASWS shall keep a complete record of all emergency events and scheduled interruptions in water service. These records should include:
 - a) Location of the problem.
 - b) Cause of the interruption.
 - c) Date, approximate time, and duration of the problem.
 - d) Action steps taken to correct the problem
 - e) Precautions taken to minimize contamination of the supply and notification of affected users.

27. The plant shall be operated in accordance with the Operations Plan approved by the County.

OPERATION

28. ASWS shall maintain operational records including the total volume of water treated daily and the total volume of chemical used for at least five (5) years.

29. ASWS shall inspect and verify that all equipment at the facility is working properly on a weekly basis. These equipment include but are not limited to:
 - a) Flowmeter and recorder
 - b) Influent and effluent turbidimeters and recorders
 - c) Chlorine analyzer and recorder.

30. All equipment shall be maintained and calibrated according to procedures specified by the manufacturers.

31. ASWS's operational and maintenance records shall be kept for a minimum of five years and be made available for the County to review upon request. The records should include logs of equipment failure and corrective actions performed.

SOURCE WATER MONITORING AND OTHERS

32. ASWS shall monitor groundwater and surface water sources in accordance with the most recent edition of the Vulnerability Assessment and Monitoring Frequency Guidelines. In addition, ASWS shall consistently monitor for aluminum at the surface water treatment plant effluent on a monthly basis. ASWS shall submit the data to the County utilizing the Electronic Data Transfer (EDT) by the 10th of the following month using the given PS Codes.

33. Operators (shift operators) and supervisor personnel (chief operator) who make operational decisions on the treatment facilities as identified in Condition 3 shall have a copy of and shall be familiar with the conditions of the water supply permit conditions. A copy of the Operations Plan and the permit document shall be maintained at ASWS's office for reference.

This permit supersedes all previous domestic water supply permits issued for this public water system and shall remain in effect unless and until it is amended, revised, reissued, or declared to be null and void by the County of Los Angeles Department of Public Health. This permit is non-transferable. Should the **Azusa Springs Water System** water system undergo a change of ownership, the new owner must apply for and receive a new domestic water supply permit.

Any change in the source of water for the water system, any modification of the method of treatment as described in the Sanitary Survey Report, or any addition of distribution system storage reservoirs shall not be made unless an application for such change is submitted to the County of Los Angeles Department of Public Health.

This permit shall be effective as of the date shown below.

