

Region 6 - Enforcement & Compliance Assurance Division
INSPECTION REPORT

Inspection Date(s):	August 28, 2023	
Media Program:	Water	
Regulatory Program(s)	CWA	
Company Name:	City of Aztec	
Facility Name:	Aztec Water Treatment plant	
Facility Physical Location:	New Mexico State Highway (NM) 173 (Navajo Dam Drive)	
(city, state, zip code)	Aztec, New Mexico 87410	
Mailing address:	201 W. Chaco	
(city, state, zip code)	Aztec, New Mexico 87410	
County/Parish:	San Juan	
Facility Phone Number	505-334-7660	
Facility Contact:	Ruben Salcido	Public Works Director
	rsalcido@aztecnm.gov	
FRS Number:	110017849649	
Identification/Permit Number:	NM0028762	
Media Identifier Number:	N/A	
NAICS:	221320	
SIC:	4952	
Personnel participating in inspection:		
William Mazzeo	City of Aztec	Water Plant Operation Supervisor
Anthony Garcia	City of Aztec	Wastewater Operations Supervisor
David Esparza, P.E.	USEPA/R6-ECDWM	Environmental Engineer
EPA Lead Inspector Signature/Date	DAVID ESPARZA Digitally signed by DAVID ESPARZA Date: 2023.10.17 15:42:44 -06'00' David Esparza Date	
Supervisor Signature/Date	ROBERTO BERNIER Digitally signed by ROBERTO BERNIER Date: 2023.10.23 16:48:37 -05'00' Roberto Bernier Date	

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

EPA Region 6 inspector David Esparza, PE, arrived at the City of Aztec Water Treatment Plant (WTP) at approximately 1:00 PM on August 28, 2023, for an unannounced inspection. I met with William Mazzeo, Water Plant Operation Supervisor, and Mr. Lorenzo Anthony Garcia, Chief Wastewater Operator, presented my credentials, and informed them that this was an EPA inspection to determine the WWTP's compliance under the Clean Water Act (CWA) and the requirements of the National Pollutant Discharge Elimination System (NPDES) permit program. The generation of this report is based on information supplied by Aztec representatives, observations made by the United States Environmental Protection Agency (EPA) inspector, and records and reports maintained by the permittee (Aztec) and the EPA. Before leaving the facility, an exit briefing was held with Mr. Mazzeo, and the above-mentioned staff, to explain areas of concern noted at the time of the inspection.

FACILITY DESCRIPTION

City of Aztec operates four (4) water treatment trains using a combination of coagulation, flocculation, and various media filters, including anthracite coal, plastic pellets, and garnet and silica sand. The oldest treatment train (#1), constructed during the 1940s, consists of solids contact clarifier and two (2) conventional rapid sand filters with a conventional backwash mechanism. Train #2, constructed during the 1950s, is a newer design and consists, of solids contact clarifier with a rapid sand filter that utilizes a travelling bridge backwash system. This allows the plant to continue treatment while backwashing. Trains #3 & #4, both constructed in the 1990s, are the newest treatment of the process treatment trains and are comprised of two (2) Trident TR-840A package plants. The Animas River provides intake water for these trains. The source water is treated with aluminum sulfate and a non-ionic polyacrylamide polymer for coagulation and/or flocculation depending upon the plant, clarification, and filtering prior to disinfection and then distribution. Trains #3 and #4 undergo a flush cycle using raw water approximately every four (4) to five (5) hours. Filter backwash using potable water occurs from once per day to once every three (3) to four (4) a day's depending on the plant and the time of year. Backwash and system flush traverses through the WTP's sump system to an on-site settling pond (called "backwash pond" by the plant operators), with an outlet to an open ditch, thence to culvert, thence to a closed conduit pipe, into an open channel in the Lower Animas Ditch. Aqueous samples are collected prior to discharge at the entrance to the closed conduit pipe leading to the Lower Animas Ditch. It is located at New Mexico State Highway 173 (NM-173) or Navajo Dam Drive, San Juan County, New Mexico (**depicted in Aerial Image #1 below**). Schematics provided by the City of Aztec of the Water Treatment Plant, the Water Plant Pump House and Flow are indicated in images #1, #2 and #3, respectively below.



