MEMORANDUM

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DATE: December 4, 2020

SUBJECT: Reuse Permit I-125-03 Rigby Produce, Inc. – Staff Analysis

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Executive Summary

Mickelsen Properties, LLC owns a potato fresh packing facility, located approximately 1.5 miles north of Hamer, Idaho. The facility is operated by Rigby Produce, Inc. Rigby Produce Inc. applies potato wash recycled water, year-round, to 79 acres of agricultural fields. The agricultural fields are managed as three separate management units. The facility is currently regulated under a compliance agreement schedule (CAS) that was executed on May 13, 2020. The facility has applied for a reuse permit under the Recycled Water Rules (IDAPA 58.01.17).

Major proposed changes to draft Permit I-125-03 resulting from the CAS include the following:

- Updated non-growing season hydraulic loading limits that incorporate onsite soil conditions and updated climatic data (Section 4.3.2 and 4.6.2.2).
- Updated nitrogen loading limit from 134 lb/acre to 150% of typical crop uptake (Section 4.6.3.1).
- Addition of a compliance activity to assess the environmental impact of non-volatile dissolved solids loading at the reuse site (Section 4.5.1 and 4.6.3.4).
- Addition of a compliance activity to conduct a Well Location Acceptability Analysis (WLAA) for the Rigby Produce processing plant water supply well (Section 5.1).
- Requirement that a buffer zone plan be submitted with the updated Plan of Operation (Section 5.1).
- Requirement that a nuisance and odor management plan be submitted with the updated Plan of Operation (Section 5.5).
- Requirement that a cropping plan be submitted with the updated Plan of Operation (Section 5.6).
- Changes to recycled water monitoring requirements (Section 6.1.2).
- Changes to soil monitoring requirements (Section 6.2).
- Addition of supplemental irrigation water constituent monitoring (Section 6.4).
- Addition of a compliance activity to design and implement a Quality Assurance Project Plan (QAPP; Section 7).

- Addition of a compliance activity to design and implement an updated Plan of Operation.

It is recommended that Rigby Produce be permitted for a period of five years incorporating conditions discussed in this staff analysis and specified in the attached permit.

1 Introduction

This memorandum satisfies the requirements of the "Recycled Water Rules" (IDAPA 58.01.17.400) for issuing reuse permits. The principal facts and significant questions considered in preparing the draft permit and a summary of the basis for the draft permit conditions are provided.

Rigby Produce, Inc. (hereafter Rigby Produce or facility) has applied for their first reuse permit at this site but the site had been previously operated for two permit cycles under a different owner.

Listed below is the permit renewal timeline:

- DEQ executed a compliance agreement schedule (CAS) with Mickelsen Properties, LLC and Rigby Produce, Inc. on May 13, 2020, which required submittal of a permit application (DEQ 2020a).
- Rigby Produce submitted a permit application and interim Plan of Operation to DEQ on June 29, 2020.
- DEQ issued a completeness determination letter (CDL) to the facility on July 17, 2020, deeming the application incomplete (DEQ 2020b).
- Rigby produce submitted a revised permit application and interim plan of operation to DEQ on September 15, 2020 (Brockway 2020a; Brockway 2020b)
- DEQ issued a second CDL to the facility on September 23, 2020 deeming the permit application and Interim Plan of Operation complete (DEQ 2020c).
- DEQ issued a preliminary decision to prepare a draft permit on October 23, 2020.

2 Site Location and Ownership

The Rigby Produce fresh-pack potato processing facility is located on Cal-Ida Road, approximately 2.25 miles north of Hamer, Idaho (Figure 6). The facility is owned by Mickelsen Properties, LLC and is operated by Rigby Produce, Inc. The facility has proposed applying recycled water to three separate management units irrigated by pivots; an area totaling 79 acres (Figure 7).

3 Process Description

The facility receives, washes, packages and ships fresh whole potatoes. Fresh water, provided by public water system (PWS) ID7260055, is used to remove rocks and soils from the potatoes. Sediment from washing is collected in two settling tanks within the packing facility (Brockway 2020a section C.1, p. 6).

From the two in-plant settling tanks, settled material and equipment wash-down wastewater flows to a sump and then is pumped to one of two concrete sedimentation basins for further solids settling (Figure 1). The concrete sedimentation basins can each hold an estimated 75,000 gallons (Brockway 2020a section C.1, p. 6). The basins are separated by a concrete wall with an overflow weir. Decanted wastewater from the active sedimentation basin flows over the weir into the other basin. Recycled water is pumped from the decanted wastewater basin to the management units using one of two 30 horsepower pumps (Brockway 2020a section C.1, p. 6).

The facility applies recycled water to three management units, which are irrigated by center pivots. Table 1 lists the characteristics of each management unit.

Table 1. Characteristics of Rigby Produce management units.

Serial Number	Name	Irrigation System	Acreage
MU-125-01	MU-1	Full Center Pivot	32.2 ac
MU-125-02	MU-2-1	½ Center Pivot	10.1 ac
	MU-2-2	¼ Center Pivot	4.2 ac
MU-125-03	MU-3-1	½ Center Pivot	19.6 ac
	MU-3-2	½ Center Pivot	8.8 ac
	MU-3-3	½ Center Pivot	4.1 ac
		Total	79 ac

Rigby Produce does not produce enough recycled water to meet crop water demands and, therefore, supplemental irrigation water (SIW) is also used for irrigation. The SIW is provided by a 120 feet deep irrigation well (Brockway 2020a section C.1, p. 6). The facility only applies recycled water or SIW to the management units during an irrigation set. It was noted in the technical report that recycled water will only be applied to one management unit at a time (Brockway 2020a section C.3, p. 8).

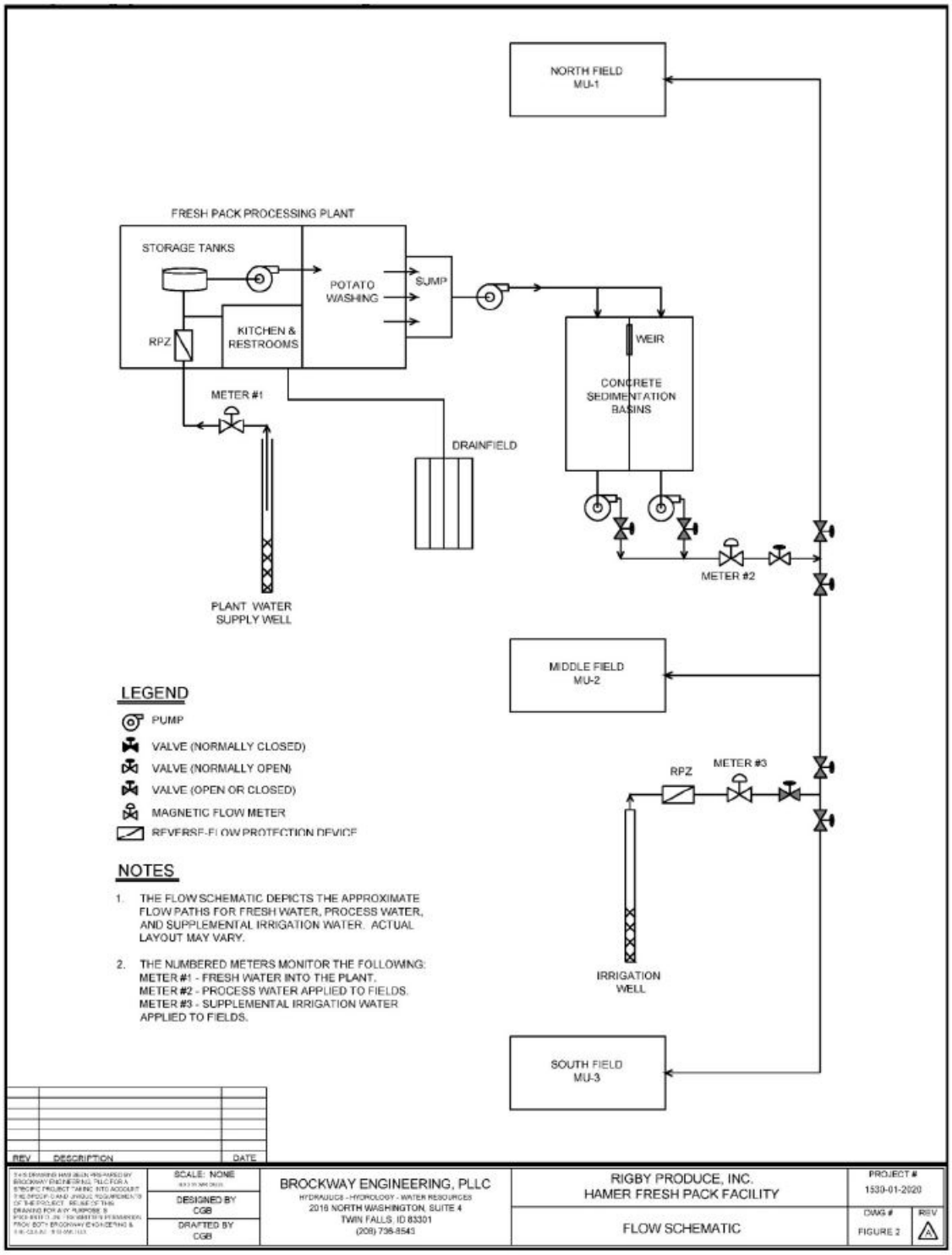


Figure 1. Process flow diagram for the Rigby Produce reuse site (Brockway 2020a, p. 7).

