[SUMMARY OF FINAL SUBMITTED VERSION]

PROGRESS REPORT BY PERMITTEE FOR 2017

Primary Owner: CHINO BASIN WATERMASTER
Primary Contact:

Date Submitted: 03/29/2018

Application Number: A028473
Permit Number: 019895

Source(s) of Water	POD Parcel Number	County
EAST ETIWANDA CREEK		San Bernardino
EAST ETIWANDA CREEK		Riverside
DAY CREEK		San Bernardino
DAY CREEK		San Bernardino
DAY CREEK		San Bernardino

MAX Direct Diversion Rate: 0 GPD
MAX Collection to Storage: 15000 AC-FT
Face Value: 15000 AC-FT

Permitted Use(s)	Acres	Direct Diversion Season	Storage Season
Irrigation	0		11/01 to 04/30
Industrial	0		11/01 to 04/30
Municipal	0		11/01 to 04/30

1. Permit Review	
I have reviewed my water right permit	Yes

2. Compliance with Permit Terms and Conditions	
I am complying with all terms and conditions	Yes
Description of noncompliance with terms and conditions	

3. Changes to the Project	
Intake location has been changed	
Description of intake location changes	
Type of use has changed	
Description of type of use changes	
Place of use has changed	
Description of place of use changes	
Other changes	
Description of other changes	

4-6. Permitted Project Status	
Project Status	Not Complete
6a. Construction work has commenced	Yes
6b. Construction is completed	No
6c.	Yes

Beneficial uses of water has commenced	
6d. Project will be completed within the time period specified in the permit	Yes
6e. Explanation of work remaining to be done	On October 9, 2008, Permit 21225 was issued, allowing a period within which to make beneficial use through December 2057. Petitions for Extension of Time, to the same of December 31 2057, are pending for Permits 198985 (A0238473) and 20753 (A028996). In addition to annual operation and maintenance work at permitted diversions and storage facilities (groundwater recharge basins)and diversion points, CY 2017 work included the development of preliminary design reports, environmental documentation and final designs on nine recharge improvement projects as proposed in the 2013 Amendment to the 2010 Recharge Master Plan Update. These nine new rehcarge projects are, for the most part, expansions in recharge capacities at facilities; and, construction of these proposed recharge improvements is projected to be completed in 2020. The Chino Basin Watermaster and the Inland Empire Utilities Agency will update the Recharge Master Plan in 2018 and every five years thereafter and they will subsequently construct additional recharge improvements to enhance diversion and recharge capacity within the quantities allowed under the three permits.
6f. Estimated date of completion	12/31/2057

7. Purpose of Use	
Irrigation	
Industrial	Mixed Manufacturing
Municipal	860000
Power	640 MW
Stockwatering	89700 Cows, 4000 Other Livestock
Other	Commercial Supply and Landscape

Irrigated Crops			
	Multiple Crops	**Area Irrigated (Acres)**	**Primary Irrigation Method**
Vegetables	No	30000	
Other	No	Mixed Crop types	

Special Use Categories	
C1. Are you using any water diverted under this right for the cultivation of cannabis?	No

8. Maximum Rate of Diversion for each Month	
Month	**Maximum Rate of Diversion (CFS)**
January	26.9
February	9.9
March	2.8
April	2.4
May	0
June	0
July	0

August	0
September	0
October	0
November	0
December	0

9. Amount of Water Diverted and Used			
Month	**Amount directly diverted (Acre-Feet)**	**Amount diverted or collected to storage (Acre-Feet)**	**Amount used (Acre-Feet)**
January	0	418.4	418.4
February	0	208.9	208.9
March	0	148.3	148.3
April	0	137.1	137.1
May	0	0	0
June	0	0	0
July	0	0	0
August	0	0	0
September	0	0	0
October	0	0	0
November	0	0	0
December	0	0	0
Total	0	912.7	912.7
Type of Diversion	Diversion to Storage Only		
Comments			

Water Transfers	
9d. Water transfered	No
9e. Quantity transfered (Acre-Feet)	
9f. Dates which transfer occurred	/ to /
9g. Transfer approved by	