Aerial Image #1 Overall view of the City of Aztec's Water Treatment Plant. Aerial from Google Earth.

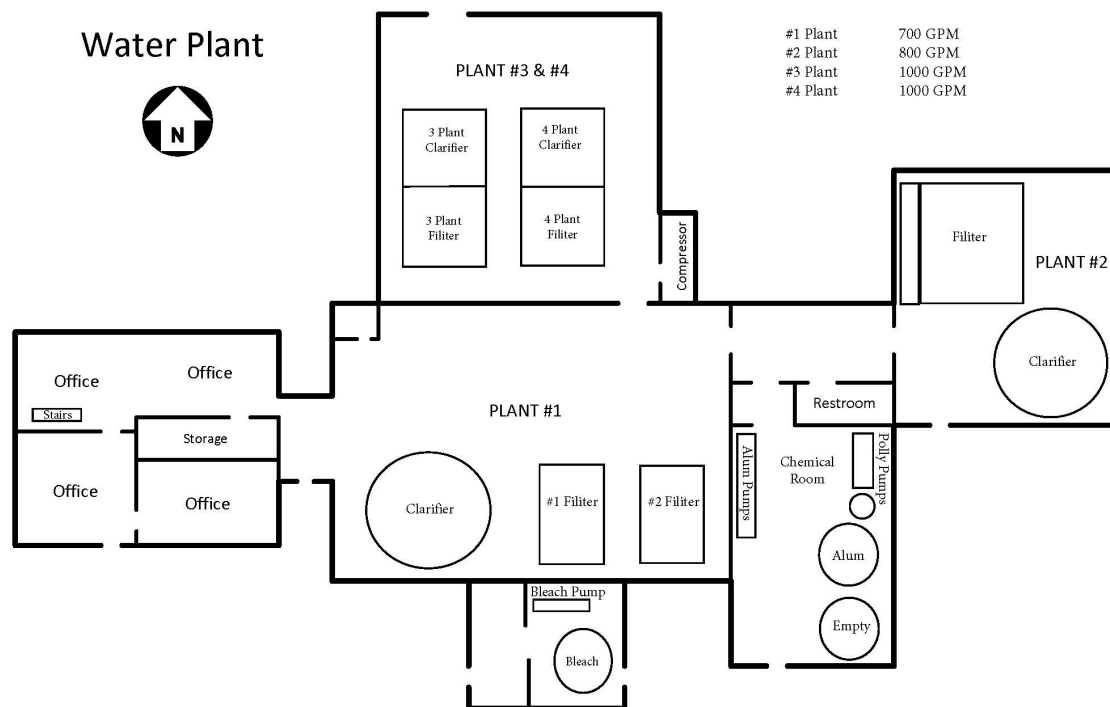


Image #1 Water Plant

Water Plant Pump
House

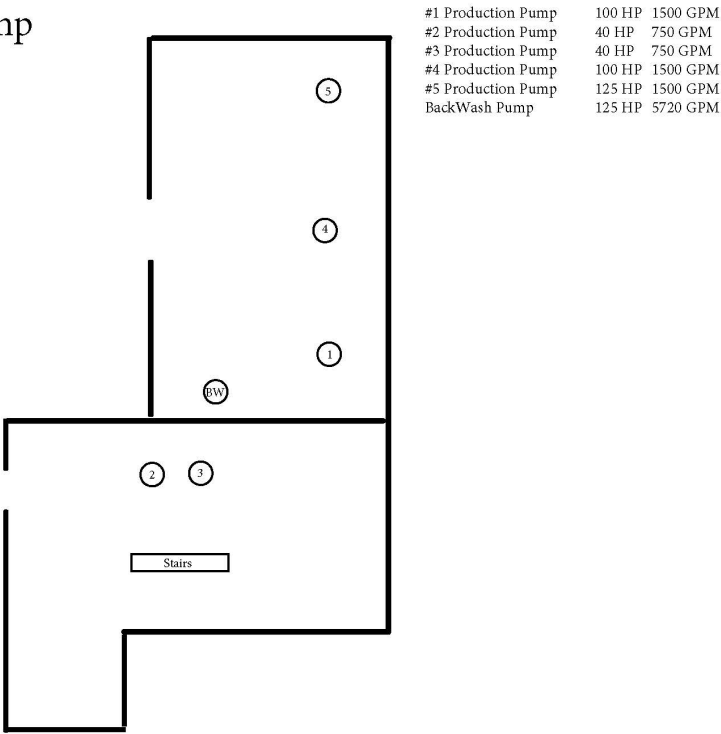


Image #2 Water Plant Pump House

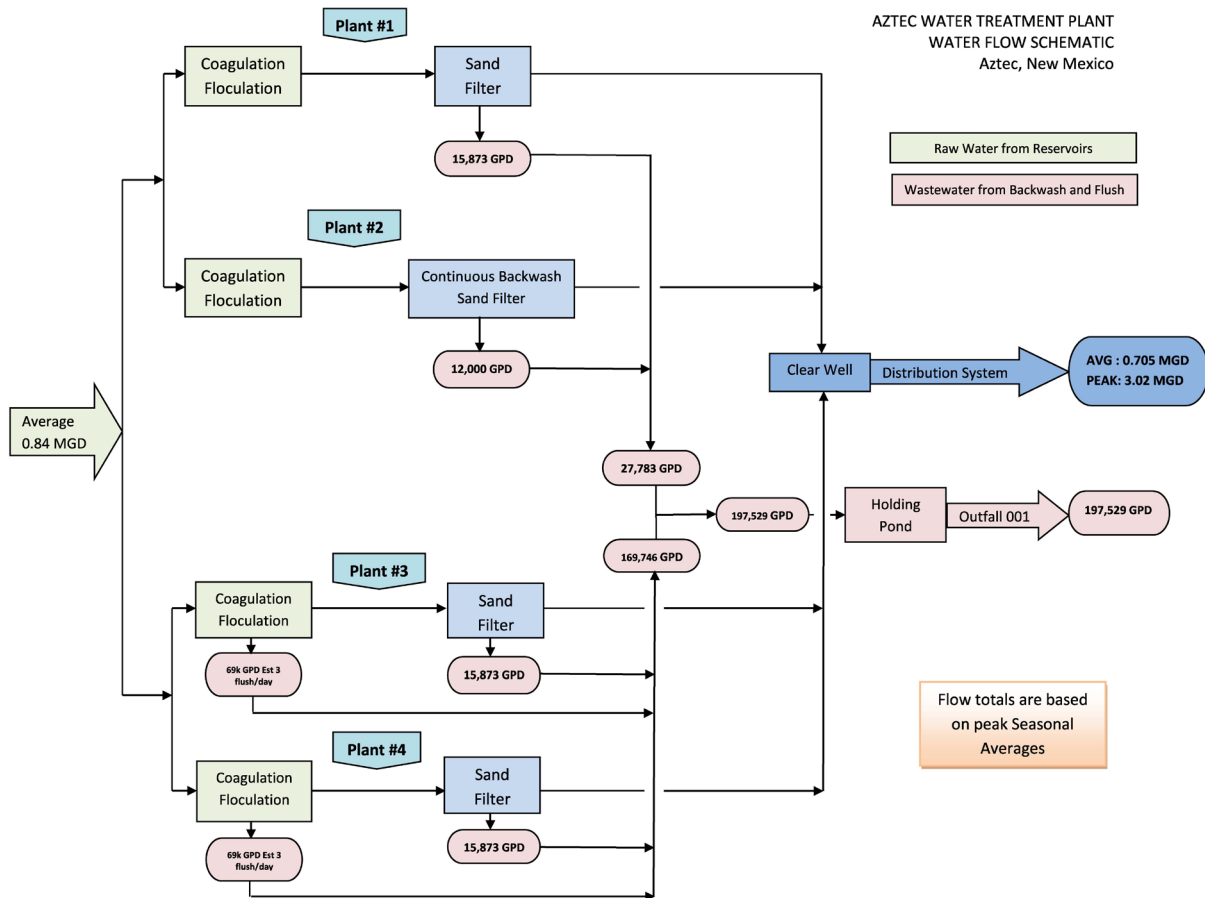


Image #3 Water Treatment Plant Flow

The WTP maintains three (3) storage reservoirs with #1 (currently undergoing rehabilitation and having a capacity of 10 MG (million gallons), #2 having a 10-MG capacity and #3 (aka “Tiger Pond”) constructed circa 2010 having a capacity of 58-MG (**Appendix 2 City of Aztec Water Treatment Plant and Reservoirs**). Additionally, the WTP can supply water to the City of Bloomfield (#NM3510124) (emergency), Northstar Mutual Domestic Water Consumer Association (MDWCA) (#NM3520024) (emergency), Flora Vista MDWCA (#NM3510024) (approximately 10%), and Southside MDWCA #NM3509924 (approximately 75%).