4 Site Characteristics

4.1 Site Management History

On January 25, 1996, DEQ issued the first reuse permit to the fresh pack facility. At that time, the reuse site was owned and operated by Blaine Larsen Processing: Fresh Division (DEQ 1996). Permit LA-000125-02 was issued on February 28, 2003 to Blaine Larsen Processing, Inc. Fresh Pak Plant (hereafter Larsen Farms) and the permit expired on February 27, 2008 (DEQ 2003a).

Larsen Farms submitted a permit renewal application to DEQ on December 20, 2007 (Larsen Farms 2007). On February 28, 2008, DEQ provided a letter to Larsen Farms authorizing them to continue operating under Permit LA-000125-02 until the new permit was issued. Due to enforcement actions occurring at that time, DEQ elected not to issue the new permit until the requirements of the Consent Orders were completed (discussed below).

A Consent Order was executed with Larsen Farms on February 9, 2007 to address ongoing permit violations and to require seepage testing of the unlined earthen sedimentation basins used at that time. DEQ performed an inspection on October 2, 2007 and found violations of the Consent Order and new, additional violations of Permit LA-000125-02 (DEQ 2007a). During the inspection, DEQ found Larsen Farms demolishing the old sedimentation basins and constructing new unlined sedimentation basins without submittal or approval of engineering plans and specifications. Consequentially, a Second Consent Order was executed with Larsen Farms on January 29, 2009 to address the additional violations. As a result of this process, Larsen Farms replaced the new unlined sedimentation basins with concrete sedimentation basins under DEQ approval and the new basins were subsequently seepage tested.

Between 2010 and 2018, Larsen Farms continued to operate the reuse site. Based on annual report reviews during that time period, the facility was still operated in substantial noncompliance with Permit LA-000125-02 (DEQ 2012 and DEQ 2016). On March 28, 2019, DEQ issued a notice of violation (NOV) to Larsen Farms for noncompliance with Permit LA-000125-02. During compliance meetings, DEQ discovered that ownership of the reuse site had been sold to Brown Delta II on January 16, 2018 and that the facility would be subleased to Rigby Produce, Inc.

On December 16, 2019, DEQ issued a permit application letter of needs to Brown Delta II, who was subleasing the facility to Rigby Produce (DEQ 2019). On March 3, 2020, DEQ executed a compliance agreement schedule (CAS) with Brown Delta II, LLC and Rigby Produce, Inc. to outline actions needed in order for the facility to operate in compliance with the Wastewater Rules and Recycled Water Rules (DEQ 2020d). Shortly after the CAS was executed, DEQ received notification that ownership had transferred again to Mickelsen Properties, LLC. Rigby Produce, Inc. was still the operator at that time. On April 15, 2020, DEQ received a request to transfer the CAS under the new ownership. On May 13, 2020, DEQ executed the CAS with Mickelsen Properties, LLC and Rigby Produce, Inc. (DEQ 2020a).

4.2 Climatic Characteristics

The climatic characteristics are described in detail in Section E.1 of the technical report (Brockway 2020a, p. 16). The Western Regional Climate Center (WRCC) station (103964) in Hamer, Idaho is located approximately 2.5 miles to the northwest of the management units (WRCC 2020).

Based on a 67-year recording period between October 25, 1948 and May 31, 2016:

- The annual average precipitation was 8.79 inches.
- The average precipitation during the growing season (April 1 to October 31) was 5.87 inches.
- The average precipitation during the non-growing season (NGS; November 1 to March 31) was 2.92 inches.
- The average daily maximum temperature was 58.5 ^{o}F.
- The average daily minimum temperature was 26.7 ^{o}F.
- The average daily wind speed is 8.6 miles per hour (3/27/2014 to 7/6/2020; USBR 2020).
- Wind direction is generally from the northeast and east (3/27/2014 to 7/6/2020; Figure 2).

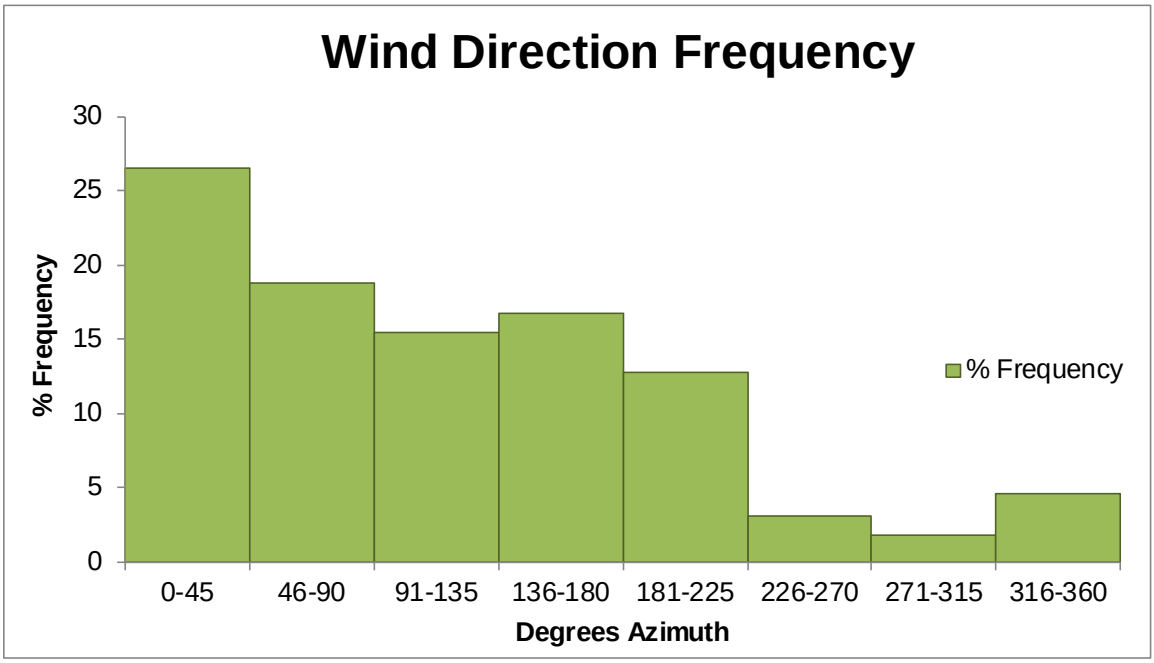


Figure 2. Wind direction histogram based on the degrees azimuth data from the Hamer AgriMet station between 3/27/2014 and 7/6/2020 (USBR 2020).

Crop evapotranspiration data for this location were obtained from the ET_{Idaho} website using the Hamer weather station (USC00103964), located at latitude 43^{o}59' North, longitude 112^{o}15' West at an elevation of 4,800 feet (Allen and Robison 2017).

Crop evapotranspiration, the process where soil water is lost to the atmosphere from surface evaporation and plant transpiration, greatly influences the amount of irrigation water required during the growing season. The May 13, 2020 CAS limited hydraulic loading to substantially at

the irrigation water requirement (IWR) during the growing season (DEQ 2020a item 10, p.2). DEQ recommends draft Permit I-125-03 specify the same loading limit for the growing season. The hydraulic loading limit for slow rate land application sites is established at the IWR for the following two reasons:

1. Irrigating considerably below the IWR could lead to poor plant growth, causing inadequate nutrient uptake in the plants, potentially leading to infiltration of more recycled water nutrients past the root zone, which could then infiltrate deeper into the soil and potentially pollute the ground water and surface water. And;

2. Irrigating considerably above the IWR could lead to recycled water infiltration past the root zone, carrying with it excess nutrients deeper into the soil, which could potentially pollute the ground water and surface water.

The IWR is defined by Equation 1 below. Where P_{def} is the precipitation deficit and E_i is the irrigation efficiency of the irrigation system.

$$Equation\ 1: IWR = \frac{P_{def}}{E_i}$$

Precipitation deficit is defined as the amount of water the plant requires less than the amount in the root zone and less than the effective precipitation (Allen and Robison 2007 appendix 11, p. 205). The facility anticipates growing grass hay (timothy or similar) and alfalfa (Brockway 2020a section F.1, p. 25). Precipitation deficit and IWR values for these crops are presented in Table 2.

Table 2. Precipitation deficit (P_{def}) and irrigation water requirement (IWR) values for alfalfa and grass hay crops at the reuse facility, during the growing season.

Month	Alfalfa – Frequent Cuttings		Grass Hay	
	P_{def} (mm/day)	**IWR (in)**	**P_{def} (mm/day)**	**IWR (in)**
April	0.71	1.05	0.9	1.33
May	4.39	6.70	4.05	6.18
June	5.46	8.06	6.31	9.32
July	5.91	9.02	6.85	10.45
August	5.31	8.10	5.28	8.06
September	3.14	4.64	3.16	4.67
October	0.65	0.99	0.24	0.37
Totals	25.57	38.55	26.79	40.36

a. These data were obtained from the University of Idaho's ET_{Idaho}2017 website, using the Hamer 4NW (USC00103964) station (Allen and Robison 2017).
b. IWR was calculated using Equation 1, assuming an E_i of 0.80 for a pivot system.

