

WATER PERMIT NO. 2898-2

Name of Applicant: City of Rapid City

Address: 300 6th Street, Rapid City SD 57701

Phone: 605-394-4154

Amount of Water Claimed: 146.6 AF

Total Acres: N/A

Source of Water Supply: Surface

Water to be used for: Mun/RWS/Dom/WDS/Com/Ind

County: Pennington

Type of Waste Disposal System:

Location: Within the city limits of Rapid City

PRIORITY

Date Received: 07-09-25

Application/License Fee: \$300.00

Corrected Application Received: 07-30-25

Period of Annual Use: January 1 – December 31

Remarks: Change in use and change in diversion point

Diversion Point: NW 1/4 SE 1/4 Sec 8, SW 1/4 SW 1/4, SE 1/4 NE 1/4 Sec 3; all in T1N-R7E, Pactola Reservoir and portions in T1N-R5E

Land to be Irrigated: N/A

Depth of Well: N/A

Well Driller: N/A

Remarks:

Type of Map: aerial

			3		2
8					

Reviewed and the Number Assigned on: 08-01-25

By: **Rachel Rodriguez**

Notice of Hearing - date to intervene: _____

SOUTH DAKOTA
WATER PERMIT NO. 2898-2

Date of first receipt of application July 9, 2025.

Date of receipt of corrected application July 30, 2025.

The Acting Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 2898-2 to City of Rapid City, 300 6th Street, Rapid City SD 57701, authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 2898-2 transfers a portion of Lone Tree Ditch stockholder/landowner's use of Rapid Creek natural flows appropriated under Vested Water Right No. 2479-2 from irrigation use via Lone Tree Ditch to water distribution system uses by the City of Rapid City. The transfer is for Rapid Creek water historically used for irrigation of 91 acres (Howie Parcels) located in the SW 1/4, SW 1/4 NW 1/4 Section 35; all in T1N-R9E. The portion of Rapid Creek natural flows being transferred to the City of Rapid City is 1.007 cubic feet of water per second (cfs) with an annual volume limitation of 146.59 acre-feet of water, if diverted at the city's water treatment plant and infiltration galleries, or 73.3 acre-feet if stored in Pactola Reservoir. The existing diversion point on Lone Tree Ditch is located in the NE 1/4 NE 1/4 Section 30-T1N-R9E. This Permit also changes the diversion point for 1.007 cfs to four permanent diversion points used by the City of Rapid City, (Jackson Springs Water Treatment Plant) NE 1/4 SW 1/4 Section 8-T1N-R7E, (Sioux Park "Girl Scout" Gallery) SW 1/4 SW 1/4 Section 3-T1N-R7E, (Mountain View Water Treatment Plant) SE 1/4 NE 1/4 Section 3-T1N-R7E, and (Pactola Reservoir Inlet to Service Spillway) N 1/2 SW 1/4 Section 2-T1N-R5E with water impounded in portions of Sections 2, 3, 4, 5, 10, and 11; all in T1N-R5E; and portions of Sections 31, 32, 33, and 34 all in T2N-R5E. This Permit does not authorize any new water to be appropriated from Rapid Creek. This Permit retains the September 29, 1881, priority date established by Lone Tree Ditch Vested Water Right No. 2038-2, which was later incorporated into Vested Water Right No. 2479-2, for natural flows from Rapid Creek. These sites are all located within north-central Pennington County, South Dakota.
2. The water appropriated shall be used for the purpose of water distribution system use and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: May 1 – October 31 (January 1 – December 31 for reservoir storage).
4. The date of approval of Permit No. 2898-2 is October 14, 2025.
5. The date from which applicant may claim right is September 29, 1881 (established by Vested Water Right No. 2479-2).
6. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. Permit No. 2898-2 is limited to a diversion rate of 1.007 cubic feet of water per second (cfs) for a total annual volume of 73.3 acre-feet of water annually at Pactola Reservoir or a total annual volume of 146.59 acre-feet of water annually at the SE 1/4 NE 1/4 Section 3 (Mountain View Water Treatment Plant); the SW 1/4 SW 1/4 Section 3 (Sioux Park "Girl Scout" Gallery); the NE 1/4 SW 1/4 Section 8 (Jackson Springs Water Treatment Plant); all within T1N-R7E.

(continued)

Maximum monthly diversion volumes at diversion points within Rapid City or Pactola Reservoir are as follows:

Monthly Volume Limitation (acre-feet)		
Water Permit No. 2898-2		
Month	Water Treatment Plant and Infiltration Galleries	Pactola Reservoir Storage
April	0	0
May	21.2	10.6
June	18.66	9.33
July	31.74	15.87
Aug	33.38	16.69
Sep	27.32	13.66
Oct	14.29	7.15
Totals	146.59	73.3

Diversion during a month may be made at either Pactola Reservoir or at the diversion points within Rapid City, but not simultaneously at both Pactola and the Rapid City diversion points.

2. Permit No. 2898-2 authorizes diversion of only natural flow water by the city of Rapid City and does not include any rights to stored irrigation water available under contract from Deerfield Reservoir.
3. Diversions under this permit when taken at the Jackson Springs treatment plant Rapid Creek intake are limited to natural flows that exceed 10 cfs as measured at USGS gaging station Rapid Creek above Canyon Lake near Rapid City No. 06412500. During the period April 1 through September 30 natural flow diversions are limited to the amount exceeding 20 cfs with the remainder of the diversion being released supplemental water equal to the amount released from storage through Rapid City's Deerfield and Pactola contracts with the United States Bureau of Reclamation.
4. The city of Rapid City shall report to the Chief Engineer annually the amount of water withdrawn each month at Pactola Reservoir or the diversion points within Rapid City.
5. The Water Management Board retains jurisdiction of Permit No. 2898-2 in the event that changes occur in the system that require adjustments to be made in the monthly or total annual volumes authorized by Permit No. 2898-2.
6. Diversion under Permit No. 2898-2 may not interfere with existing water rights in effect prior to approval of No. 2898-2 or any domestic rights.
7. The amount of water with a September 29, 1881, priority date appropriated under Vested Water Right No. 2479-2, Lone Tree Ditch, is reduced by 1.007 cfs.

WATER MANAGEMENT BOARD

By: Mark Mayer
Mark Mayer, PE
Director of Office of Water
Department of Agriculture and Natural Resources

11/4/2025
date



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Mail to: SD DANR, Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>2898-2</u> Hydrologic Unit <u>10120110</u>
	Basin <u>Cheyenne</u>
	Newspaper <u>Rapid City Journal</u>
	(office use only)

Application for Permit to Appropriate Water in South Dakota

Check use(s) of water:

☒ Municipal	☒ Water Distribution System	☐ Recreational	☐ Institutional
☒ Rural Water System	☒ Commercial	☐ Fish & Wildlife	☐ Geothermal
☒ Domestic (over 18 gpm)	☒ Industrial	☐ Other _____	

Type of Application: (check one)

☐ New	☐ Vested Right (Use predates Mar 2, 1955)	☐ Future Use Reservation
☐ Place to Beneficial Use Water Reserved by Future Use Permit No. _____		
☒ Amendment/Correction to Permit No. <u>2479-2</u>		

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.)

Change in use and change in diversion point

- Name to Appear on Water Permit City of Rapid City
Mailing Address 300 6th Street Rapid City SD 57701
(Address) (City) (State) (Zip Code)
Phone 605-394-4154 Mobile _____ Email brandon.quiett@rcgov.org
- Amount of water claimed 1.007 *CFS or _____ **GPM and 146.6⁵⁹ ***AF or _____ Gallons
Flow rate and volume are both required. (*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use)
- Source of water supply Rapid Creek
- Location of point of diversion See Exhibit 2 County Pennington
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)
If not a public water supply (e.g. municipal), will water be used outside of the area described above? ☐ Yes ☐ No
If "Yes," where will water be used? _____
(example - NW1/4 section 12-T104N-R53W)
- County or counties where water will be used Pennington, South Dakota
- Annual period during which water is to be used May 1 - Oct. 31 (Jan. 1 - Dec. 31 for reservoir Storage)
- Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

See attached report.

I, Daniel Ainslie Duncanson Interim PW Director, the applicant, certify under
Name of Person Title (if applicable)

penalty of perjury that I have read this application, examined the attached map, and that the matters stated are true. I further certify, if acting on behalf of an entity or individual other than myself, that I am authorized to submit this application.

Supplemental Information

(type or print)

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1. Well Information (check one or both as applicable) ☐ Drilling new well(s) ☐ Using existing well(s)

- a) If new wells, how many _____ Have test holes been drilled? ☐ Yes ☐ No Drilled by _____
(if yes, please provide copies of logs)
- b) If existing wells, how many _____ Provide copy of log(s), if available. Drilled by _____

For either existing or proposed wells:

- c) Well Depth (required) _____ Depth to Top of Water Bearing Material _____ Depth to Water from Surface _____
- d) Distance to nearest domestic well on applicant's property _____ Property owned by others _____

2. Wastewater Disposal System Information

- a) Type of System (i.e. septic tank, drain field) _____
- b) System Capacity (gallons) _____ Year Constructed _____
- c) Connected to the City of _____ Sanitary System

3. Dugout Information

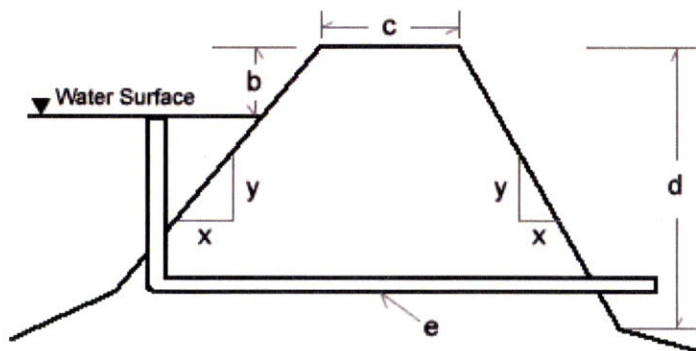
- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

4. Water Storage Dams

If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to be shown on the map submitted with the application.

- a) If a private engineering firm or government agency was involved in the design of this dam, please give their name and address:

U.S. Bureau of Reclamation
Department of Interior



- b) Freeboard 3.3 feet
- c) Crest Width 40 feet
Crest Length 5,200 including dikes
- d) Height 245 feet
- e) Primary Outlet Capacity 1,150
If pipe, diameter 2 - 2.75 ft x 2.75 ft
- f) Secondary Spillway Capacity 245,000 cfs
Spillway Width 425 feet
- g) X & Y Slope (e.g. 3 to 1 is a typical slope)
Upstream 2.5:1
Downstream 2:1
- h) Area of Impoundment 1,232 acres
- i) Storage 99,029.0 Acre Feet
- j) Drainage Area Above Dam 204,160.0 Acres

2N 7E
Section: 31

2N 7E
Section: 32

2N 7E
Section: 33

1N 7E
Section: 06

1N 7E
Section: 05

1N 7E
Section: 04

1N 7E
Section: 07

10120110 Rapid

1N 7E
Section: 08

Cheyenne

1N 7E
Section: 09

1N 7E
Section: 18

1N 7E
Section: 17

1N 7E
Section: 16

2N 7E
Section: 28

2N 7E
Section: 27

2N 7E
Section: 26

2N 7E
Section: 33

2N 7E
Section: 34

2N 7E
Section: 35

1N 7E
Section: 04

10120110 Rapid

1N 7E
Section: 03

Cheyenne

1N 7E
Section: 02

1N 7E
Section: 09

1N 7E
Section: 10

1N 7E
Section: 11



EXHIBIT 2

APPLICATION FOR PERMIT TO APPROPRIATE WATER WITHIN THE STATE OF SOUTH DAKOTA

LOCATION OF POINT OF DIVERSION

JACKSON SPRINGS WATER TREATMENT PLANT

2,943 feet North 58 degrees 54 feet West of Southeast corner of Section Eight (8), Township One (1) North, Range Seven (7) East of the Black Hills Meridian.

SIOUX PARK "GIRL SCOUT" GALLERY

1,270 feet North 54 degrees 5 feet East of Southwest corner of Section Three (3), Township One (1) North, Range Seven (7) East of the Black Hills Meridian.

MOUNTAIN VIEW WATER TREATMENT PLANT

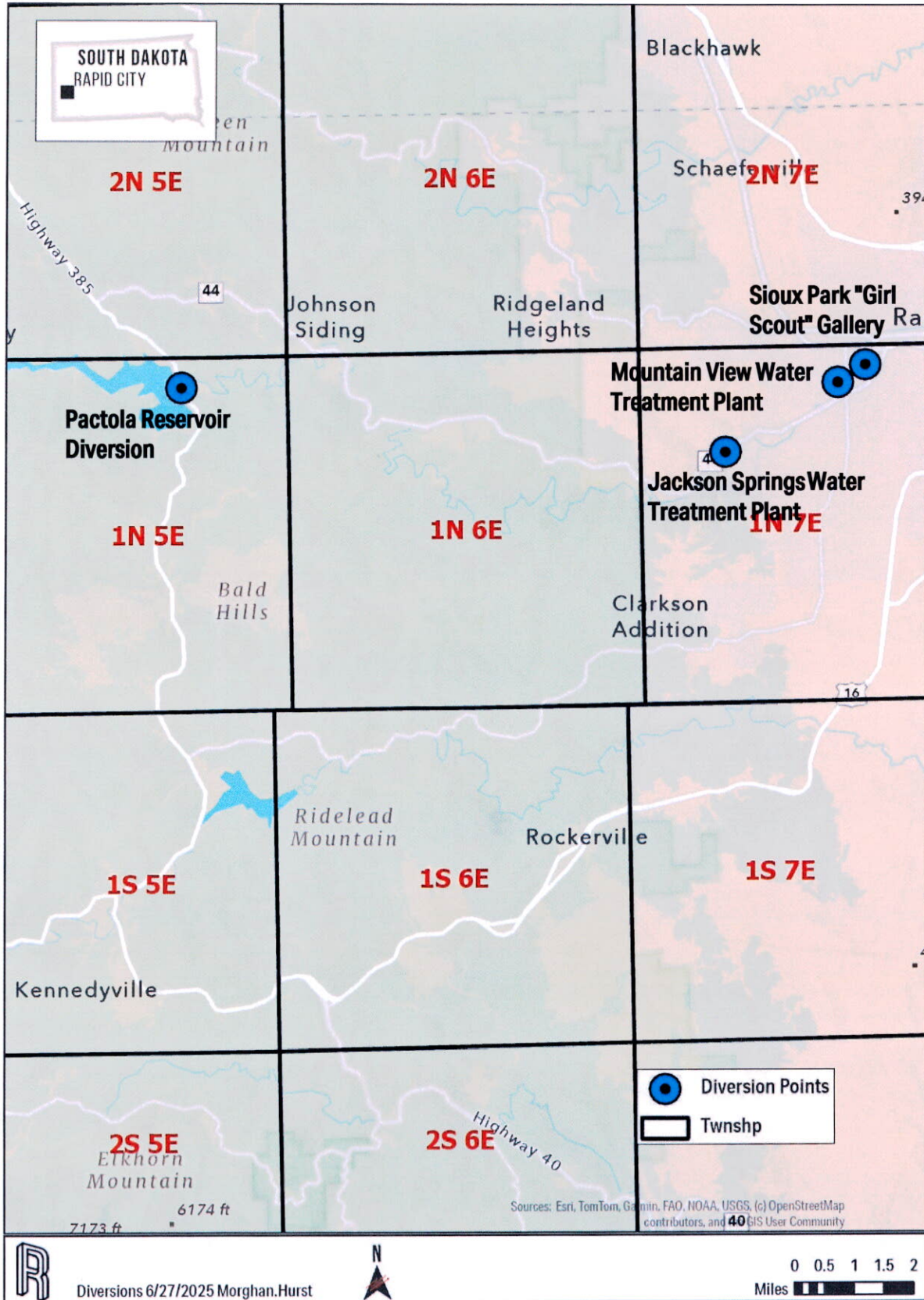
North 71 degrees 39 feet West, 1,205 feet from East ¼ corner of Section Three (3), Township One (1) North, Range Seven (7) East of the Black Hills Meridian.

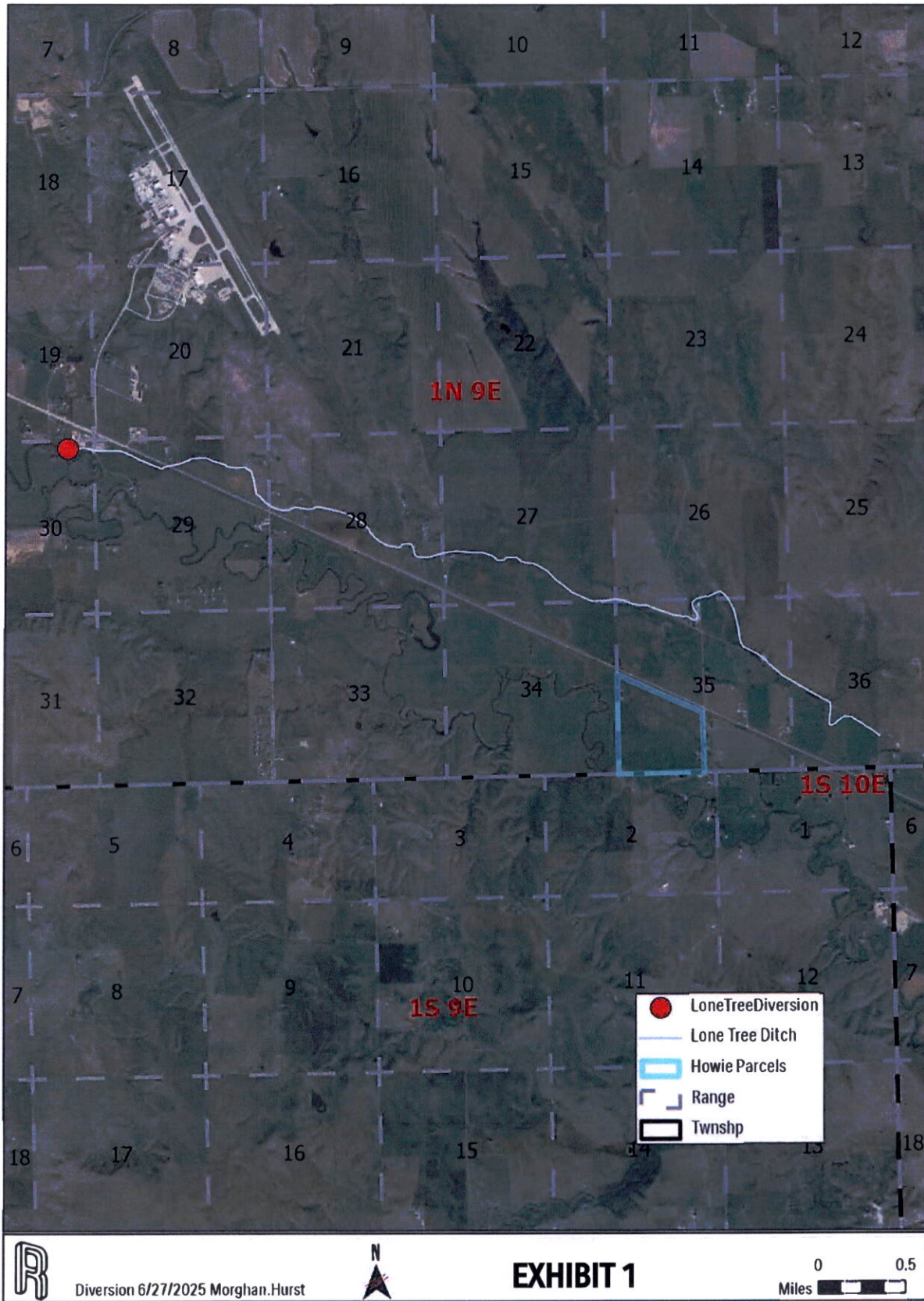
ALTERNATE PACTOLA RESERVOIR DIVERSION (INLET TO SERVICE SPILLWAY)

South 19 degrees East 3,740 feet of Northwest corner of Section Two (2), Township One (1) North, Range Five (5) East of the Black Hills Meridian.

Reservoir generally located in portions of Section Two (2), Three (3), Four (4), Five (5), Ten (10), and Eleven (11), Township One (1) North, Range Five (5) East of the Black Hills Meridian, and portions of Sections Thirty-One (31), Thirty-Two (32), Thirty-Three (33), and Thirty-Four (34) Township One (1) North, Range Five (5) East of the Black Hills Meridian.

All of the above in Pennington Country, South Dakota.







Public Works Department
Administration
300 6th Street Rapid City, SD 57701-5035
Telephone: (605) 394-4165
www.rcgov.org

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July 1, 2025

Department of Agriculture and Natural Resources
Water Rights Program
523 E. Capitol Ave.
Pierre, SD 57501-3182

**Ref: Application for Permit to Appropriate Water Within the State of South Dakota
Amendment to Permit No. 2479-2.
Lone Tree Ditch**

Enclosed please find the above referenced permit application and supporting documentation. A check for the permit application fee will be submitted separately. With submittal of this application the City of Rapid City requests a change in the use and diversion points for vested water right permit No. 2479-2.

If you require additional information concerning this item please contact me at (605) 394-4154.

Sincerely,

Brandon Quiett, PE
Operations Engineering Manager

Cc: Stacey Titus – Assistant Public Works Director
Daniel Ainslie – Finance Director
Eric Boyda – Water Superintendent
Carla Cushman – Deputy City Attorney
Gordon Howie – Current Owner of Water Rights

Enclosures: Application
Respec Report: Lone Tree Ditch Water Volume for Water Rights Transfer
Exhibit 1: Lone Tree Ditch
Exhibit 2: Proposed diversion points

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LONE TREE DITCH WATER VOLUME FOR WATER RIGHTS TRANSFER

REPORT RSI-3638

PREPARED BY
Nick Marnach, PE
Morghen Hurst

RESPEC
3824 Jet Drive
Rapid City, South Dakota 57703

PREPARED FOR
City of Rapid City
300 Sixth Street
Rapid City, South Dakota 57703

JUNE 2025

Project Number W0039.24002





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EXECUTIVE SUMMARY

On behalf of the City of Rapid City, RESPEC Company, LLC (RESPEC) conducted an engineering analysis on irrigated parcels owned by Gordon and Connie Howie to determine the amount of water that the property has the right to transfer from the Lone Tree Ditch to the water supply system for the City of Rapid City, South Dakota. The 91-acres being assessed are located within Section 35, Township 1 North, Range 9 East, Black Hills Meridian, Pennington County, South Dakota. From September 29, 1881, until October 2, 2002, the property was served through Vested Water Right License No. 2038-2 (validated March 3, 1988). In February 2002, an application to add more acres to Water License No. 2038-2 was brought before the State and validated October 2, 2002, becoming Vested Water Right License No. 2479-2, which keeps the original 1,022 acres and adds an additional 333 acres for a total of 1,355 acres. These acres were added without increasing the original 15.0 cubic feet per second (cfs) being diverted from Rapid Creek into Lone Tree Ditch. The following engineering analysis determined that 146.59 acre-feet of water, approximately 1.61 acre-feet per acre, can be transferred annually between May 1 to October 31 from the property to diversion points within Rapid City, South Dakota, but cannot exceed a pro-rated acreage share of 1.007 cfs. A total annual volume of 73.30 acre-feet is available for consumptive use or reservoir storage.



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1.0 INTRODUCTION

On behalf of the City of Rapid City, RESPEC Company, LLC (RESPEC) completed an engineering analysis on the Lone Tree Ditch parcels belonging to Gordon and Connie Howie to determine the amount of water that may be transferred to the City of Rapid City for municipal use. As detailed in this report, the water right for the Lone Tree Ditch parcels is Vested Water Right License No. 2479-2. The irrigated Lone Tree Ditch parcels are located within the NW1/4 SW1/4 (25 acres), SW1/4 SW1/4 (22 acres), NE1/4 SW1/4 (11 acres), and SE1/4 SW1/4 (33 acres) of Section 35, Township 1 North, Range 9 East, Black Hills Meridian, Pennington County, South Dakota. The engineering analysis was divided into three report sections, Historical Crop-Water Use, Historical Diversions, and Delivery System Losses, to comprehensively assess the volume and flow rate available for transfer for municipal use by the City of Rapid City. The historical irrigation requirements (demand and diversions [i.e., supply]) were compared monthly to determine whether supply or demand was the limiting amount. The delivery system losses were subtracted from diversions to determine the monthly acre-feet of water available for transfer. Irrigation efficiency was used to determine the amount available for consumptive use and reservoir storage.

The water right volume for the transfer and the rate of diversion for Lone Tree Ditch was calculated based on acres and the current State of South Dakota Vested Water Right License No. 2479-2. A fair and equitable method of determining water right volumes and rate of diversion is to use pro-rated acreage and distribute the water rights using Vested Water Right License 2479-2, which was issued by the State of South Dakota in 1881. All water rights transfers for the Lone Tree Ditch thereafter this transfer should follow a similar method to ensure a fair and equitable transfer for all water rights.

1.1 HISTORICAL CROP-WATER USE

An assessment was conducted to determine the historical crop-water use and irrigation requirements of the Lone Tree Ditch parcels in the southwest quarter of Section 35 indicated in Figure 1-1. An online irrigation scheduling consultant tool, which was created for individual landowners within the Belle Fourche Irrigation District (BFID) in western South Dakota, tracks the daily water balance in a field and provides a recommendation of irrigation timing and depth. Because of the BFID's proximity to Lone Tree Ditch, RESPEC deemed the methods used to develop the tool appropriate to assess the historical crop-water use.

The analysis was run daily from April 1 to October 31 and annually from 1970 to 2024. Inputs required to track a daily water balance are local weather and rainfall estimates, crop type, and soil water-holding capacity. Weather inputs (i.e., minimum temperature, maximum temperature, solar, wind, dew, and precipitation) were computed using two different methods. The data from 1970 to 2020 were computed using point data from the Rapid City Airport, and the data from 2021 to 2024 were computed using gridded data from the North American Land Data Assimilation System (NLDAS) and Parameter Elevation Regressions on Independent Slopes Model (PRISM). These methods are discussed in further detail herein. We have added confidence in the use of gridded result because of the similarity to the point datasets. A comparison of the overlapping years in the data sets was completed and the general trends were analogous.