The WTP currently is budgeted for 3 FTE (full-time equivalent) positions and operates 7-days per week from 7:00 AM to 5:00 PM. Furthermore, the WTP maintains written standard operating procedures (SOPs) pertaining to facility operations and maintenance (O&M) and utilizes a Supervisory Control and Data Acquisition (SCADA) system to monitor operations.

Section II - OBSERVATIONS

I observed the following and/or the following information was provided or stated by WTP Staff.

- The WTP maintains three (3) storage reservoirs with #1 (currently undergoing rehabilitation and having a capacity of 10 MG (million gallons), #2 having a 10-MG capacity and #3 (aka “Tiger Pond”) constructed circa 2010 having a capacity of 58-MG.
- Backwash and system flush traverses through the WTP’s sump system to an on-site settling pond (called “backwash pond” by the plant operators). The backwash pond lacks secure perimeter fencing, signage and is located downgradient and adjacent to residential housing.
- Effluent flow at the open channel in the Lower Animas Ditch appeared to be clear. No foam, aromatics, discoloration, or stressed vegetation was observed.
- The WTP does not have emergency generators either fixed or mobile to continue operations of their treatment processes or booster stations in the event of a local power outage.
- The WTP facility itself except for the backwash pond had secure perimeter fencing; thus, limiting access.
- The overall WTP’s operations and maintenance, and general facility housekeeping appeared to be in good order.

Section III – AREAS OF CONCERN

- A review of the submitted Integrated Compliance Information System (ICIS) Discharge Monitoring Reports (DMR) data for the period March 31, 2019, through May 31, 2023, indicates numerous NPDES permit excursions with respect to Chlorine, Total Residual (TCR), and Solids, Total Suspended (TSS) (**Appendix 4 ICIS E90 Effluent Violations**).

Additional AOCs

- The backwash pond lacks secure perimeter fencing and signage and is located downgradient and adjacent to residential housing.
- The WTP does not have emergency generators either fixed or mobile to continue operations of their treatment processes or booster stations in the event of a local power outage.

