MEMORANDUM

To: Water Right File No 63-33654

From: Ashley Ritter

Date: April 25, 2020

Re: Reporting Requirements Review

Intro

On December 2, 2020, SPF Water Engineering (SPF) submitted 2019 Monitoring Report for Water Right Permit 63-33654 on behalf of EG Johnson Farms Inc. (permit holder). Diversion and use of water in connection with permit 63-33654 is subject to the Monitoring Plan (Plan) approved by the Department outlined in condition sixteen (16) of the permit approval.

The Plan requires monitoring of water levels and pumping volumes, and include specific requirements for monitoring equipment at each dedicated monitoring well and at each supply well. The Plan specifies that manual measurements of ground water levels shall be taken in all authorized points of diversion on a semi-annual basis (ie. two times per year) and that measurements shall be taken within 30 days prior to the start of seasonal irrigation production and within 30 days following cessation of seasonal irrigation production.

The Plan also requires submission of an Annual Monitoring Report (Report) containing an analysis of data through the end of the water year (November 15th). The Report shall include the following:

- a) Water right number (e.g. permit 63-33654).
- b) Legal description, established GPS coordinates, and wellhead elevation referenced to sea level datum for the authorized points of diversion and monitoring wells.
- c) Annual production volume, average flow rate, and maximum flow rate diverted at each authorized point of diversion.
- d) Total volume diverted during the reporting period.
- e) Groundwater-level data for each authorized point of diversion prior to commencement of diversion and at the conclusion of season—presented as hydrographs over time.
- f) Groundwater-level data for each designated monitoring well presented as a hydrograph.
- g) A discussion of notable changes in water levels and an explanation of any other factors or anomalies that may have influenced the measured water levels. All groundwater-level data provided shall be corrected for changes in atmospheric pressure.

Electronic records of water level and discharge data accompanied the 2019 Monitoring Report submission by SPF. The electronic records are scanned and profiled as an Excel document. Please see PC Docs to view the spreadsheet.

Review of 2019 Monitoring Report

Water level monitoring events took place on April 8, 2019 and October 9, 2019. Pumping from the Hansen Irrigation Well began on April 26, 2019 and ended on September 21, 2019. Osburn Well #1 began pumping May 6, 2019 and ended September 21, 2019. The water level monitoring events occurred within 30 days prior to the start of seasonal irrigation production and within 30 days following cessation of seasonal irrigation production.

The Hansen Irrigation Well was shutdown briefly in July for maintenance, during which time a new 1-inch sounding tube was installed. Osburn Well #1 did not require any maintenance or shutdown periods during the 2019 irrigation season. Water level was not measured during the pre-irrigation monitoring event in Osburn Well #1 due to the sounder becoming stuck above the water level through the available sounding port. During post-irrigation monitoring tube was able to be adjusted so future water level measurements can be obtained. Transducer data was not collected from the Hansen Stock Well during post-irrigation due to issues with the transducer cable. A replacement transducer was installed in the Hansen Stock Well on October 11, 2019.

Available transducer data from monitoring wells indicate water levels declined during the irrigation season, but that water levels were on track to recover to pre-irrigation season conditions within 30 days of the production well pumps being shut down (see 2019 *Monitoring Report for Water Right Permit 63-33654* for specific wells, associated water levels, and hydrographs)

The total combined diversion volume for the production wells for the 2019 irrigation season was 1,065.10 acre-feet (Hansen Irrigation Well-302.92 acre-feet, Osburn Well #1-762.18 acre-feet). This results in an average diversion of 3.32 acre-feet/acre over an estimated irrigated area of 350 acres.

Conclusions

Monitoring equipment appears to be in compliance with the Monitoring Plan described in permit 63-33654 approval conditions. The reporting requirement for the above permit has also been satisfied.