Figure 1-1. Estimated Location of Howie's Lone Tree Ditch 91 Irrigated Acres Under Vested Water Right 2479-2 (Not Field Verified).

Weather and rainfall data dating between 1970 and 2020 were collected from the Rapid City Regional Airport, which is located approximately 3 miles northeast of the property and is, therefore, considered representative. The weather data were input into the American Society of Civil Engineers (ASCE) Penman Monteith (PM) equation (Equation 1-1) to calculate daily evapotranspiration (ET). This equation requires daily average values of dew point, maximum and minimum temperature, average wind speed, and solar radiation. All the variables, except for solar radiation, were available from the Rapid City Regional Airport weather station. Solar radiation data were calculated based on the station's average daily cloud cover and an empirical curve of radiation as a function of the station's latitude [Hamon et al., 1954].¹ The output value from the ASCE PM equation was converted from millimeters per day (mm d⁻¹) to inches per day (in d⁻¹).

$$ET = \frac{0.408 \Delta (R_n - G) + \gamma \frac{C_n}{T + 273} u_2 (e_s - e_a)}{\Delta + \gamma (1 + C_d u_2)} \quad (1-1)$$

where:

ET = evapotranspiration (mm d⁻¹)

R_n = calculated net radiation at the crop surface (MJ m⁻² d⁻¹)

G = soil heat flux density at the soil surface (MJ m⁻² d⁻¹);
set as 0.05 MJ m⁻² d⁻¹

T = mean daily air temperature at 1.5–2.5-meters (m) height (m s⁻¹)

u_2 = mean daily wind speed at 2-m height (m s⁻¹)

e_s = mean actual vapor pressure at 1.5–2.5-m height (kilopascal [kPa])
calculated using the maximum and minimum air temperature

e_a = mean actual vapor pressure at 1.5–2.5-m height (kPa)
calculated using the average dew point temperature

Δ = slope of the saturation vapor pressure-temperature curve (kPa °C⁻¹)

γ = psychrometric constant (kPa °C⁻¹)

C_n = numerator constant that changes with reference type and calculation
time step (K mm s³ Mg⁻¹ d⁻¹); set as 1,600 K mm s³ Mg⁻¹ d⁻¹

C_d = denominator constant that changes with reference type and calculation
time step (s m⁻¹); set as 0.38 s m⁻¹

Units for the 0.408 coefficient are m² mm MJ⁻¹

Gordon Howie indicated that the field has historically been flood irrigated for alfalfa/grass hay. Thus, the ASCE PM equation estimated daily evapotranspiration and referenced a 0.5-m-tall crop, similar to full-cover alfalfa. The PM equation then used the weather parameters required to estimate the amount of water that would be lost from full-cover alfalfa on that day.

¹ Hamon, R. W., L. L. Weiss, and W. T. Wilson, 1954. "Insolation as an Empirical Function of Daily Sunshine Duration," *Monthly Weather Review*, Vol. 82, No. 6, pp. 141–146.

For weather data dating between 2021 and 2024, gridded data from the NLDAS and PRISM were used. The NLDAS is a 12-kilometer (km) by 12-km dataset that provides hourly meteorological data, and PRISM is a 4-km by 4-km dataset that provides daily precipitation totals. These parameters are computed by combining a dense network of station data with radar measurement estimates that are interpolated based on a climate-elevation regression for each digital elevation model (DEM). The daily values were disaggregated to an hourly timestep using the NLDAS data, and specific stations were not associated with the gridded meteorological data. In addition to precipitation data, evaporation data were needed to drive the water-balance calculations.

Other meteorological time series are often required in temperate climates where snow accumulation and melt are significant components of the hydrologic cycle and water balance. These time series, such as air temperature (ATEM), solar radiation (SOLR), dewpoint temperature (DEWP), wind speed (WIND), and cloud cover (CLOU), are often required if soil and/or water temperatures are simulated. Water temperature is subsequently used to adjust rate coefficients in most water quality processes, and other time series are used in selected calculations (e.g., solar radiation affecting algae growth).

The reference ET (ET_r) estimate is multiplied by a crop coefficient (K_c) to adjust this value to any crop or crop stage other than full-cover alfalfa with a plant-available water coefficient (K_a) that adjusts for changes in soil moisture to calculate the actual ET estimate (ET_a) (Equation 1-2):

$$ET_a = ET_r \times K_c \times K_a \quad (1-2)$$

The values for K_c used in this analysis are shown in Figure 1-2. The start of the growing season was assumed to begin, on average, on April 1. For alfalfa, the plant is assumed to thrive when the first 5 days of average temperature exceed 41 degrees Fahrenheit (°F), which usually occurs in April for the Lone Tree Ditch area. At this time, the K_c was estimated to be 0.5, or half of the water used for a full-cover alfalfa crop. After the beginning of the season, the value steadily increased until the crop was harvested, the K_c dropped immediately to 0.3, and the cycle repeated itself. For this analysis, the alfalfa was assumed to be harvested generally on June 2, July 12, and August 21.

The ET_r estimate is also multiplied by a plant-available water coefficient (K_a) to determine the daily ET_a, and the K_a value takes into account the current soil water balance. The form of the coefficient is depicted in Figure 1-3. Essentially, the more saturated the soil profile, the closer K_a gets to 1 and the more readily available the water is for release.

To evaluate the percentage of available water in the soil, the soil water-holding capacity must be determined. Therefore, a soil assessment for the estimated irrigated acres was completed during the analysis. An aerial view of the section the irrigated acres are located in with soils overlaid is provided in Figure 1-4.

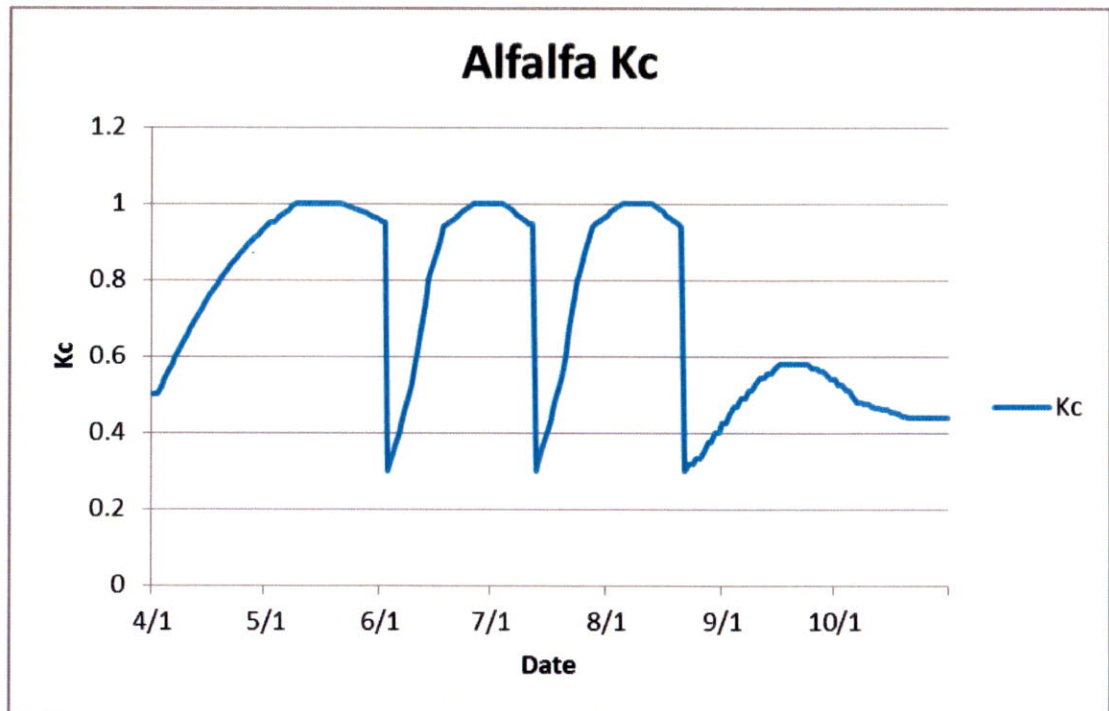


Figure 1-2. Crop Coefficient (Kc) Throughout the Growing Season for Alfalfa in the Irrigated Lone Tree Ditch Acres.

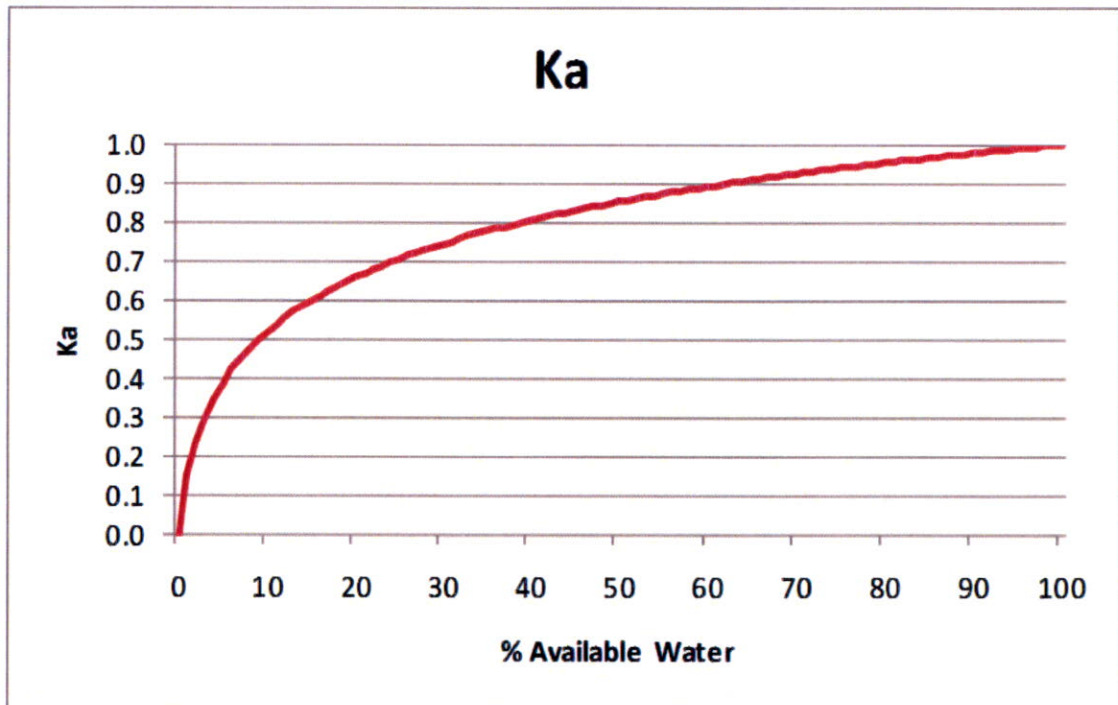


Figure 1-3. Plant-Available Coefficient (Ka) Response to Changes in the Percent of Available Water in the Soil Profile.

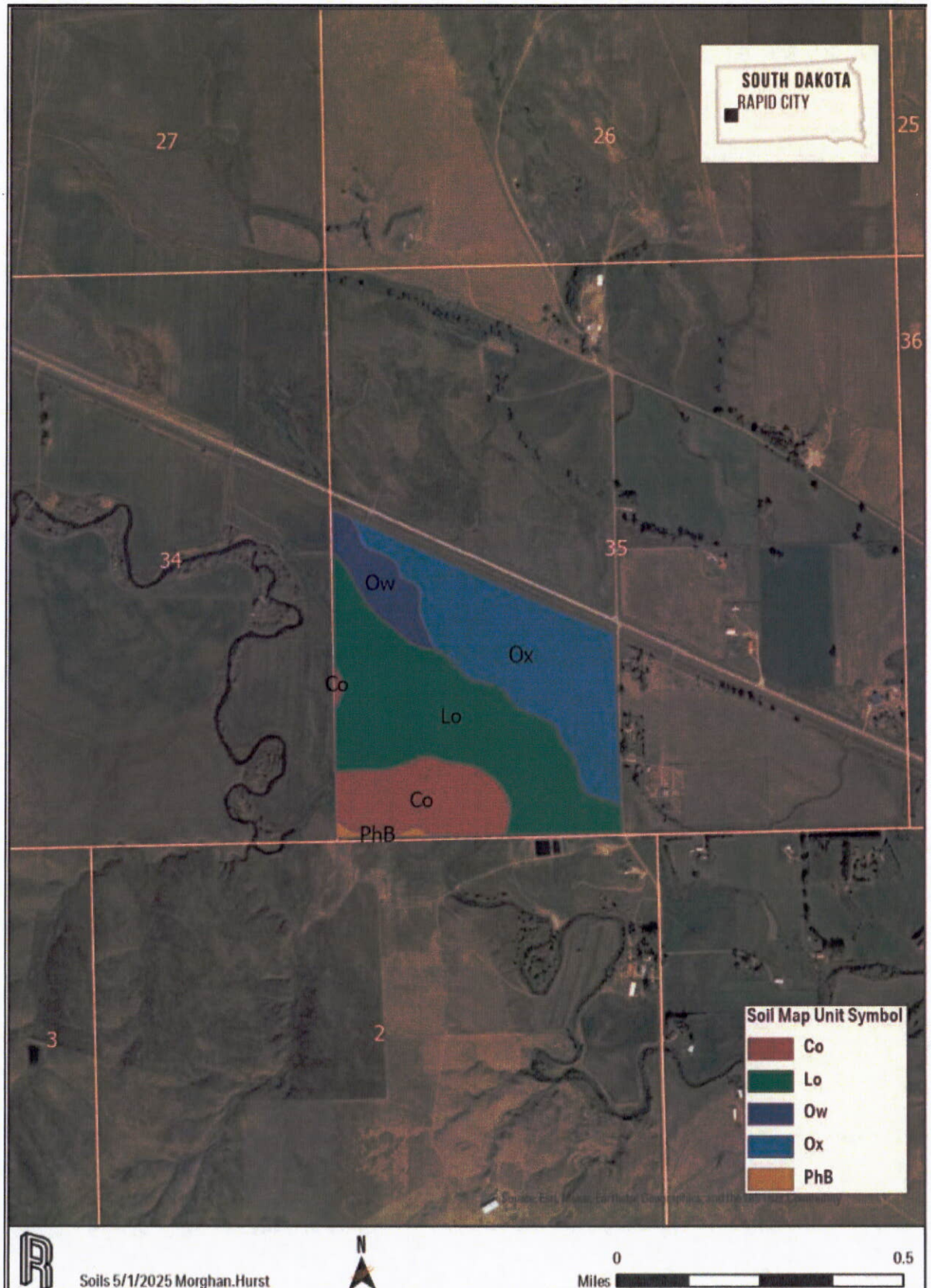


Figure 1-4. Estimated Location of Howie's Irrigated Acres With Soils Overlaid (Not Field Verified).

The overall water-holding capacity of the irrigated acres was determined by calculating an area-weighted value of the estimated irrigated acres shown in Figures 1-1 and 1-4. The area-weighted value was found by estimating the water-holding capacity in inches per foot (in/ft) of the top 4 feet (ft) for each soil type; the top 4 ft are considered the effective rooting depth for an established alfalfa crop.

The estimated water-holding capacity of the individual soil types was then multiplied by the percentage of area that the soil types cover in SW1/4 of Section 35 to determine an area-weighted, water-holding capacity, which is represented in Table 1-1. The daily water balance was found by adding the daily rainfall and simulated irrigation amounts and then subtracting the ETa calculated from Equation 1-3. Irrigation events were simulated and assumed to occur when the calculated balance reached 50 percent of the water-holding capacity (referred to as field capacity). Irrigation amounts fully replenished any soil water deficit.

$$\text{Available Water} = \text{Previous Day Available Water} - \text{ETa} + \text{Rainfall} + \text{Irrigation} \quad (1-3)$$

Table 1-1. Calculated Weighted Water-Holding Capacity for the Irrigated Lone Tree Ditch Acres

Depth (ft)	Water-Holding Capacity (in/ft)
1	1.89
2	1.82
3	1.81
4	1.77
Total	7.29

Figure 1-5 gives a graphical representation of the estimated water balance from 2000 using the described methods. During the 2000 irrigation season, the field received 12.7 inches of rainfall and 41.1 inches of ETa deficit, which induced 26.4 inches of irrigation. The 1970 to 2024 graphs are provided in Appendix A. The total yearly values for reference, rainfall, irrigation, ETr, and ETa throughout the analysis period are displayed in Figure 1-6. On average, 57.6 inches of ETr, 40.6 inches of ETa, 13.5 inches of rainfall, and 24.3 inches of irrigation were simulated. The greatest irrigation amount simulated, 37.2 inches, occurred in 1988 as a result of receiving only 8.6 inches of rain and incurring 50.8 inches of ETa.

According to Gordon Howie, the Lone Tree Ditch acres being analyzed have been surface-irrigated throughout the ditch's existence; therefore, irrigation efficiency was assumed to be 50 percent. The water available for transfer from Lone Tree Ditch, based on analyzing the historical crop-water use, is shown in Table 1-2. According to this analysis, the crop demands an average of 371.8 acre-feet during the irrigation season (from 1970 to 2024).

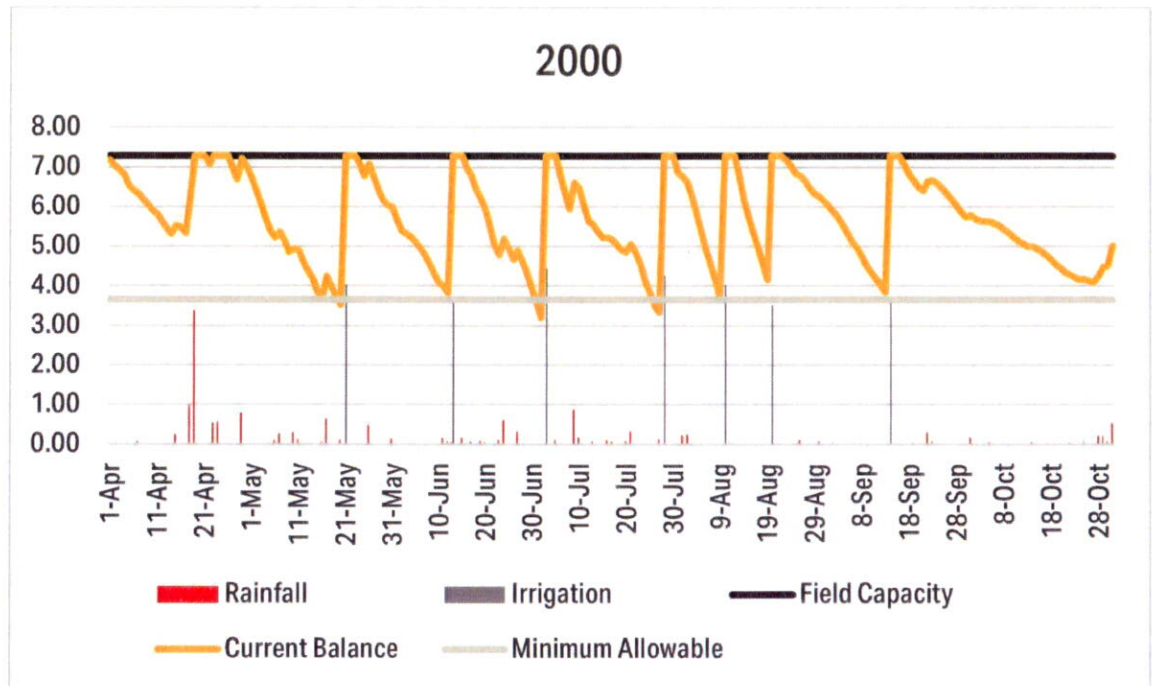


Figure 1-5. Water-Balance Tracking for the 2000 Irrigation Season.

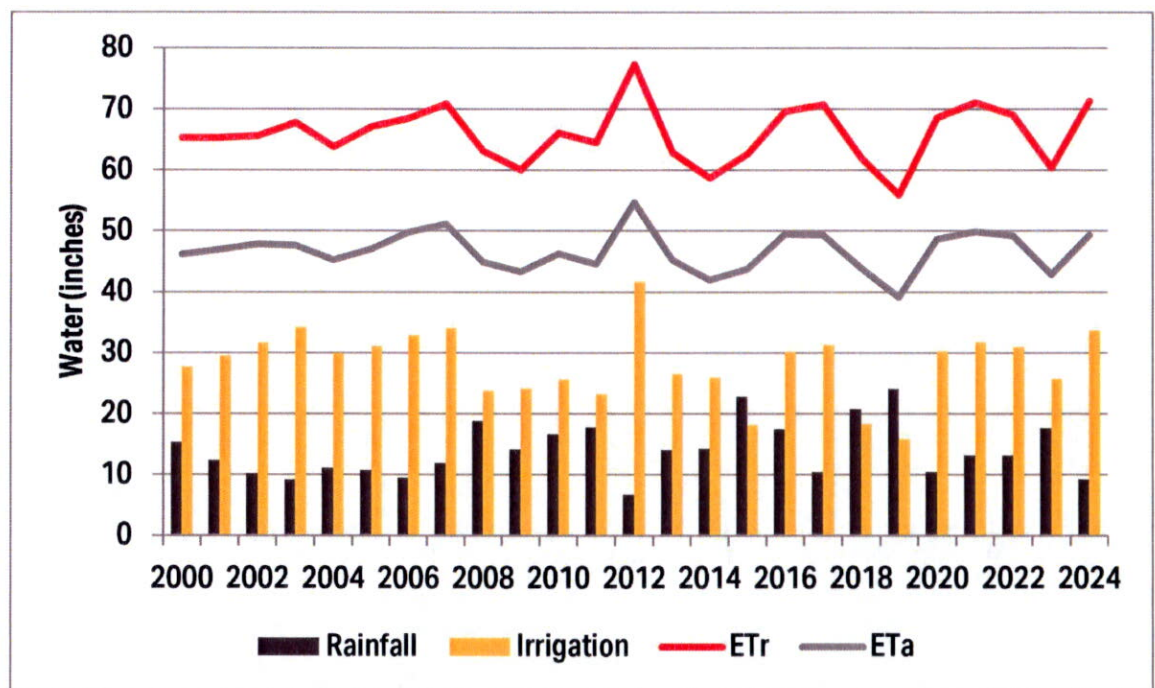


Figure 1-6. Total Values of Rainfall, Irrigation, Reference Evapotranspiration, and Actual Evapotranspiration During the Analysis Period of 2000 to 2024.

Table 1-2. Amount of Irrigation Demand Based on Historical Crop-Water Use Analysis

	April	May	June	July	August	September	October	Total
Crop Demand (Inches)	1.05	4.24	3.68	5.81	5.15	3.52	1.04	24.51
Crop Demand at 50 Percent Application Efficiency (Inches)	2.11	8.48	7.37	11.62	10.31	7.04	2.09	49.02
Acre-Feet/Acre Crop Demand	0.18	0.71	0.61	0.97	0.86	0.59	0.17	—
Number of Acres	91.00	91.00	91.00	91.00	91.00	91.00	91.00	—
Acre-Feet of Crop Demand	15.97	64.34	55.86	88.15	78.18	53.42	15.84	371.77
Days of Delivery	0	31	30	31	31	30	31	184
Cubic Feet per Second Equivalent	0	1.05	0.94	1.43	1.27	0.90	0.26	—

1.2 HISTORICAL DIVERSIONS

According to Vested Water Right License No. 2479-2, Lone Tree Ditch has one diversion point off Rapid Creek, which is located in the NE1/4 NE1/4 Section 30, Township 1, North Range 9 East.

Table 1-3 summarizes the diversion records catalogued by RESPEC from the U.S. Bureau of Reclamation (USBR) for the Lone Tree Ditch for irrigation seasons in 1980, 1984, and 1985. The historical diversion estimates were averaged by month and multiplied by the fraction of land (i.e., pro rata share) that the property encompasses within the water right, minus the estimated delivery losses, to determine the historical monthly delivery amount to the field, Equation 1-4.

$$\text{Monthly Pro Rata Share} = \text{Monthly Historic Diversion} \times \frac{91}{1355} \left[\times \text{Delivery Losses (9.8\%)} \right]$$

Table 1-3. Historical Diversions and Monthly Pro Rata Share Available for Transfer from the Property Based on Historical Diversion Records

	April	May	June	July	August	September	October	Total
Historical Diversions to Ditch (Acre-Feet)	—	350.0	308.0	524.0	551.0	451.0	—	2,184.0
Pro Rata Share of Historical Diversions Minus Ditch Loss (Acre-Feet)	0	21.20	18.66	31.74	33.38	27.32	0	132.30

1.3 DELIVERY SYSTEM LOSSES

A 1989 USBR study estimated delivery system losses at 9.8 percent, which has been consistently referenced in previous transfers from Rapid Creek within Rapid Valley. Historical diversions were reduced by 9.8 percent for all months within the irrigation season when determining the amount available for transfer based on the historical diversion records (Table 1-3).

2.0 WATER RIGHTS AVAILABLE FOR TRANSFER

An engineering analysis was completed to determine the water rights that were available for transfer from the property located within Sections 35, Township 1 North, Range 9 East of the Black Hills Meridian, Pennington County, South Dakota. To complete this analysis, the historical crop-water use for the 91-acre parcels and historical diversion records for Lone Tree Ditch were assessed. Table 2-1 provides a monthly summary of the findings in acre-feet (with the 9.8 percent delivery losses subtracted) and the irrigation rights available for transfer in acre-feet. The irrigation rights to be transferred were determined by the lesser of the two analyses (i.e., crop-water use or diversions), except in April and October when the crop-water use amounts were used because no historical delivery records were available.

2.1 LONE TREE DITCH WATER USE

As shown in Table 2-1, the historical diversions controlled the computation of water volumes that can be transferred monthly during the irrigation season. Historical diversions are the least volume of water for each month and meet the state law requirement that a transfer can only be made if the transfer causes no detriment to existing water rights.

This analysis was completed using the Vested Water Right License No. 2479-2, and this water right license claims Vest Right Water License 2038-2. The total of 1,355 acres, 1,022 acres from the original Vested Water Right License 2038-2 and 333 additional acres from Vested Water Right License No. 2479-2, was analyzed. Table 2-1, Row A shows the historical diversions based on 1,355 acres. These historical diversions were then adjusted to reflect diversions for 91 acres (Table 2-1, Row B). Delivery losses were applied to the adjusted historical diversions (Table 2-1, Row C), resulting in a yearly irrigation season total of 132.3 acre-feet.