Section IV – LIST OF APPENDICES

Appendix 1 – Photo Log – 9 photos taken 8/28/2023.
Appendix 2 – City of Aztec Water Treatment Plant and Reservoirs
Appendix 3 – City of Aztec Water System Inventory
Appendix 4 – ICIS E90 Effluent Violations

Appendix 1

Photograph Log



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: Aztec WWTP		
City: Aztec	County/Parish: San Juan	State: New Mexico



View of the Plant #1 clarifier and filters #1 and #2. (DSCN2605). Photographed by D. Esparza



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: Aztec WWTP		
City: Aztec	County/Parish: San Juan	State: New Mexico



View looking towards Plant #2 clarifier. (DSCN2606). Photographed by D. Esparza



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: Aztec WWTP		
City: Aztec	County/Parish: San Juan	State: New Mexico



View of Plant #2 Supervisory Control and Data Acquisition (SCADA) data display. (DSCN2609). Photographed by D. Esparza



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: Aztec WWTP		
City: Aztec	County/Parish: San Juan	State: New Mexico



View looking towards Plants #3 and #4. (DSCN2610). Photographed by D. Esparza



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

Location: Aztec WWTP		
City: Aztec	County/Parish: San Juan	State: New Mexico



View of Plants #3 and #4 Supervisory Control and Data Acquisition (SCADA) data display. (DSCN2611). Photographed by D. Esparza



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 6

Location: Aztec WWTP		
City: Aztec	County/Parish: San Juan	State: New Mexico



View of a portion of the treatment processes of Plant #3 and #4. (DSCN2612). Photographed by D. Esparza



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 7

Location: Aztec WWTP		
City: Aztec	County/Parish: San Juan	State: New Mexico



View of the discharge into the open channel, thence into a closed conduit and ultimately into the Lower Animas Ditch. (DSCN2613). Photographed by D. Esparza



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 8

Location: Aztec WWTP		
City: Aztec	County/Parish: San Juan	State: New Mexico



View looking approximately Northwest towards the on-site settling pond (called “backwash pond” by the plant operators). The backwash pond lacks secure perimeter fencing, signage and is located downgradient and adjacent to residential housing. (DSCN2615). Photographed by D. Esparza



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 9

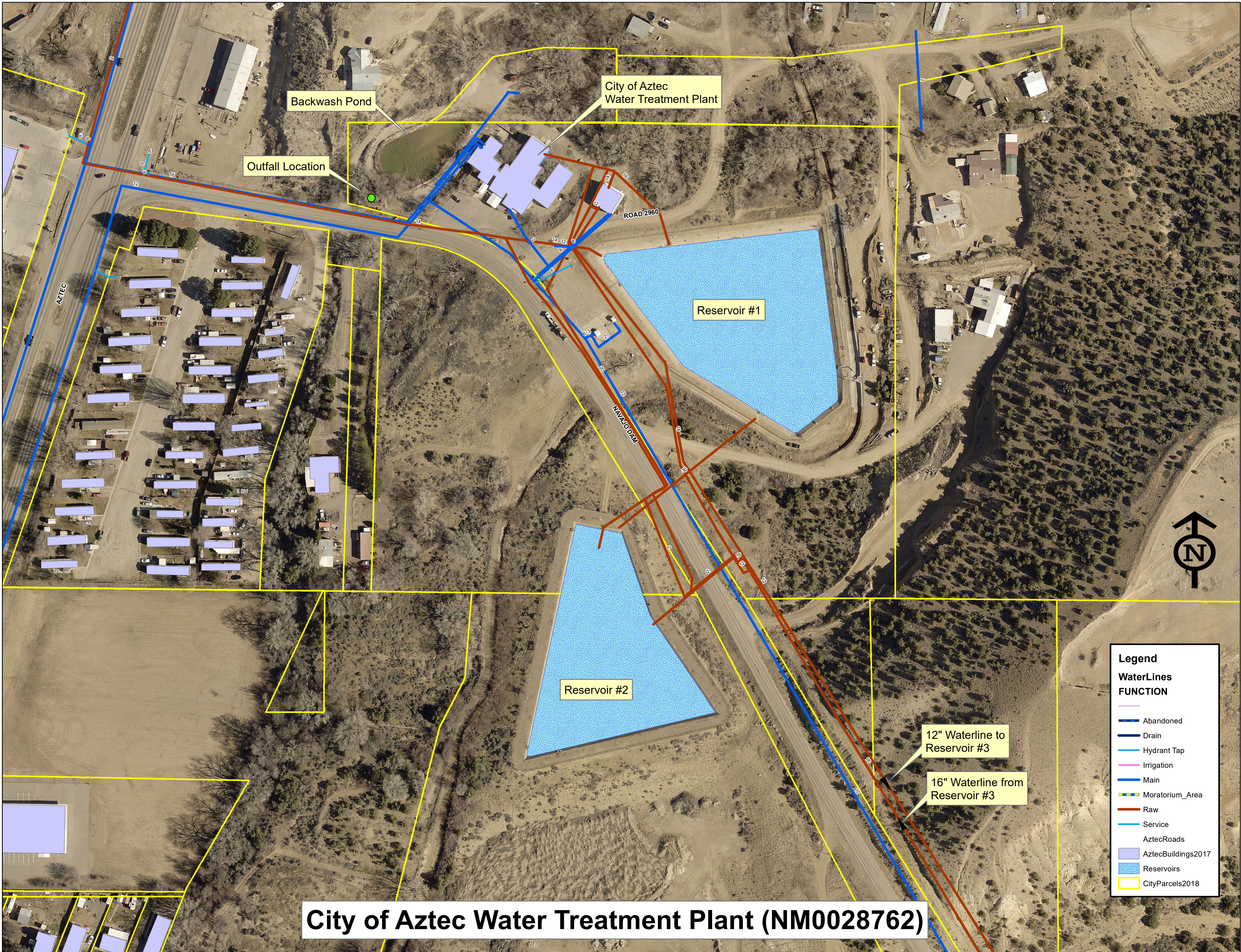
Location: Aztec WWTP		
City: Aztec	County/Parish: San Juan	State: New Mexico



