May 1, 2020

VIA EMAIL: ria.berns@ecy.wa.gov

Cascadia Law Group
ENVIRONMENTAL ATTORNEYS

Ria Berns, Program Manager
Water Resources
Department of Ecology
Northwest Regional Office
3190 - 160th Ave. SE
Bellevue, WA 98008-5452

Re: City of North Bend Water Supply

Dear Ria:

Last month, you and I had a discussion regarding the authorized water supply for the City of North Bend. We also discussed the potential use of water from the Sallal Water Association and Cascade Golf Course wells as mitigation for North Bend's Water Right Permit No. G1-26617(A) (Permit). I reviewed your letter to Mayor McFarland that makes the finding that the Sallal Water Right Certificate No. G1-24671 may be used for mitigation of North Bend's water right without any further action by Ecology. As you know, I believe this decision is not legally sound and sets new precedent. I briefly address this in more detail below.

The primary purpose of this letter is to address the current status of the City's mitigation. At this time there is no mitigation water other than Hobo Springs. Hobo Springs is not an adequate source for current water demand and, on behalf of my client, I respectfully request that Ecology inform North Bend that it must cease committing water for new development until a second adequate mitigation source is firmly available.

From our discussion I understand that while the Report of Examination for the Permit requires mitigation in addition to Hobo Springs, Ecology now believes that Hobo Springs has shown to be more reliable than earlier thought, and in the short term Ecology does not have the same concern it had when the Permit was first issued. However, there is not an understanding of the short term. In fact, based on Golder's own data, mitigation is not available for any additional water withdrawals under the Permit. The recent draft Water System Plan supports this conclusion. Your letter to the Mayor acknowledges that there is vulnerability for the City in its reliance on the Permit. In my opinion, based on the real data, a stronger and proactive approach by Ecology is necessary.

Ecology must protect the minimum flows of the Snoqualmie River under Ch. 173-507 WAC and should not take a reactive approach by again waiting for unauthorized impairment to the flows before taking appropriate action. Ecology

has the authority to take action if there is impending violation under RCW 43.27A.190. The additional demand on water supply because of the City of North Bend's approval of plats and building permits under RCW 58.17.110 and RCW 19.27.097 will cause impairment to the minimum instream flows.

If the City is allowed to continue to commit water for new development without a second mitigation source, Ecology will be in the untenable position of making a decision to regulate North Bend's withdrawal of water under the Permit that would shut off water supply for domestic purposes. Yet, we know the regulation of potable domestic water use will not occur, and the Snoqualmie River will take the impact from the lack of proper planning. In Ecology's regulatory capacity, the proper approach that is protective of the residents and the minimum instream flows is to consider the available water supply and demand during a dry year. The year 2015 was a dry year that should be used as the base year for determining adequate mitigation. This year should not be ignored as an anomaly, considering weather patterns and climate change.

My client's position is supported by Golder's own data. In its October 2019 Water Supply and Mitigation Report (Golder Report), Golder surprisingly did not run the model regarding impacts on the Snoqualmie River with only Hobo Springs as mitigation. Therefore, the Golder Report fails to provide the crucial analysis of the current mitigation scenario which determines the water available under the Permit. Although we do not have access to the Golder database and GoldSim Model, we have used Golder data to provide a snapshot of what likely occurred in 2015 and will occur in the future during peak demand months, July – September, with Hobo Springs as the sole mitigation source.

Based on the analysis, North Bend does not have sufficient mitigation water until another source is found. *Please see* chart at Attachment 1. Attachment 1 is a projection of North Bend's water demand vs. available water supply with only Hobo Springs as mitigation in peak demand months under the conditions of 2015. For this comparison, Scenario 5 in the Golder Report was used because it excludes the City's Potential Annexation Area (PAA). During the critical period of time in a 2015 dry-year scenario, the demand is exceeding the supply of water available based on the available mitigation from Hobo Springs.

There should be no dispute that the flow of water available from Hobo Springs is currently not an adequate and reliable supply during the critical period if there is a dry year like 2015. We know that Hobo Springs does go dry at times when instream flows can be below threshold. In 24 years of records there were six years when flow was below 0.5 cfs, and three years where it was essentially zero. *See* Golder Report Summary, Table A-3 and Figure A-4, at Attachments 2 and 3.