2.2 TRANSFERABLE WATER

For Lone Tree Ditch, historical irrigation practices have returned 50 percent of the applied irrigation water to Rapid Creek based on the gravity-flow irrigation efficiency. Thus, the consumed water volume is only 50 percent of the values presented in Table 2-1, Row F, and the result is tabulated in Table 2-1, Row G. This water volume equates to the adjusted historical diversions minus ditch loss, then minus return flows. The total volume available for consumptive use and storage is 73.30 acre-feet.

The total annual water volume available for transfer may be increased to a maximum of 146.59 acre-feet if the transferring entity can demonstrate that any volume exceeding 73.30 acre-feet will not be consumed but instead returned to Rapid Creek near the existing Lone Tree Ditch to continue being available to other existing water rights.

In the event of a water rights transfer and use or point of diversion changes, the South Dakota Water Management Board is responsible for making the final determination on the quantity of water associated with the water right.

Table 2-1. Irrigation Amounts Available for Transfer from Lone Tree Ditch

Row	Description	April	May	June	July	August	September	October	Total
A ^(a)	Historical Diversions to Ditch (Acre-Feet)	0.00	350.00	308.00	524.00	551.00	451.00	0.00	2,184.00
B ^(b)	Adjusted Historical Diversions to Ditch (Acre-Feet)	0.00	23.51	20.68	35.19	37.00	30.29	0.00	146.67
C ^(c)	Adjusted Historical Diversions Minus Ditch Loss (Acre-Feet)	0.00	21.20	18.66	31.74	33.38	27.32	0.00	132.30
D ^(d)	Crop Demand (Acre-Feet)	15.97	64.34	55.86	88.15	78.18	53.42	15.84	371.77
E ^(e)	Crop Demand Minus Ditch Loss (Acre-Feet)	14.41	58.03	50.39	79.51	70.52	48.18	14.29	335.33
F ^(f)	Irrigation Right to Be Transferred to Diversion Points in Rapid City (Acre-Feet)	0.00	21.20	18.66	31.74	33.38	27.32	14.29	146.59
G ^(g)	Irrigation Right to Be Transferred to Reservoir (Acre-Feet)	0.00	10.60	9.33	15.87	16.69	13.66	7.15	73.30

(a) Historical diversions as outlined in Section 1.2; calculated for 1,355 acres.

(b) Historical diversions reduced by 6.72 percent to account for pro-rated acre total.

(c) Calculated by subtracting delivery losses (9.8 percent) from the adjusted historical diversions.

(d) Calculated using an online irrigation scheduling tool outlined in Section 1.1.

(e) Calculated by subtracting delivery losses (9.8 percent) from the crop demand.

(f) The lesser of Rows C and E is used except for April when the irrigation season has not yet started for the Lone Tree Ditch based on the water right. Row E minus the required return flows to Rapid Creek based on gravity-flow type irrigation efficiency of 50 percent for Lone Tree Ditch.

(g) The irrigation right time the assumed irrigation efficiency of 50 percent.

Vested Water Right License 2479-2 has a period of annual use from May 1 to October 31. The calculations take this into account and exclude the month of April in the total amount of water able to be transferred. Note that if the total amount of water transferable was to include April, the crop demand minus ditch loss, as provided in Row E, would be added to the sum and the total would equal roughly 161.00 acre-feet (approximately 1.77 acre-feet per acre). For the month of October, the total amount of water to be transferred uses the crop demand minus the ditch loss of 9.8 percent (Row E) because no available historical diversion records were able to be found.

The analysis determined that 146.59 acre-feet (approximately 1.61 acre-feet per acre) of water can be transferred annually from the property to diversion points within Rapid City, as indicated in Table 2-1 from May 1 to October 31, and are not to exceed a pro-rated share of 1.007 cubic feet per second (cfs). A total annual volume of 73.30 acre-feet is available for consumptive use or transfer to reservoir storage.

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APPENDIX A

HISTORICAL CROP-WATER USE BY YEAR



A-1



RSI-3638



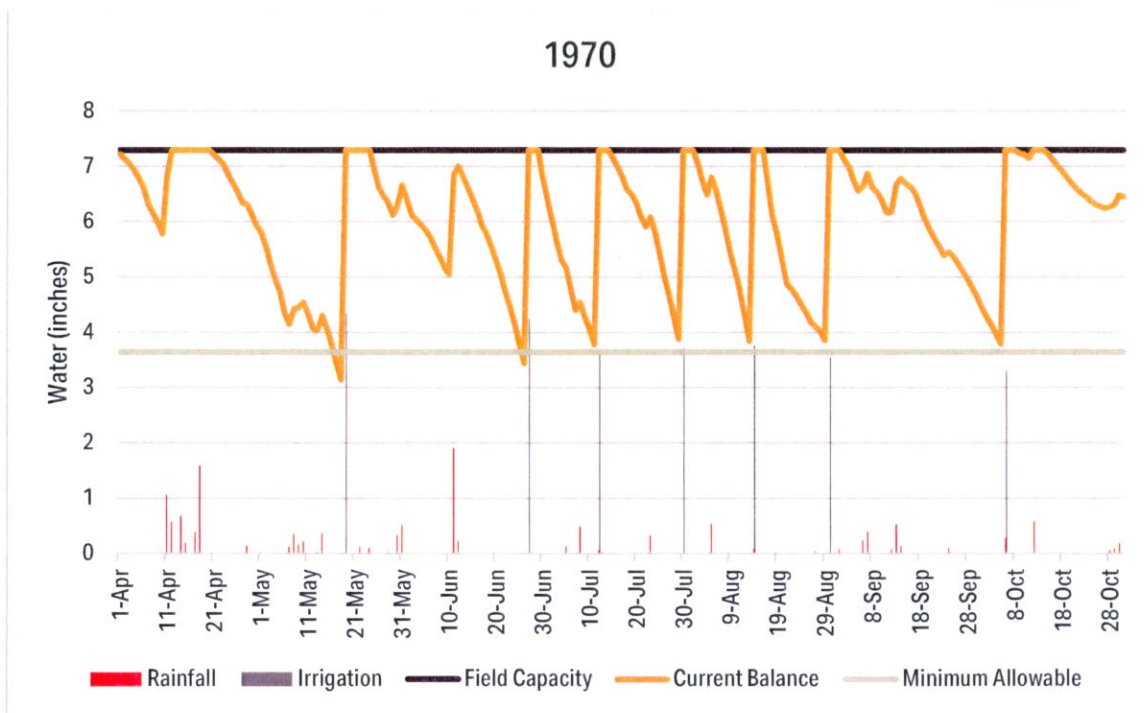


Figure A-1. Crop-Water Use Calculation for Year 1970.

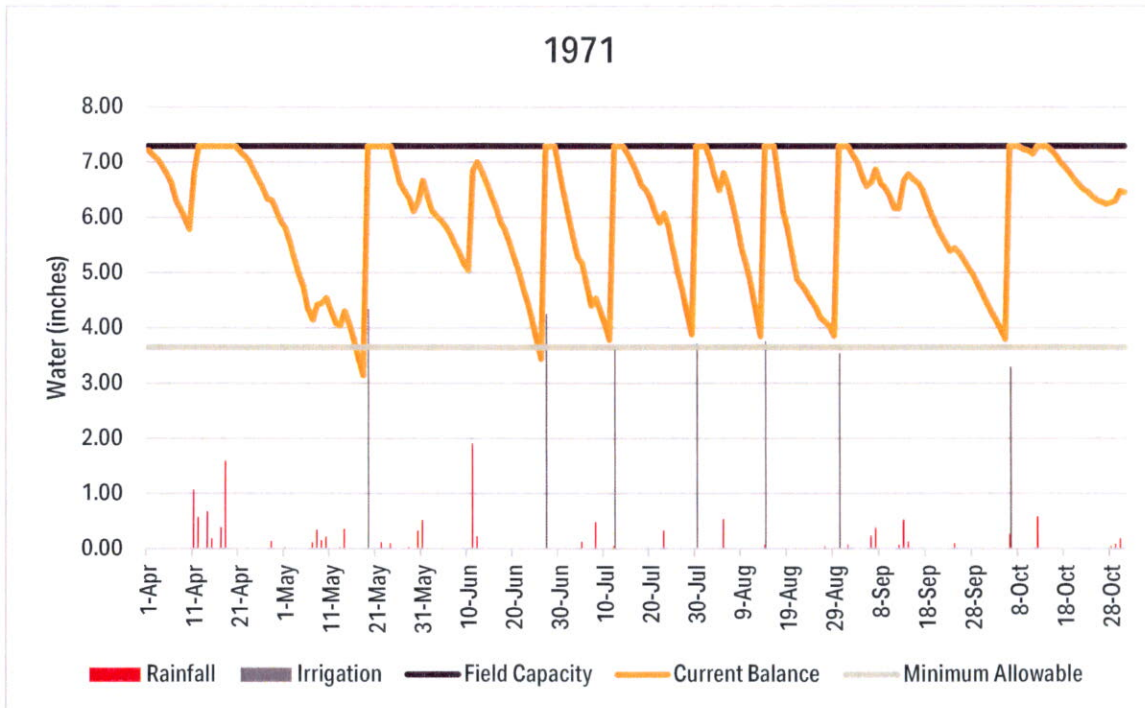


Figure A-2. Crop-Water Use Calculation for Year 1971.

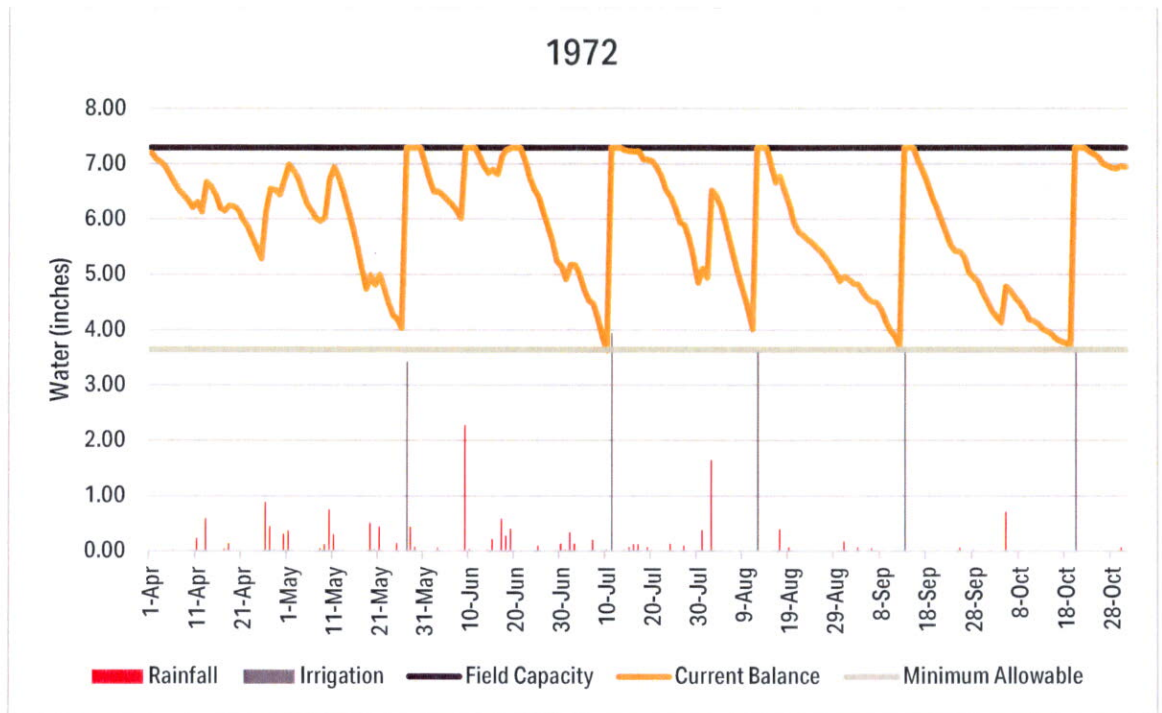


Figure A-3. Crop-Water Use Calculation for Year 1972.

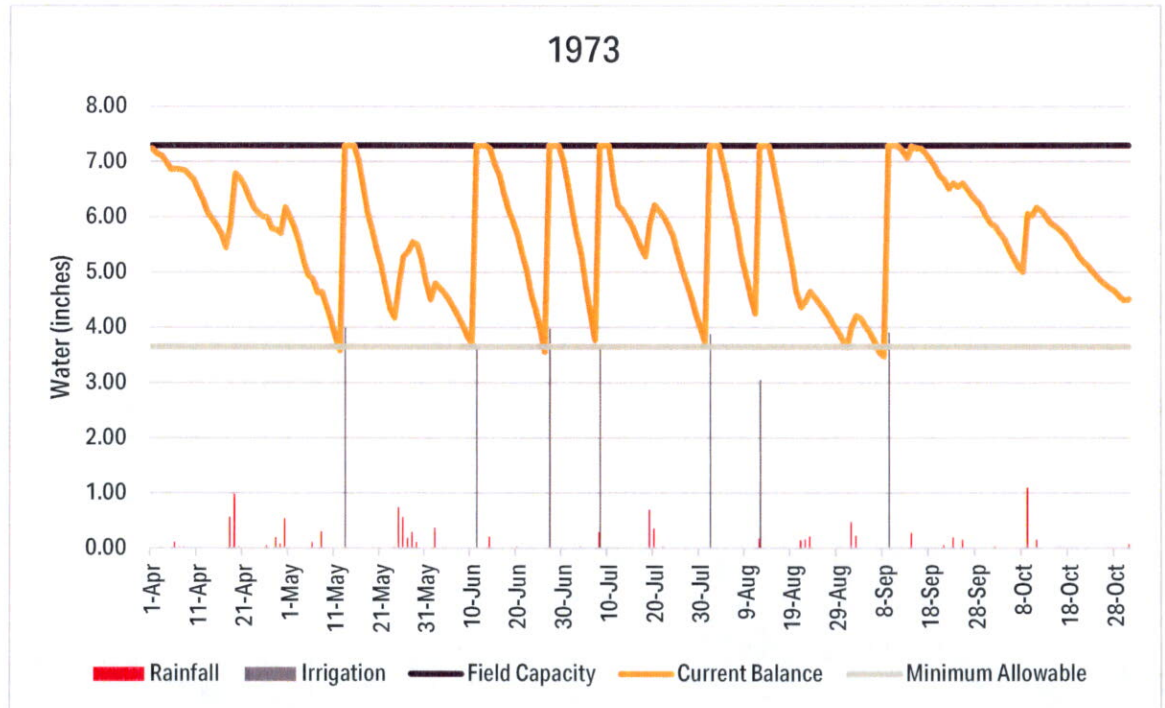


Figure A-4. Crop-Water Use Calculation for Year 1973.

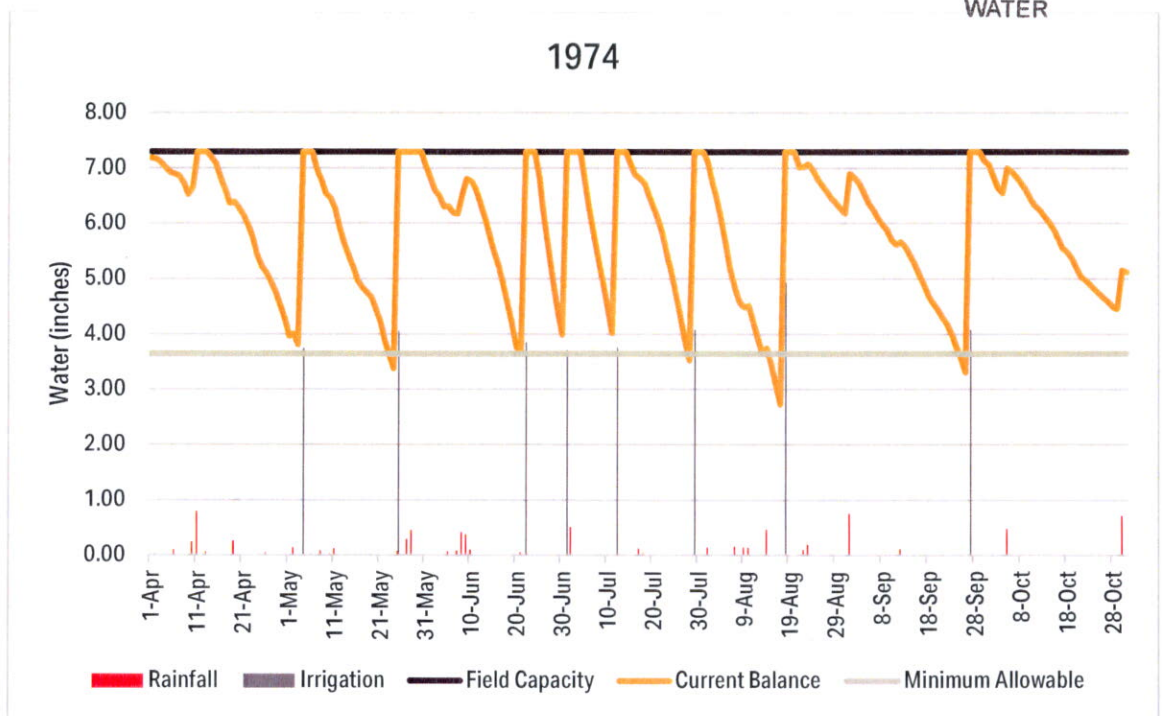


Figure A-5. Crop-Water Use Calculation for Year 1974.

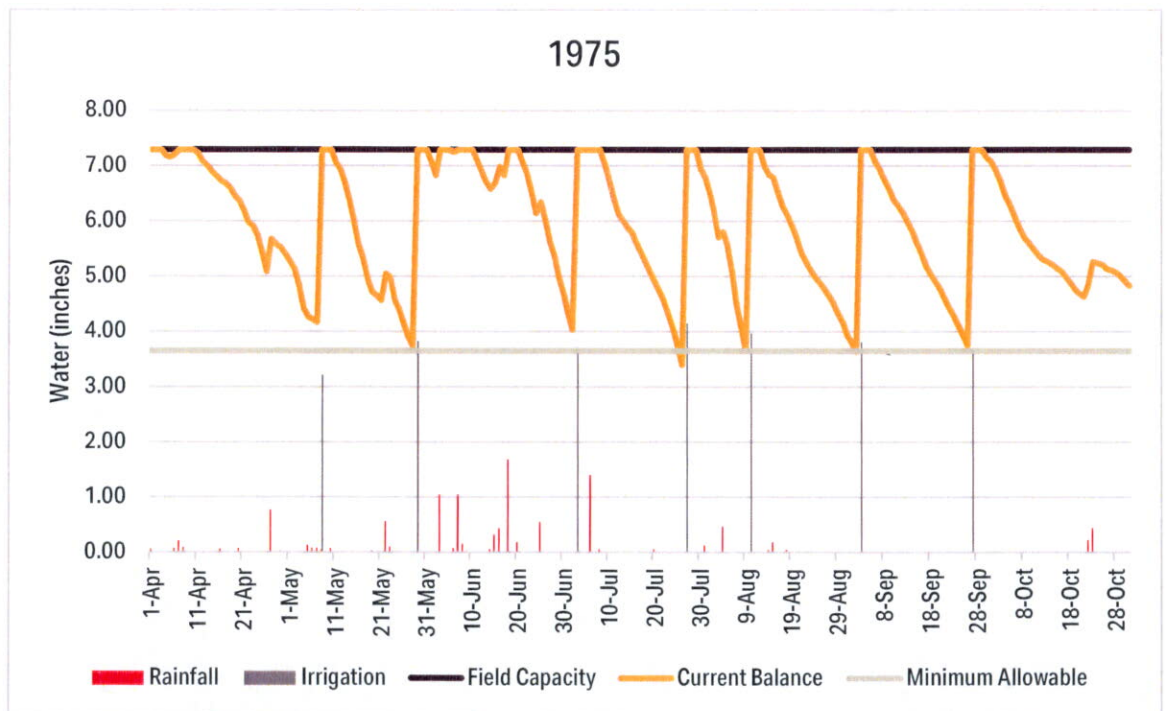


Figure A-6. Crop-Water Use Calculation for Year 1975.

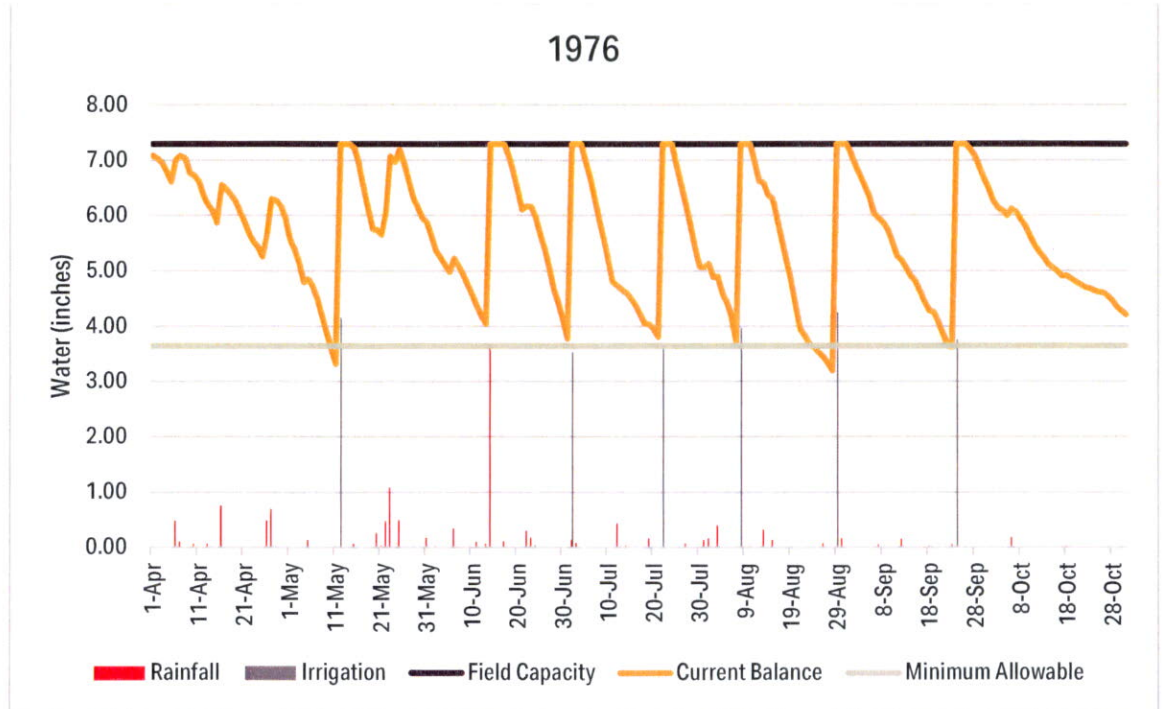


Figure A-7. Crop-Water Use Calculation for Year 1976.

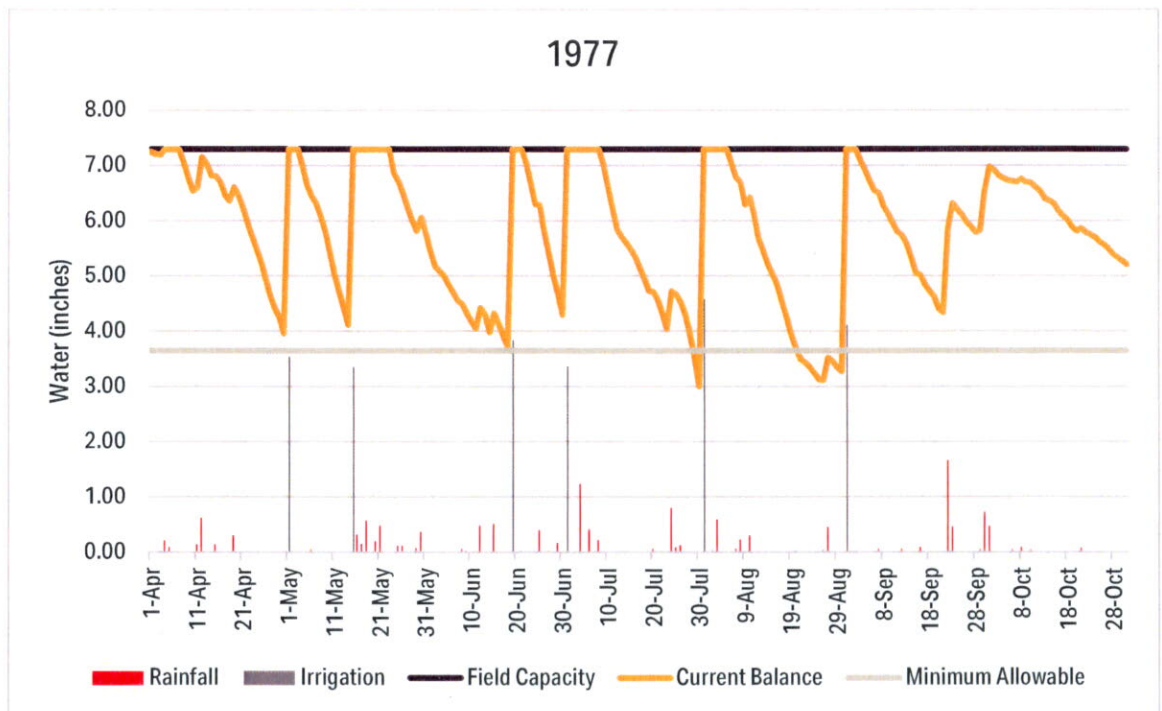


Figure A-8. Crop-Water Use Calculation for Year 1977.