Water Supply Contracts	
9h. Water supply contract	No
9i. Contract with	
9j. Other provider	
9k. Contract number	
9l. Source from which contract water was diverted	
9m. Point of diversion same as identified water right	
9n. Amount (Acre-Feet) authorized to divert under this contract	
9o. Amount (Acre-Feet) authorized to be diverted in 2017	
9p. Amount (Acre-Feet) projected for 2018	
9q. Exchange or settlement of prior rights	
9r. All monthly reported diversion claimed under the prior rights	
9s. Amount (Acre-Feet) of reported diversion solely under contract	

10. Water Diversion Measurement	
a. Required to measure as of the date this report is submitted	Yes
b. Is diversion measured?	Yes
c. An alternative compliance plan was submitted to the division of water rights on	
d. A request for additional time was submitted to the division of water rights on	

Measurement ID number	M001466
This Device/Method was used to measure water during the current reporting period	Yes
M1. Briefly describe the measurement device or method	Transducer
M2. Nickname	Lower Day Basin Cell 2 Transducer
M3. Type of device / method	Pressure transducer
M4. Device make	PMC
M5. Serial number	20032
M6. Model number	Versaline VL 4513
M7. Approximate date of installation	10/18/2016
M8. Additional info	
M9. Approximate date the measuring device was last calibrated or the measurement method was updated	07/20/2017
M10. Estimated accuracy of measurement	0.1%
M11. Description of calibration method	1. Prior to arriving on-site, notify Groundwater Recharge Operations of intent to work. 2. Check the surrounding area around the sensor for safety. The water level must be below the sensor location. 3. Remove the transducer from the case. 4. Clean the transducer, removing any debris from the head of the sensor. 5. Check the transmitter calibration method per instrument specifications and Operations and Maintenance manual. 6. Record most recent transducer reading. 7. Prepare the calibrator equipment: Meriam (Smart Manometer), pressure pump, hoses, calibrator tube, and Fluke Process calibrator (Fluke meter, with range of 4 to 20 Milliamps [mA]). 8. Inspect Moisture Protection (MP-11) unit and tubing for cracks and leaks. 9. After the sensor is clean and dry, insert the sensor in the calibrator tube. Tighten the sensor to ensure a good seal. 10. Using the chart scaled to the proper range of the instrument, pump to apply pressure to the instrument. Check the minimum pressure (zero) to check that the Fluke meter shows 4mA. 11. Check the linearity of the instrument: A. Increase pressure to 25 percent of the range of the instrument and check that the Fluke meter shows 8 mA. B. Increase pressure to 50 percent of the range of the instrument and check that the Fluke meter shows 12mA. C. Increase pressure to 75 percent of the range of the instrument and check that the Fluke meter shows 16mA. D. Increase pressure to the maximum pressure range (using the chart referenced above). The Fluke meter should show 20mA, which is the maximum reading of the instrument. 12. Verify that the instrument is in good condition. For the instrument to be in good condition, it must: A. Be in an acceptable accuracy range (minimum deviation according to manufacturers). B. Respond quickly to any variation on the pressure calibrator. C. Show the indicated mAs on the Fluke meter. 13. Prior to leaving site,

	request an operational test of the equipment on which maintenance was performed. 14. Confirm that no active alarms exist prior to leaving the site.
M12. Describe the maintenance schedule for the device/method	Maintenance as-needed, annual calibration
Information for the person who last calibrated the device or designed the measurement method	
M13. Name	Efrain Russo
M14. Phone number	1.951.295.0775
M15. Email	e.russo@ieua.org
M16. Qualifications of the individual	Person working under the supervision of a California Professional Engineer
M17. License number and type for the qualified individual above and/or any other relevant explanation	A person trained to operate and maintain water measurement devices, supervised by Randy Lee, a California-registered Professional Engineer (License #68573), and the Executive Manager of Operations and Maintenance for the Inland Empire Utilities Agency
M18. Type of data recorder device / method	Other: Supervisory control and data acquisition (SCADA) system
M19. Data recorder device make	N/A
M20. Data recorder serial number	N/A
M21. Data recorder model number	N/A
M22. Data recorder units of measurement	Acre-Feet
M23. Frequency of data recording	More frequent than hourly
M24. Additional data recorder info	Transducer's digital data is transmitted to a programmable logic controller (PLC), which relays the data via radio to a computer that stores the information. This is facilitated by the SCADA system.
M25. I am required to report my diversion or storage data by telemetry as of the date this report is submitted	No
M26. I report my diversion or storage date by telemetry to the following website	
M27. I have attached	Yes

additional information on the method I used to calculate the volume of water	
M28. Describe any documents related to this measurement device or method that are attached to this water use report	Elevation-area-storage table of Lower Day Basin