Figure A-4 also shows that the minimum daily flows from 2007 to 2018 have decreased, and we should expect this trend to continue with climate change.

In 2015, City water demand was 629 afy (205 mgy). *See* Golder Report Table A-9. Attachment 1 compares this to projected growth this year, 2020, and future growth in 2025. It is clear that current mitigation is not adequate if a weather year like 2015 were to be repeated. The projected demand in the Golder Report for 2020 is approximately 765 afy (250 mgy), which represents a 22% increase over 2015. *See* Golder Report, Figure B-1, at Attachment 4. The projected demand for 2025 is approximately 1,350 afy (440 mgy), which represents a 115% increase over 2015. Golder Figure B-1 is concerning because it indicates a relatively slow rate of growth in demand from 2000 to 2024, then a dramatic ramp up in demand, contrary to other sources of growth predictions. Attachment 1 illustrates a marginal deficiency in supply versus demand in 2015 with increasing deficiency in 2020 and 2025 for the same type of dry year. The City's recently filed a Draft Water System Plan update supports this conclusion. The Plan finds that the City is at or near its mitigation capacity limits and when a drier summer occurs the flows at Hobo Springs would be at or below the required mitigation. *See* Executive Summary of Water System Plan, pages 3-30.

The Mount Si Springs source of supply is generally going to be very limited in flow during the critical time period. Mount Si Springs is operating more efficiently now with the new variable flow pumps; however, with the 3 cfs bypass requirement Centennial Well must provide more than twice as much as the Springs during this critical time of the driest months. Again, this is confirmed in the Draft Water System Plan update, which states during the summer months the high demand coincides with the severely limited withdrawal capacity from Mount Si Springs. *See* Executive Summary of Water System Plan, pages 3-30.

Further, as you know, the City's use of Hobo Springs is only as reliable as the contract it has with the City of Seattle. It is not a guaranteed source. How Seattle manages the Masonry Pool impacts seepage and amount of water available to Hobo Springs. Seattle operates and may make improvements to Masonry for the benefit of all ratepayers even though it may have impacts on the Springs. The contract between Seattle and North Bend further specifies that Seattle may curtail delivery of water in the event of related water shortages regardless of the cause. Seattle may in its sole discretion also "interrupt or reduce deliveries" of water to North Bend for several reasons, including demands of federal and state agencies, investigations, inspections, and maintenance. In other words, Seattle is not required to make sure Hobo Springs provides full mitigation for the Permit.

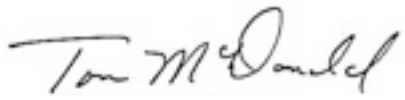
I also would like to respond to your findings in your letter to Mayor McFarland. Ecology has made the decision that in issuing North Bend's Water Right Permit

No. G1-26617(A), it authorized Sallal's Water Right Certificate G1-24671 as mitigation for the North Bend Permit. While it did find that the Sallal wells are a source of mitigation, I respectfully disagree that this finding did nor could it have amended Sallal's water right to allow a new use or manner of use such as mitigation.

The purpose of use of a groundwater right may only be amended under 90.44.020, .100. An application to Ecology and review under RCW 90.03.380 as well as RCW 90.44.100 is required. I did not find any of the water rights referenced by Mr. Pors to have these same facts, where one municipal water supplier was using its water right to augment another municipal water supplier's water right when the mitigating water right does not authorize such purpose and does not authorize the place of use. Please note, contrary to Mr. Pors' statement, the place of use for the mitigation is not merely at Boxley Creek; rather, it is the Snoqualmie River from Boxley Creek downstream. Otherwise it would not be providing required mitigation in the Snoqualmie River.

Ecology has yet to issue a change and a superseding water right for Sallal's Water Right Certificate No. G1-24671. Until this is done, Sallal's use of its water right for mitigation of Water Right Permit No. G1-26617(A) is simply not authorized. This problem also cannot be dismissed based on the failure of an appeal of Ecology's decision to issue Water Right Permit No. G1-26617(A). The fact is that there must be another action taken as described above. In addition, as your letter states, Sallal must approve a contract based on its current obligation to act in the best interest of its members.