FOR THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC HEALTH

October 18, 2013
Date



Vincent Gallegos, R.E.H.S.
Environmental Health Specialist

Exhibit C

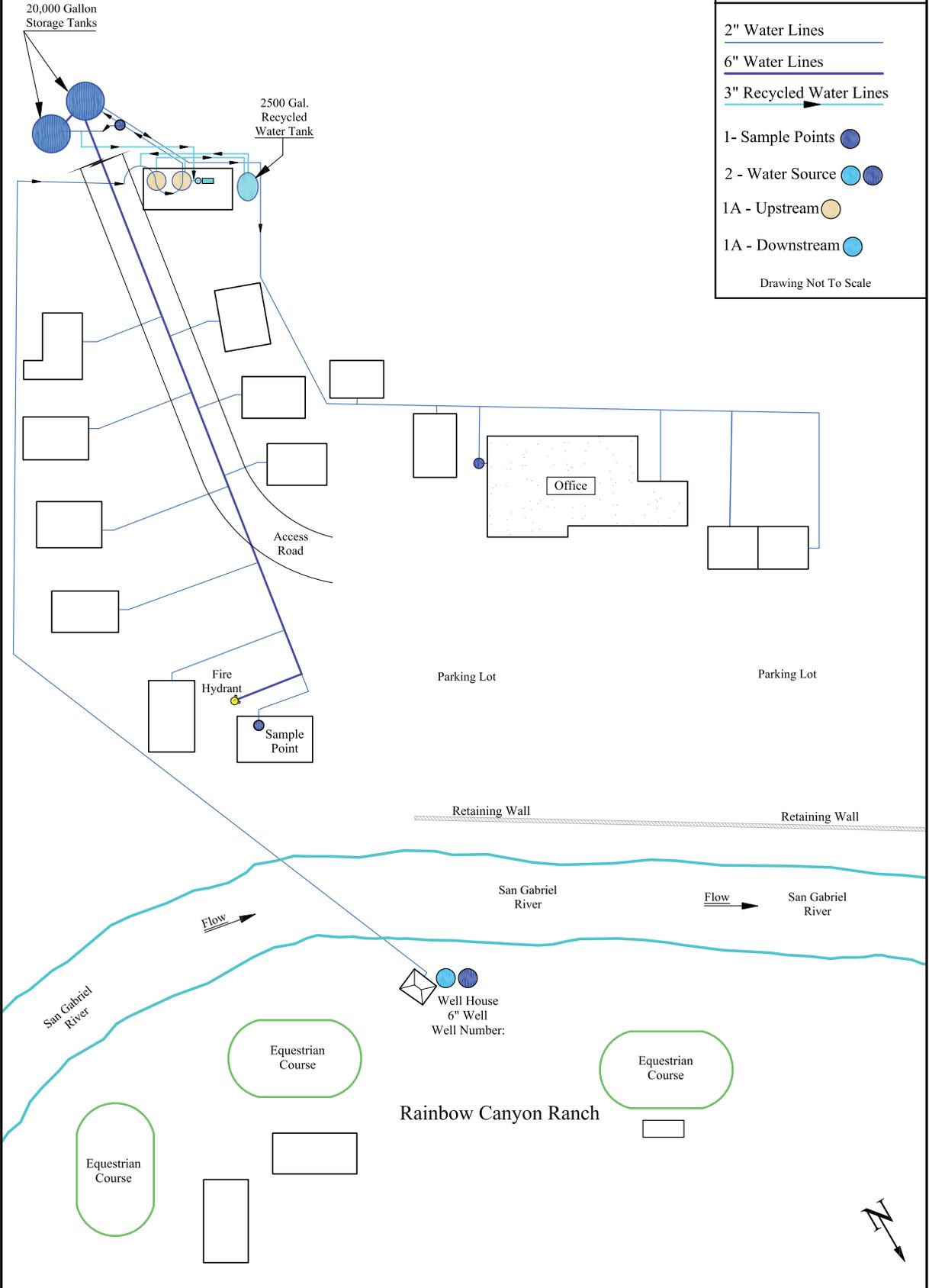
Azusa Springs Water System

Azusa Springs Water System
 Sample Site Plan
 100 North
 Old San Gabriel Cyn. Road
 Azusa CA 91702
 Phone: 626-815-1019
 Water Number: 190964

2" Water Lines
 6" Water Lines
 3" Recycled Water Lines

1- Sample Points ●
 2 - Water Source ●●
 1A - Upstream ●
 1A - Downstream ●

Drawing Not To Scale



AGREEMENT FOR CONSULTANT SERVICES

THIS AGREEMENT, made and entered into this xxth day of Month 20YY,

BY AND BETWEEN

Watershed Conservation Authority (WCA), a joint powers authority between the Rivers and Mountains Conservancy (RMC) and the Los Angeles County Flood Control District

AND

Company
Address 1
Address 2
City, ST Zip
Email: xxxx
Phone: (xxx) xxx-xxxx
hereinafter referred to as "Consultant,"

WCA has determined that it is a matter of public convenience and necessity to engage the specialized services of a Consultant to provide [DESCRIPTION].

Consultant is a recognized professional with extensive experience and training in this specialized field. In rendering these services, Consultant shall, at a minimum, exercise the ordinary care and skill expected of the average practitioner in Consultant's profession acting under similar circumstances. The work will involve the performance of professional, expert, and/or technical services of a temporary or part-time duration; and

The parties hereto do mutually agree as follows:

1. Definition

"WCA" means the joint power authority between the Rivers and Mountains Conservancy (RMC), and the Los Angeles County Flood Control District.

2. Consultant's Services

The scope of work shall be as outlined above and in the attached Exhibit A dated, Month Date, Year.

3. Consideration

Exhibit D

WCAXXXX

FY XX/XX

In consideration of the performance by Consultant in a manner satisfactory to WCA of the services described in Article 2 above, including receipt and acceptance of such work by the Executive Officer of the Watershed Conservation Authority (hereinafter called Executive Officer) or authorized representative, WCA agrees to pay Consultant a maximum not to exceed fee of XXXX Dollars (\$XXXXX). Services will be rendered beginning Month Date, Year and end by Month Date, Year.