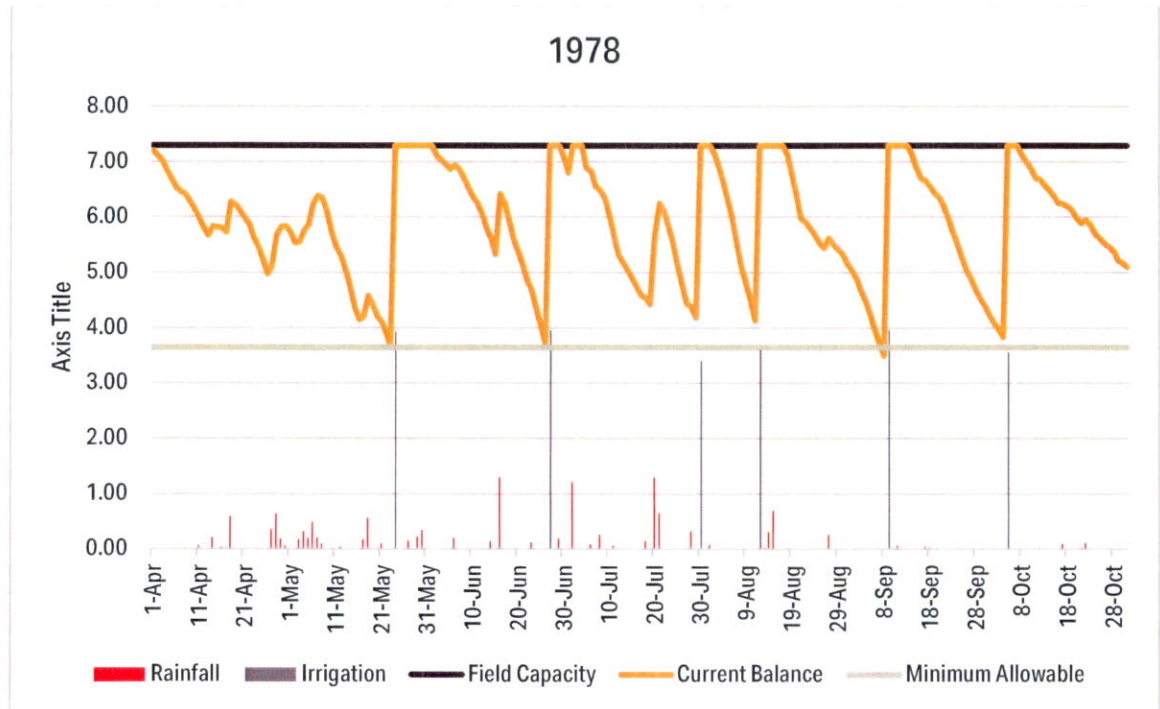


Figure A-9. Crop-Water Use Calculation for Year 1978.

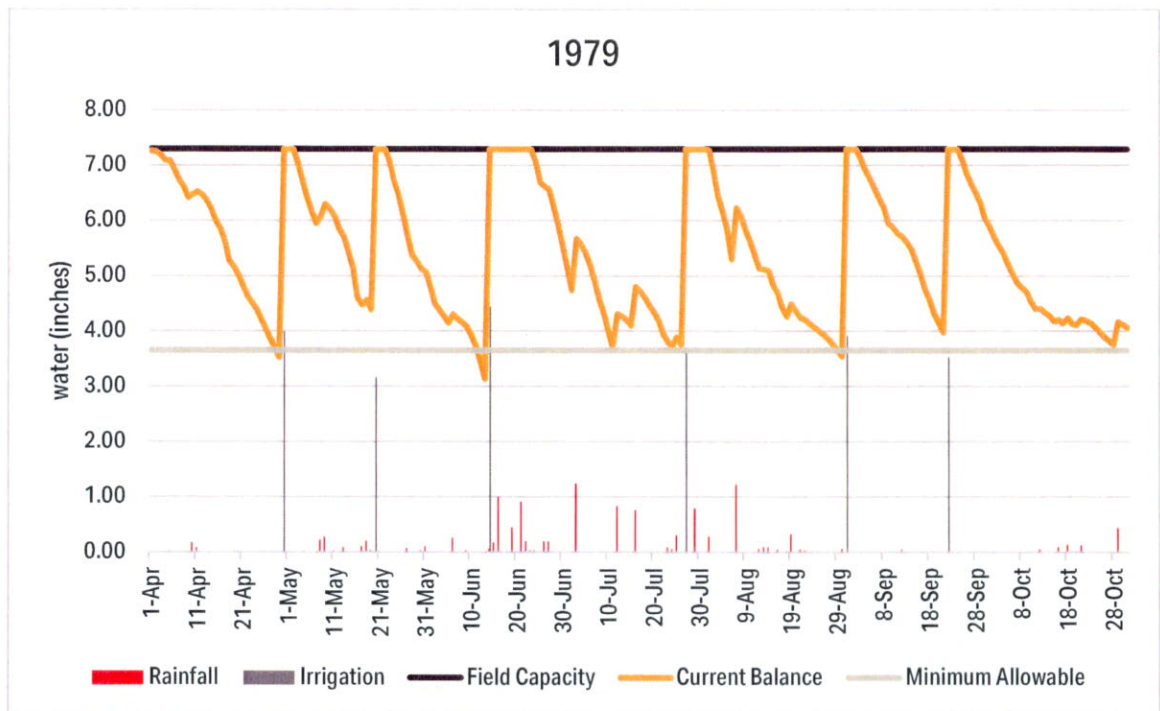


Figure A-10. Crop-Water Use Calculation for Year 1979.

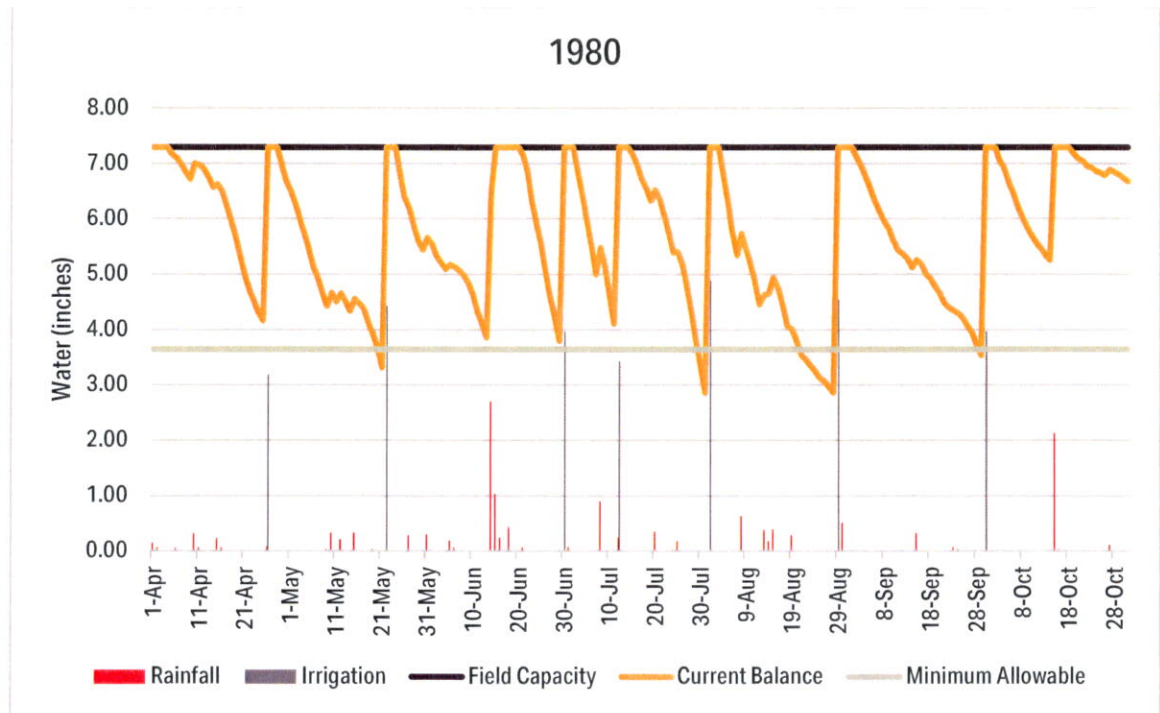


Figure A-11. Crop-Water Use Calculation for Year 1980.

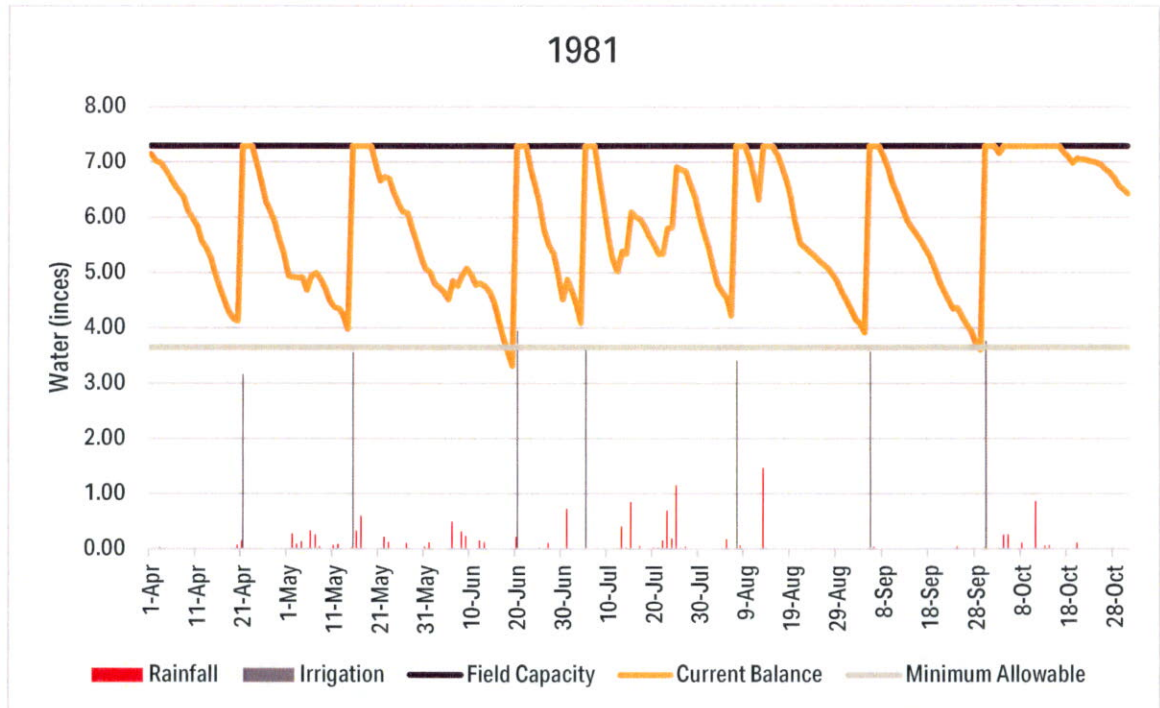


Figure A-12. Crop-Water Use Calculation for Year 1981.

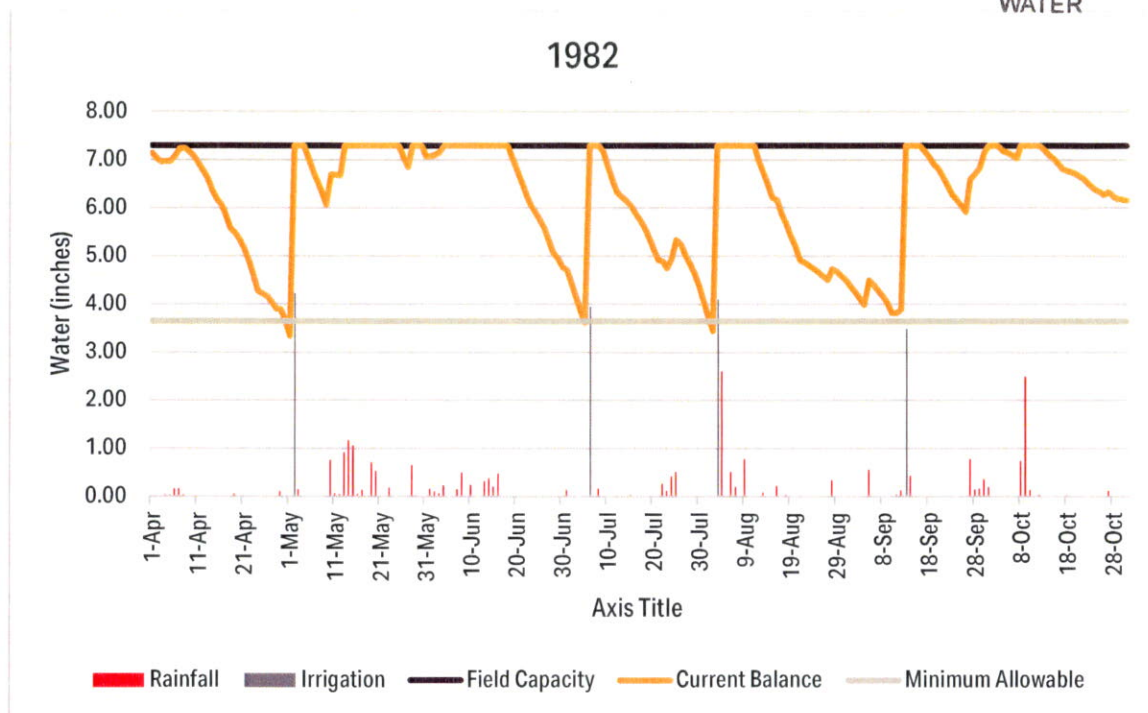


Figure A-13. Crop-Water Use Calculation for Year 1982.

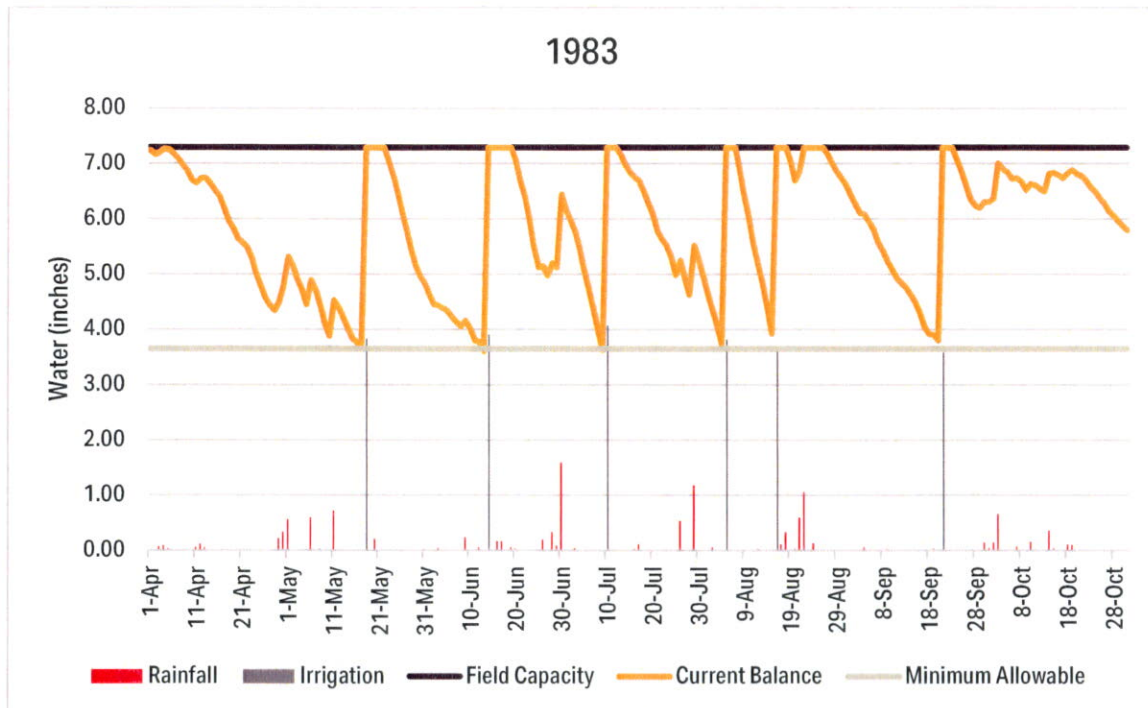


Figure A-14. Crop-Water Use Calculation for Year 1983.

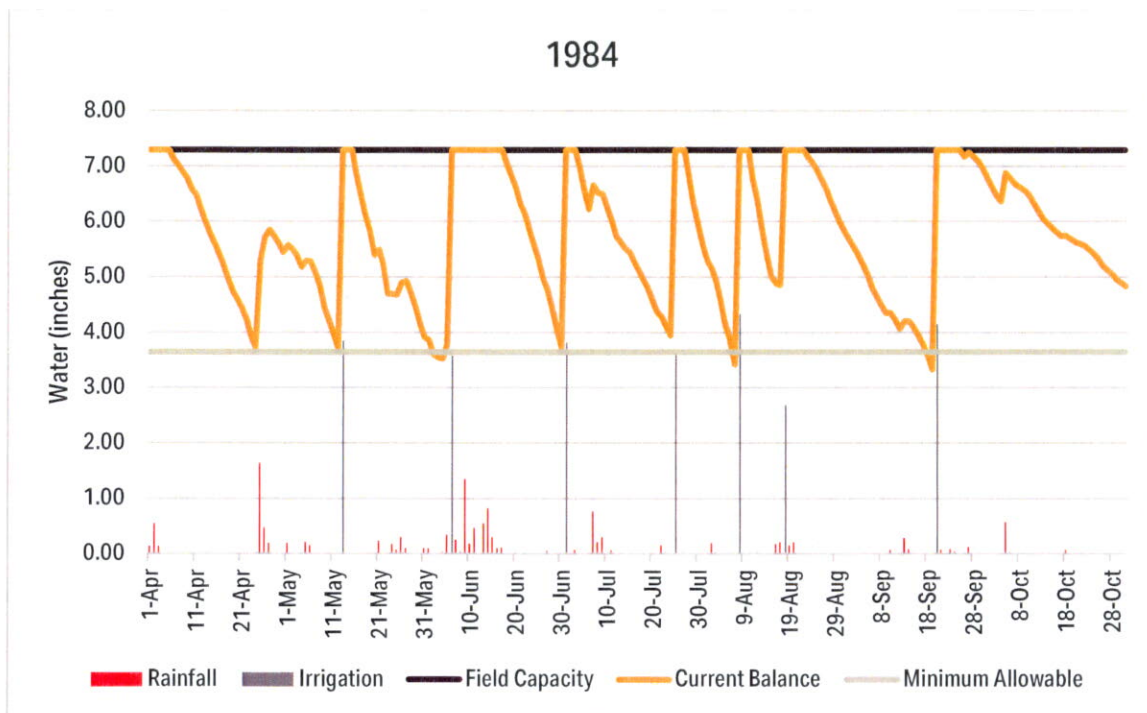


Figure A-15. Crop-Water Use Calculation for Year 1984.

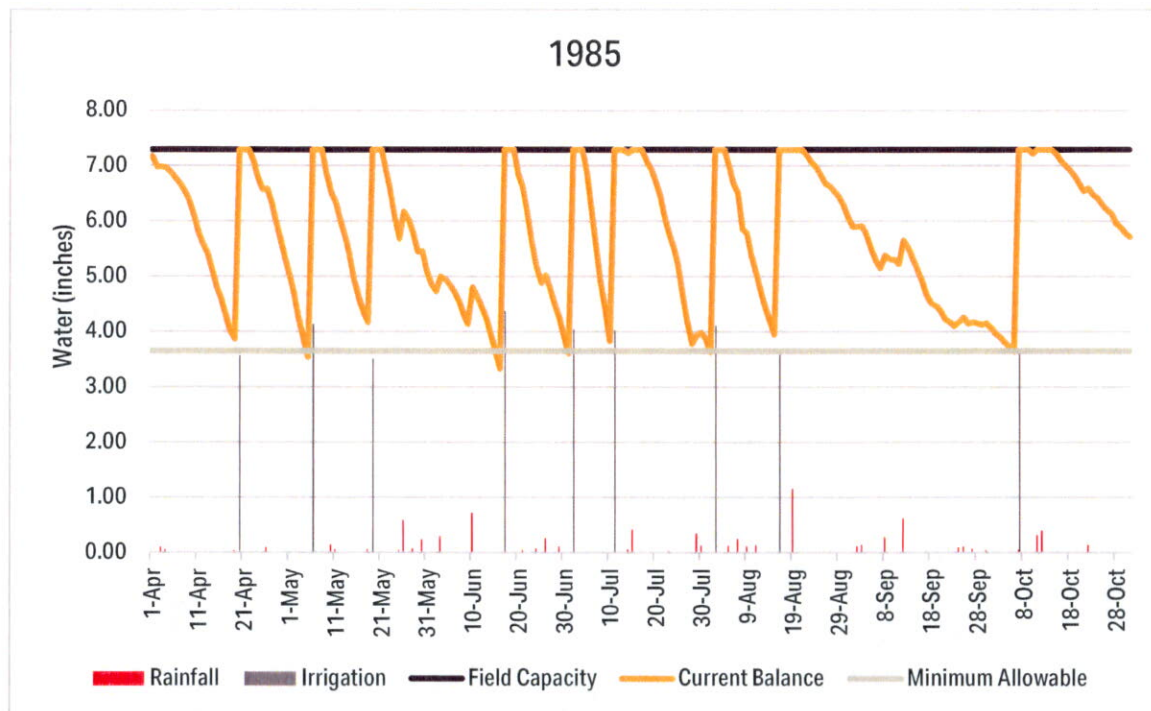


Figure A-16. Crop-Water Use Calculation for Year 1985.

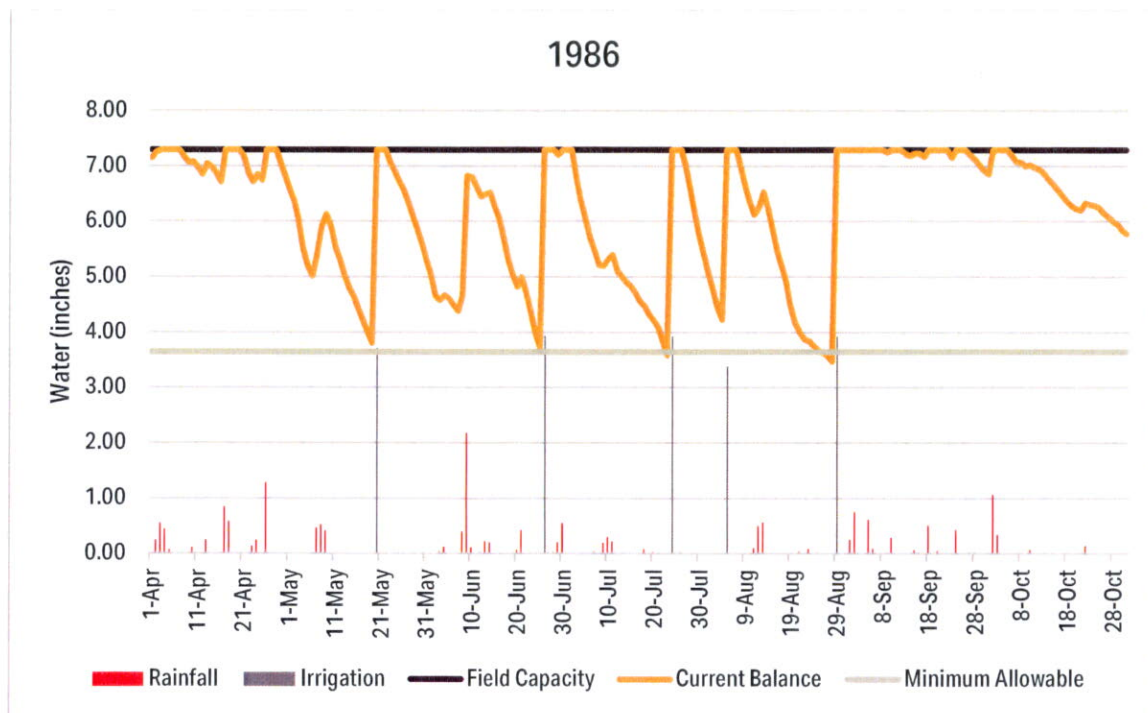


Figure A-17. Crop-Water Use Calculation for Year 1986.

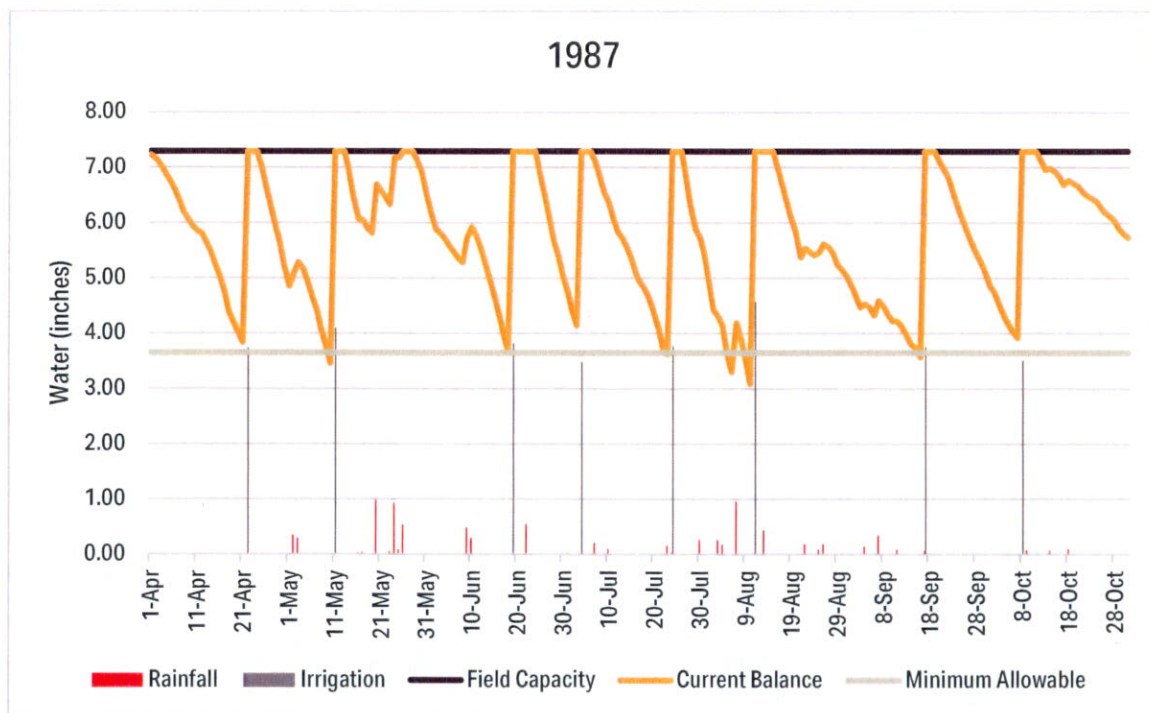


Figure A-18. Crop-Water Use Calculation for Year 1987.