4.3 Soils

The Jefferson County, Idaho Survey report shows four soil map units that predominate (highest acreage) the reuse site management units (NRCS 2020):

- Diston loamy sand (0 to 4% slopes)
  Landform: Lava plains
  Parent Material: Eolian deposits
  Natural Drainage Class: Somewhat excessively drained

- Diston loamy sand (4 to 8% slopes)
  Landform: Lava plains
  Parent Material: Eolian deposits
  Natural Drainage Class: Somewhat excessively drained

- Grassy Butte loamy sand (0 to 4% slopes)
  Landform: Lava plains
  Parent Material: Eolian deposits
  Natural Drainage Class: Somewhat excessively drained

- Medano-Psammaquents complex
  Landform: Lakebeds/Depression on lakebeds (relict)
  Parent Material: Mixed alluvium and/or lacustrine deposits
  Natural Drainage Class: Poorly drained to very poorly drained

4.3.1 Soil Quality

In April of 2020, the facility collected soil samples from each of the management units, sampling to a depth of 36 inches (Brockway 2020a section E.4, pp. 20–21). Section 15 of the May 13, 2020 CAS required the facility to analyze soil samples for soil texture, organic matter, organic nitrogen (N), pH, electrical conductivity/soluble salts (EC), nitrate-N, ammonium-N, Olsen phosphorus (P), potassium, and sulfur (DEQ 2020a, p. 5). Soil samples were also analyzed for cation exchange capacity (CEC) and sodium base saturation (or exchangeable sodium percentage; ESP). Table 3 lists the range of chemical properties in management unit soils. Please note the following in regards to these properties' impacts on crop growth (DEQ 2007b table 2-4, p. 2-20):

- **pH:** The pH range at the reuse site is suitable for most crops. However, the soils would be considered alkaline, and values are at the upper limit of the range. This indicates the facility will need to be mindful of changes in pH as nutrient availability decreases when pH is outside an optimal range (Dinkins and Jones 2013, p. 4).
- **CEC:** The adsorption capacity of these soils is moderate. Leaching of cations is less likely to occur in soils with high CEC (DEQ 2007b section 2.1.2.2, pp. 2-20 to 21).
- **EC:** Salt levels indicate no salinity problems for crops.
- **ESP:** Values do not indicate water infiltration or permeability problems (Robbins and Gavlak 1989, p. 9).

Table 3. April 2020 soil chemical properties on management units. Soil depths 0 to 12, 12 to 24, and 24 to 36 inches were averaged.

Parameter	Minimum	Maximum
pH (S.U.)	8.1	8.2
CEC (meq/100g)	12.6	12.9
EC (mmhos/cm)	0.5	0.6
ESP (%)	1.8	2.3

The April 2020 soil sampling showed average soil nitrate-N concentrations in the low to medium range (DEQ 2007b section 2.5.1, p. 2-57). Across management units, nitrate-N concentrations were consistent (Figure 3).

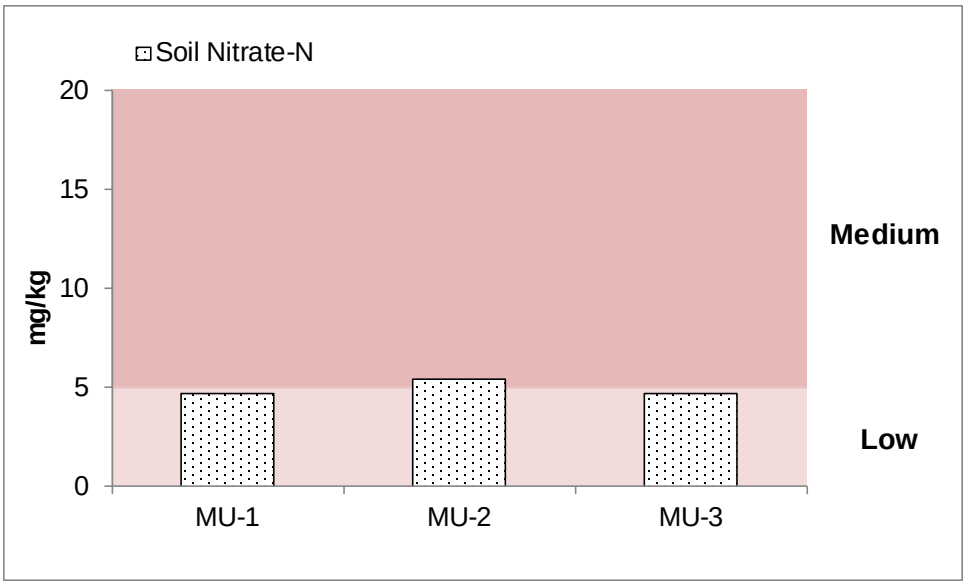


Figure 3. Average soil nitrate-N concentrations on management units collected in April 2020. Soil depths 0 to 12, 12 to 24, and 24 to 36 inches were averaged.

The April 2020 soil sampling showed average Olsen P concentrations in the low to medium range (DEQ 2007b section 2.5.1, p. 57). Average soil Olsen P concentrations were the greatest on MU-125-01 (Figure 4).

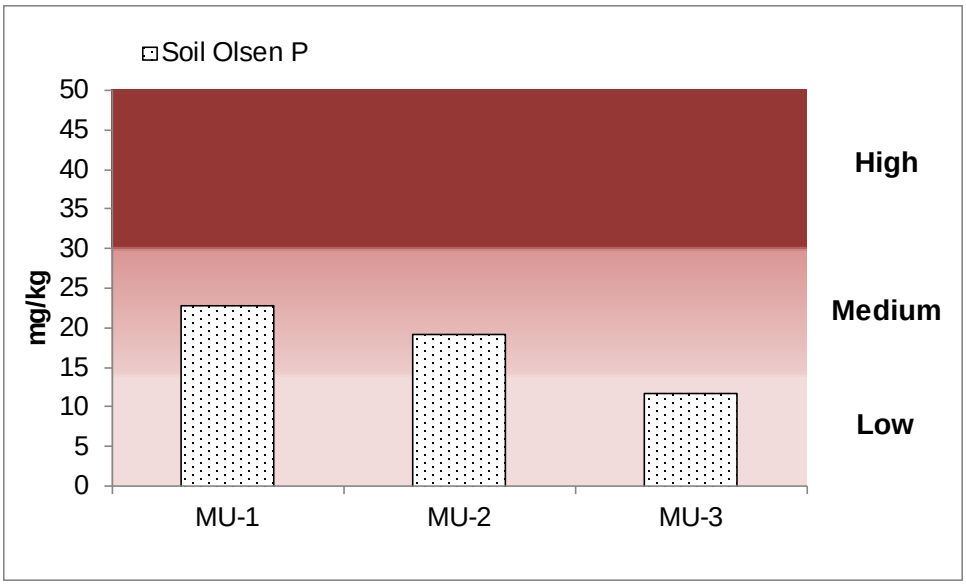


Figure 4. Average soil Olsen P concentrations on management units collected in April 2020. Soil depths 0 to 12, 12 to 24, and 24 to 36 inches were averaged.

4.3.2 Soil Available Water Holding Capacity

Section 10 of the May 13, 2020 CAS limited non-growing season (NGS) hydraulic loading on each management unit to 2.9 in/ac (DEQ 2020a, p. 2). This equates to a total limit of 6.2 MG for the reuse site. DEQ Guidance recommends that the NGS hydraulic loading limit (HLR_{ngs}) be calculated using the following equation (DEQ 2007b section 4.4.9, p. 80):

$$Equation\ 2: HLR_{ngs} = \left[AWC + ET_{ngs} - PPT_{ngs}\right]$$

AWC: In April 2020, the facility collected soil samples for soil texture and field capacity. Ten samples were collected from each management unit to a depth of three feet and composited. At five of the sampling locations on each management unit, the facility sampled to five feet or refusal, whichever was shallower. The results of the sampling showed that soils had high percentages of sand and averaged 2.3 to 3.6 ft in depth (Brockway 2020a section E.2, pp. 18–20). The facility converted field capacity (FC) to available water holding capacity (AWC) using a ratio of 0.62 (Brockway 2020a section E.2.2, p. 18). This ratio was based on an average of reported sandy loam values of 0.54 and 0.70 from Stukenholtz Laboratory, Inc. and the University of Idaho Extension, respectively. Table 4 shows the calculated AWC values for the management units.

Table 4. Average AWC for each management unit based on the facility's onsite soil texture characterization.

Management Unit	Average FC in top 3 ft (in/ft)	Average AWC in top 3 ft (in/ft)[a]	Average Soil Depth (ft)	Average AWC (in)
MU-125-01	2.23	1.38	3.1	4.28
MU-125-02	2.47	1.53	3.6	5.51
MU-125-03	2.39	1.48	2.3	3.41

a. FC x 0.62

ET_{ngs}: The evapotranspiration that occurs during the NGS (ET_{ngs}) was determined from the ET_{Idaho}2017 website (Allen and Robison 2017), using the Hamer 4NW station for alfalfa – frequent cuttings. The summation of actual ET data per month during the NGS (November 1 through March 31) was 2.13 inches, based on a statistical summary of 1986 to 2016.

PPT_{ngs}: The precipitation during the NGS (PPT_{ngs}) was determined from the ET_{Idaho}2017 website (Allen and Robison 2017), using the Hamer 4NW station. The summation of precipitation per month during the NGS (November 1 through March 31) was 2.85 inches, based on a statistical summary of 1986 to 2016.

HLR_{ngs}: Using Equation 2 and the data discussed in the previous paragraphs, the NGS hydraulic loading limit for each management unit has been calculated in Table 5.

Table 5. Non-growing season hydraulic loading limits based on a site characterization.

Management Unit	AWC (in)	ET_{ngs} (in)[a]	PPT_{ngs} (in)[a]	HLR_{ngs} (in)	HLR_{ngs} (MG)
MU-125-01	4.28	2.13	2.85	3.56	3.1
MU-125-02	5.51	2.13	2.85	4.79	1.9
MU-125-03	3.41	2.13	2.85	2.69	2.4

a. Data obtained from the ET_{Idaho}2017 Hamer 4NW station (Allen and Robison 2017).