Measurement ID number	M001652
This Device/Method was used to measure water during the current reporting period	Yes
M1. Briefly describe the measurement device or method	Transducer
M2. Nickname	Lower Day Basin Cell 1 Transducer
M3. Type of device / method	Pressure transducer
M4. Device make	GE Druck
M5. Serial number	N/A
M6. Model number	PTX 1830
M7. Approximate date of installation	07/01/2011
M8. Additional info	Best efforts were made to collect serial numbers, but they are not reasonably available.
M9. Approximate date the measuring device was last calibrated or the measurement method was updated	07/20/2017
M10. Estimated accuracy of measurement	0.1%
M11. Description of calibration method	1. Prior to arriving on-site, notify Groundwater Recharge Operations of intent to work. 2. Check the surrounding area around the sensor for safety. The water level must be below the sensor location. 3. Remove the transducer from the case. 4. Clean the transducer, removing any debris from the head of the sensor. 5. Check the transmitter calibration method per instrument specifications and Operations and Maintenance manual. 6. Record most recent transducer reading. 7. Prepare the calibrator equipment: Meriam (Smart Manometer), pressure pump, hoses, calibrator tube, and Fluke Process calibrator (Fluke meter, with range of 4 to 20 Milliamps [mA]). 8. Inspect Moisture Protection (MP-11) unit and tubing for cracks and leaks. 9. After the

	sensor is clean and dry, insert the sensor in the calibrator tube. Tighten the sensor to ensure a good seal. 10. Using the chart scaled to the proper range of the instrument, pump to apply pressure to the instrument. Check the minimum pressure (zero) to check that the Fluke meter shows 4mA. 11. Check the linearity of the instrument: A. Increase pressure to 25 percent of the range of the instrument and check that the Fluke meter shows 8 mA. B. Increase pressure to 50 percent of the range of the instrument and check that the Fluke meter shows 12mA. C. Increase pressure to 75 percent of the range of the instrument and check that the Fluke meter shows 16mA. D. Increase pressure to the maximum pressure range (using the chart referenced above). The Fluke meter should show 20mA, which is the maximum reading of the instrument. 12. Verify that the instrument is in good condition. For the instrument to be in good condition, it must: A. Be in an acceptable accuracy range (minimum deviation according to manufacturers). B. Respond quickly to any variation on the pressure calibrator. C. Show the indicated mAs on the Fluke meter. 13. Prior to leaving site, request an operational test of the equipment on which maintenance was performed. 14. Confirm that no active alarms exist prior to leaving the site.
M12. Describe the maintenance schedule for the device/method	Maintenance as-needed, annual calibration
Information for the person who last calibrated the device or designed the measurement method	
M13. Name	Efrain Russo
M14. Phone number	1.951.295.0775
M15. Email	e.russo@ieua.org
M16. Qualifications of the individual	Person working under the supervision of a California Professional Engineer
M17. License number and type for the qualified individual above and/or any other relevant explanation	A person trained to operate and maintain water measurement devices, supervised by Randy Lee, a California-registered Professional Engineer (License #68573), and the Executive Manager of Operations and Maintenance for the Inland Empire Utilities Agency
M18. Type of data recorder device / method	Other: Supervisory control and data acquisition (SCADA) system
M19. Data recorder device make	N/A
M20. Data recorder serial number	N/A
M21. Data recorder model number	N/A
M22. Data recorder units of measurement	Acre-Feet
M23. Frequency of data recording	More frequent than hourly
M24. Additional data recorder info	Transducer's digital data is transmitted to a programmable logic controller (PLC), which relays the data via radio to a computer that stores the information. This is facilitated by the SCADA system.
M25. I am required to report	No

my diversion or storage data by telemetry as of the date this report is submitted	
M26. I report my diversion or storage date by telemetry to the following website	
M27. I have attached additional information on the method I used to calculate the volume of water	Yes
M28. Describe any documents related to this measurement device or method that are attached to this water use report	Elevation-area-storage table for the Lower Day Basin