WCA shall compensate Consultant as follows:

- a. Monthly payments for the work accomplished shall be made upon verification and acceptance of such work by the Executive Officer or authorized representative. Monthly invoices shall be accompanied by an analysis of work completed for the invoice period. This analysis shall be prepared in a format satisfactory to Executive Officer or authorized representative.
- b. Supplemental Consultant Services may be required at WCA's discretion, upon prior written authorization by Executive Officer or authorized representative, and will be based on Consultant's fee schedule on file with Executive Officer or authorized representative.
- c. If Cost of Living Adjustments (COLA) are provided in the attachment, WCA shall limit COLAs to the lesser of: 1) the average salary increase or decrease granted to WCA employees or 2) the increase or decrease from the previous fiscal year's U.S. Department of Labor Bureau of Labor Statistics' Urban Consumer Price Index for Los Angeles-Riverside-Orange WCA, CA. If the COLA is based on the CPI, the adjustment shall be based on the change in the CPI from time of execution of this contract to the time at which the COLA is to be made. In the event fiscal circumstances ultimately prevent the Board of Supervisors from approving any increase in employee salaries for a fiscal year, Consultant will not receive a COLA for the contract period which coincides with that fiscal year.
- d. In the event that budget reductions occur in any fiscal year covered by this Agreement that may cause WCA to consider terminating this Agreement, the parties agree to attempt to renegotiate the terms of this Agreement to reduce the cost thereof in lieu of termination under the termination provisions of the contract.
- e. Consultant will not be required to perform services which will exceed the contract amount, scope of work, and contract dates without

amendment to this Agreement.

- f. Consultant will not be paid for any expenditure beyond the contract amount stipulated without amendment to this Agreement.

4. Equipment and Supplies

Consultant agrees to furnish all necessary equipment and supplies used in the performance of the aforementioned services.

5. WCA's Responsibility

WCA will make available any items specified in the Request for Proposals.

6. WCA's Representative

Executive Officer, or his authorized representative, shall represent WCA in all matters pertaining to the services to be rendered pursuant to this Agreement.

7. Terms and Termination

The term of this Agreement shall commence on the date stipulated on Page 1 of this agreement, through Month Date, Year and unless otherwise modified, shall terminate on the date that the work is accepted by WCA. The Parties may cancel or terminate this Agreement, without any liability other than payment for work already performed, up to the date of termination by giving three days written notice of such termination to the other Party.

This agreement may be extended one year, contingent upon acceptable performance of services per the WCA Executive Officer or authorized representative.

Consultant shall be paid the reasonable value of services rendered. In the event of any such termination by WCA, Consultant shall provide to WCA a termination report consisting of all drawings, specifications, reports, and data accumulated to the date of such termination in a form capable of assimilation for use by WCA.

8. Mutual Indemnification

For damages, claims, liabilities, costs, suits, or expenses arising from Consultant's lawful activities on behalf of WCA under this Agreement, WCA agrees to indemnify and hold harmless Consultant against any and all damages, claims, liabilities, costs, suits, or expenses for which WCA would be liable if Consultant were an employee, and to the extent the negligent acts and/or omissions of WCA cause or contribute to any loss or

damage giving rise to the claim, suit or cause of action.

Consultant agrees to indemnify, defend, and save harmless WCA, RMC, and the Los Angeles County Flood Control District, their Board of Supervisors, Executive Officers, agents, its elected or appointed officials, officers, agents, attorneys and employees from and against any and all claims, suits or causes of action including liability, expense, including defense costs and legal fees, and claims for damages of any nature whatsoever, including, but not limited to, bodily injury, death, personal injury, or property damage arising from, or connected with, Consultant's negligent, willful, or unlawful actions, operations, or services hereunder including any Workers' Compensation suits, liability, or expense arising from, or connected with, services pursuant to this Agreement.

9. Liability & Insurance OR Reserved [No Text]

Two alternative Indemnification and Insurance Provisions are set forth in Exhibit B of this Agreement.

Consultant has selected one of the two alternative Indemnification and Insurance Provisions and has indicated its selection by initialing the selected alternative as follows:

Alternative 1 _____ Alternative 2 _____

This Agreement shall be subject to the Indemnification and Insurance Provisions set forth in the alternative identified by Consultant above. Such provision is hereby incorporated into this Article by reference.