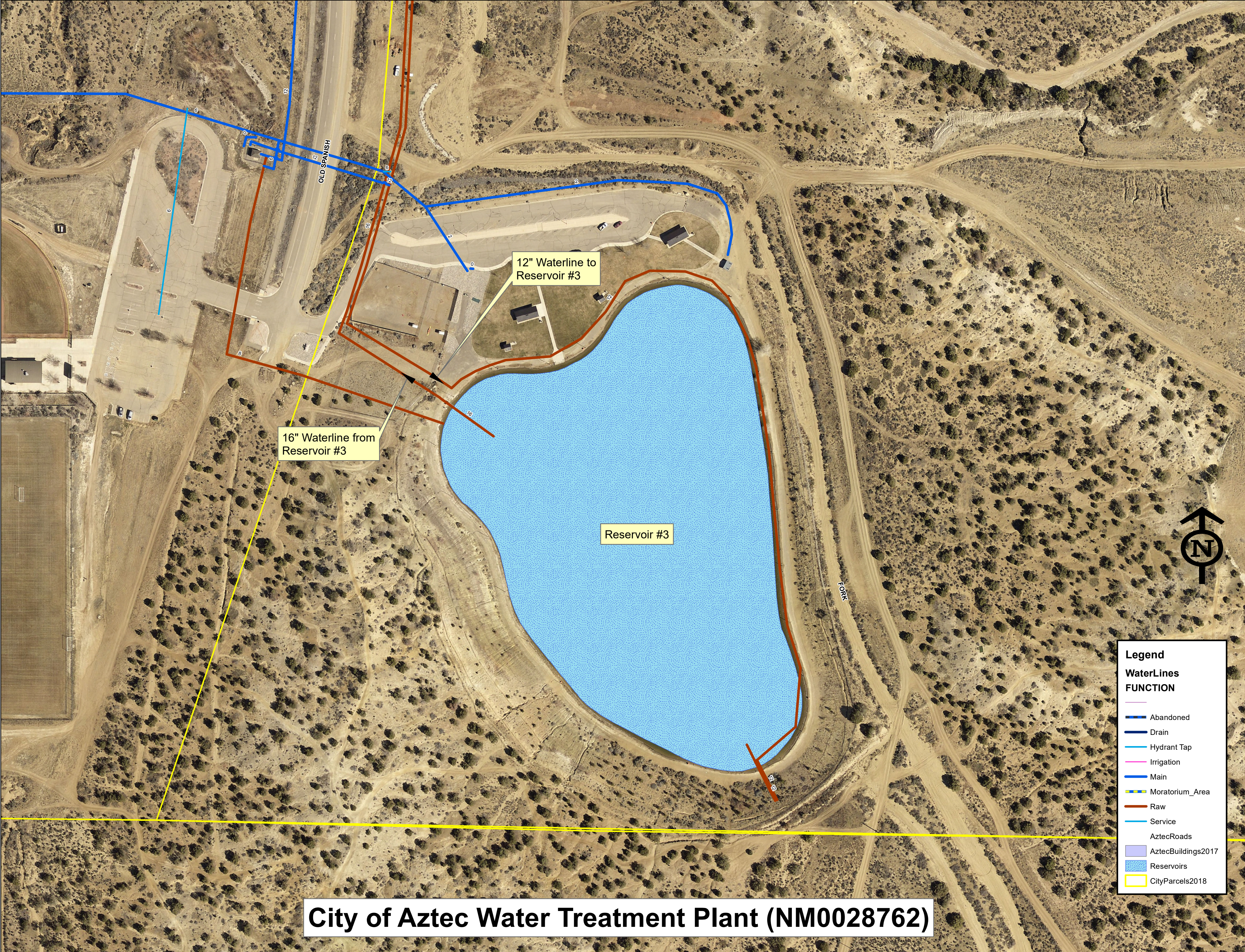
Another view looking towards the on-site settling pond (called “backwash pond” by the plant operators). Note: the backwash pond lacks secure perimeter fencing, signage and is located downgradient and adjacent to residential housing. (DSCN2616). Photographed by D. Esparza