As noted above, the NGS hydraulic loading limit for the reuse site under the CAS is 6.2 MG (DEQ 2020a section 10, p. 2). Using the facility's onsite characterization, the limit increased to 7.3 MG. DEQ staff recommends the new limit be specified in draft Permit I-125-03 as it accounts for updated climatic data and onsite soil conditions.

4.4 Surface Water

The nearest surface water to the management units is Warm Creek. Warm Creek is located approximately 0.4 miles to the west, across Interstate 15. It is indicated in the technical report that this stream only flows during spring runoff for a short period of time (Brockway 2020 section E.4.4, p. 25).

The Camas National Wildlife Refuge is located directly west of the reuse site and is primarily characterized as wetland habitat. Prior to the establishment of the refuge in 1937, the wetlands were supplied by shallow ground water (USFWS 2014 section 3.3.3, p. 3-21). At this time, a lower water table has required the pumping of ground water to maintain water levels in some of the wetland basins (USFWS 2014 section 3.3.3, p. 3-22).

4.5 Ground Water/Hydrogeology

The reuse site is located in the upper portion of the Eastern Snake River Plain Aquifer (ESRPA). The typical geology of the ESRPA is Quaternary basalt flows with terrestrial and lacustrine sedimentary interbeds (Garabedian 1992, p. F5). It appears the facility is located in a transitional zone between thin (<40 in) and thick (>40 in) soil cover (Garabedian 1992 figure 10, p. F22). Differences in soil cover depth can influence the infiltration rate of water to the regional aquifer.

In the technical report, the facility provided 27 well logs from production wells (one monitoring well) within 1.5 miles of the reuse site (Brockway 2020a appendix F). Based on the well logs, the typical lithology around the reuse site is characterized by a sandy-gravelly soil layer over basalt. Basalt layers below the soil layer are a mix of hard basalt, broken basalt, and cinders. Static water table depth in these wells ranged from 9 to 143 feet below the ground surface, with an average depth of 45 feet. The facility noted that wells east of the reuse site show multiple water-bearing zones, whereas wells west of the site show the basalt as the primary water-bearing zone (Brockway 2020a section E.6.1, p. 22).

In general, ground water flow in the ESRPA is towards the southwest (Garabedian 1992, p. F21). The facility indicated that this is also the case beneath the reuse site (Brockway 2020a section E.6.2, p. 25).

4.5.1 Ground Water Quality and Modelling

Permit LA-000125-02 did not require ground water monitoring at this facility because, at that time, projected hydraulic and constituent loading rates did not indicate a concern (DEQ 2003b, p. 8). However, DEQ was considering pursuing a ground water monitoring network to assess the impact of excessive hydraulic loadings under the previous owner.

In the technical report, the facility provided an estimate of ground water nitrate impacts from the reuse site. To assess impacts, the facility estimated a hydraulic gradient of 0.00024 ft/ft, a hydraulic conductivity of 4,029 ft/day, and a mixing zone depth of 20 ft (Brockway 2020a section E.6.3, p. 25 & section F.3, p. 28). A United States Geological Survey (USGS) geochemistry study in the Beaver and Camas Creek drainage basins found that the hydraulic gradient of the aquifer south of Dubois was 0.0013 ft/ft (Rattray and Ginsbach 2014, p. 12). Ackerman et al. 2006 found that the hydraulic gradient of the ESRPA at the Idaho National Laboratory (INL) ranged from 0.00019 ft/ft to 0.0114 ft/ft (p. 39). Therefore, the facility's hydraulic gradient estimate is well within the range of the region.

Hydraulic conductivities in the ESRPA at INL range over six orders of magnitude from 0.01 to 24,000 ft/day depending on the geologic age of the rock (Ackerman et al. 2006, table 2, p. 19). The facility's hydraulic conductivity estimate of 4,029 ft/day is within that range.

Rigby Produce conducted a simple mixing zone analysis (Equation 3) and estimated ground water nitrate-N concentrations beneath the reuse site could increase from 2.5 to 3.1 mg/L if the annual percolate volume was 53.3 acre-ft/yr for the entire reuse site (Brockway 2020a section F.3, pp. 28–29).

$$Equation\ 3\text{: } C_{mix} = \frac{C_p Q_p + C_{gw} Q_{gw}}{Q_P + Q_{gw}}$$

Where:
C_{mix} = Nitrate-N concentration in mixture
C_p = Nitrate-N concentration in percolate
Q_p = Flow of percolate
C_{gw} = Nitrate-N concentration in ground water

Q_{gw} = Flow ground water

At this time, DEQ staff does not recommend draft Permit I-125-03 require a ground water monitoring network to be constructed. In 2011, an irrigation well and domestic well within 10 miles downgradient of the reuse site had nitrate+nitrite-N (NNN) concentrations of 1.74 and 0.95 mg/L, respectively (Rattray and Ginsbach 2014 table 5, p. 22). The Ground Water Quality Rule standard for NNN concentrations is 10 mg/L (IDAPA 58.01.11.200.01.a). These downgradient concentrations were observed during a time when hydraulic loading rates on management units were excessive (DEQ 2012 section 3.1). Rigby Produce has substantially upgraded the system to operate the site more agronomically. Recently, sampling at the Rigby Produce water supply well (ID726005) on December 9, 2019 showed NNN concentrations of 2.47 mg/L. This well is approximately 420 ft downgradient of management unit MU-125-02.

Instead of ground water monitoring, DEQ staff recommends that a compliance activity be included in draft Permit I-125-03 requiring the facility to assess the environmental impact of non-volatile dissolved solids (NVDS) loading at the reuse site (see Section 4.6.3.4 for more detail). This assessment will help DEQ determine if there is a future need for a ground water monitoring network.

4.6 Recycled Water Characterization and Loading Rates

4.6.1 Recycled Water Characterization

Recycled water generated at the potato fresh-pack facility consists of sediment from potato washing (Brockway 2020a section C.1, p. 6). Recycled water quality samples are collected as a grab sample at the reuse site pump station. Section 14 of the May 13, 2020 CAS required the facility to collect monthly recycled water samples and analyze them for chemical oxygen demand (COD), total Kjeldahl nitrogen (TKN), NNN, ammonia-N, total-P, potassium, pH, chloride, EC, total dissolved solids (TDS), volatile dissolved solids (VDS), and NVDS (DEQ 2020a, p. 5).

It was indicated in the technical report that there have been significant operational changes since the change in facility ownership. Therefore, the facility believes that flow and recycled water quality data collected after November 2019 is representative of future operations (Brockway 2020a section D.2.1, p. 10; Table 6). Between November 2019 and July 2020, the facility inadvertently missed recycled water sampling for potassium, chloride, TDS, VDS, and NVDS. These constituents were sampled in August 2020 and should be monitored during the next permit cycle to determine the annual variability.

Table 6. Statistical summary of November 2019 to August 2020 monthly recycled water monitoring.

Parameter[a]	Median	Standard Deviation	Minimum	Maximum
COD	415	166	200	620
TKN	22.0	20.8	8.50	72.8
NNN	2.31[b]	0.69[b]	2.10	4.05
Ammonia-N	2.38	2.05	1.32	8.00
Total-P	4.18	5.23	1.92	18.2
Potassium[c]	48.3	NA	NA	NA
pH (S.U.)	6.7	0.3	6.2	7.0
Chloride[c]	17	NA	NA	NA
EC (µS/cm)	624	111	460	818
TDS[c]	588	NA	NA	NA
VDS[c]	576	NA	NA	NA
NVDS[c]	12	NA	NA	NA

NA = Not available

a. Units in mg/L unless specified otherwise.
b. Constituents had non-detect values within the dataset and, therefore, the median was calculated using the *cenfit* function in R in the Nondetects and Data Analysis for Environmental Data (NADA) package. The function flips the left-censored data (non-detects) so that Kaplan-Meier survival analysis can be performed (Helsel 2012 chapter 6).
c. Analyses were only performed in August 2020.

4.6.2 Hydraulic Loading Rates

As noted in Section 4.6.1, the facility believes recycled water flow data collected after November 2019 is representative of future operations because there have been significant operational changes. Therefore, the following sections will only focus on flow data during this time period. Between November 2019 and August 2020, the facility generated approximately 19 MG of recycled water. The facility anticipates generating an average of 1.86 MG per month for the remainder of the growing season for a predicted annual total of ~22 MG (Brockway 2020a table 2, p. 11).

4.6.2.1 Growing Season

Using the daily flow data submitted for the 2020 growing season (April to August), DEQ staff calculated the facility applied 9.9 MG of recycled water to the reuse site (Table 7). The facility anticipates applying ~13.5 MG to the management units during the growing season (Brockway 2020a table 2, p. 11). Between April and August 2020, the facility applied substantially less recycled water on MU-125-03 even though it is the largest management unit. The facility will need to more evenly distribute recycled water between the management units to ensure constituents are not over-applied on any particular unit.

Table 7. April to August 2020 growing season recycled water hydraulic loading rates.

Management Unit	Hydraulic Loading (in/ac)	Hydraulic Loading (MG)
MU-125-01	5.8	5.1
MU-125-02	7.6	2.9
MU-125-03	2.2	1.9

As noted in Table 2, the IWR at the reuse site will either be 38.55 or 40.36 in/ac if the facility grows alfalfa or grass hay, respectively. Considering the anticipated recycled water loading rates,

a substantial portion of the IWR must be met with SIW. Assuming the anticipated growing season recycled water volume of ~13.5 MG, the facility would need 69 to 73 MG of SIW to meet the IWR of alfalfa and grass hay.