10. Anti-Discrimination

The Consultant shall abide by the following provisions found in Section 4.32.010 et seq. of the Los Angeles County Code:

Consultant certifies and agrees that all persons employed by Consultant, its affiliates, subsidiaries, or holding companies are, and will be, treated equally by Consultant without regard to or because of race, religion, ancestry, national origin, or sex, and in compliance with state and federal anti-discrimination laws. Consultant further certifies and agrees that it will deal with its subconsultants, bidders, and vendors without regard to or because of race, religion, ancestry, national, origin, or sex. Consultant agrees to allow access to its employment records during regular business hours to verify compliance with the foregoing provisions when so requested by WCA.

Consultant specifically recognizes and agrees that if WCA finds that any of the foregoing provisions have been violated, the same shall constitute a material breach of contract

upon which WCA may determine to cancel, terminate, or suspend the contract. While WCA reserves the right to determine individually that the anti-discrimination provision of the contracts have been violated, in addition, a determination by the California Fair Employment Practices Commission or the Federal Equal Employment Opportunity Commission that Consultant has violated state or federal anti-discrimination laws shall constitute a finding by WCA that Consultant has violated the anti-discrimination provisions of the contract.

At its option, and in lieu of canceling, terminating, or suspending the contract, WCA may impose damages for any violation of the anti-discrimination provisions of this paragraph, in the amount of Two Hundred Dollars (\$200) for each violation found and determined. WCA and Consultant specifically agree that the aforesaid amount shall be imposed as liquidated damages, and not as a forfeiture or penalty. It is further specifically agreed that the aforesaid amount is presumed to be the amount of damages sustained by reason of any such violation, because from the circumstances and the nature of the violation, it is impracticable and extremely difficult to fix actual damages.

11. Independent Consultant Status

This Agreement is by and between WCA and Consultant and is not intended, and shall not be construed, to create the relationship of agent, servant, employee, partnership, joint venture, or association, as between WCA and Consultant.

Consultant understands and agrees that all persons furnishing services to WCA pursuant to this Agreement are, for purposes of Workers' Compensation liability, employees solely of Consultant and not of WCA.

Consultant shall bear the sole responsibility and liability for furnishing workers' compensation benefits to any person for injuries arising from, or connected with, services performed on behalf of Consultant pursuant to this Agreement.

12. WCA's Quality Assurance Plan

WCA, or its agent, will evaluate Consultant's performance under this Agreement on not less than a semi-annual basis. Such evaluation will include assessing Consultants' compliance with all contract terms and performance standards. Consultant deficiencies which WCA determines are severe or continuing, and that may place performance of the Agreement in jeopardy if not corrected, will be reported to the WCA Board. The report will include improvement/corrective action measures taken by WCA and Consultant. If improvement does not occur consistent with the corrective action measures, WCA may terminate this Agreement or impose other penalties as specified in this Agreement.

13. Assignment

This Agreement shall not be assigned without the prior written consent of WCA. Any attempt to assign without such consent shall be void and confer no rights on any third parties.

14. Forum Selection

Consultant hereby agrees to submit to the jurisdiction of the courts of the State of California. The exclusive venue of any action brought by Consultant, on Consultant's behalf or on the behalf of any subconsultant, which arises from this Agreement or is concerning or connected with services performed pursuant to this Agreement, shall be deemed to be in the courts of the State of California located in Los Angeles, California.

15. Conflict of Interest

No WCA employee in a position to influence the award of this Agreement or any competing agreement, and no spouse or economic dependent of such employee, shall be employed in any capacity by Consultant herein, or have any other direct or indirect financial interest in this Agreement.

16. Prohibition from Involvement in Bidding Process

Consultant understands and agrees that neither it nor its subsidiaries shall be involved in any way in the bidding process on any Request for Proposal developed or prepared by or with the assistance of Consultant's services rendered pursuant to this Agreement, either as a prime Consultant or subconsultant, or as a Consultant to any other prime Consultant or subconsultant. Any such involvement by Consultant shall result in the rejection by the WCA of the bid by the prime Consultant in question.