Measurement ID number	M001812
This Device/Method was used to measure water during the current reporting period	Yes
M1. Briefly describe the measurement device or method	Transducer
M2. Nickname	Lower Day Basin Cell 3 Transducer
M3. Type of device / method	Pressure transducer
M4. Device make	GE Druck
M5. Serial number	N/A
M6. Model number	PTX 1830
M7. Approximate date of installation	07/01/2011
M8. Additional info	Best efforts were made to collect serial numbers, but they are not reasonably available.
M9. Approximate date the measuring device was last calibrated or the measurement	07/20/2017

method was updated	
M10. Estimated accuracy of measurement	0.1%
M11. Description of calibration method	1. Prior to arriving on site, notify Groundwater Recharge Operations of intent to work. 2. Check the surrounding area around the sensor for safety. The water level must be below the sensor location. 3. Remove the transducer from the case. 4. Clean the transducer, removing any debris from the head of the sensor. 5. Check the transmitter calibration method per instrument specifications and Operations and Maintenance manual. 6. Record most recent transducer reading. 7. Prepare the calibrator equipment: Meriam (Smart Manometer), pressure pump, hoses, calibrator tube, and Fluke Process calibrator (Fluke meter, with range of 4 to 20 Milliamps [mA]). 8. Inspect Moisture Protection (MP-11) unit and tubing for cracks and leaks. 9. After the sensor is clean and dry, insert the sensor in the calibrator tube. Tighten the sensor to ensure a good seal. 10. Using the chart scaled to the proper range of the instrument, pump to apply pressure to the instrument. Check the minimum pressure (zero) to check that the Fluke meter shows 4mA. 11. Check the linearity of the instrument: A. Increase pressure to 25 percent of the range of the instrument and check that the Fluke meter shows 8 mA. B. Increase pressure to 50 percent of the range of the instrument and check that the Fluke meter shows 12mA. C. Increase pressure to 75 percent of the range of the instrument and check that the Fluke meter shows 16mA. D. Increase pressure to the maximum pressure range (using the chart referenced above). The Fluke meter should show 20mA, which is the maximum reading of the instrument. 12. Verify that the instrument is in good condition. For the instrument to be in good condition, it must: A. Be in an acceptable accuracy range (minimum deviation according to manufacturers). B. Respond quickly to any variation on the pressure calibrator. C. Show the indicated mAs on the Fluke meter. 13. Prior to leaving site, request an operational test of the equipment on which maintenance was performed. 14. Confirm that no active alarms exist prior to leaving the site.
M12. Describe the maintenance schedule for the device/method	Maintenance as-needed, annual calibration
Information for the person who last calibrated the device or designed the measurement method	
M13. Name	Efrain Russo
M14. Phone number	1.951.295.0775
M15. Email	e.russo@ieua.org
M16. Qualifications of the individual	Person working under the supervision of a California Professional Engineer
M17. License number and type for the qualified individual above and/or any other relevant explanation	A person trained to operate and maintain water measurement devices, supervised by Randy Lee, a California-registered Professional Engineer (License #68573), and the Executive Manager of Operations and Maintenance for the Inland Empire Utilities Agency
M18. Type of data recorder device / method	Other: Supervisory control and data acquisition (SCADA) system
M19. Data recorder device make	N/A
M20. Data recorder serial number	N/A

M21. Data recorder model number	N/A
M22. Data recorder units of measurement	Acre-Feet
M23. Frequency of data recording	More frequent than hourly
M24. Additional data recorder info	Transducer's digital data is transmitted to a programmable logic controller (PLC), which relays the data via radio to a computer that stores the information. This is facilitated by the SCADA system.
M25. I am required to report my diversion or storage data by telemetry as of the date this report is submitted	No
M26. I report my diversion or storage date by telemetry to the following website	
M27. I have attached additional information on the method I used to calculate the volume of water	Yes
M28. Describe any documents related to this measurement device or method that are attached to this water use report	Elevation-area-storage table for the Lower Day Basin.