Appendix 2

City of Aztec Water Treatment Plant and Reservoirs



City of Aztec Water Treatment Plant (NM0028762)



City of Aztec Water Treatment Plant (NM0028762)

Appendix 3
City of Aztec
Water System Inventory
(Pumps and Storage)

City of Aztec
Aztec Domestic Water System
Pump Stations

Name	Location	Size	HP	GPM	Pumps	Longitude	Latitude
Airport Pump Station	730 Airport Dr	6	25	450	2	-108.029	36.83468
Bladder Tank Pump Station	1030 S Main Ave	4/5	75	900	2	-107.998	36.80346
Upper East Pump Station	1011 Navajo Dam Rd	4	75	500	2	-107.969	36.82803
Oliver Lift Station	701 Airport Dr	6	30	900	2	-108.022	36.83479
Navajo Pump Station (Raw Water Pumps)	201 Navajo Dam Rd	12	100	2000	2	-107.977	36.83573
Navajo Pump Station	201 Navajo Dam Rd	12	75	400	2	-107.977	36.83573

City of Aztec
Aztec Domestic Water System
Pump Inventory

Name	Location	Make	Type	HP	Max GPM	Inlet Diam.	Outlet Diam.	Elev. (Ft)	Year Inst.	Next Serv.
Airport Fire Pump	730 Airport Dr	Pacific (PACO)	Centrifugal	25	450			5868		
Airport Charging Pump	730 Airport Dr	Pacific (PACO)	Centrifugal	3	20			5868		
Back Wash Pump	201 Navajo Dam Rd	FloWay	Vertical Turbine 4 stage	125	5720			5704		
Animas River Pump	CR 2980	KSB	Centrifugal	200	2800	12	8	5623	2002	
Lower Animas Ditch Pump	CR 2978	Gorman Rupp	Submersible	75	1200	6	6	5670	2000	
Navajo Raw Water #1 Pump	201 Navajo Dam Rd	Aurora	Vertical split case, single stage	100	2000	8	6			
Navajo Raw Water #2 Pump	201 Navajo Dam Rd	Aurora	Vertical split case, single stage	100	2000	8	6			
Bladder Tank Pump #1	1030 S Main Ave	Berkeley	Centrifugal	75	900	5	4	5721	2002	
Bladder Tank Pump #2	1030 S Main Ave	Berkeley	Centrifugal	75	900	5	4	5721	2002	
Upper East Aztec Pump #1	NM 173	Grundfos	Centrifugal	75	500	4	4	5792	2020	
Upper East Aztec Pump #2	NM 173	Grundfos	Centrifugal	75	500	4	4	5792	2020	
Lower East Pump #1	1011 Navajo Dam Rd	Aurora	Centrifugal	75	400	5	4			
Lower East Pump #2	1011 Navajo Dam Rd	Aurora	Centrifugal	75	400	5	4			
Oliver Pump #1	701 Airport Dr	Aurora	Centrifugal	30	900	6	6	5762	2010	
Oliver Pump #2	701 Airport Dr	Aurora	Centrifugal	30	900	6	6	5762	2010	
Water Plant #1	201 Navajo Dam Rd	Aurora	Vertical Turbine 3 stage	100	1500	14	10	5704	1997	
Water Plant #2	201 Navajo Dam Rd	Flow Serv	Vertical Turbine 3 stage	40	750		6	5704	1950	
Water Plant #3	201 Navajo Dam Rd	Flow Serv	Vertical Turbine 3 stage	40	750		6	5704	1950	
Water Plant #4	201 Navajo Dam Rd	Aurora	Vertical Turbine 3 stage	100	1500	14	8	5704	2010	
Water Plant #5	201 Navajo Dam Rd	FloWay	Vertical Turbine 3 stage	125	1500	14	8	5704	2010	

[illegible]

City of Aztec
Aztec Domestic Water System
Water Storage Inventory

Name	Location	Material	Capacity	Telemetry	Elev (Ft)	Year
Airport Tank	730 Airport Dr	Steel	250,000	Yes	5867	
Airport Tank	730 Airport Dr	Concrete	500,000	Yes	5867	2013
Bladder Tank	2000 S Main Ave	Polyester	2,000,000	Yes	5998	2002
Blanco Tank	901 Blanco St	Steel	2,000,000	Yes	5812	1958
Lower East Aztec Tank	Hwy 173 #330 UT	Steel	250,000	No	6191	
Upper East Aztec Tank	Road 2550 #42 UT	Steel	50,000	No	6480	
West Tank	201 McWilliams Rd	Steel	1,000,000	Yes	5793	1959

City of Aztec
Aztec Domestic Water System
Raw Water Storage Inventory

Name	Location	Material	Capacity	Telemetry	Elev (Ft)	Year
Reservoir #1			10M			
Reservoir #2			10M			
Reservoir #s			58M			

Appendix 4
Review
of the
ICIS
E90 Effluent Violations

City of Aztec Water Treatment Plant (NM0028762) E90 Effluent Violations

Monitoring Period End Date	Parameter Description	DMR Value	Limit Value	Unit
03/31/19	Chlorine, total residual	34	19	mg/L
11/30/19	Chlorine, total residual	61	19	ug/L
01/31/20	Chlorine, total residual	38	19	ug/L
10/31/20	Chlorine, total residual	21	19	ug/L
12/31/20	Chlorine, total residual	21	19	ug/L
06/30/21	Solids, total suspended	74	30	mg/L
06/30/21	Solids, total suspended	27	20	mg/L
09/30/21	Solids, total suspended	32	30	mg/L
09/30/21	Chlorine, total residual	22	19	ug/L
02/28/23	Chlorine, total residual	13	11	ug/L
05/31/23	Solids, total suspended	39	30	mg/L