17. Gratuities

It is improper for any WCA Executive Officer, employee, or agent to solicit consideration, in any form, from Consultant with the implication, suggestion, or statement that Consultant's provision of the consideration may secure more favorable treatment for Consultant in the award of the contract or that Consultants' failure to provide such consideration may negatively affect WCA's consideration of Consultant's submittal. Consultant shall not offer or give, either directly or through an intermediary, consideration, in any form, to a WCA Executive Officer, employee, or agent for the purpose of securing favorable treatment with respect to the award of the contract.

Consultant shall immediately report any attempt by a WCA Executive Officer, employee,

or agent to solicit such improper consideration. The report shall be made to Executive Officer or authorized representative.

Among other items, such improper consideration may take the form of cash, discounts, service, the provision of travel or entertainment, or tangible gifts.

18. Termination for Improper Consideration

WCA may, by written notice to Consultant, immediately terminate the right of Consultant to proceed under this Agreement if it is found that consideration, in any form, was offered or given by Consultant, either directly or through an intermediary, to any WCA Executive Officer, employee, or agent with the intent of securing the Agreement or securing favorable treatment with respect to the award, amendment, or extension of the Agreement or the making of any determinations with respect to Consultants' performance pursuant to the Agreement. In the event of such termination, WCA shall be entitled to pursue the same remedies against Consultant as it could pursue in the event of default by Consultant.

Consultant shall immediately report any attempt by a WCA Executive Officer or employee to solicit such improper consideration. The report shall be made either to WCA manager charged with the supervision of the employee or to WCA Executive Officer or authorized representative.

Among other items, such improper consideration may take the form of cash, discounts, service, the provision of travel or entertainment, or tangible gifts.

19. Notice to Employees Regarding the Federal Earned Income Credit

Consultant shall notify its employees, and shall require each subconsultant to notify its employees, that they may be eligible for the federal Earned Income Credit under the federal income tax laws. Such notice shall be provided in accordance with the requirement set forth in Internal Revenue Service Notice 1015.

20. Reduction of Solid Waste

Consistent with the WCA's policy to reduce the amount of solid waste deposited in landfills, the Consultant agrees to use recycled-content paper to the maximum extent possible on the project.

21. WCA Rights

The WCA may employ, either during or after performance of this contract, any right of recovery the WCA may have against the Consultant by any means it deems appropriate including, but not limited to, set-off, action at law or in equity, withholding, recoupment, or counterclaim. The rights and remedies of the WCA under this contract are in addition to any right or remedy provided by California law.

22. Fair Labor Standards Act

Consultant shall comply with all applicable provisions of the Federal Fair Labor Standards Act, and shall indemnify, defend, and hold harmless WCA, its agents, Executive Officers and employees from any and all liability including, but not limited to, wages, overtime pay, liquidated damages, penalties, court costs, and attorneys' fees arising under any wage and hour law including, but not limited to, the Federal Fair Labor Standards Act for services performed by Consultant's employees for which WCA may be found jointly or solely liable.

23. Prevailing Wage Requirements

Consultant shall comply with all applicable prevailing wage requirements.

24. Employment Eligibility Verification

Consultant warrants that it fully complies with all federal statutes and regulations regarding employment of aliens and others, and that all its employees performing services hereunder meet the citizenship or alien status requirements contained in federal statutes and regulations. Consultant shall obtain, from all covered employees performing services hereunder, all verifications and other documentation of employment eligibility status required by federal statutes and regulations as they currently exist and as they may be hereafter amended. Consultant shall retain such documentation for all covered employees for the period prescribed by law. Consultant shall indemnify, defend, and hold harmless WCA, its Executive Officers and employees from employer sanctions and any other liability which may be assessed against Consultant or WCA in connection with any alleged violation of federal statutes or regulations pertaining to the eligibility for employment of persons performing services under this Agreement.

25. Consultant Responsibility and Debarment

a. A responsible Consultant is a Consultant who has demonstrated the attribute of trustworthiness, as well as quality, fitness, capacity, and experience to satisfactorily perform the contract. It is the WCA's policy to conduct business only with responsible consultants.

b. The Consultant is hereby notified that if the WCA acquires information

concerning the performance of the Consultant on this or other contracts which indicates that the Consultant is not responsible, the WCA may, in addition to other remedies provided in the contract, debar the Consultant from bidding on WCA contracts for a specified period of time not to exceed three years, and terminate any or all existing contracts the Consultant may have with the WCA.