Sincerely,



Thomas McDonald
Direct Line: (360) 786-5039
Email: tmcdonald@cascadialaw.com
Office: Olympia

TM:en

Attachments 1-4

cc: Jean Buckner, EdD, Friends of The Snoqualmie Valley Trail and River
Thomas Pors, Attorney at Law
Richard Jonson, Attorney at Law
Robert James, Department of Health

ATTACHMENT 1

NORTH BEND DRY YEAR WATER SUPPLY/DEMAND ESTIMATION

PROJECTED NORTH BEND WATER DEMAND (PEAK MONTHS JULY-SEPTEMBER) VS. WATER AVAILABILITY

DEVELOPED BY THE FRIENDS OF THE SNOQUALMIE VALLEY TRAIL AND RIVER 4/4/2020

The draft report *City of North Bend Water Supply and Mitigation Forecast* by Golder Associates (October 2019) does not include a scenario for evaluating mitigation adequacy using only the current mitigation sources available for the City's water supply. All scenarios discussed in the report (Table ES-1) include theoretical mitigation from Sallal Wells and/or the Cascade Golf Course, which are currently not available for use.

Without access to the database and the GoldSim model, it was not possible to determine adequacy of current available mitigation on an annual basis, if there were a dry year such as 2015. Thus the following table summarizes the analysis that was performed to determine if there would be adequate mitigation during the dry time of the year using the data from the draft Golder report. This is a snapshot in time, but demonstrates whether adequate mitigation is an issue.

The following table summarizes this analysis given North Bend's current water and mitigation supply. All three years selected (2015, 2020 and 2025) show insufficient mitigation water available during peak demand months (July-September) given a dry weather year like 2015. The table is followed by an explanation and/or source of the data. **The final column of the table shows negative values which means that for all three years there is insufficient mitigation supply for a dry year.**

YEAR	CITY WATER DEMAND (WSA)				CITY WATER SUPPLY					10 SUPPLY VERSUS DEMAND (CFS)
	1 DEMAND (MGY)	2 AVERAGE DAILY DEMAND (MGD)	3 PEAK DAY DEMAND (MG)	4 PEAK DAY DEMAND (CFS)	5 Mt SI SPRINGS (CFS)	6 HOBO SPRINGS MITIGATION (CFS)	7 WWTP MITIGATION (CFS)	8 CENTENNIAL MITIGATED DRAW (CFS)	9 TOTAL MITIGATED SUPPLY (CFS)	
2015	205	0.562	1.17	1.82	0.5	0.5	0.53	1.03	1.53	-0.29
2020	250	0.685	1.43	2.22	0.5	0.5	0.69	1.19	1.69	-0.53
2025	440	1.21	2.53	3.92	0.5	0.5	1.37	1.87	2.37	-1.55

KEY

MGY = million gallons per year

MGD = million gallons per day

CFS = cubic feet per second

WSA = North Bend Water Supply Area as used in the Golder report

PROJECTED CITY WATER DEMAND

Column 1: Water Demand for the City of North Bend. Year 2015 from Table A-9 in draft Golder Report (October 2019). Years 2020 and 2025 estimated from Figure B-1, Scenario 5, in the draft Golder Report (October 2019).

Column 2: Average daily water demand = Column 1/365 (days in a year).

Column 3: Peak Day MG per day = Column 2 X 2.09, which is Peaking Factor from North Bend's 2010 Water Supply Plan.

Column 4: Peak Day CFS = Column 3 X 1.55 (converting MG/day to CFS).

PROJECTED WATER SUPPLY FOR PEAK MONTHS JULY – SEPTEMBER

Column 5: 0.5 CFS from Mt. Si Springs for supply. Estimated from Figure A-2 in draft Golder Report. Graph shows Mt. Si Springs flow is low during this time of year. During a dry year we are estimating it could go as low as 3.5 CFS, thus only 0.5 CFS available for supply with City's new pumps (as 3 CFS required for by-pass). Note: it could possibly go lower.

Column 6: 0.5 CFS from Hobo Springs available for mitigation. Estimate based on minimum daily flow during September as shown in Figure A-4 in draft Golder Report. Figure is attached. Note y-axis in acre feet per day which is equal to 0.5 CFS.