11. Storage					
Reservoir name	**Spilled this year**	**Feet below spillway at maximum storage**	**Completely emptied**	**Feet below spillway at minimum storage**	**Method used to measure water level**
Chino Groundwater Basin	No	0	No	0	Regional Groundwater Level Monitoring Network

Conservation of Water	
12. Are you now employing water conservation efforts?	Yes
Description of water conservation efforts	The over 200 Appropriative, Non-Agricultural, and Agricultural Chino Basin groundwater producers have instituted many water conservation measures, ranging from recycled water conversion to public education notices.
13. Amount of water conserved	

Water Quality and Wastewater Reclamation	
14. During the period covered by this Report, did you use reclaimed water from a wastewater treatment facility, water from a desalination facility, or water polluted by waste to a degree which unreasonably affects the water for other beneficial uses?	Yes
15. Amount of reclaimed, desalinated, or polluted water used	

Conjuctive Use of Groundwater and Surface Water	
16. During the period covered by this Report, were you using groundwater in lieu of available surface water authorized under your permit?	No
17. Amounts of groundwater used	

Additional Remarks

The Chino Basin Watermaster holds three permitted rights for diversion and recharge of stormwater within the Santa Ana River Watershed. Permit 19895 covers the Day Creek Project Facilities and allows the diversion of 15,000 acre-feet annually, from November 1 through April 30 of the succeeding year, to underground storage through recharge basins and spreading grounds along Day Creek. Permit 20753 covers the East Etiwanda Creek and San Sevaine Creek Facilities and allows the diversion of 27,000 acre-feet annually, from October 1 through May 1 of the succeeding year, to underground storage through recharge basins and spreading grounds along East Etiwanda and San Sevaine Creeks. Permit 21225 allows the annual diversion of 68,500 acre-feet, from January 1 to December 31, to underground storage through recharge basins and spreading grounds along Deer, Day, Etiwanda, San Sevaine, Chino, San Antonio, and Cucamonga Creeks. (For clarity, the notice listed Deer Creek as being in Riverside County, but it is located entirely within San Bernardino County.) Some facilities covered under Permits 19895 and 20753 are additionally permitted for additional recharge under Permit 21225. Chino Basin Watermaster conjunctively manages spreading ground and basin recharge pursuant to the three permits and believes the permits are best managed conjunctively. While several phases of groundwater recharge facility construction have been completed, pursuant to these three permits, the Chino Basin Stakeholders continue to implement additional improvements contemplated in the Recharge Master Plan and Optimum Basin Management Program. Furthermore, since precipitation within the Chino Basin watershed is both flashy and subject to extreme variations in annual rainfall volumes (droughty), it is anticipated that diversion to storage may also vary dramatically and infrequently reach full permitted volumes. Pursuant to Permit 21225, Watermaster has through the year 2057 to make full beneficial use of the allowed storage volume, and similar time extensions are currently pending for permits 19895 and 20753, to facilitate conjunctive implementation and operation of the diversion and recharge basin and spreading ground network. With respect to Question 7, Watermaster's permits allow use for Industrial, Irrigation and Municipal purposes (and, in the case of Permit 21225, Stockwatering). During the calendar year, the total volume of groundwater extracted from the Chino Basin was approximately 135,544 acre-feet: including 114,243 acre-feet for municipal (Appropriators) use, 17,921 acre-feet for Agricultural (Crops and Stockwatering/Dairy), 28,253 acre-feet by Chino Basin Desalter Authority (24,600 acre-feet of which was made available for municipal use), 3,380 acre-feet for Non-Agricultural Overlying (Industrial) use and 283 acre-feet for energy production. With respect to Question 8, these volumes reflect the quantities of recharge diverted to underground storage pursuant to Permits 19895, 20753, and 21225, as Chino Basin Watermaster conjunctively manages all diversions to the recharge basin and spreading ground network. With respect to Question 9, the daily volume of water diverted at each facility was measured using pressure transducers and physical configurations, converted into an average 24-hour flow rate, summed, and the maximum for each month reported. With respect to Question 13, during the calendar year, the Chino Desalters extracted 28,253 acre-feet of contaminated stored groundwater (degraded by TDS, nitrate, and TCE), producing 24,600 acre-feet of (reclaimed) product water. Additionally, 34,231 acre-feet of reclaimed (recycled) water were used of which 14,447 acre-feet were recharged and 19,784 acre-feet were directly used.

Attachments

File Name	Description	Size
Lower Day - EAS.xls	Elevation-area-storage tables for recharge facilities in the Chino Basin diverting water under permit 19895	133 KB
20170926_StormwaterComplianceReport_F16_17_FINAL.pdf	Annual Streamflow Monitoring Report	2 MB

Contact Information of the Person Submitting the Form	
First Name	Edgar

Last Name	Tellez Foster
Relation to Water Right	Primary Owner of Record

Information on Certification and Signatory	
Name of Person Signing and Certifying the Report	Edgar Tellez Foster, PhD
Date of Signature	03/29/2018