Mickelsen Properties, LLC secured an additional water right of ~54 MG on September 17, 2020 (IDWR 2020). Between April and August of 2020, ~44 MG of SIW was applied to the reuse site and with the additional water right; the facility should have enough SIW to meet the IWR. DEQ staff recommends that draft Permit I-125-03 specify growing season hydraulic loading be limited to substantially at the IWR.

4.6.2.2 Non-growing season

Section 10 of the May 13, 2020 CAS limited NGS hydraulic loading on each management unit to 2.9 in/ac (DEQ 2020, p. 2). During the 2020 NGS the facility applied 8.8 MG to the reuse (Brockway 2020a table 2, p. 11), which is greater than the limit of 6.2 MG. Even with the recommendation to increase the limit to 7.3 MG, the facility would still have been in noncompliance.

Rigby Produce needs to reduce the volume of recycled water generated during the NGS. It was indicated in the technical report that the facility is working to reduce the water usage of the rinsing and flushing system. It is anticipated that the upgrade will be in place in October 2020 and will reduce water usage by at least 25% (Brockway 2020a section D.2.2, p. 11). This reduction will help the facility comply with hydraulic loading limits and DEQ staff recommends the NGS hydraulic loading limits in Table 5 be specified in draft Permit I-125-03.

4.6.3 Constituent Loading Rates

As noted in Section 4.6.1, the facility believes recycled water characterization data collected after November 2019 is representative of future operations because there have been significant operational changes. Therefore, the following sections will only focus on constituent loading rates during this time period.

4.6.3.1 Nitrogen

Section 10 of the May 13, 2020 CAS limited nitrogen loading on management units from recycled water, supplemental irrigation water, and fertilizer to 134 lb/ac (DEQ 2020a, p. 2). The facility anticipates applying 78 lb/acre of nitrogen to management units from recycled water (Brockway 2020a table 4, p. 14). Based on the daily flow data submitted with the technical report, DEQ estimated that the facility could exceed the nitrogen loading limit on MU-125-02 (Figure 5). However, both MU-125-01 and MU-125-03 have ample capacity to prevent an exceedance of the nitrogen loading limit. It is imperative that the facility uniformly apply recycled water across the reuse site to prevent exceedances of nitrogen loading limits.

Based on the flow data and SIW quality data submitted with the technical report (Brockway 2020a table 5, p. 15), DEQ calculated a nitrogen loading rate of 15 lb/acre from SIW between November 2019 and August 2020. Assuming the average monthly SIW nitrogen loading is

representative, DEQ estimated the facility's total growing season loading from SIW as 22 lb/acre for the entire reuse site.

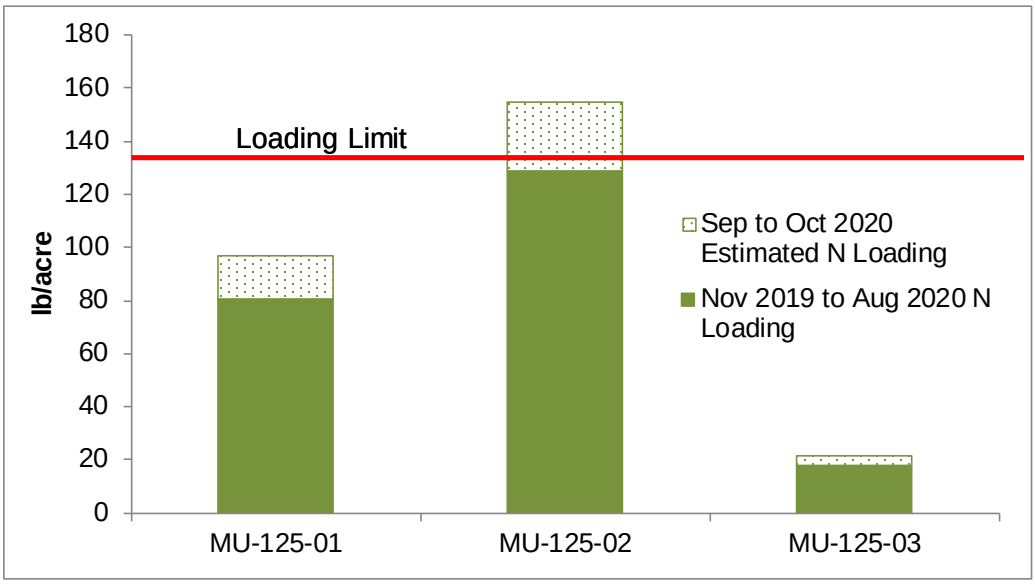


Figure 5. Recycled water nitrogen loading on management units between November 2019 and August 2020. Estimated nitrogen loading was determined from average monthly loading.

DEQ typically establishes permit nitrogen loading limits at 150% of typical crop uptake to account for immobilization and denitrification losses (Overcash and Pal 1979 chapter 11, p. 475). In reuse permits, typical crop uptake is usually defined as the median constituent crop uptake from the three most recent years the crop has been grown. If a facility has not grown a crop for three years, other crop yield data or nutrient content values can be used if approved by DEQ prior to use.

DEQ staff recommends that draft Permit I-125-03 specify a nitrogen loading limit of 150% of typical crop uptake instead of the set limit of 134 lb/acre.

As stated in the DEQ Reuse Guidance, *alfalfa presents a unique problem when making required nitrogen calculations since it is able to fix atmospheric nitrogen in addition to its ability to take up plant available nitrogen (nitrate, ammonia) from the soil* (DEQ 2007b section 4.2.2.4.2, p. 4-26). Alfalfa is a crop regularly grown on the reuse site, and it is recommended that loading limits on fields with alfalfa account for N-fixation. The following equation should be used when calculating a N-loading limit for management units where alfalfa is grown:

$$Equation\ 4: N_{Crop\ Uptake} = (1 - N_{fixation}) \times N_{Crop\ Content}$$

Where $N_{fixation}$ is the proportion of $N_{Crop\ Content}$ that is fixed from the atmosphere. This equation would provide a more realistic estimate of N-uptake since a portion of N content in legumes is derived from the atmosphere. It is recommended draft Permit I-125-03 specify that N-fixation be accounted for when calculating N-uptake in leguminous crops. It is recommended that a nitrogen fixation rate of 20% be used in draft Permit I-125-03 when the facility grows legumes (DEQ 2007 section 4.2.2.4.2, p. 4-26).

4.6.3.2 Phosphorus

The May 13, 2020 CAS does not specify a phosphorus loading limit on management units (DEQ 2020a). During the 2020 Reporting Year, the estimated total-P applied from recycled water was 14 lb/acre and was 0.3 lb/acre from SIW. Considering that soil phosphorus concentrations are in the low to medium range (Figure 4) and the closest surface water is ~0.4 miles from the site, DEQ staff does not recommend a phosphorus loading limit in draft Permit I-125-03. However, it is recommended that phosphorus continue to be monitored in recycled water, SIW, soil, and plant tissue to assess the assimilative capacity of the reuse site.

4.6.3.3 Chemical Oxygen Demand

The May 13, 2020 CAS does not specify a COD loading limit on management units (DEQ 2020a). However, the previous Permit (LA-000125-02) limited COD loading on the reuse site to 50 lb/acre-day during both the growing season and NGS (DEQ 2003a section D, p. 5). During the 2020 Reporting Year, the facility's COD loading during the NGS was 1.8 lb/acre-day to the reuse site and was estimated to be 4.3 lb/acre-day during the growing season. This loading included both recycled water and SIW contributions.

The facility's COD loading rate of <5 lb/acre-day is substantially less than a 50 lb/acre-day loading limit, which is typically established to help maintain aerobic conditions within the soil (DEQ 2007b section 4.2.2.2.1, p. 4-22). Rigby Produce has plans to substantially decrease water usage at the reuse site (Brockway 2020a section D.2.2, p. 11), which may increase the concentration of COD in recycled water as constituents become more concentrated. However, with an approximately 25% decrease in recycled water generated, it is anticipated that site COD loadings will not substantially change. Therefore, DEQ does not recommend draft Permit I-125-03 specify a COD loading limit but it is recommended that recycled water COD continue to be monitored to assess possible changes.

4.6.3.4 Non-volatile Dissolved Solids

The May 13, 2020 CAS does not specify an NVDS loading limit on management units (DEQ 2020a). During the 2020 Reporting Year, the estimated NVDS applied from recycled water was 1,340 lb/acre and was 1,061 lb/acre from SIW. The estimated annual NVDS loading from recycled water is based on one sample result from August 2020. At this time, it is unknown how variable NVDS concentrations in recycled water are throughout the reporting year. DEQ does not recommend draft Permit I-125-03 specify NVDS loading limits but that a compliance activity be included requiring the facility to assess the environmental impact of NVDS loading at the reuse site. This assessment should include ground water, soil, and crop impacts from recycled water and SIW contributions.

5 Site Management

5.1 Buffer Zones

Buffer zones for protection of surface water, ground water, drinking water supplies, and the public are required by IDAPA 58.01.17.604. The DEQ Reuse Guidance Manual provides recommended buffer distances for various reuse scenarios. For this permit, the following scenario was used in determining buffer distances: Industrial, rural location, sprinkler application. A summary of buffer zones is shown in Table 8.

Table 8. Buffer zone summary for Rigby Produce, Inc.