Column 7: Wastewater Treatment Plant (WWTP) return flow credit for mitigation = 40% of projected peak day demand (Column 4). Based on review of WWTP credit during peak time of year as reported in 2009 – 2019 Golder annual mitigation system reports for City of North Bend a factor of .4 (40% of Centennial withdrawals) was determined. Again, we believe this is a conservative factor (conservative meaning that it is allowing for high end of estimated water available) for this time of year mainly because WWTP return is based on average of previous 365 days of Centennial withdrawals. The total WWTP return flow has been factored up proportionate to the growth in demand.

Column 8: Centennial Mitigated Draw = the amount of water that can be drawn from the Centennial Well based on the amount of mitigation available, which is equal to Column 6 + Column 7 (Hobo Springs plus WWTP credit).

Column 9: Total Mitigated Supply = Column 8 + Column 5 (Centennial Mitigated Draw plus Mt. Si Springs).

SUPPLY VS DEMAND

Column 10: Total Mitigated Supply of Water versus Peak Day Demand = Column 9 minus Column 4. Negative numbers indicate insufficient mitigation available.

CAVEAT REGARDING THE DATA USED IN ANALYSIS

Our analysis is based on the same data provided by Golder in their DRAFT October 2019 Mitigation Report as well as annual Golder Mitigation Reports and therefore inherits any limitations their base data may present. Three examples of possible data limitations follow:

- Golder states that "At the time the model was constructed, records were not sufficient to understand the seasonal limitations of Mt Si Spring source." (See Golder Report section 5.1) Being able to account for seasonal variations is important to assessing what is occurring during low-flow months. Also, this quote appears to be inconsistent with information in Figure A-2 which graphs seasonal differences.
- Hobo Springs had 18 missing years of data (1982-2000) Numerous failures could have occurred in these 18 years for which there are no records. The relative importance of this data gap is unknown.
- We've been unable to account for 160 residential units which may be missing from Golder's demand calculations. Due to the way the data are presented, vetting these numbers is impossible.

POSTSCRIPT REGARDING JUST RELEASED 2020 NORTH BEND WSP

The 2020 North Bend Water System Plan (WSP) has been so recently released for review that no data from the document was used in this assessment. However it is worth noting that the Executive Summary states:

"The City anticipates growth of approximately 2.5 percent over the 10-year planning period and has adequate water rights, source, and storage capacity to meet the water demand projected over the next 10 years. However, the City is at or near its mitigation capacity limits. Mitigation capacity dictates how much water can be withdrawn from the Centennial Well. Unfortunately, during the dry summer months high overall water demand coincides with a severely limited withdrawal capacity from Mount Si Springs. As a result, the City must depend on the Centennial Well for the majority of its water production. This often coincides with low instream flows in the Snoqualmie River which leads to increased mitigation requirements. Under present peak summer demand, if a drier summer were to occur, the flows at Hobo Springs would be at or just below those required to properly mitigate water demand. The City must therefore increase its mitigation capacity by implementing two measures. 1. Enact water conservation policies that curb peak season water use….. 2. Obtain additional sources of mitigation water….."

The WSP entirely supports our conclusion that the City has inadequate supply at the present time to meet demands in the event of a dry year.