- c. The WCA may debar a Consultant if the Board finds, in its discretion, that the Consultant has done any of the following: 1) violated any term of a contract with the WCA; 2) committed any act or omission which negatively reflects on the Consultant's quality, fitness, or capacity to perform a contract with the WCA or any other public entity, or engaged in a pattern or practice which negatively reflects on same; 3) committed an act or offense which indicates a lack of business integrity or business honesty; or 4) made or submitted a false claim against the WCA or any other public entity.
- d. These terms shall also apply to subconsultants of the WCA Consultant.

26. No Payment for Services Provided Following Expiration and/or Termination of Agreement

Consultant shall have no claim against WCA for payment for any money or reimbursement, of any kind whatsoever, for any service provided by Consultant after the expiration or other termination of this Agreement. Should Consultant receive any such payment it shall immediately notify WCA and shall immediately repay all such funds to WCA. Payment by WCA for services rendered after expiration/termination of this Agreement shall not constitute a waiver of WCAs' right to recover such payment from Consultant. This provision shall survive the expiration or other termination of this Agreement.

27. Notices

Any notice required or desired to be given pursuant to this Agreement shall be given in writing and addressed as follows:

WCA

Watershed Conservation Authority
100 N. Old San Gabriel Canyon Road
Azusa, CA 91702
Attention: Mark Stanley

Exhibit D

WCA XXXX

FY XX/XX

Consultant

Company
Address 1
City, ST Zip

The address for notice may be changed by giving notice pursuant to this paragraph.

28. Entire Agreement

This contract constitutes the entire Agreement between WCA and Consultant and may be modified only by further written Agreement between the parties hereto.

WCA

Company

By _____
Mark Stanley
Executive Officer

By _____
Company Contact
Contact Title

Exhibit A

Company

Scope of Work

Month Date, Year

(1 page)

Exhibit D

Exhibit B

ALTERNATIVE 1

INDEMNIFICATION AND INSURANCE PROVISIONS

I. INDEMNIFICATION

CONSULTANT agrees to indemnify, defend, and save harmless Watershed Conservation Authority (WCA), Rivers and Mountains Conservancy (RMC), and Los Angeles County Flood Control District (District), its agents, appointed and elected officers, and employees from and against any and all liability, expense (including defense costs and legal fees), or claims for damages of any nature whatsoever, including without limitation, bodily injury, death, personal injury, or property damage (including property of CONSULTANT), arising from, or connected with, any alleged willful or negligent act, error, or omission of CONSULTANT, its agents, or subconsultants of any tier.

The foregoing paragraph notwithstanding, CONSULTANT further agrees to indemnify, defend, and save harmless WCA, RMC, the District and their respective agents, appointed and elected officers, and employees from and against any Workers' Compensation suits, liability, or expense arising from, or connected with, any services performed pursuant to this agreement on behalf of CONSULTANT by any person.

Neither the CONSULTANT, nor its agents and subconsultants of any tier, shall be obligated to indemnify the WCA and its related persons and entities for liabilities caused by the active negligence of the WCA and its related persons and entities. However, this provision does not limit any obligation to defend or indemnify the WCA and its related persons and entities arising under the policies of insurance maintained by the CONSULTANT under this provision.

II. INSURANCE

Without limiting CONSULTANT indemnification of WCA and during the term of this Agreement, CONSULTANT shall provide and maintain at its own expense the following programs of insurance. Such programs and evidence of insurance shall be satisfactory to the WCA and primary to and not contributing with, any other insurance maintained by the WCA. Certificate(s) or other evidence of coverage shall be delivered to the Watershed Conservation Authority, 100 N. Old San Gabriel Canyon Road, Azusa, CA 91702 prior to commencing services under this Agreement, shall specifically identify this Agreement, and shall contain the express condition that WCA is to be given written notice by registered mail at least thirty (30) days in advance of any modification or termination of insurance.

Exhibit D

Failure by CONSULTANT to procure and maintain the required insurance shall constitute a material breach of contract upon which WCA may immediately terminate or suspend this Agreement.