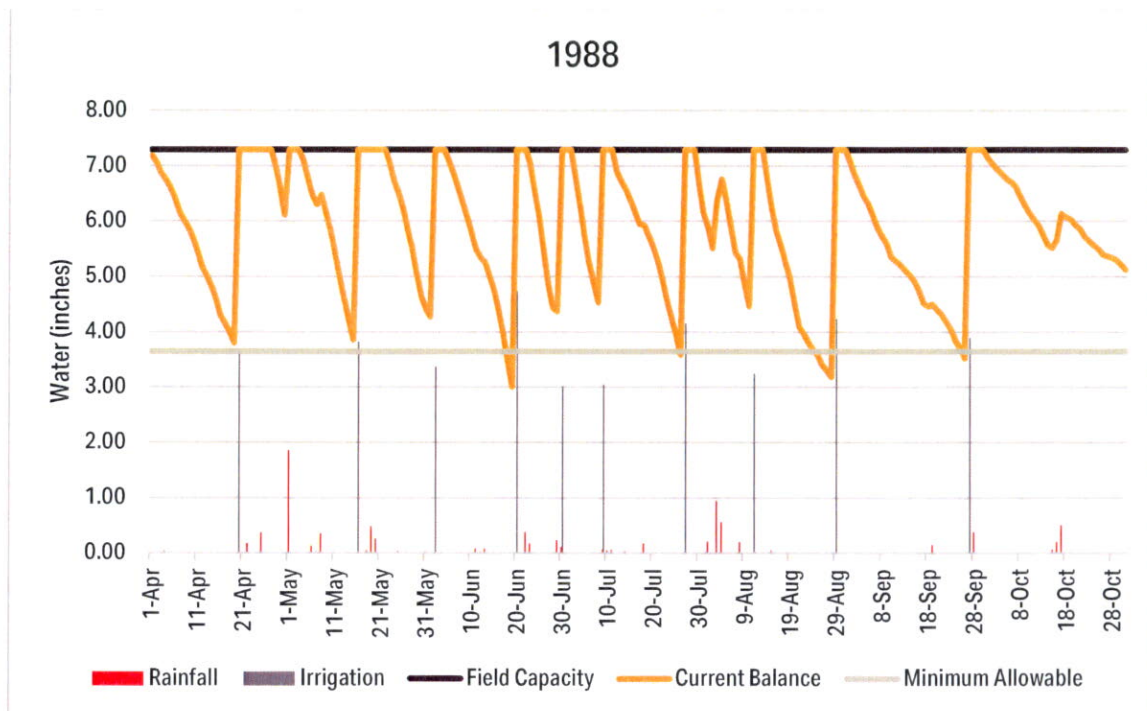


Figure A-19. Crop-Water Use Calculation for Year 1988.

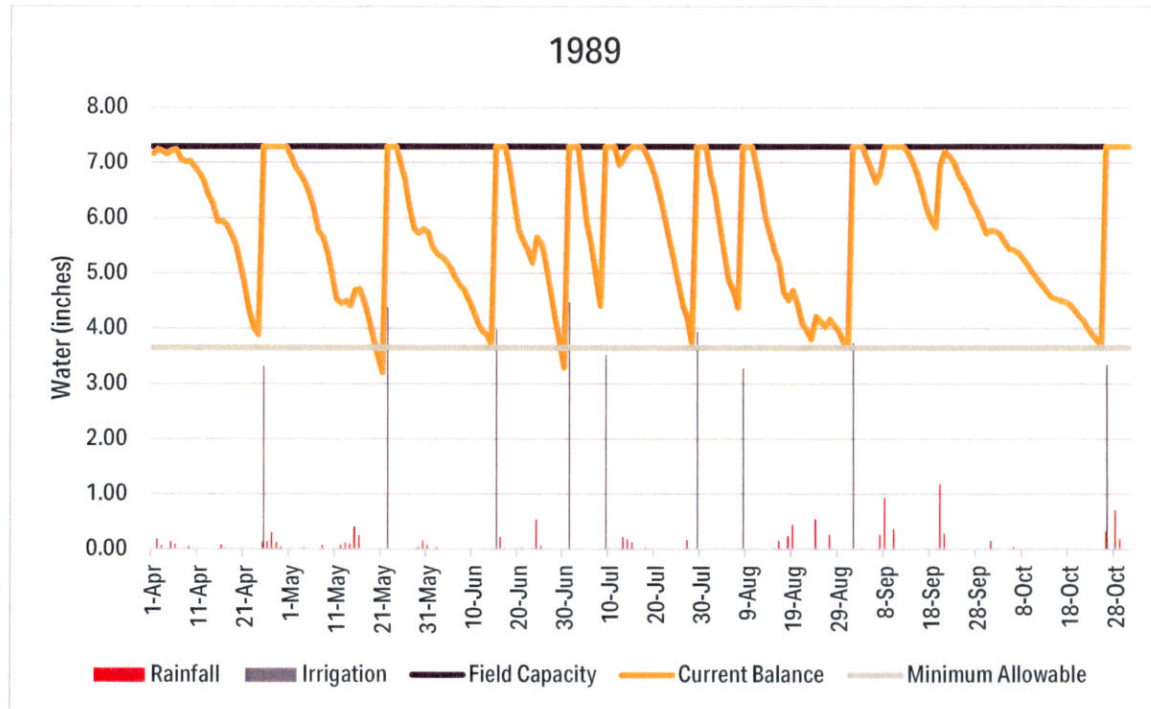


Figure A-20. Crop-Water Use Calculation for Year 1989.

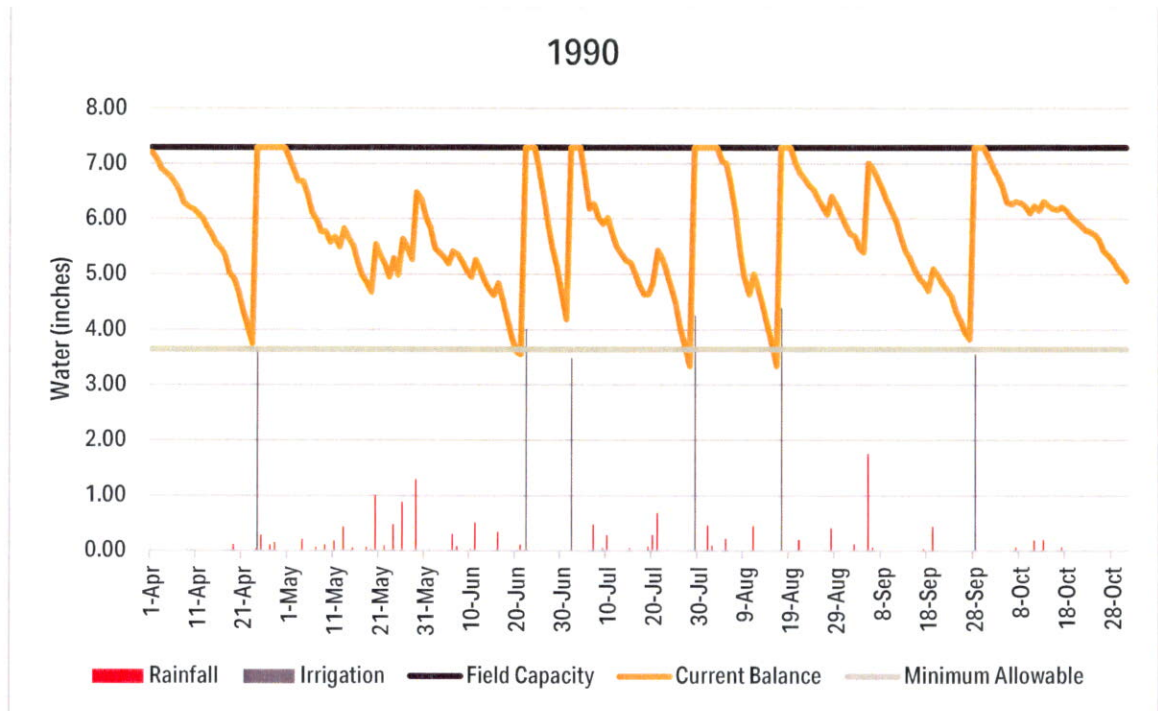


Figure A-21. Crop-Water Use Calculation for Year 1990.

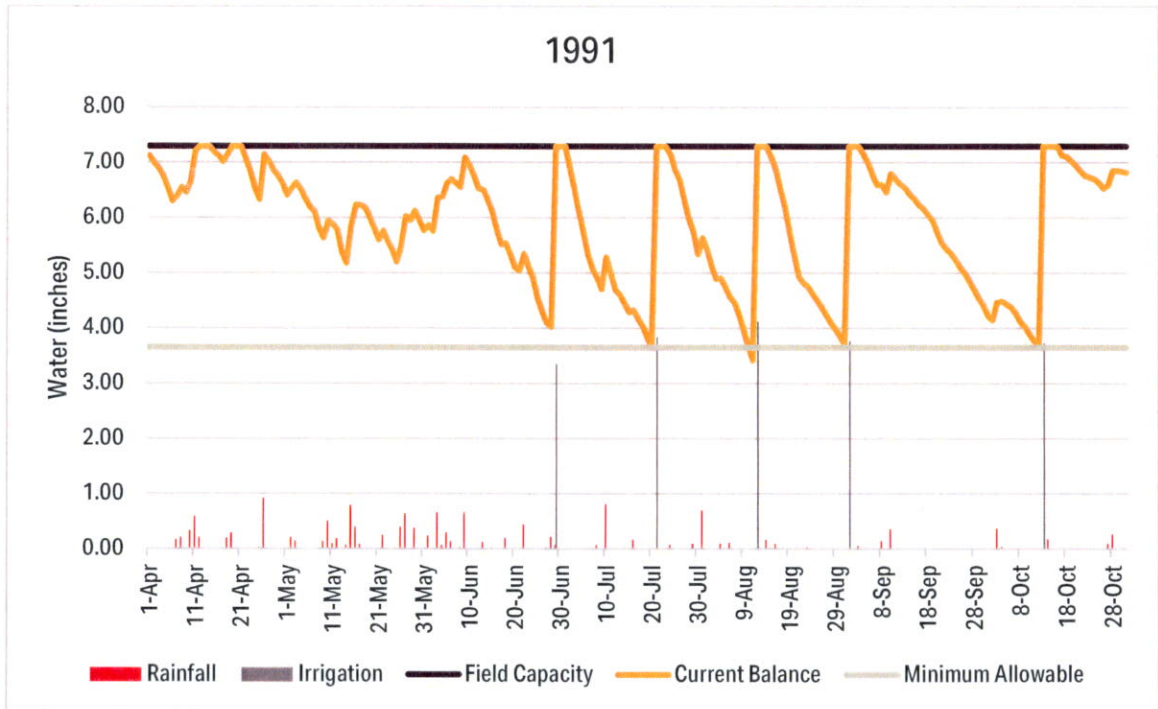


Figure A-22. Crop-Water Use Calculation for Year 1991.

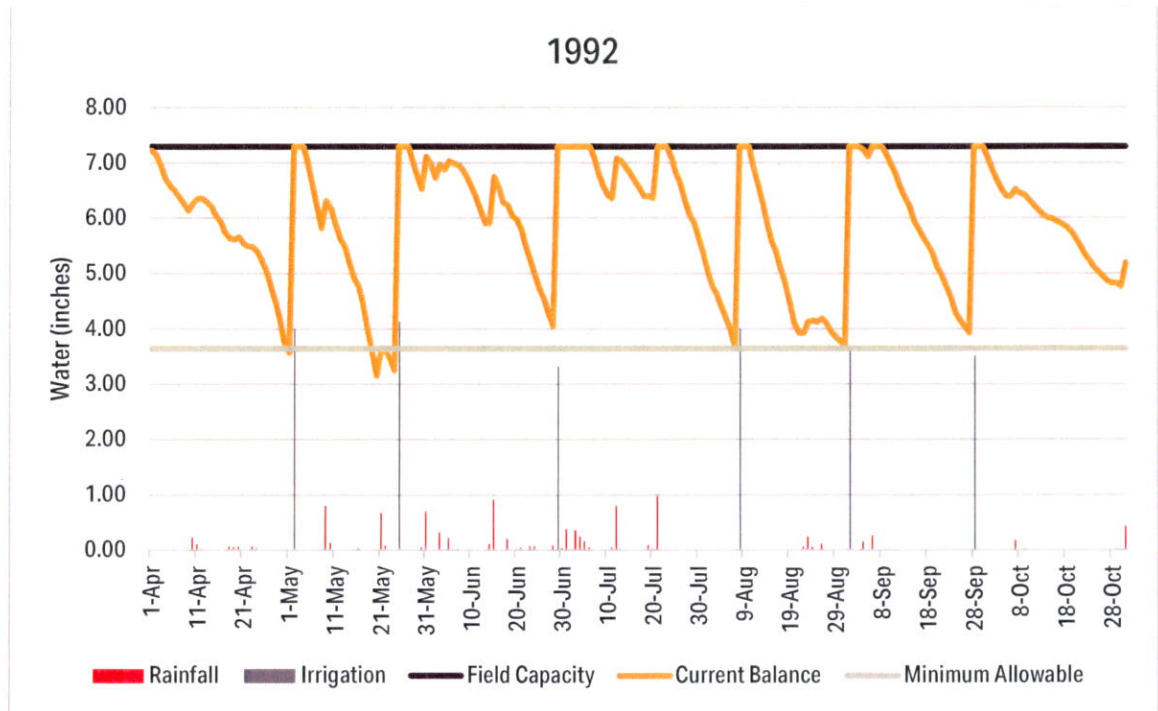


Figure A-23. Crop-Water Use Calculation for Year 1992.

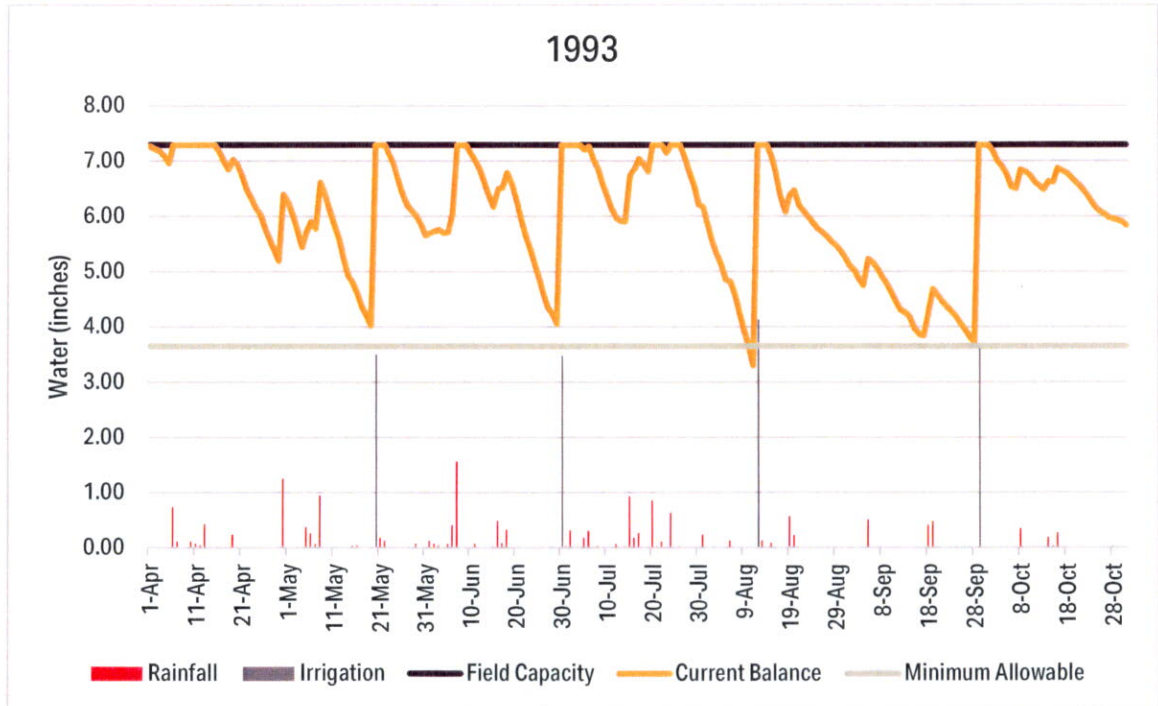


Figure A-24. Crop-Water Use Calculation for Year 1993.

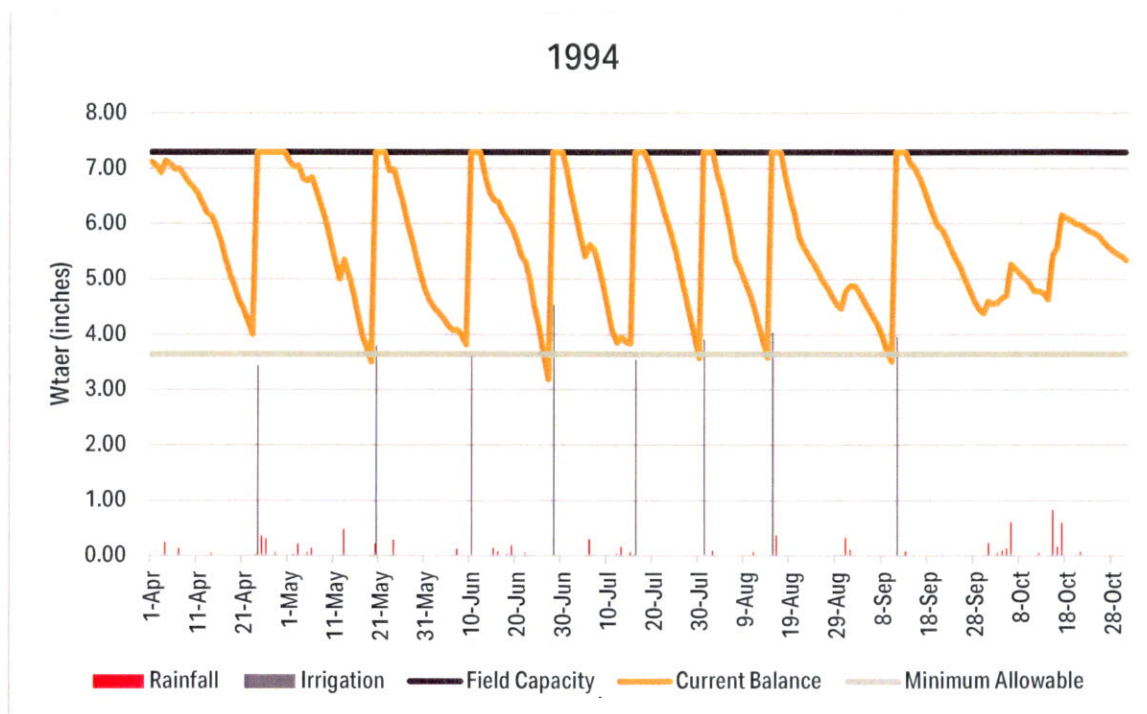


Figure A-25. Crop-Water Use Calculation for Year 1994.

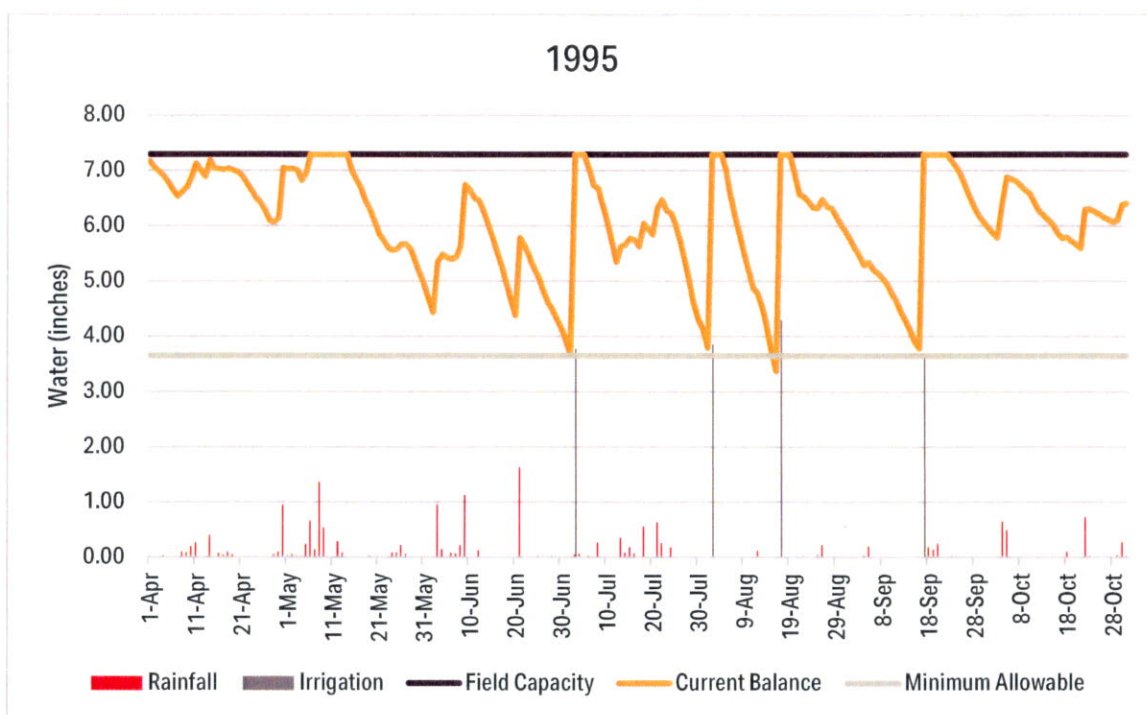


Figure A-26. Crop-Water Use Calculation for Year 1995.

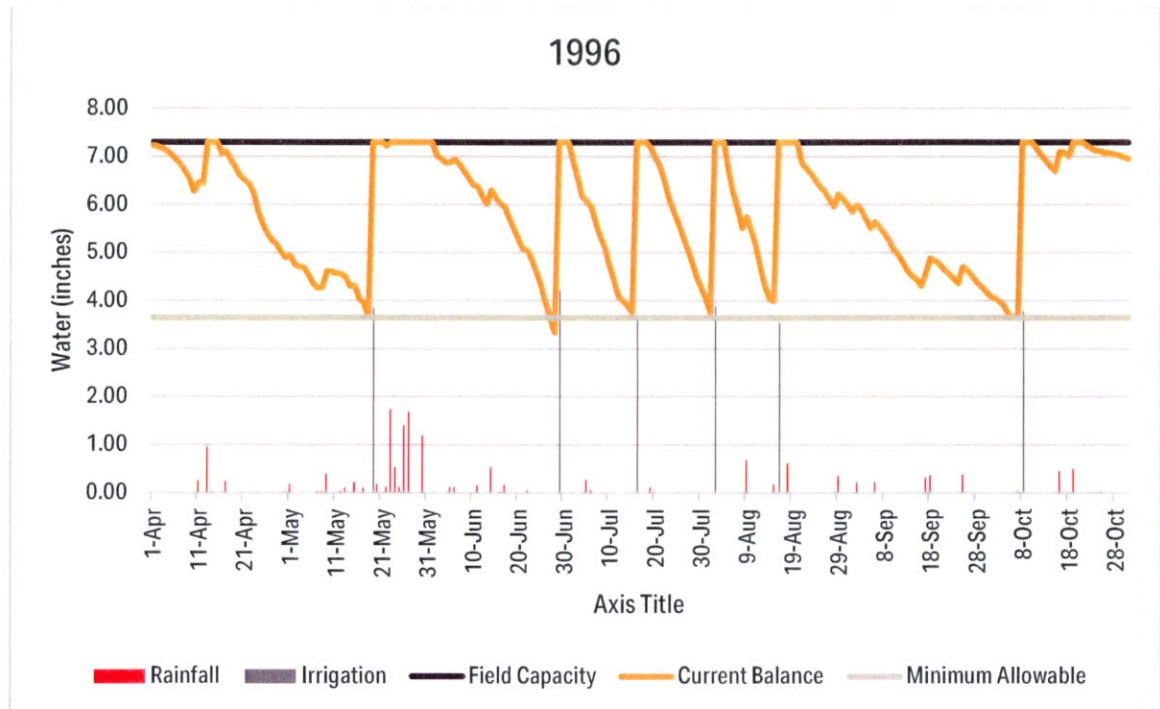


Figure A-27. Crop-Water Use Calculation for Year 1996.

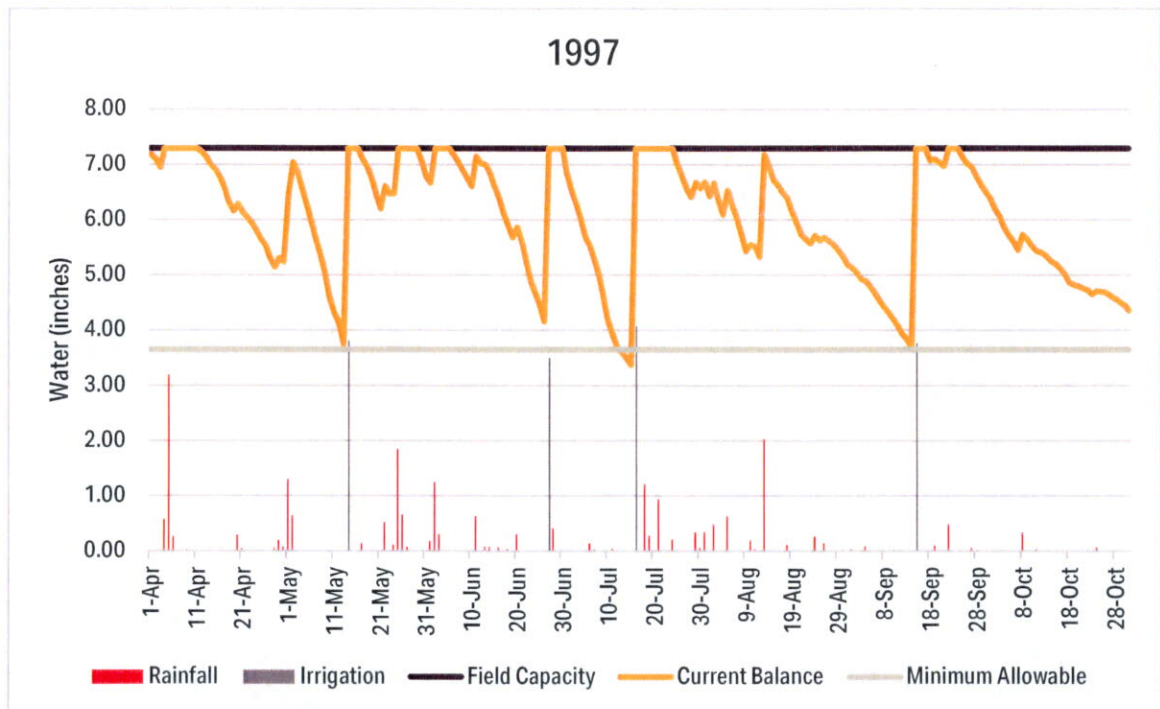


Figure A-28. Crop-Water Use Calculation for Year 1997.