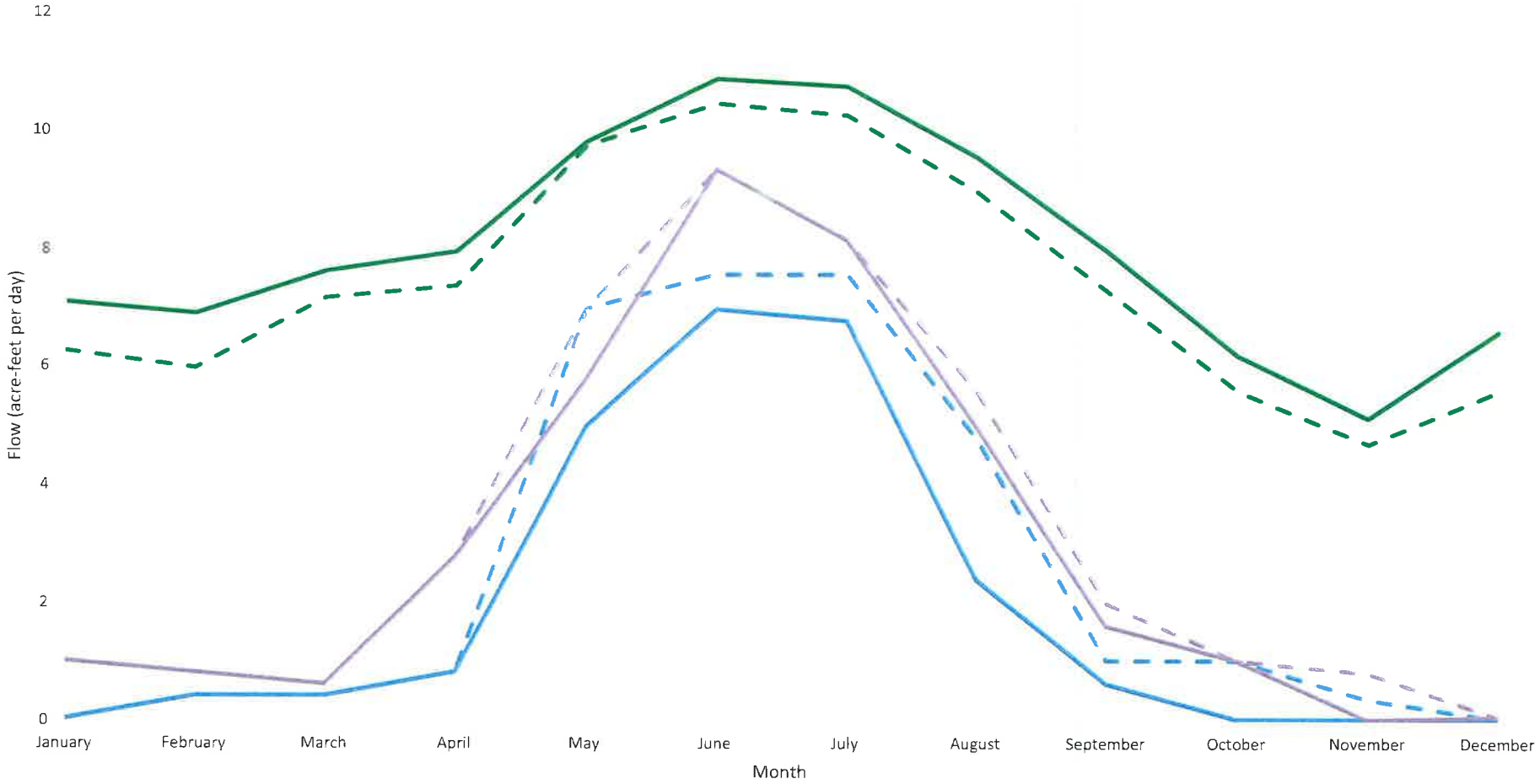
ATTACHMENT 2

Table A-3: Monthly Discharge through the Hobo Springs Weir (cubic feet per second [cfs])