A. Liability:

Such insurance shall be endorsed naming the Watershed Conservation Authority as an additional insured and shall include:

1. 1. General liability insurance written on a commercial general liability form or on a comprehensive general liability form covering the hazards of premises/operations, contractual, independent contractors, advertising, products/completed operations, broad form property damage, and personal injury with a combined single limit of not less than One Million Dollars (\$1,000,000) per occurrence.
2. 2. Comprehensive auto liability for all owned, non-owned, and hired vehicles with a combined single limit of not less than One Million Dollars (\$1,000,000) per occurrence.
 - a. If written with an annual aggregate limit, the policy limit should be three times the above required occurrence limit.
 - b. If written on a claims form, the CONSULTANT shall be required to provide an extended two-year reporting period commencing upon termination or cancellation of this Agreement.

B. Workers' Compensation:

Insurance in an amount and form to meet all applicable requirements of the Labor Code of the State of California, including Employer's Liability with a One Million Dollar (\$1,000,000) limit, covering all persons the CONSULTANT is legally required to cover.

C. Professional Liability:

Insurance covering liability arising from any error, omission, or negligent act of the CONSULTANT, its officers, or employees with a limit of liability of not less than One Million Dollars (\$1,000,000) per claim or occurrence, and Two Million Dollars (\$2,000,000) in aggregate. If written on a Claims Made Form, CONSULTANT shall continue to provide coverage for this project for a period of two years from the date of termination or completion of this Agreement.

CONSULTANT agrees to the above Indemnification and Insurance Provisions.

_____ Initials

Exhibit D

Exhibit B

ALTERNATIVE 2

INDEMNIFICATION AND INSURANCE PROVISIONS

I. INSURANCE

CONSULTANT agrees at its own expense to maintain with insurance companies policies for general liability, professional liability, comprehensive automobile liability, and worker's compensation insurance as set forth below:

A. General Liability Insurance:

The CONSULTANT shall maintain general liability insurance written on a commercial or comprehensive general liability form(s) that include(s) coverage for premises-operations, products/completed operations, contractual liability, broad-form property damage, and personal injury liability. The general liability policy shall have a combined single limit of not less than One Million Dollars (\$1,000,000) per occurrence.

B. Professional Liability Insurance:

CONSULTANT shall maintain professional liability insurance, including contractual liability coverage, with policy limits of at least One Million Dollars (\$1,000,000) per claim or occurrence, Two Million Dollars (\$2,000,000) in the aggregate.

C. Comprehensive Automobile Insurance:

The CONSULTANT shall maintain automobile insurance for all owned, non-owned, and hired vehicles with a combined single limit of One Million Dollars (\$1,000,000) per occurrence or accident.

D. Worker's Compensation Insurance:

The CONSULTANT shall maintain worker's compensation insurance in an amount and form which will meet all applicable requirements of the Labor Code of the State of California, including Employers' Liability Coverage with limits of One Million Dollars (\$1,000,000) per occurrence.

E. General Conditions Relating to Insurance:

1. Additional Insureds: The WCA, RMC, and DISTRICT, its agents, appointed and elected officers, and employees shall be named as

Exhibit D

additional insureds on each policy, except workers' compensation and professional liability insurance, the CONSULTANT is required to provide under this Agreement. Such insurance shall be primary to and not contributing with, any other insurance maintained by or for the WCA and its related persons and entities.

2. Waiver of Subrogation: Each policy obtained by the CONSULTANT to fulfill its obligations under this provision shall contain a provision waiving the right of the insurer to subrogate against the WCA and its related persons and entities for any liability covered by the policy.
3. Claims Made Policies: If any of the policies obtained by the CONSULTANT to fulfill its obligations under this provision are written on a claims-made basis, the policy shall be endorsed to provide an extended reporting period of not less than two years following the termination of this Agreement or the CONSULTANT'S work on the project referred to in this Agreement, whichever is later.
4. Occurrence Policies: If any of the policies obtained by the CONSULTANT to fulfill its obligations under this provision are written on an occurrence basis, the policies and any endorsements required by this provision (including, but not limited to, the additional insured endorsements) shall be maintained in full force and effect for a period of not less than two years following the termination of this Agreement or the CONSULTANTS' work on the project referred to in this Agreement, whichever is later.
5. Certificate of Insurance: Prior to commencing work on the project referred to in this Agreement, the CONSULTANT shall provide to the RMC certificate(s) of insurance identifying the insurers, policies, coverage, and limits of liability for the insurance the CONSULTANT is required to provide under this provision. Accompanying the certificate(s) shall be a copy of the required additional insured endorsement(s) to the policies obtained by the CONSULTANT as set forth above.
6. Notice of Cancellation or Non-renewal: Each policy shall require the insurer to give the WCA at least 30 days notice of termination of the policy by cancellation, rescission, non-renewal, or otherwise. Notice shall also be given to WCA of any material change in the terms of the coverage required to be maintained by the CONSULTANT under this provision.
7. Delivery of Notices: All certificates and notices required by this provision shall be in writing and shall be delivered to the Contract Administrator. The notices and certificates shall refer to this contract.