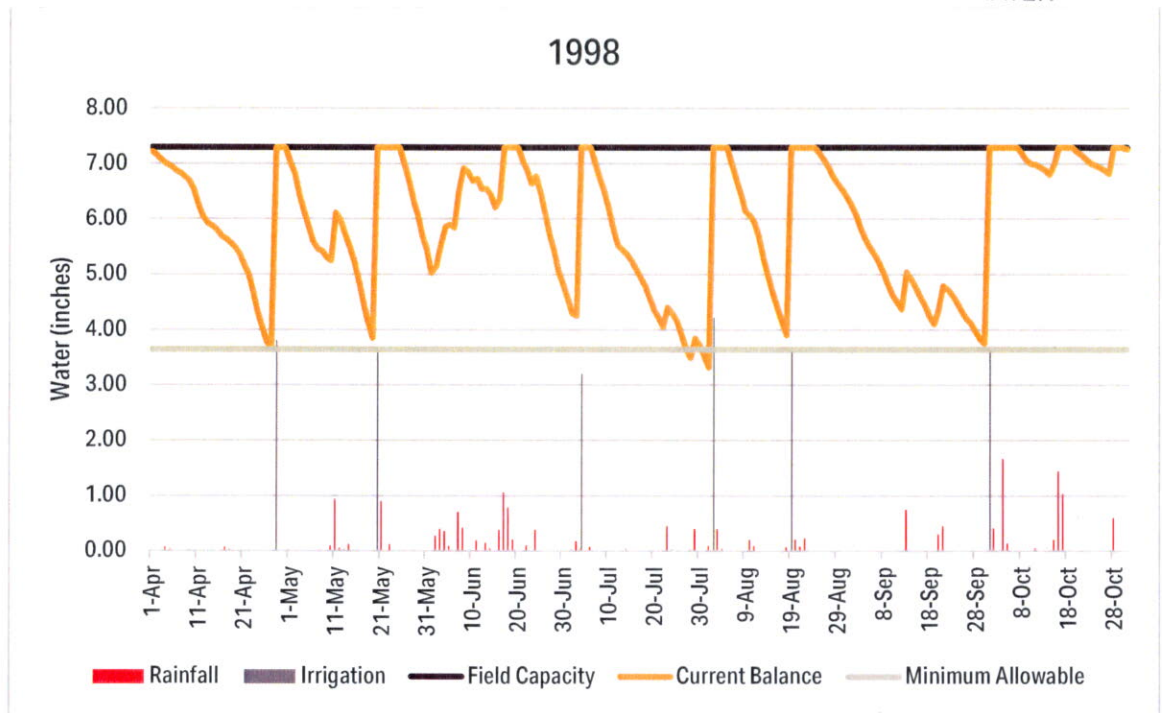


Figure A-29. Crop-Water Use Calculation for Year 1998.

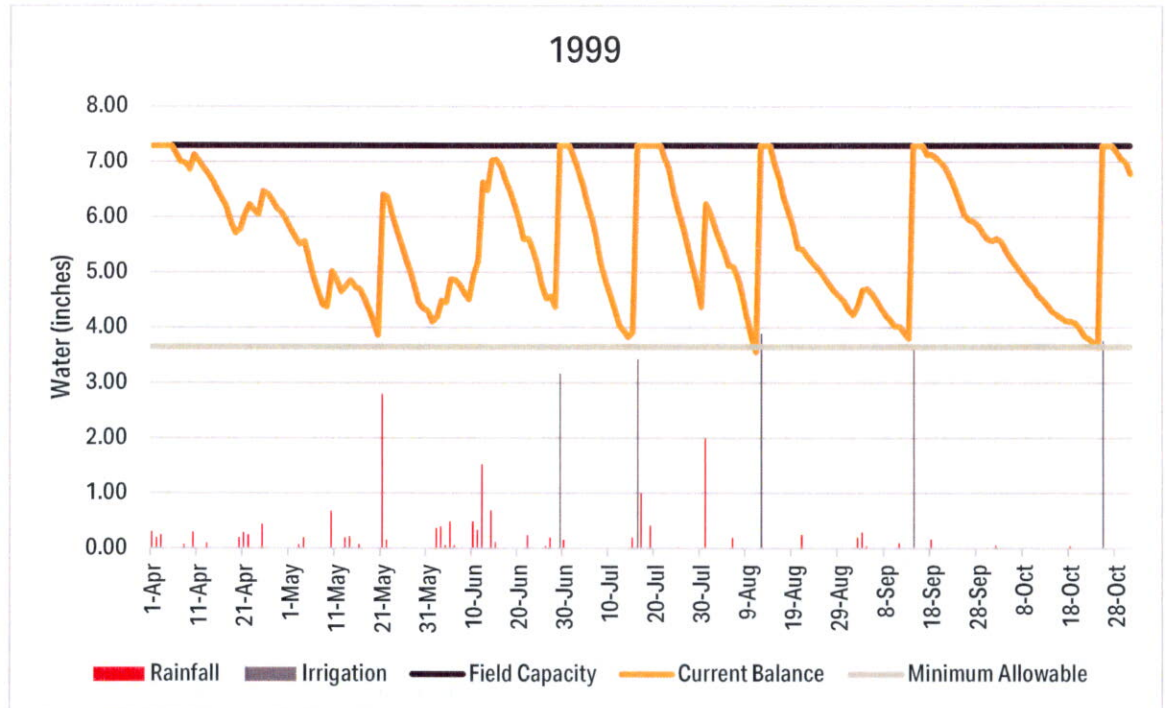


Figure A-30. Crop-Water Use Calculation for Year 1999.

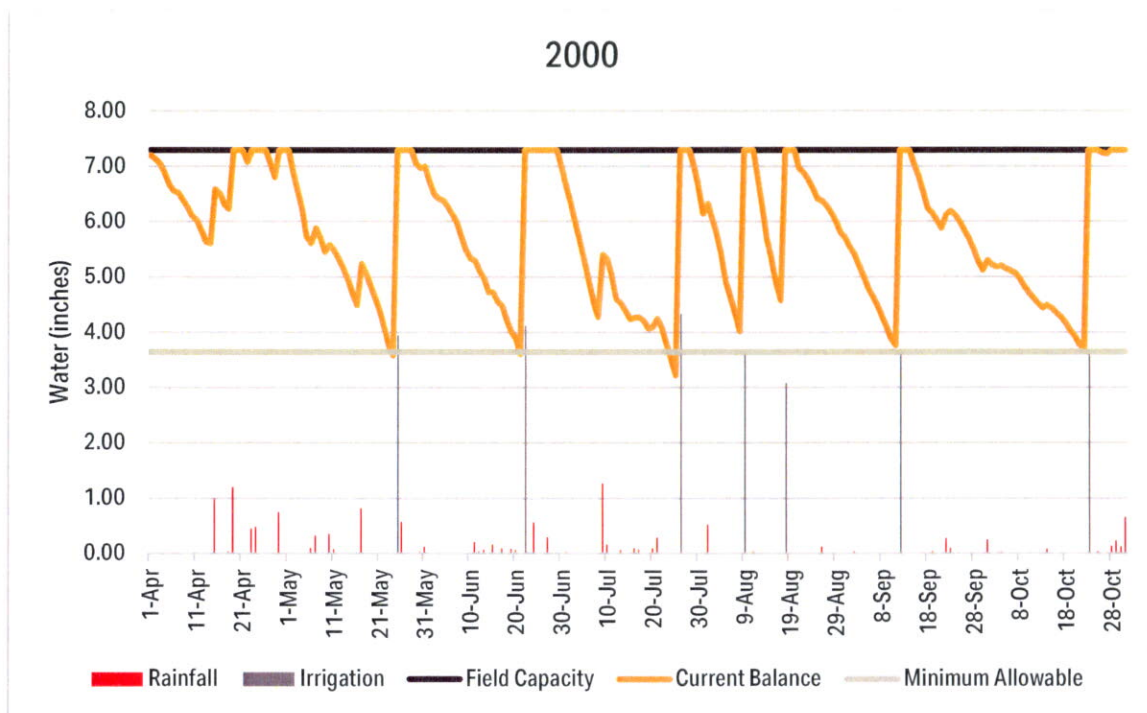


Figure A-31. Crop-Water Use Calculation for Year 2000.

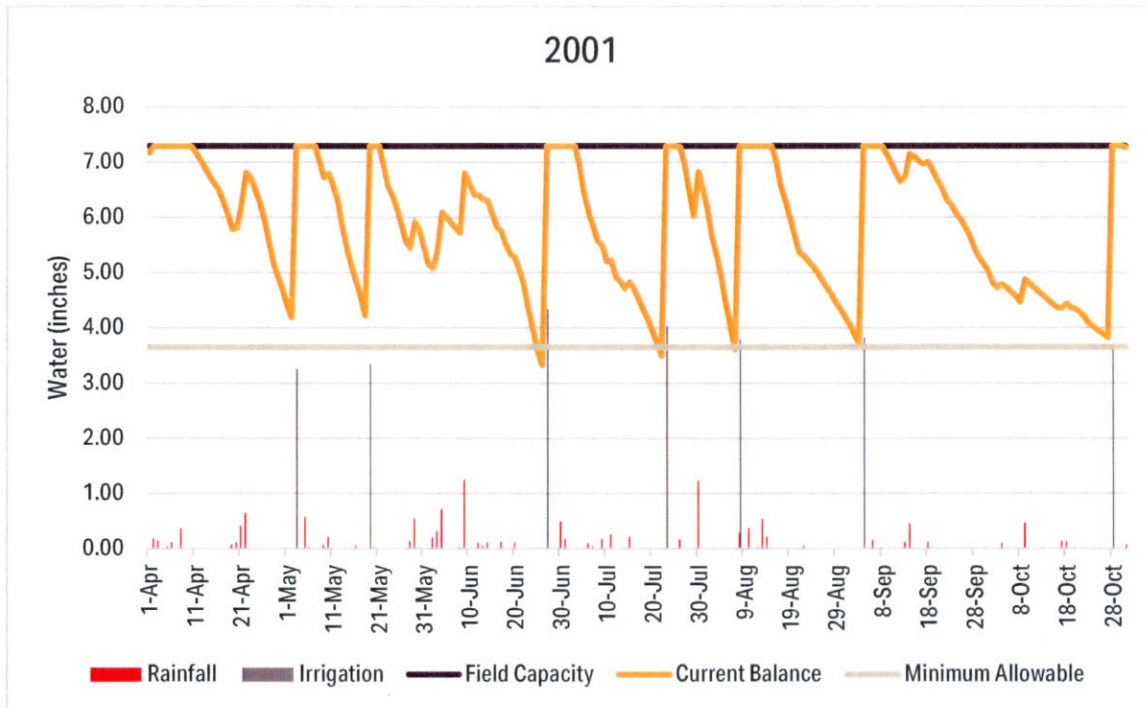


Figure A-32. Crop-Water Use Calculation for Year 2001.

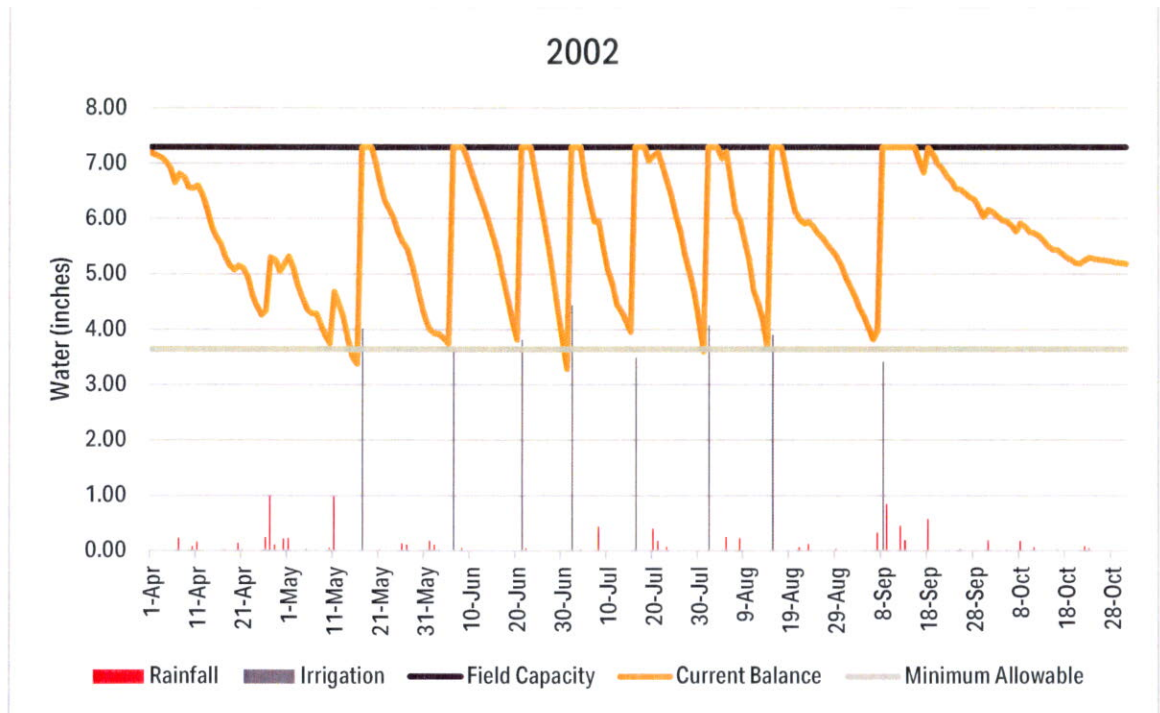


Figure A-33. Crop-Water Use Calculation for Year 2002.

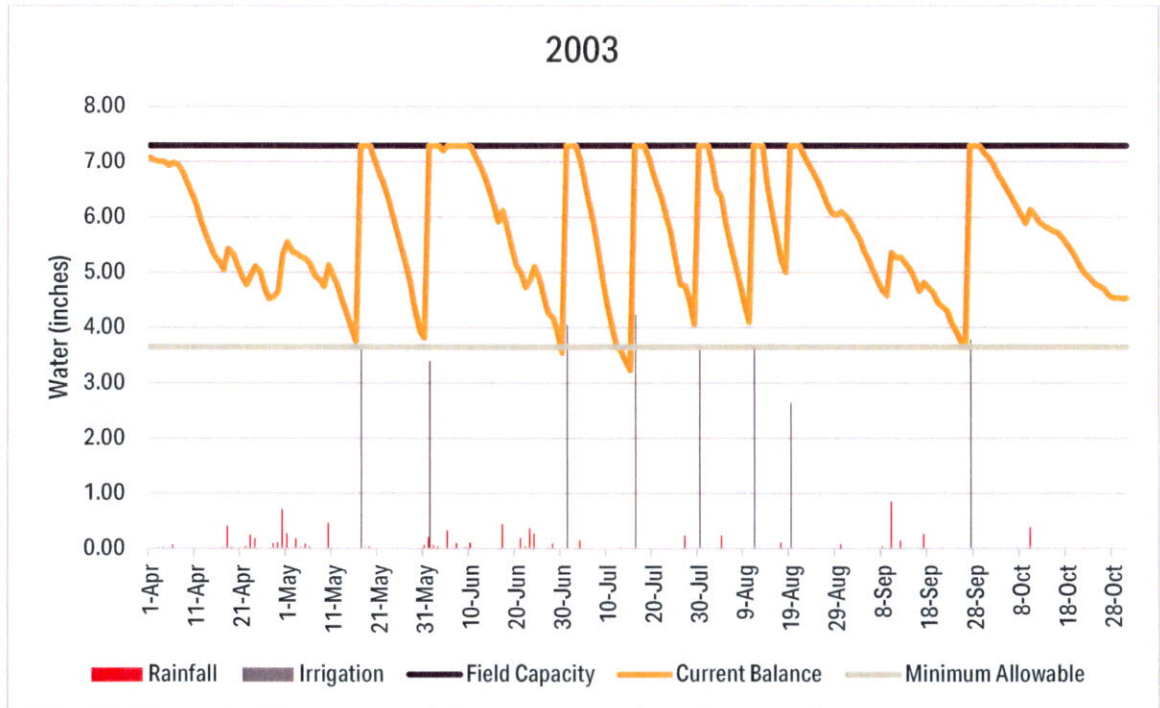


Figure A-34. Crop-Water Use Calculation for Year 2003.

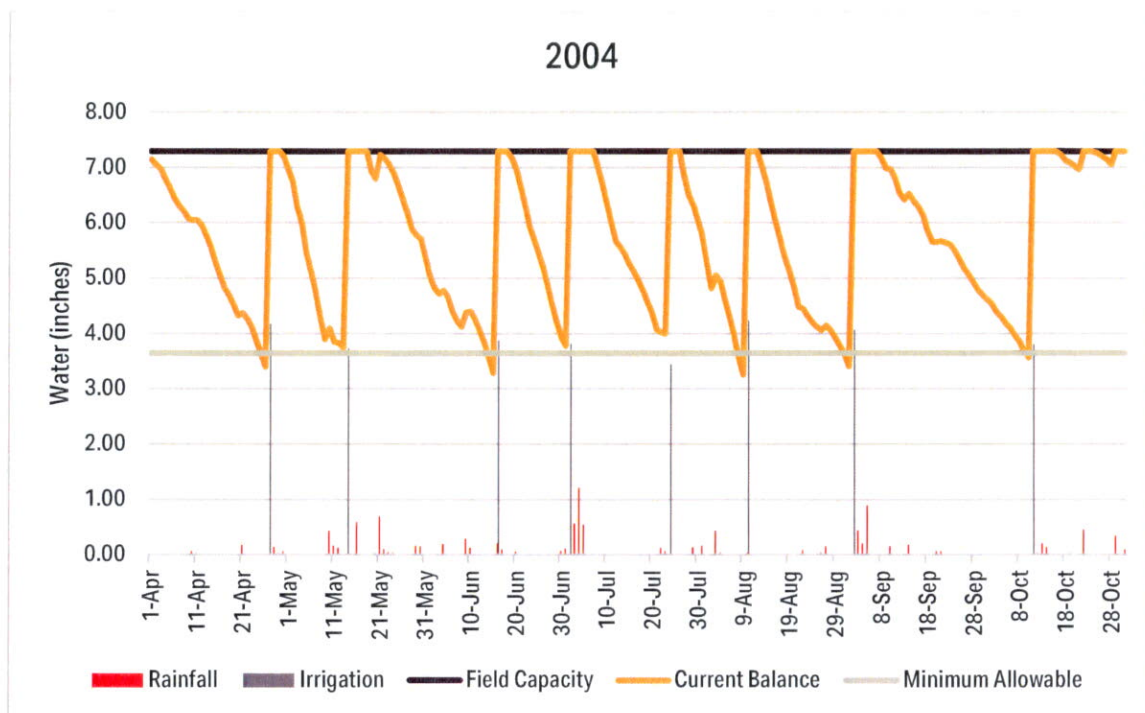


Figure A-35. Crop-Water Use Calculation for Year 2004.

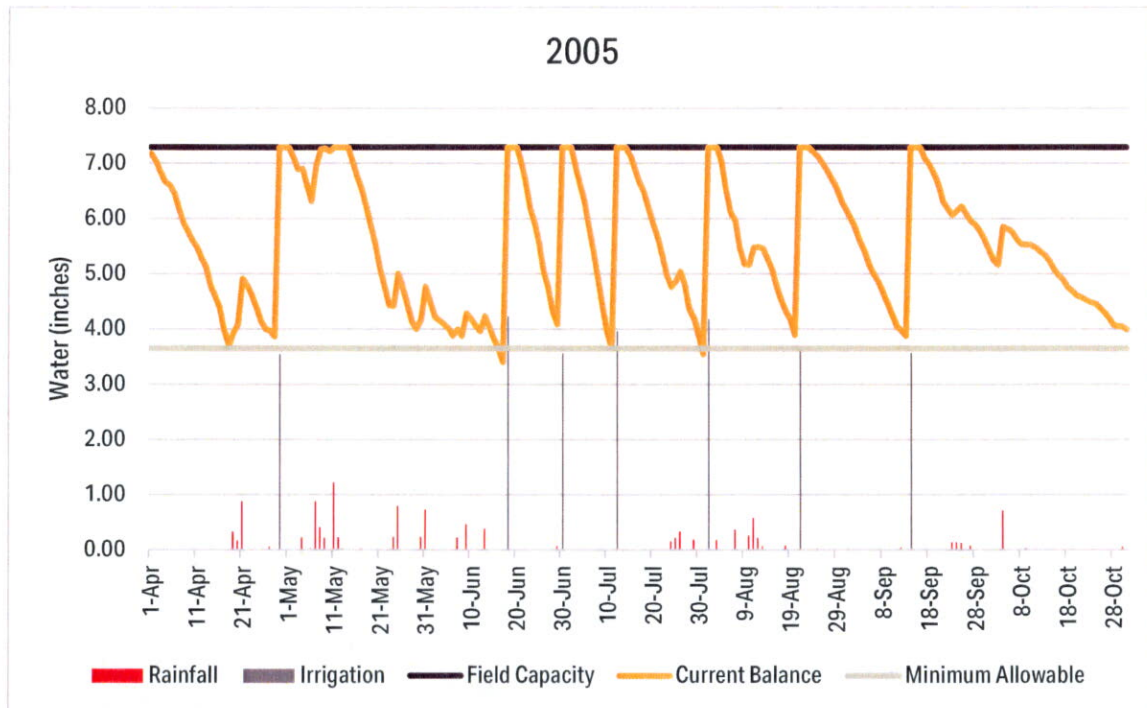


Figure A-36. Crop-Water Use Calculation for Year 2005.

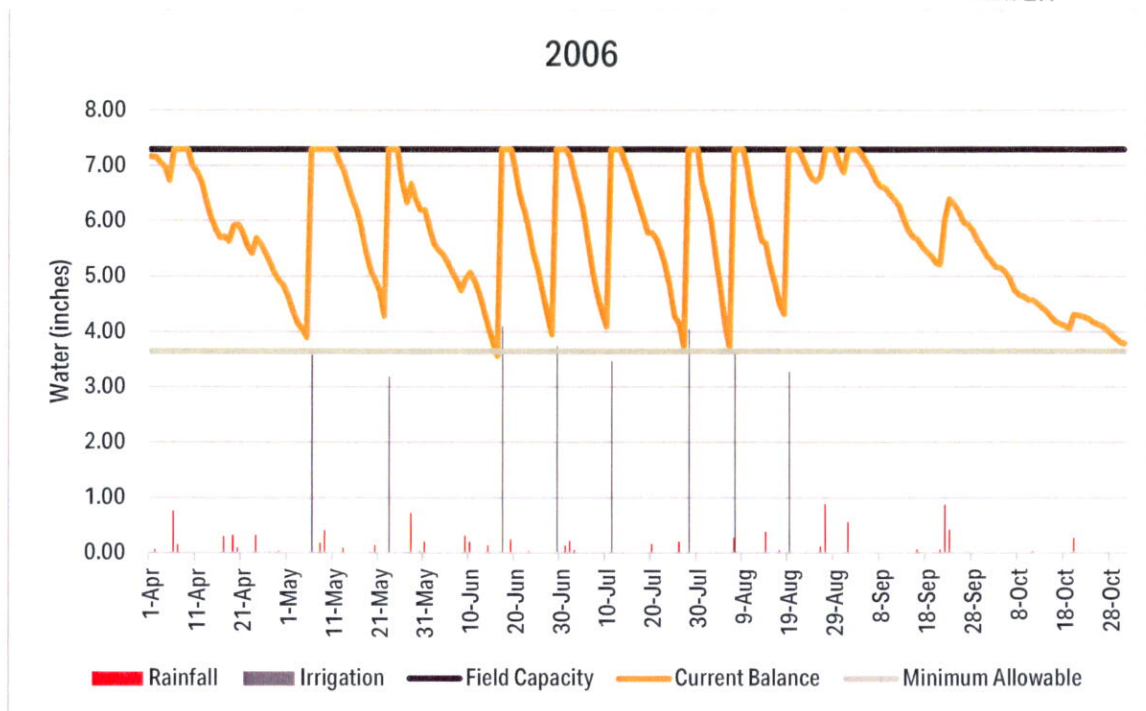


Figure A-37. Crop-Water Use Calculation for Year 2006.