Month	1976-1981[1]			2001-2005[2]			June 2006 - Dec. 2018[3]			All three periods of record[4]	
	Average Monthly	Minimum Average Monthly[5]	Minimum Daily[5]	Average Monthly	Minimum Average Monthly[5]	Minimum Daily[5]	Average Monthly	Minimum Average Monthly	Minimum Daily	Minimum Average Monthly[5]	Minimum Daily[5]
January	3.4	0.9 (1977)	0.007 (1977)	2.9	0.5 (2003)	0.5 (2003)	4.4	3 (2012)	2.7 (2012)	0.5 (2003)	0.007 (1977)
February	3.3	2.4 (1979)	2 (1977)	2.7	0.4 (2001)	0.2 (2001)	4.4	3.3 (2013)	3.1 (2013)	0.4 (2001)	0.2 (2001)
March	3.5	2.7 (1980)	2.4 (1978, 1979, 1980)	3.7	0.3 (2001)	0.2 (2001)	4.3	3.2 (2008)	2.8 (2008)	0.3 (2001)	0.2 (2001)
April	3.6	3 (1978)	2.4 (1978)	3.8	1.4 (2001)	0.4 (2001)	4.6	2.7 (2008)	2.6 (2008)	1.4 (2001)	0.4 (2001)
May	5.0	4.7 (1980)	3.8 (1976, 1978)	4.8	3.5 (2002)	3.5 (2002)	5.0	2.9 (2012)	2.5 (2008)	2.9 (2012)	2.5 (2008)
June	5.4	5 (1977)	3.8 (1978)	5.1	4.7 (2004)	4 (2002)	5.9	4.9 (2012)	3.5 (2012)	4.7 (2004)	3.5 (2012)
July	4.9	4.1 (1978)	3.8 (1979)	5.4	5 (2005)	5 (2005)	5.9	4.1 (2015)	3.4 (2015)	4.1 (1978)	3.4 (2015)
August	4.2	2.8 (1978)	2.4 (1978)	4.8	4.2 (2003)	4.2 (2003)	5.4	2.5 (2015)	1.2 (2015)	2.5 (2015)	1.2 (2015)
September	3.2	1 (1978)	0.5 (1978)	4.1	3.1 (2003)	3.1 (2003)	4.7	0.8 (2015)	0.3 (2015)	0.8 (2015)	0.3 (2015)
October	2.3	0.5 (1978)	0.5 (1978)	3.3	1.4 (2003)	1.4 (2003)	3.7	0.5 (2015)	0 (2015)	0.5 (1978)	0 (2015)
November	1.8	0.4 (1979)	0.17 (1979)	2.9	1.5 (2003)	1.5 (2003)	3.0	0 (2015)	0 (2015)	0 (2015)	0 (2015)
December	2.1	0.02 (1979)	0 (1979)	3.5	1.2 (2002)	1.2 (2002)	4.3	3.3 (2011)	1.3 (2015)	0.02 (1979)	0 (1979)

Notes:
1. The 1976-1981 data were provided by Seattle Public Utilities (Golder 2007). The data were provided as a table of average and minimum monthly values. The number of measurements and sampling frequency of the data used to calculate the average and minimum values is unknown.
2. The number of measurements and sampling frequency of the 2001-2005 data for each month is inconsistent. The number of monthly measurements ranges from zero to eleven. Some measurements have a weekly sampling frequency and others do not have a consistent period of time between measurements. Calculating monthly averages using data with an inconsistent sampling frequency can skew the results. See Golder (2007) for the complete dataset.
3. The 2006 data were collected on an hourly basis from June 20 to December 13 using a transducer to measure the depth of the water flowing through the weir. The rating curve used to convert the feet of water measured by the transducer into the depth of water flowing through the weir has not been perfected yet.
4. Includes the 1976-1981, 2001-2005, and June 2006 - December 2018 data.
5. The number in parentheses is the year in which the measurement was made.

ATTACHMENT 3



DRAFT

LEGEND

- Minimum Daily Flow (Golder 2007)
- Minimum Daily Flow (through 2018)
- Minimum Monthly Flow (Golder 2007)
- Minimum Monthly Flow (through 2018)
- Average Monthly Flow (Golder 2007)
- Average Monthly Flow (through 2018)