	Previous Permit Buffer Requirements[a]	Guidance Buffer Zone Recommendations[b]	Actual Reuse Area
Nearest Inhabited Residence (feet)	300	300	~1,000 northwest of MU-125-01
Nearest Public Water System (feet)	1,000	1,000	~420 feet west of MU-125-02 (Plant Water Supply Well)
Nearest Private Water Supply (feet)	500	500	~1,000 northwest of MU-125-01
Areas Accessible to the Public (feet)	50	50	~55 south of MU-125-02 and north of MU-125-03
Nearest Surface Water (feet)	100	100	0.4 miles west of reuse site (Warm Creek)
Nearest Irrigation Ditches/Canals (feet)	50	50	None within 1 mile of the facility
Fencing	Not Required	Not Required	None
Posting	Not Required	Not Required	None

a. Previous buffer zone requirements in Reuse Permit LA-000125-02.
b. For this permit, the following scenario was used for determining buffer distances: Industrial, rural location, sprinkler application (DEQ 2007b section 6.5.1 and 6.5.2.2, pp. 6-16 to 19).

As shown in Table 8, the majority of existing buffer zone distances are in compliance with guidance buffer zone recommendations. The facility's water supply well is located approximately 420 feet west of MU-125-02. Larsen Farms submitted a well location acceptability analysis (WLAA) from 2000 in the 2007 permit renewal application. The WLAA concluded that the supply well was at an acceptable distance based on a mixing zone analysis (Larsen Farms 2007). DEQ had some concerns with this WLAA at the time of permit renewal:

- The mixing zone analysis was performed assuming loading rates much lower than existing levels.
- The study used limited water quality data to draw conclusions. Nitrate is the only constituent associated with reuse site operations that is monitored in the water supply well. Phosphorus, total dissolved solids, chloride, sulfate, and potassium are not monitored and it is difficult to draw conclusions from the limited data set.

DEQ recommends draft Permit I-125-03 include a compliance activity that requires the facility to submit a WLAA for the plant water supply well. It is also recommended that the facility be required to design and implement a buffer zone plan as part of the updated Plan of Operation.

5.2 Runoff

Section 18 of the May 13, 2020 CAS required the facility to *prevent soil erosion, runoff, and ponding on each management unit, to the maximum extent practicable* (DEQ 2020a, p. 6). The CAS also stated that ponded water caused by runoff must be pumped back onto the fields within 48 hours of occurrence. DEQ inspections under the previous permit and site owner showed that runoff was a substantial issue at the reuse site (DEQ 2017 section 6.8, p. 22).

In the permit application, the facility indicated that soils at the site have low runoff potential and it is not anticipated that runoff will be a concern (Brockway 2020a section E.5.2, p. 21). It appears runoff issues under the previous owner may have been more a response to site management practices than site characteristics. However, DEQ staff recommends that draft Permit I-125-03 require the facility to create a runoff management plan to be submitted with the updated Plan of Operation.

5.3 Seepage Rate Testing

The facility seepage tested the sedimentation basins in July of 2009 and DEQ deemed that the basins passed seepage testing on July 31, 2009 (DEQ 2009; Table 9). Provided the facility properly maintains the basins to prevent damage or cracking that could lead to leakage, another seepage test is not recommended at this time. However, it is recommended that the following language be added to draft Permit I-125-03:

Seepage testing of concrete wastewater sedimentation basins may be required if there is a change of condition of any of the basins that affect the permeability including, but not limited to, cracking, basin modification or repair below the high water line, or basin replacement. Contact DEQ in writing prior to performing activities that may affect basin permeability to determine if a seepage test will be required prior to returning the basin to service.

Table 9. Rigby Produce sedimentation basins and seepage testing summary.

Lagoon	Description	Allowable Limit (inches/day)	DEQ Approval Date	Date Next Seepage Test is Due
LG-125-01	Concrete lined sedimentation basins	0.125[a]	July 31, 2009	As needed

a. DEQ 2003a section F, pp. 9–10

5.4 Waste Solids

The facility discusses management of waste solids in Section I of the Interim Plan of Operation (Brockway 2020b, p. 12). Waste solids generated at the reuse facility are mainly sediment from potato and equipment washing processes (Brockway 2020a section D.4, p. 14). Solids are pumped to the sedimentation basins, which are periodically dried to allow solids to be removed. It was indicated in the technical report that solids are removed two to three times per year and hauled to two solids disposal areas (Figure 8; Brockway 2020a section D.4, pp. 14–15). The facility uniformly spreads solids on agricultural fields or adjacent lands leased by Mickelsen Properties, LLC.

5.5 Nuisance and Odor Management

The Interim Plan of Operation does not include a nuisance and odor management plan (Brockway 2020b). Considering there are some residences in the general area and that solids will be transported offsite, DEQ staff recommends draft Permit I-125-03 require the facility submit a nuisance and odor management plan with the updated Plan of Operation. The nuisance and odor management plan should describe administrative and engineering controls to prevent nuisance conditions, such as odors, overspray, and vector attraction. The plan should include specific design considerations, operation and maintenance procedures, and management practices to be employed. Lastly, the plan should describe procedures for handling and responding to complaints about facility-caused nuisances.

5.6 Cropping Plan

The Interim Plan of Operation does not include a cropping plan (Brockway 2020b). Considering MU-125-02 and MU-125-03 have multiple pivots within each management unit, it is imperative that the same crop is grown across the unit. Therefore, it is recommended the facility be required to submit a cropping plan that outlines how the facility will cultivate management units in a way that ensures each management unit is operated as a unit.

5.7 Grazing

Rigby Produce did not propose grazing of management units in the permit application. It is recommended that draft Permit I-125-03 specify that grazing is allowed under a DEQ-approved grazing management plan.

5.8 Salts

As stated in Section 4.6.3.4, DEQ does not recommend draft Permit I-125-03 specify a NVDS loading limit at this time but the facility be required to assess environmental impacts from NVDS loading as a compliance activity.

6 Monitoring

The proposed monitoring requirements for the draft permit are described in detail in the following subsections. All monitoring will be conducted in accordance with the facility's Quality Assurance Project Plan (QAPP). See Section 7 for requirements regarding the QAPP.

6.1 Recycled Water Monitoring

6.1.1 Flow Monitoring

The facility monitors recycled water flow to management units using an electromagnetic flow meter at the pump station near the sedimentation basins. SIW flow is also measured using an electromagnetic flow meter at the irrigation well (Figure 1). It is recommended that these flow meters be specified in draft Permit I-125-03. Rigby Produce irrigates management units with recycled water or SIW at any one time (Brockway 2020a section C.2, p. 8). These waters are never mixed.

In the facility's Interim Plan of Operation, it was stated that recycled water will be applied to only one management unit at a time and that pivots will be rotated to ensure uniform distribution (Brockway 2020b section F, pp. 9–10).

When applying SIW to management units (growing season only), the facility may irrigate more than one management unit at a time to ensure crop water needs are met. Therefore, the facility will determine SIW flow to management units using a calculation that incorporates flow meter measurements, sprinkler package, and pivot run time. DEQ staff recommends draft Permit I-125-03 require this method in the flow monitoring section and the calculation be described in the Plan of Operation.

MU-125-02 and MU-125-03 have multiple pivots within each management unit and it is imperative that pivots within each management unit are irrigated uniformly to increase the accuracy of flow monitoring. DEQ staff recommends draft Permit I-125-03 require Rigby Produce to uniformly operate pivots within these management units.

6.1.2 Constituent Monitoring

Section 14 of the May 13, 2020 CAS required the facility to collect monthly recycled water samples and analyze them for COD, TKN, NNN, ammonia-N, total-P, potassium, pH, chloride, EC, TDS, VDS, and NVDS (DEQ 2020a, p. 5). The CAS specifies that a grab sample is to be collected where recycled water is discharged from the sedimentation basins to the management units. For draft Permit I-125-03, DEQ staff recommends the following changes to constituent monitoring:

- It is recommended that ammonia-N be removed from recycled water monitoring. Ammonia-N is a component of TKN and there is no reason to monitor this species separately. The facility will be able to calculate total-N loading to management units with continued monitoring of TKN and NNN.

6.2 Soil Monitoring

Section 15 of the May 13, 2020 CAS required the facility to collect soil samples in April, prior to supplemental fertilizer additions, of each reporting year on each management unit (DEQ 2020a, p. 5). Soil samples are required to be analyzed for soil texture, OM, organic-N, pH, EC, nitrate-N, ammonium-N, plant available P (PAP), potassium, and sulfur. For draft Permit I-125-03, DEQ staff recommends the following changes to soil monitoring:

- It is recommended that soil texture be removed from annual soil monitoring. The facility included soil texture data in the permit application that showed soils on the site are classified as either sand or sandy loams (Brockway 2020a section E.2.1, p. 18). This parameter has been sufficiently characterized and it is assumed it will not change during the permit cycle.

- It is recommended that organic nitrogen be removed from annual soil monitoring. The organic nitrogen pool is generally not readily available for direct plant uptake but must be mineralized to plant available forms (nitrate-N and ammonium-N; DEQ 2007b section 4.2.2.4, p. 4-25). Considering the facility is still managing the site as irrigated agriculture and plant available forms of nitrogen will continue to be monitored, DEQ staff does not recommend monitoring of soil organic nitrogen.

- It is recommended that sulfur be removed from annual soil monitoring. In the permit application, Table 9 showed that the facility monitored sulfate instead of the pool of sulfur in soil (Brockway 2020a, p. 21). Sulfate is the plant available form of sulfur (Place et al 2007) and is more useful to monitor from an agronomic perspective. Sulfate is a soluble salt, which can be indirectly measured in the EC of the saturation paste extract of soil water (DEQ 2007b section 2.1.2.2.2, p. 2-21). DEQ staff does not see a reason to continue monitoring sulfate at this time.