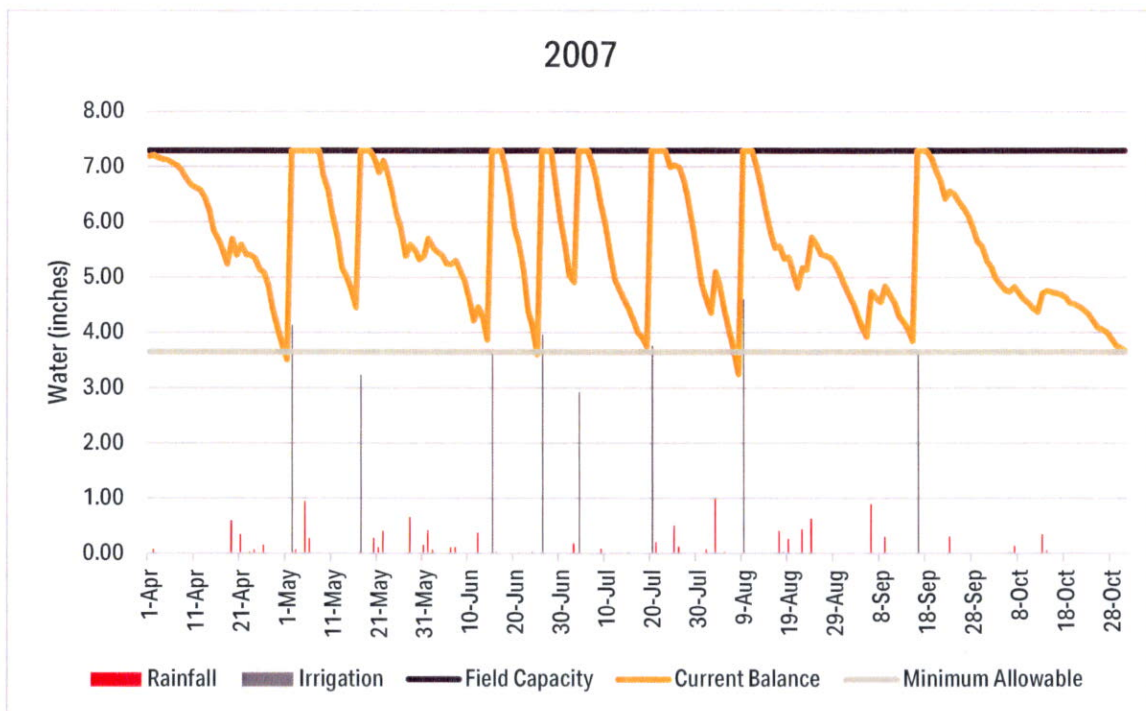


Figure A-38. Crop-Water Use Calculation for Year 2007.

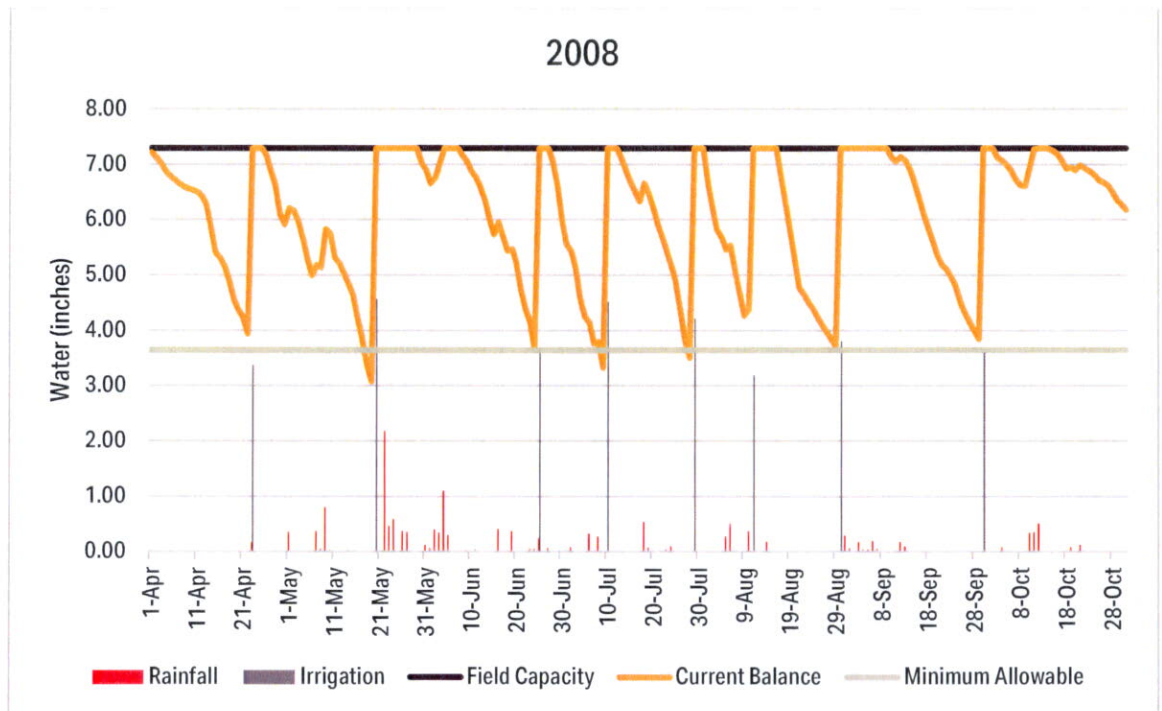


Figure A-39. Crop-Water Use Calculation for Year 2008.

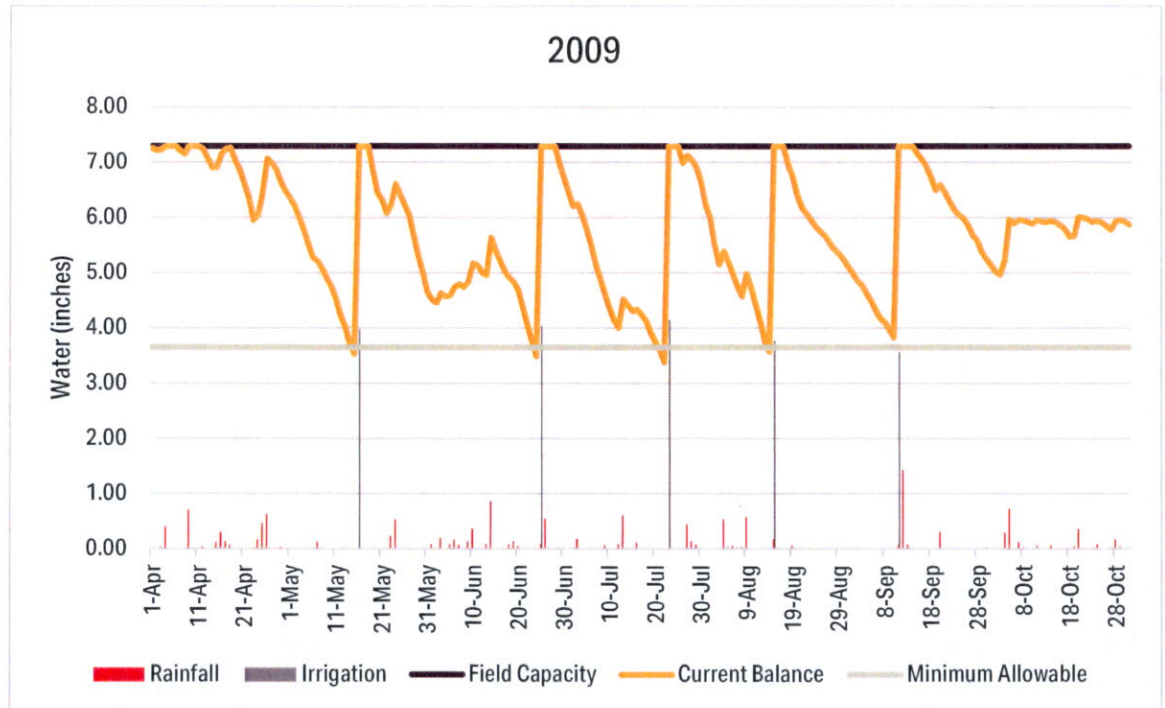


Figure A-40. Crop-Water Use Calculation for Year 2009.

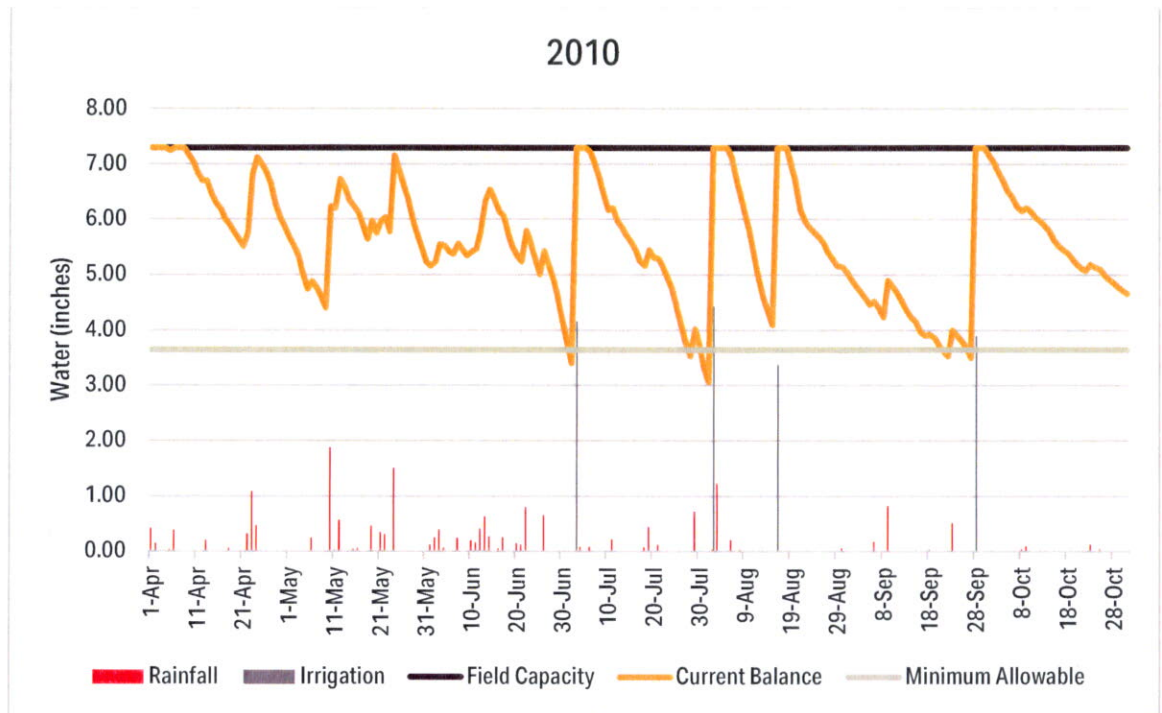


Figure A-41. Crop-Water Use Calculation for Year 2010.

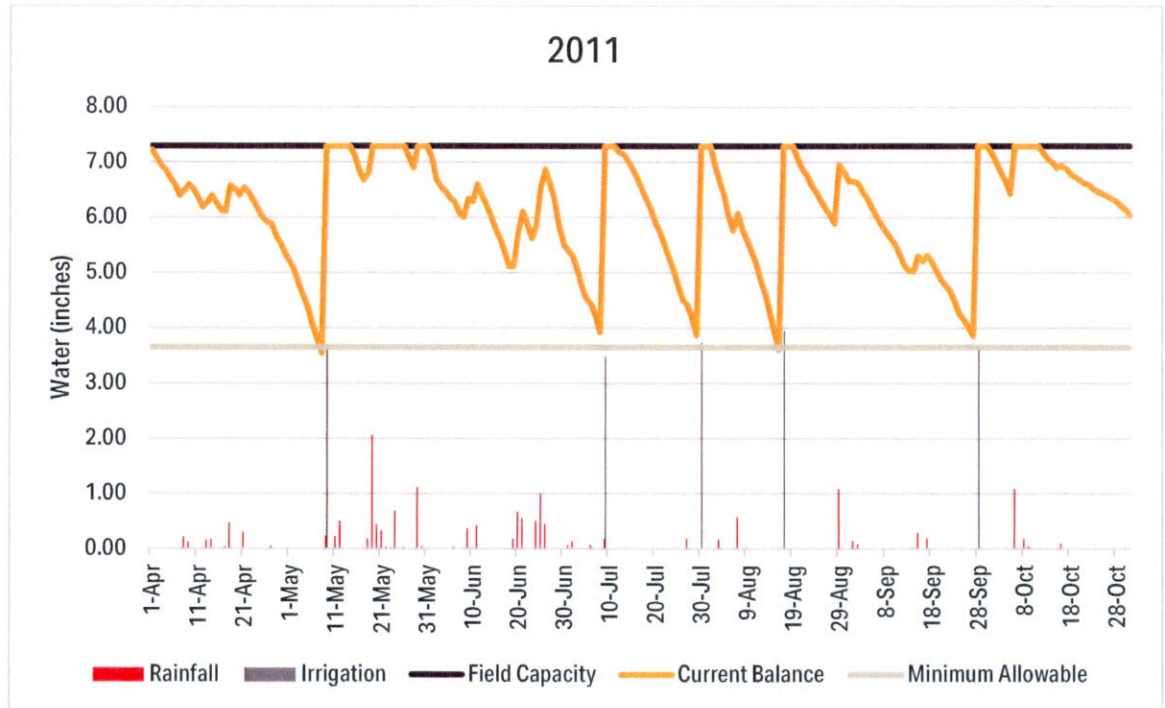


Figure A-42. Crop-Water Use Calculation for Year 2011.

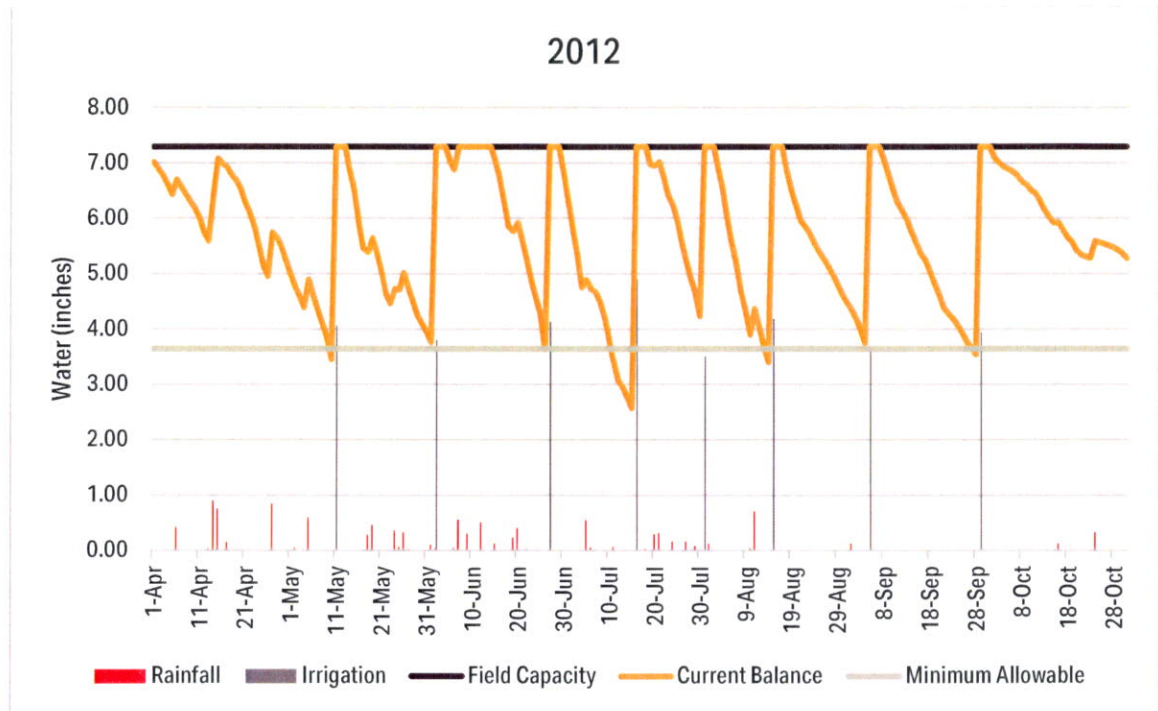


Figure A-43. Crop-Water Use Calculation for Year 2012.

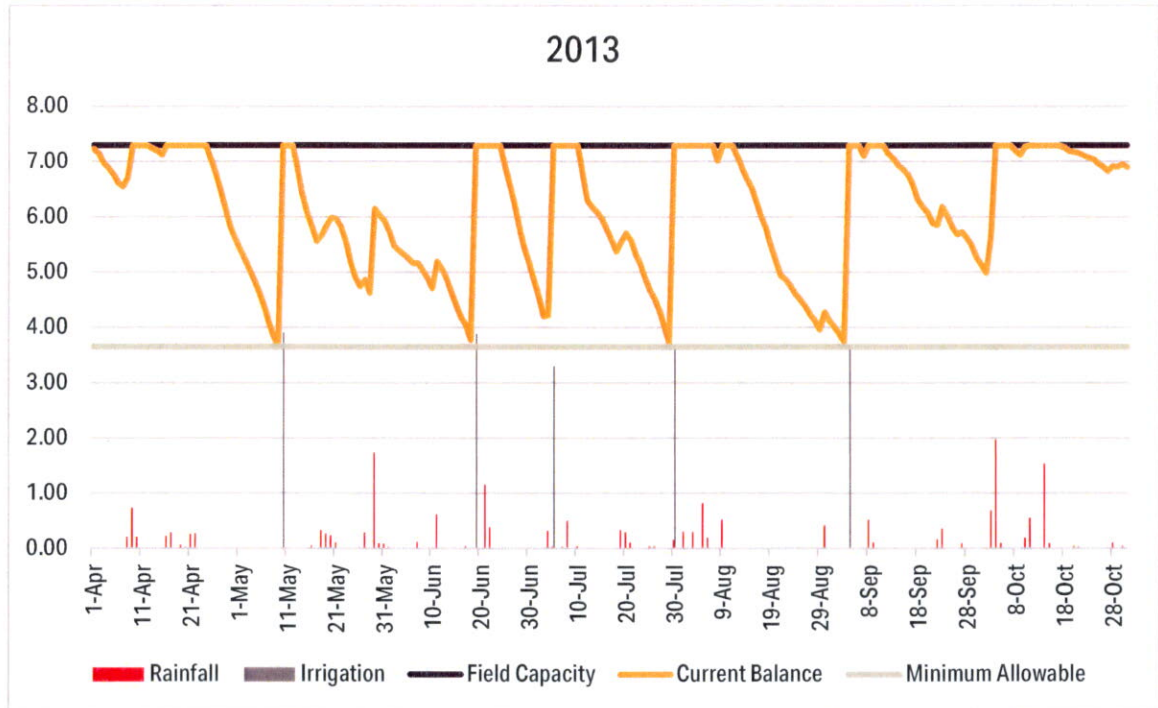


Figure A-44. Crop-Water Use Calculation for Year 2013.

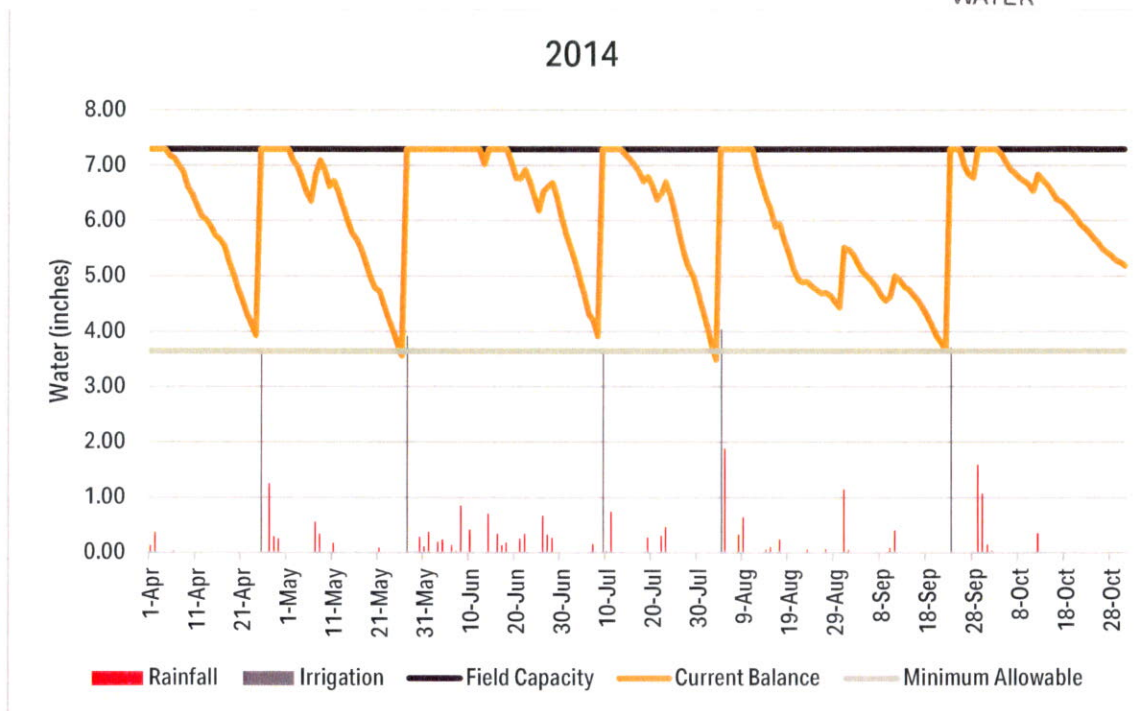


Figure A-45. Crop-Water Use Calculation for Year 2014.

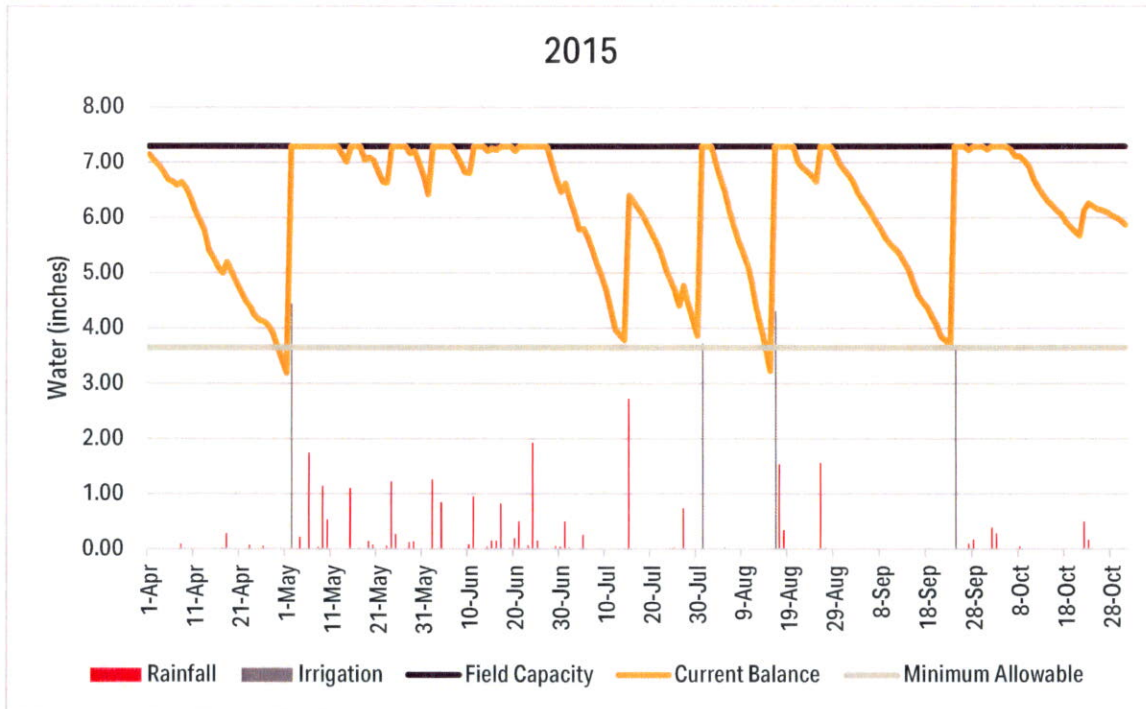


Figure A-46. Crop-Water Use Calculation for Year 2015.

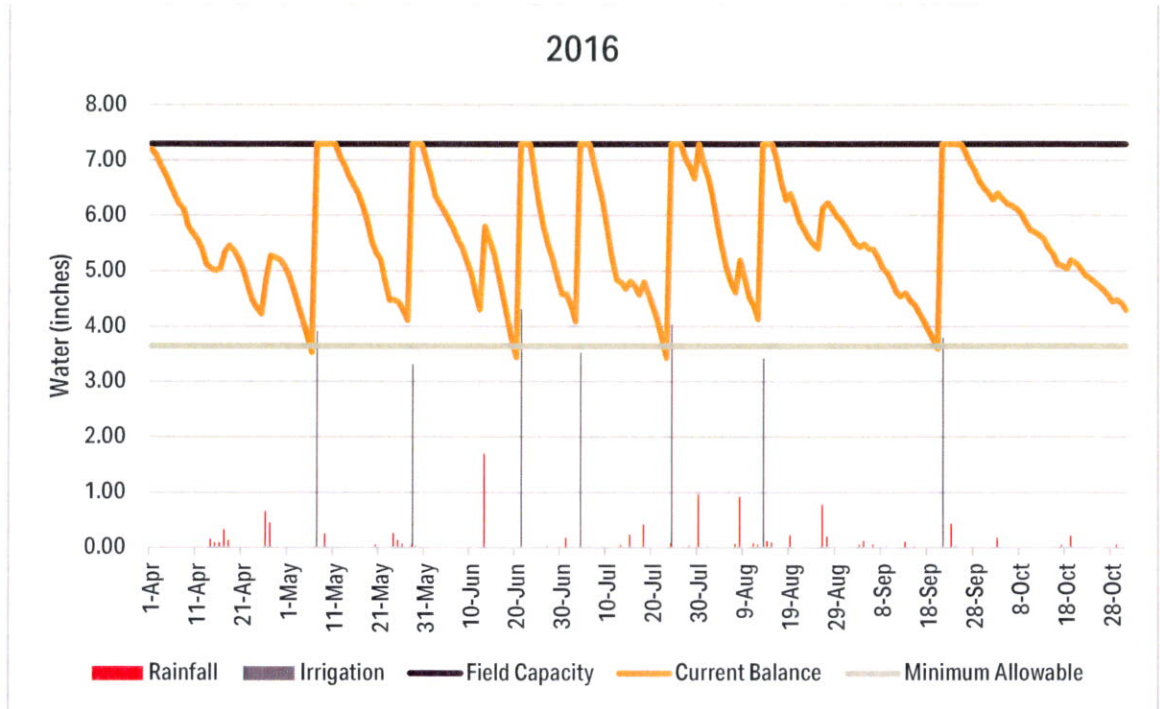


Figure A-47. Crop-Water Use Calculation for Year 2016.

