



Memo

To: C. Bromley
From: Greg Sullivan
Cc:
Date: July 1, 2024
Re: City of Heyburn wastewater usage

City of Heyburn ground water consumptive use calculations were calculated from data provided by the City of Heyburn. The analysis includes monthly pumping volumes for the 2023 calendar year for City Wells #2, #3, #4, Heyburn Est. and Wayside Est. Data is also provided by the City of Heyburn's 2023 waste water treatment facility discharge as waste water total pumped (WWTP). Estimated monthly infiltration and inflow values into the City of Heyburn's waste water collection system are based on a City of Heyburn Wastewater Collection System Master Plan report dated December 2018 prepared by JUB Engineers, Inc.

The 2018 report prepared by JUB calculated ground water infiltration in the wastewater collection system to be 0.07 million gallons per day (MGD) during the low flow periods of the year. A calculated ground water infiltration in the wastewater collection system to be 0.47 million gallons per day (MGD) during the summer flow periods of the year. A ground water infiltration rate of 0.27 MGD was used during months transitioning from spring to summer and from summer to winter periods.

The annual well production for the 2023 is 530 acre feet. Total WWTP discharge for 2023 is 594 acre feet. Calculated infiltration and inflow to the waste water collection system is 304 acre feet. By adding the total well production volume of 530 acre feet to the calculated infiltration and inflow volume of 304 acre feet and then subtracting out the actually volume amount of 594 acre feet discharged by the WWTP a consumptive use volume of City of Heyburn is calculated to be 240 acre feet or 45% of the volume of water pumped by the City's well.

There is no amount of discharged treated wastewater that is returned or recharged back into the ground water aquifer.



2023 Calendar Year Monthly Water Consumption for City of Heyburn

Month	WWTP Discharge (Gal)	Estimated I&I ⁽¹⁾ (Gal)	Net WWTP Discharge ⁽²⁾ (Gal)	Well Production (Gal)
January	12,397,000	2,170,000	10,227,000	7,928,252
February	12,121,000	1,960,000	10,161,000	8,034,823
March	13,089,000	2,170,000	10,919,000	9,745,520
April	12,784,000	8,100,000	4,684,000	9,702,194
May	14,880,000	8,370,000	6,510,000	17,675,154
June	17,880,000	8,100,000	9,780,000	19,788,918
July	23,476,000	14,570,000	8,906,000	31,809,180
August	21,058,000	14,570,000	6,488,000	25,370,018
September	20,479,000	14,100,000	6,379,000	16,808,053
October	19,038,000	8,370,000	10,668,000	10,702,025
November	14,792,000	8,100,000	6,692,000	7,998,616
December	11,648,000	8,370,000	3,278,000	7,203,717
Total Gallons for 2023:	193,642,000	98,950,000	94,692,000	172,766,470
Total Acre-Feet	594	304	291	530
Avg Consumptive Volume (by %):				45%
Avg Consumptive Volume (by Acre-Feet):				240

Notes:

- (1) Estimated Infiltration and Inflow (I&I) based on the City of Heyburn Wastewater Collection System Master Plan dated December 13, 2018 by J-U-B Engineers, Inc., pages 23-24 and C-10 - C-11. Factors used are 0.07 MGD for Jan - Mar, 0.27 MGD for Apr - Jun and Oct - Dec, and 0.47 MGD for July - Sep.
- (2) Net Discharge for the WWTP subtracts the estimated Infiltration and Inflow from the total discharge to estimate the amount of well water processed by the WWTP.

2023 Calendar Year Monthly Well Production for City of Heyburn

Month	well # 2	Well # 3	well # 4	Heyburn Est.	Wayside Est.	Tot. Mo. Gals.
January	1,757,000	321,000	5,765,000	71,142	14,110	7,928,252
February	1,687,000	765,000	5,395,000	175,203	12,620	8,034,823
March	1,749,000	991,000	4,397,000	95,610	2,512,910	9,745,520
April	1,759,000	1,340,000	6,301,000	173,594	128,600	9,702,194
May	1,865,000	3,287,000	12,087,000	304,354	131,800	17,675,154
June	1,695,000	5,306,000	12,041,000	628,718	118,200	19,788,918
July	1,811,000	14,022,000	14,371,000	1,457,680	147,500	31,809,180
August	1,831,000	10,183,000	12,422,000	796,718	137,300	25,370,018
September	1,755,000	6,100,000	8,462,000	375,553	115,500	16,808,053
October	1,813,000	579,000	8,020,000	179,125	110,900	10,702,025
November	1,874,000	3,688,000	2,110,000	218,016	108,600	7,998,616
December	1,694,000	189,000	4,978,000	245,617	97,100	7,203,717
12 Month Total Gallons	21,290,000	46,771,000	96,349,000	4,721,330	3,635,140	172,766,470
12 Month Total Acre-Feet	65	144	296	14	11	530

Maline, Denise

From: Chris Bromley <cbromley@mchughbromley.com>
Sent: Monday, July 8, 2024 2:39 PM
To: IDWR File; Hummer, Phill
Cc: 'Charles Brockway'; Greg Sullivan; Ivan McCracken; 'Tony Morley'; Paul Ross
Subject: RE: Transfer No. 87938 -- City of Heyburn
Attachments: Ex 9 - WW Memo.pdf

CAUTION: This email originated outside the State of Idaho network. Verify links and attachments **BEFORE** you click or open, even if you recognize and/or trust the sender. Contact your agency service desk with any concerns.

Phil,

It was brought to my attention that the first page of Exhibit 9 wasn't formatted on Brockway Engineering letterhead. I'm attaching a corrected version of the exhibit. Nothing else has changed in the exhibit except the header. We'll have the corrected version printed for tomorrow.

Thanks,

Chris

From: Chris Bromley
Sent: Tuesday, July 2, 2024 1:35 PM
To: Idaho Department of Water Resources Filing <file@idwr.idaho.gov>; Hummer, Phill <Phill.Hummer@idwr.idaho.gov>
Cc: 'Charles Brockway' <charles.g.brockway@brockwayeng.com>; Greg Sullivan <greg.sullivan@brockwayeng.com>; Ivan McCracken <imccracken@heyburncity.org>; 'Tony Morley' <tmorley@heyburncity.org>; Paul Ross <paul@paulnjrosslaw.com>
Subject: Transfer No. 87938 -- City of Heyburn

Please find attached for filing on behalf of the City of Heyburn, an *Exhibit and Witness List* and associated exhibits in re: Application for Transfer No. 87938.

Thank you,

Chris M. Bromley
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