6.3 Ground Water Monitoring

As noted in Section 4.5.1, DEQ does not recommend ground water monitoring at this time.

6.4 Supplemental Irrigation Water Monitoring

SIW for the entire reuse site is provided from an irrigation well, located at the southeast corner of MU-125-02 (Brockway 2020b section C, p. 4). The facility measures SIW from the well using an electromagnetic flow meter. Please see Section 6.1.1 for a discussion on flow monitoring requirements in draft Permit I-125-03.

Rigby Produce sampled SIW from the well on June 18, 2020 (Brockway 2020a table 5, p. 15; Table 10).

Table 10. SIW quality from June 18, 2020 sampling.

Parameter[a]	Result
pH (S.U.)	7.2
Electrical Conductivity (µS/cm)	299
Chemical Oxygen Demand	<5
Nitrate-N	2.45
Nitrite-N	<0.10
Total Kjeldahl Nitrogen	0.8
Total Phosphorus	0.04
Potassium	2.9
Total Dissolved Solids	216
Non-volatile Dissolved Solids	164

a. Units in mg/L unless specified otherwise.

To assess any SIW concentration changes based on seasonality, it is recommended that the irrigation well be sampled periodically throughout the permit cycle. DEQ staff recommends draft Permit I-125-03 require SIW monitoring from the irrigation well during May and September of the first and fourth year of the permit. It is recommended that SIW be monitored for pH, EC, NNN, TKN, total-P, TDS, VDS, and NVDS. As shown in Table 10, the COD concentration in SIW is below detection limit and it is not recommended the constituent continue to be monitored. The facility should use the average concentrations from sampling when calculating constituent loading from irrigation water.

6.5 Crop Yield and Tissue Monitoring

Section 16 of the May 13, 2020 CAS required the facility to monitor yield from management units for crop type, harvest date, sample collection date, harvested acreage, as-harvested (‘wet’) yield, as-harvested (field) moisture content, and dry yield (DEQ 2020a, pp. 5–6). DEQ staff recommends these yield monitoring requirements be included in draft Permit I-125-03.

Section 17 of the May 13, 2020 CAS required the facility to monitor plant tissue samples for laboratory moisture content, total combustible nitrogen, phosphorus, and ash (DEQ 2020a, p. 6). DEQ staff recommends these yield monitoring requirements be included in draft Permit I-125-03.

It is important to note that all plant yield and tissue monitoring should be from the harvested (removed from field) portion of the crop. Field moisture and plant tissue monitoring conducted at different steps or times in the harvest could cause notable discrepancies in the facility’s data.

6.6 Meteorological Monitoring

It is not recommended that meteorological monitoring be required by draft Permit I-125-03 because there are a sufficient number of meteorological monitoring stations located within the region.

6.7 Calculation Methodologies

DEQ staff recommends including the calculations in Table 11 in draft Permit I-125-03.

Table 11. Recommended calculations to include in draft Permit I-125-03.

Monitoring Point Serial Number	Parameter (Calculate for each MU)	Units
MU-125-01 MU-125-02 MU-125-03	Recycled water and SIW hydraulic loading rates (individual and combined)	MG/month Inches/month
	IWR for each crop grown	MG/month Inches/month
	Nitrogen and phosphorus loading rates from recycled water, SIW, fertilizer, and waste solids (individual and combined)	lb/acre-year
	NVDS loading from recycled water and SIW (individual and combined)	lb/acre-year
	GS and NGS COD loading from recycled water	lb/acre-day
	Crop wet and dry yield for each harvest	lb/year lb/acre-year
	Crop uptake of nitrogen, phosphorus, and ash	lb/acre-year
	Next reporting year nitrogen loading limit	lb/acre-year

7 Quality Assurance Project Plan

The QAPP outlines the procedures used by the permittee to ensure the data collected and analyzed meets the requirements of the permit.

To support its mission, DEQ is dedicated to using and providing objective, correct, reliable, and understandable information. Decisions made by DEQ are subject to public review and may at times, be subject to rigorous scrutiny. Therefore, DEQ's goal is to ensure that all decisions are based on data of known and acceptable quality.

The QAPP is a permit requirement and must be submitted to DEQ as a stand-alone document for review and acceptance. The QAPP is used to assist the permittee in planning for the collection, analysis, and reporting of all monitoring data in support of the reuse permit and explaining data anomalies when they occur.

DEQ does not approve QAPPs, but reviews them to determine if the minimum EPA guideline requirements are met and that the reuse permit requirements are satisfied. DEQ does not approve QAPPs because the responsibility for validating of the facility's sampling data lies with the permittee's quality assurance officer and not with DEQ.

The format of the QAPP should adhere to the recommendations and references in the Assurance and Data Processing sections of the guidance manual (DEQ 2007b) and EPA QAPP guidance documents *https://www.epa.gov/sites/production/files/2015-06/documents/g5-final.pdf*.

The May 13, 2020 CAS did not require the facility to design and implement a QAPP. Therefore, DEQ staff recommends draft Permit I-125-03 require the facility design and implement a QAPP as a compliance activity.

8 Site Operation and Maintenance

The facility is owned by Mickelsen Properties, LLC and operated by Rigby Produce, Inc. Daily operations are managed by the Plant Manager.

DEQ approved the facility's Interim Plan of Operation on September 23, 2020 (DEQ 2020c). The Interim Plan of Operation was designed to outline how Rigby Produce would operate the site under the CAS until DEQ issued a new permit. DEQ staff recommends draft Permit I-125-03 require the facility prepare and implement an updated Plan of Operation, incorporating current operations and requirements of the permit.

9 Compliance Activities

9.1 Status of Compliance Activities in Current Permit

Permit LA-000125-02 listed nine compliance activities but completion of these activities was required for the previous permittee (DEQ 2003a section F, pp. 9–11). On May 13, 2020, DEQ and the permittee entered into a CAS that superseded Permit LA-000125-02 and provided regulatory oversite of the reuse site (DEQ 2020a). Table 12 lists compliance activity items specified by the CAS.

Table 12. Compliance activity items specified in the May 13, 2020 CAS.

Requirement	Due Date	Status
Pre-Application Conference	Not Specified	Occurred on December 3, 2019
Interim Plan of Operation including; Cropping Plan; Irrigation Management and Scheduling Plan; Waste Solids Management Plan; Runoff Management Plan;	May 31, 2020, extended to June 30, 2020	Submitted: June 29, 2020 Not Approved: July 17, 2020 Resubmitted: September 15, 2020 Approved: October 23, 2020
Permit Application Package	May 31, 2020, extended to June 30, 2020	Submitted: June 29, 2020 Not Approved: July 17, 2020 Resubmitted: September 15, 2020 Approved: October 23, 2020

9.2 Compliance Activities Required in New Permit

The following Compliance Activities are specified in the draft Permit I-125-03:

1. Design and implement an updated Plan of Operation that incorporates the requirements of the new permit.

2. Design and implement a Quality Assurance Project Plan that incorporates the requirements of the new permit, including verification that the plan has been implemented by the facility.
3. Submit a Well Location Acceptability Analysis for the plant water supply well within six months after permit issuance.
4. Submit an assessment of the environmental impacts of NVDS loading at the reuse site within 12 months after permit issuance.
5. Schedule a pre-application conference 12 months prior to permit expiration.
6. Submit a permit renewal application at least 180 days prior to expiration of the existing permit.

10 Recommendations

Staff recommends the draft reuse permit be issued for a period of five years. The permit specifies hydraulic and constituent loading limits and establishes monitoring and reporting requirements to evaluate system performance, environmental impacts, and permit compliance.