Exhibit D

8. Maintenance of Insurance: The CONSULTANT shall promptly pay the premiums on all insurance policies required under this provision. The CONSULTANT further agrees that the policies shall remain in full force and effect as required by this Agreement. CONSULTANT agrees to immediately obtain replacement coverage for any policy which is terminated, canceled, non-renewed, or which has paid policy limits or upon the insolvency of the insurer issuing the policy.
9. Breach: Failure on the part of CONSULTANT to procure or maintain insurance as required by this provision shall constitute a material breach of this contract. In the event of such a breach, the WCA may, among other things, terminate this Agreement, suspend work being performed on the project by or on behalf of the CONSULTANT, or at its sole discretion, the WCA may obtain replacement coverage. In the event that replacement coverage is obtained, the CONSULTANT shall, upon demand, repay the WCA for the full amount of premiums paid by the WCA for the replacement coverage. In its sole discretion, the WCA may offset the cost of premiums against any monies due to the CONSULTANT from the WCA.

II. INDEMNIFICATION:

CONSULTANT agrees to indemnify and save harmless the WCA, RMC, DISTRICT, its agents, appointed and elected officers and employees ("WCA and its related persons and entities") from any and all claims, liabilities, expenses, lawsuits, actions, or proceedings arising from, or connected with, any act or omission of the CONSULTANT, its agents, or subconsultants of any tier. The obligation to indemnify the WCA is in addition to the obligation to procure insurance as set forth in this provision.

WCA agrees that prior to demanding a defense from the CONSULTANT that it or CONSULTANT shall tender such claim to the insurers issuing the policies of insurance referred to in this provision. If the claims are not covered by any policy referred to in this provision, or the insurers refuse to defend the WCA or any of its related persons and entities, then the CONSULTANT shall be obligated to defend the WCA from any claim, suit, or proceeding in which it has been claimed or alleged that the acts or omissions of the CONSULTANT, its agents, or subconsultants of any tier were a cause of the damages claimed against the WCA and its related persons and entities in that suit, action, or proceeding.

Neither the CONSULTANT, nor its agents and subconsultants of any tier, shall be obligated to indemnify the WCA and its related persons and entities for liabilities caused by the active negligence of the WCA and its related persons

Exhibit D

and entities. However, this provision does not limit any obligation to defend or indemnify the WCA and its related persons and entities arising under the policies of insurance maintained by the CONSULTANT under this provision.

III. SUBCONSULTANT'S INSURANCE AND INDEMNIFICATION:

CONSULTANT agrees to require that its subconsultants, subcontractors, and independent contractors maintain the same insurance coverage which it is required to maintain under this provision, including but not limited to, the obligation to name the WCA and its related persons and entities as additional insureds under each such policy.

CONSULTANT further agrees to require its subconsultants, subcontractors, and independent contractors to indemnify and defend the WCA and its related persons and entities from any and all claims, liabilities, expenses, lawsuits, actions, or proceedings arising from, or connected with, any act or omission of each such subconsultant, subcontractor, or independent contractor, its agents, or subconsultants of any tier.

Failure on the part of CONSULTANT to require its subconsultants, subcontractors, and independent contractors to provide insurance and indemnification shall constitute a material breach of this contract. In the event of such breach, the WCA may, among other things, terminate this Agreement, suspend work being performed on the project by or on behalf of the CONSULTANT, or in its sole discretion, the WCA may obtain replacement insurance coverage. In the event that replacement coverage is obtained, the CONSULTANT shall, upon demand, repay the WCA for the full amount of premiums paid by the WCA for the replacement coverage. In its sole discretion, the WCA may offset the cost of premiums against any monies due to the CONSULTANT from the WCA.

CONSULTANT agrees to the above Indemnification and Insurance Provisions.

_____ Initials