CLIENT
CITY OF NORTH BEND

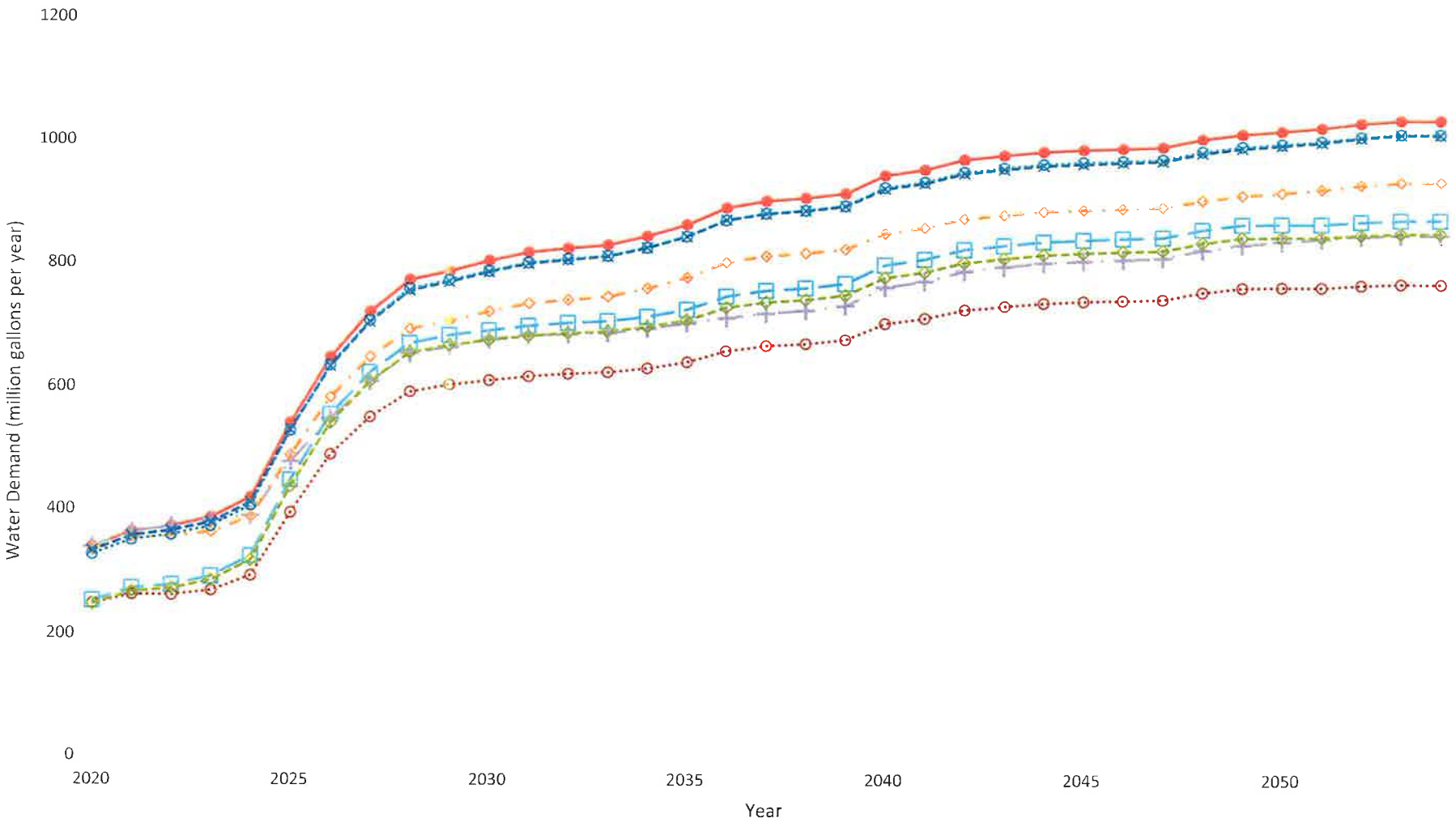
CONSULTANT
GOLDER

PROJECT
WATER AND MITIGATION DEMAND ASSESSMENT

TITLE
HOBO SPRINGS WEIR FLOWS
MINIMUM DAILY, MINIMUM MONTHLY, AVERAGE MONTHLY
2007 ANALYSIS AND 2018 UPDATE COMPARISION

PROJECT NO	PHASE	REV.	FIGURE
13-00218-10	002	A	A-4

ATTACHMENT 4



DRAFT

LEGEND

- Scenarios 1, 2, 3, 10
- Scenario 4 (remove undeveloped permit exempt wells)
- Scenario 5 (remove Sallal demands and mitigation supply)
- Scenario 6 (decrease DSL)
- Scenario 7 (water conservation)
- Scenario 8 (exclude Sallal, and decrease DSL)
- Scenario 9 (exclude Sallal and water conservation)
- Scenario 11 (add CGC and reduce Sallal demands Aug-Oct)

CLIENT
CITY OF NORTH BEND

CONSULTANT
GOLDER

PROJECT
WATER AND MITIGATION DEMAND ASSESSMENT

TITLE
FORECAST ANNUAL WATER SYSTEM DEMANDS, 2020 TO 2054 FOR CITY OF NORTH BEND WATER PRODUCTION SOURCES DETERMINISTIC MEAN

PROJECT NO	PHASE	REV	FIGURE
13-00218-10	002	A	B-1