11 References

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Appendix A. Site Maps

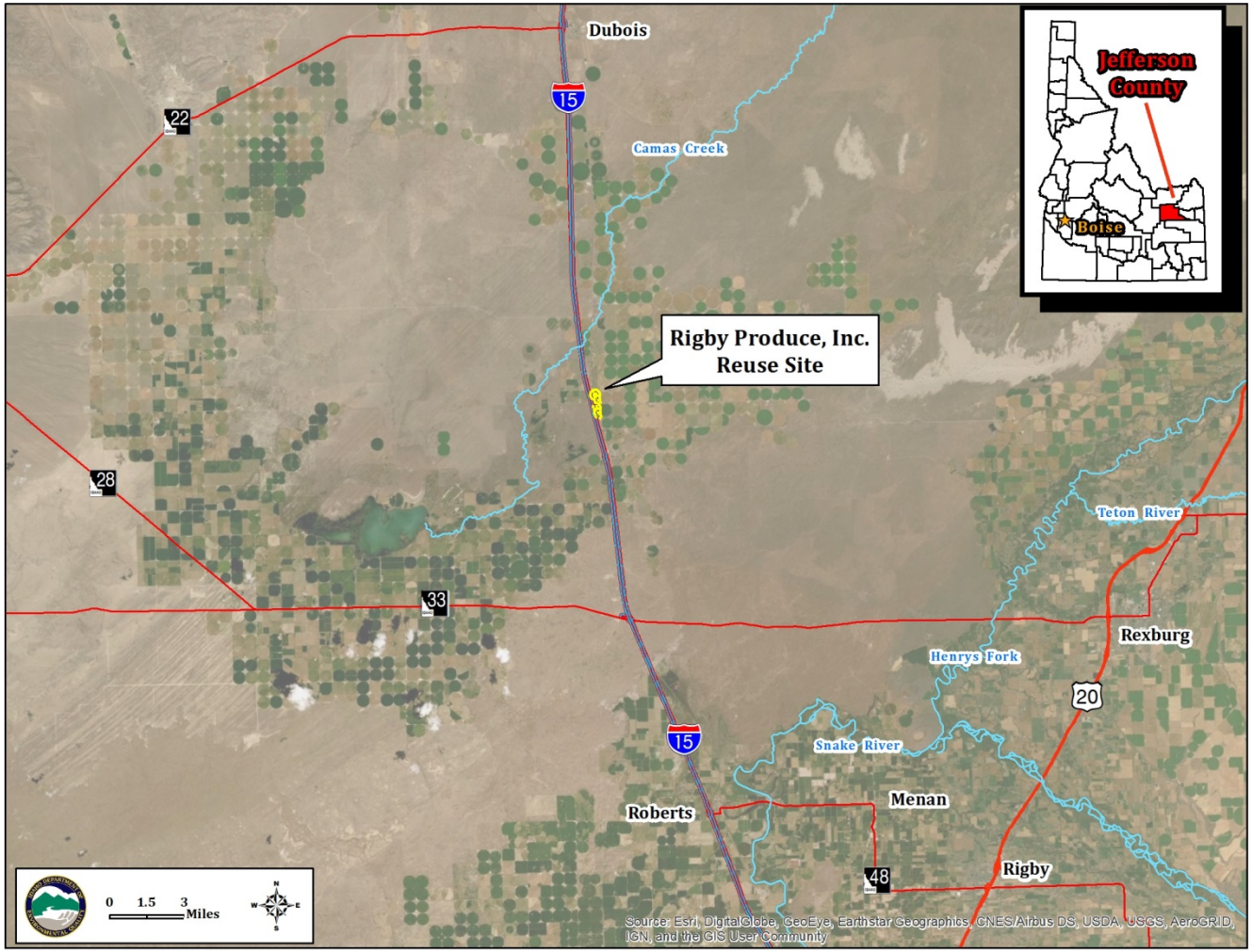


Figure 6. Rigby Produce, Inc. regional map.

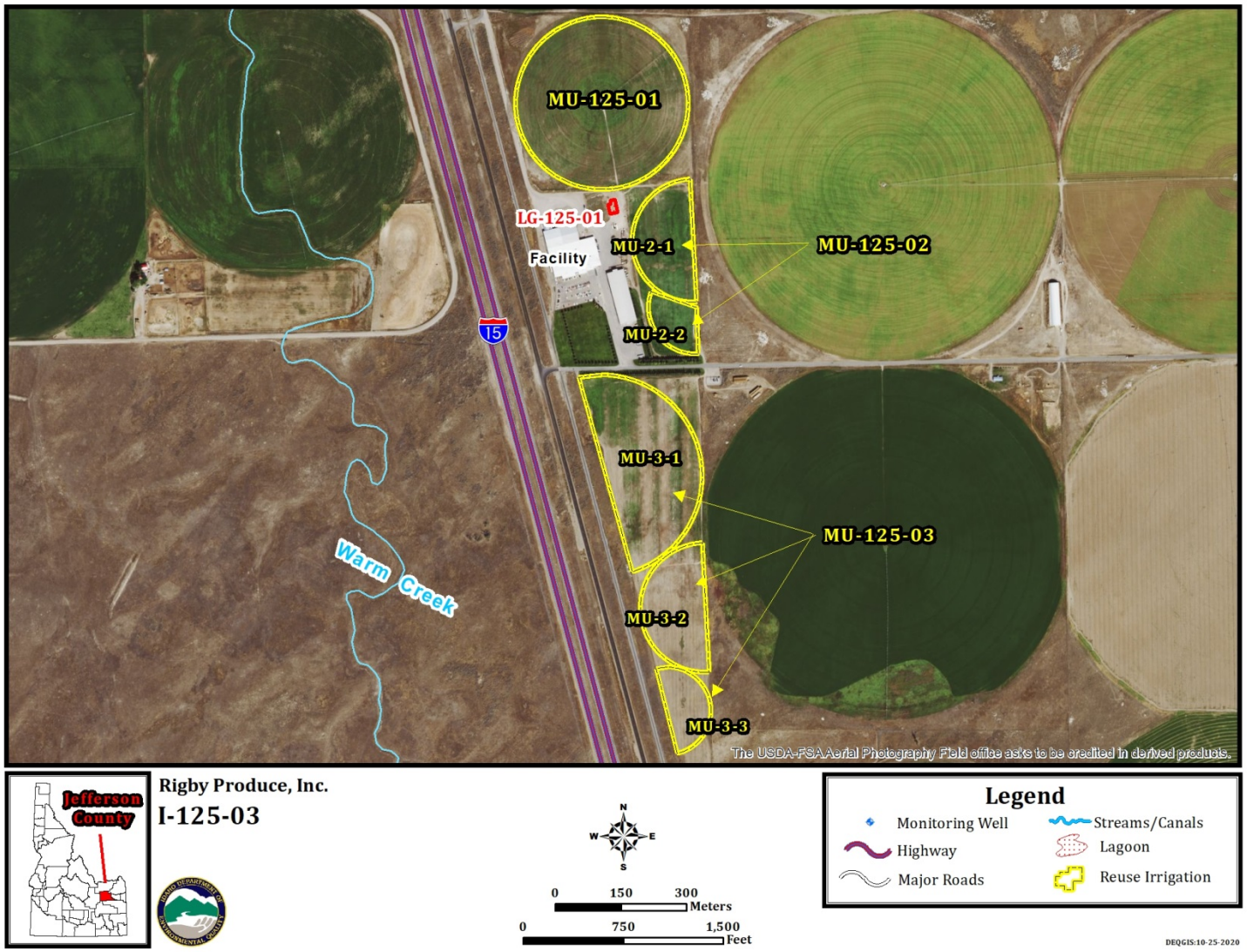


Figure 7. Rigby Produce, Inc. facility map.

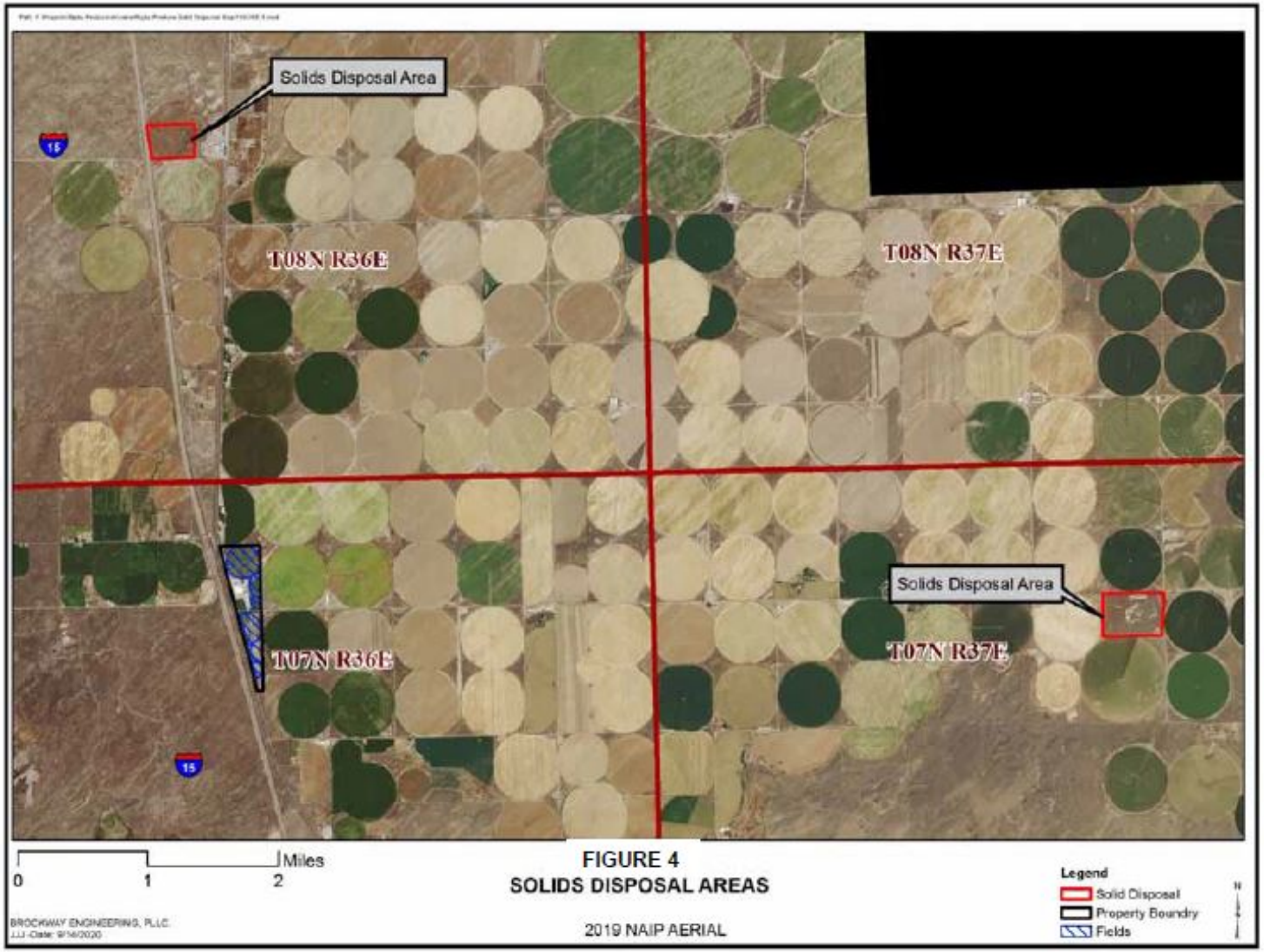


Figure 8. Rigby Produce waste solids disposal areas.