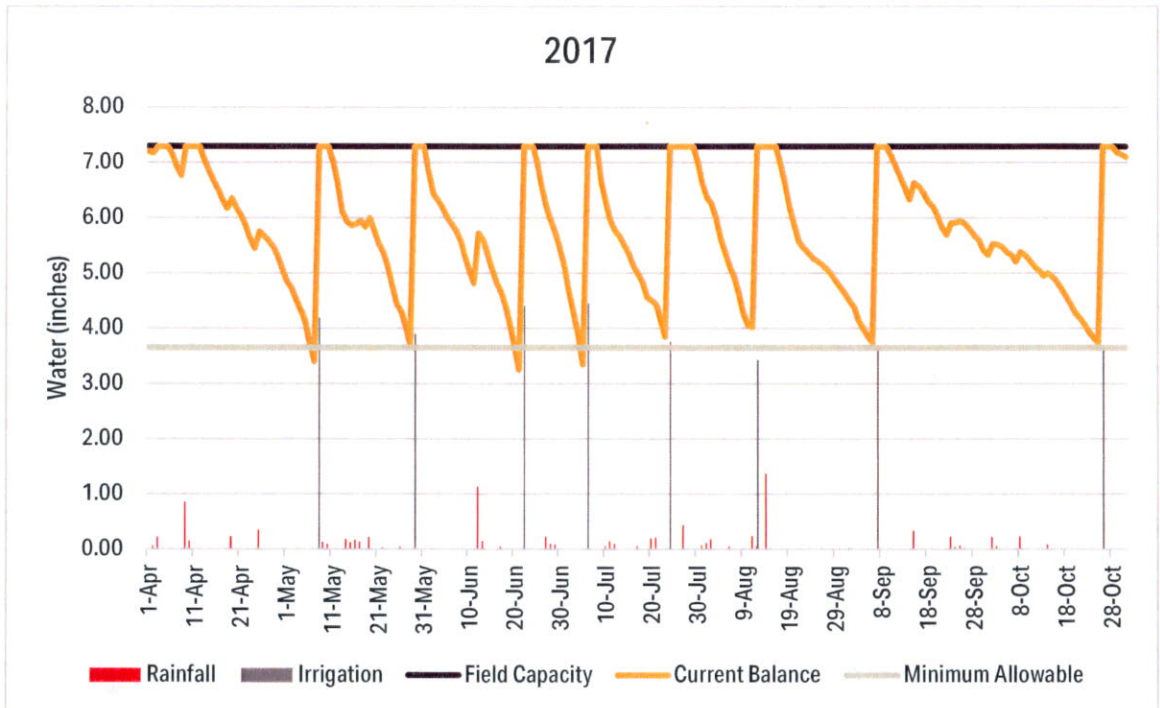


Figure A-48. Crop-Water Use Calculation for Year 2017.

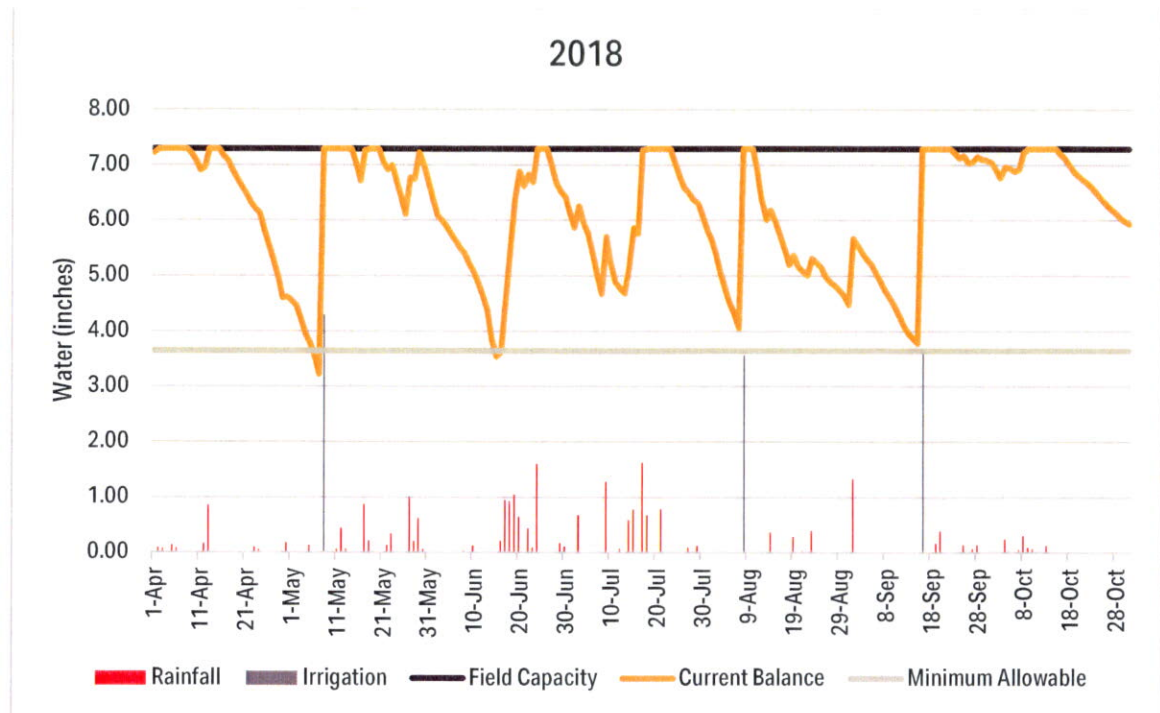


Figure A-49. Crop-Water Use Calculation for Year 2018.

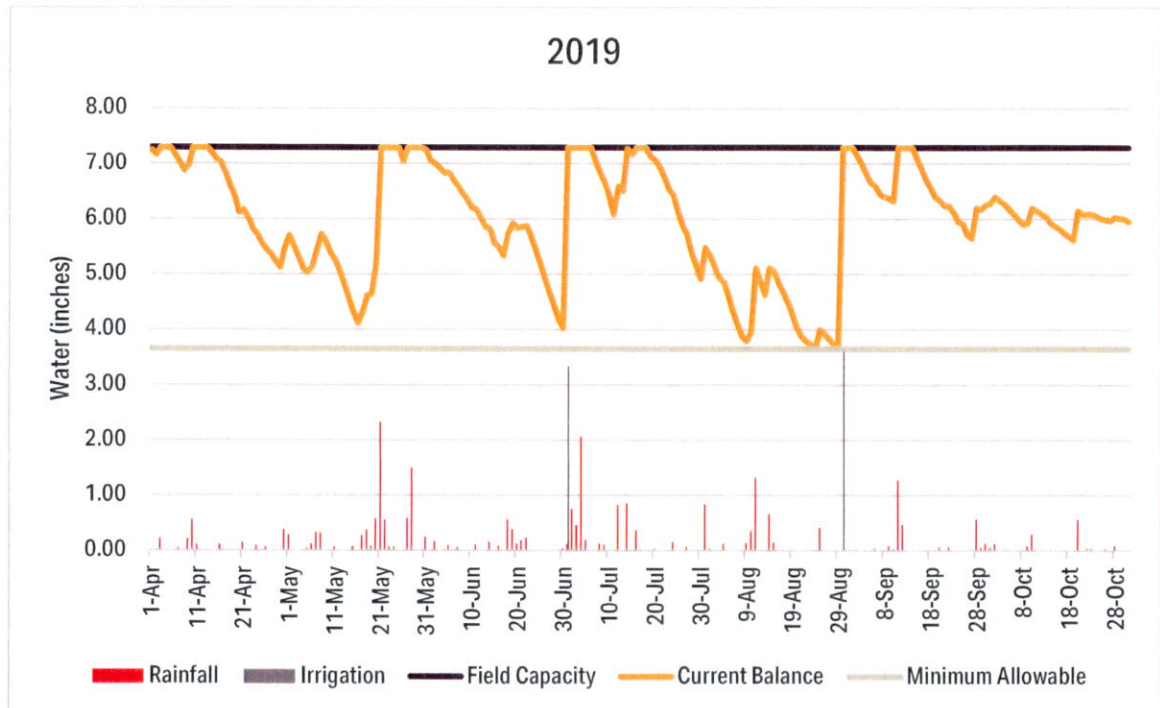


Figure A-50. Crop-Water Use Calculation for Year 2019.

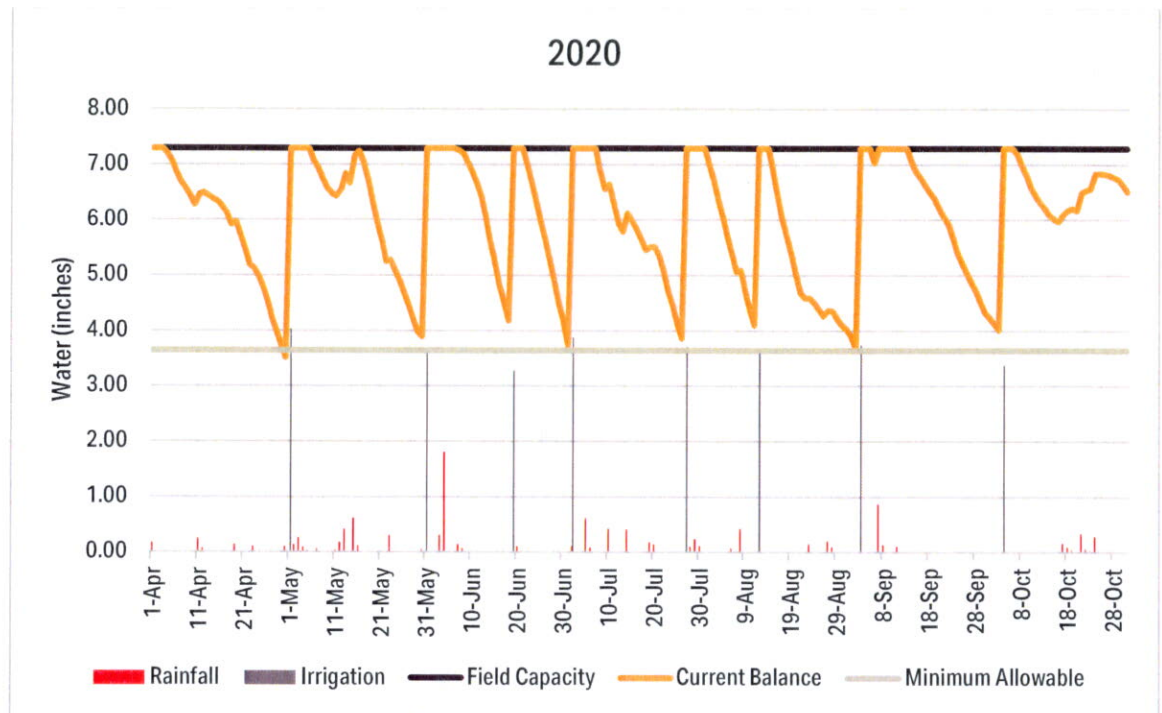


Figure A-51. Crop-Water Use Calculation for Year 2020.

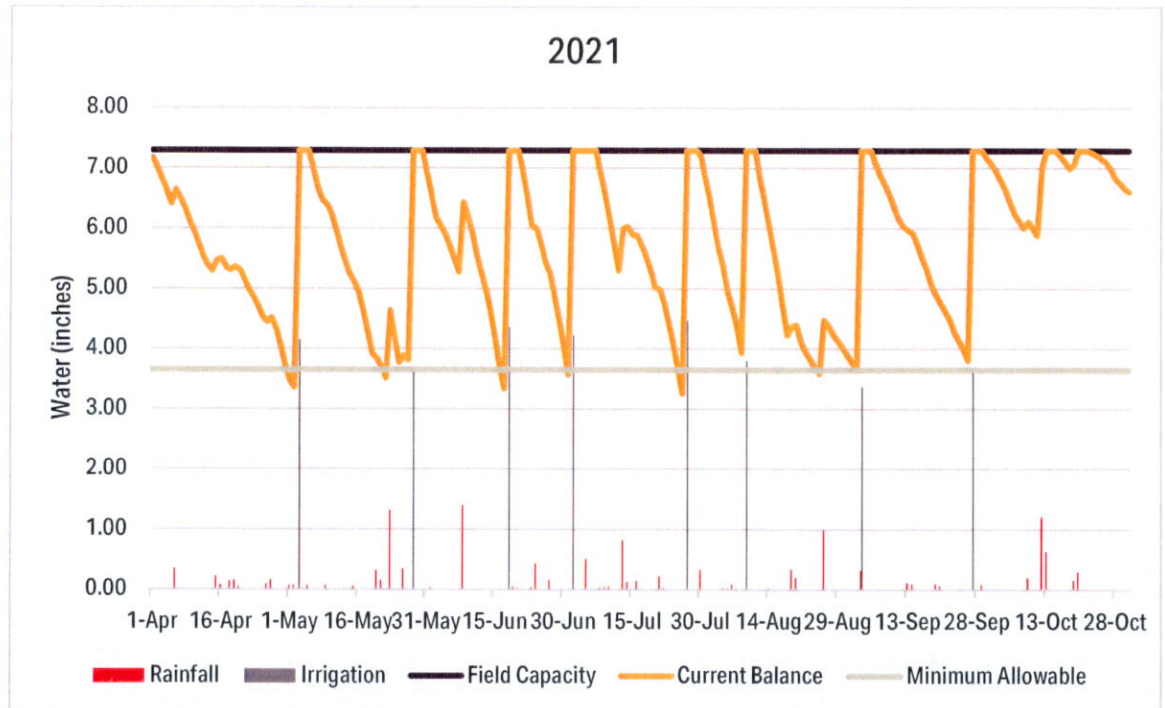


Figure A-52. Crop-Water Use Calculation for Year 2021.

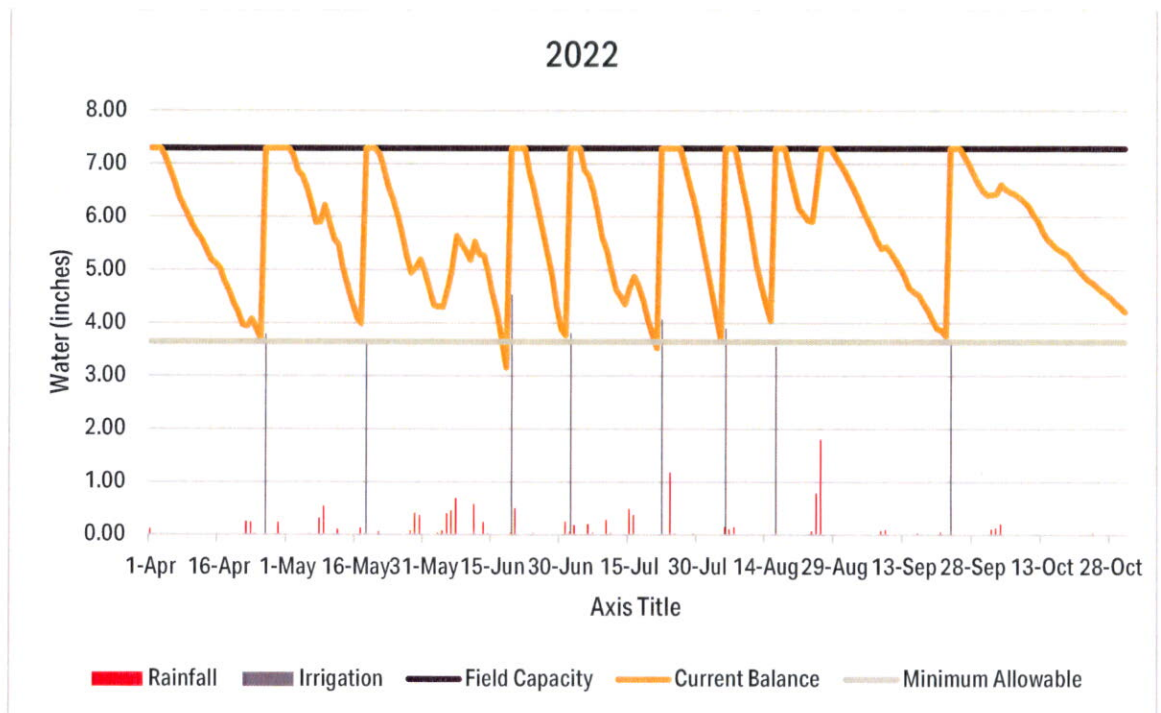


Figure A-53. Crop-Water Use Calculation for Year 2022.

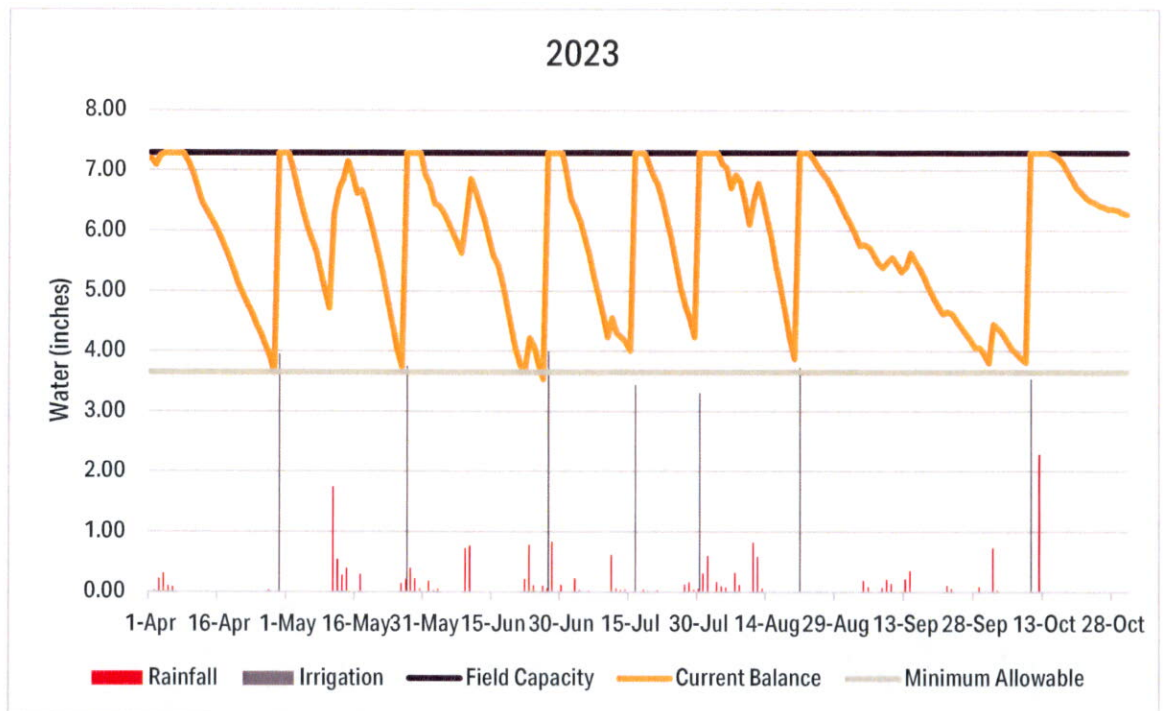


Figure A-54. Crop-Water Use Calculation for Year 2023.

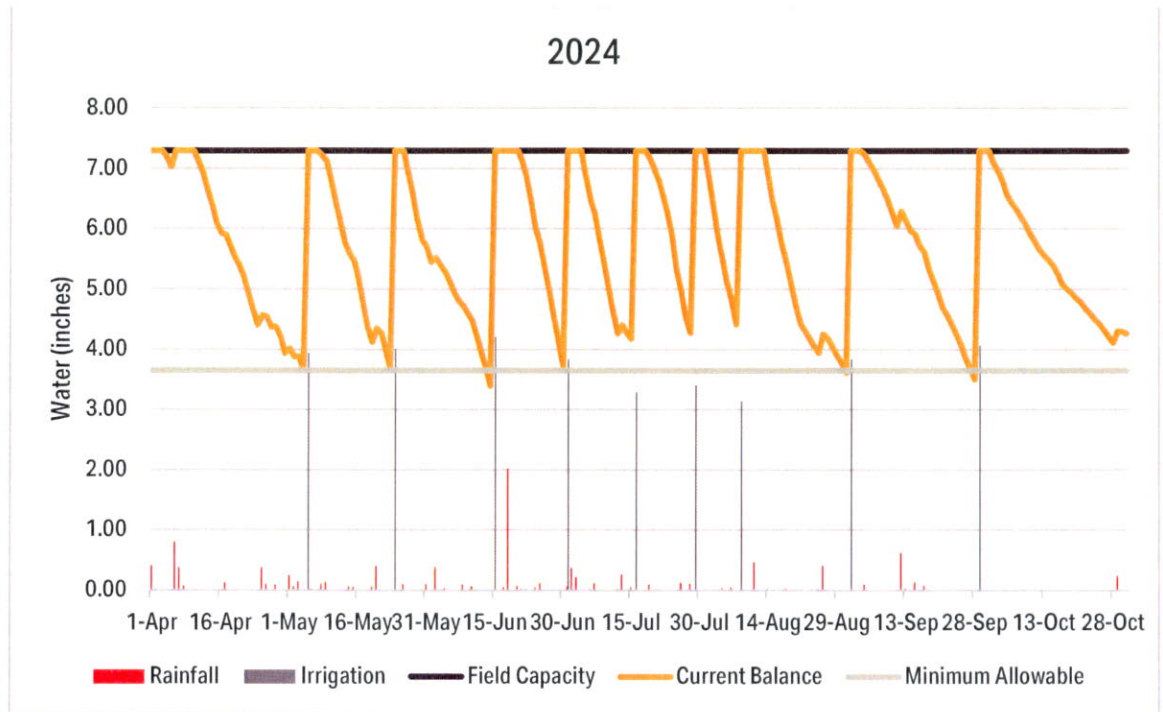
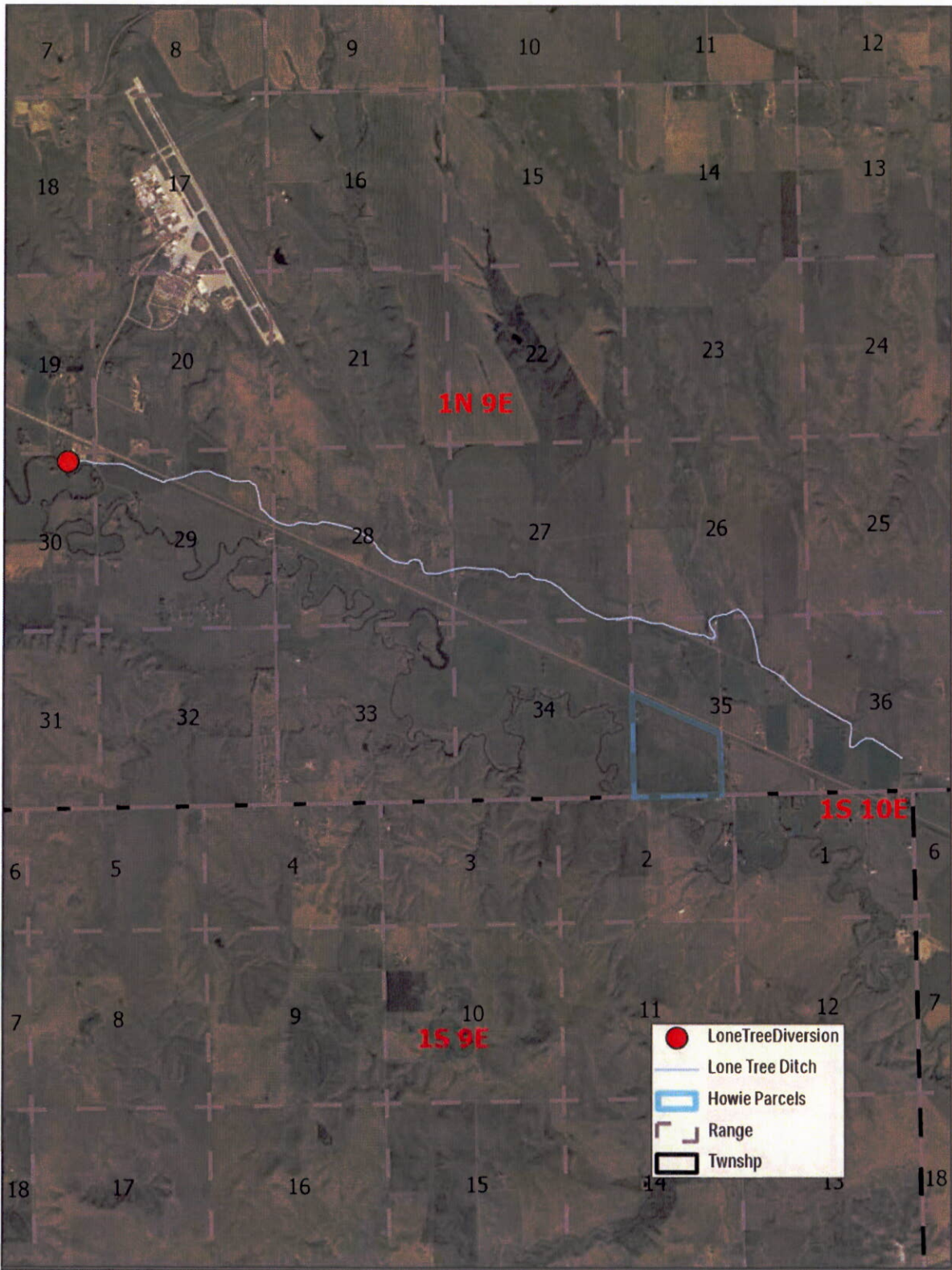


Figure A-55. Crop-Water Use Calculation for Year 2024.

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WATER

EXHIBIT 2

APPLICATION FOR PERMIT TO APPROPRIATE WATER WITHIN THE STATE OF SOUTH DAKOTA

LOCATION OF POINT OF DIVERSION

JACKSON SPRINGS WATER TREATMENT PLANT

2,943 feet North 58 degrees 54 feet West of Southeast corner of Section Eight (8), Township One (1) North, Range Seven (7) East of the Black Hills Meridian.

SIOUX PARK "GIRL SCOUT" GALLERY

1,270 feet North 54 degrees 5 feet East of Southwest corner of Section Three (3), Township One (1) North, Range Seven (7) East of the Black Hills Meridian.

MOUNTAIN VIEW WATER TREATMENT PLANT

North 71 degrees 39 feet West, 1,205 feet from East $\frac{1}{4}$ corner of Section Three (3), Township One (1) North, Range Seven (7) East of the Black Hills Meridian.

ALTERNATE PACTOLA RESERVOIR DIVERSION (INLET TO SERVICE SPILLWAY)

South 19 degrees East 3,740 feet of Northwest corner of Section Two (2), Township One (1) North, Range Five (5) East of the Black Hills Meridian.

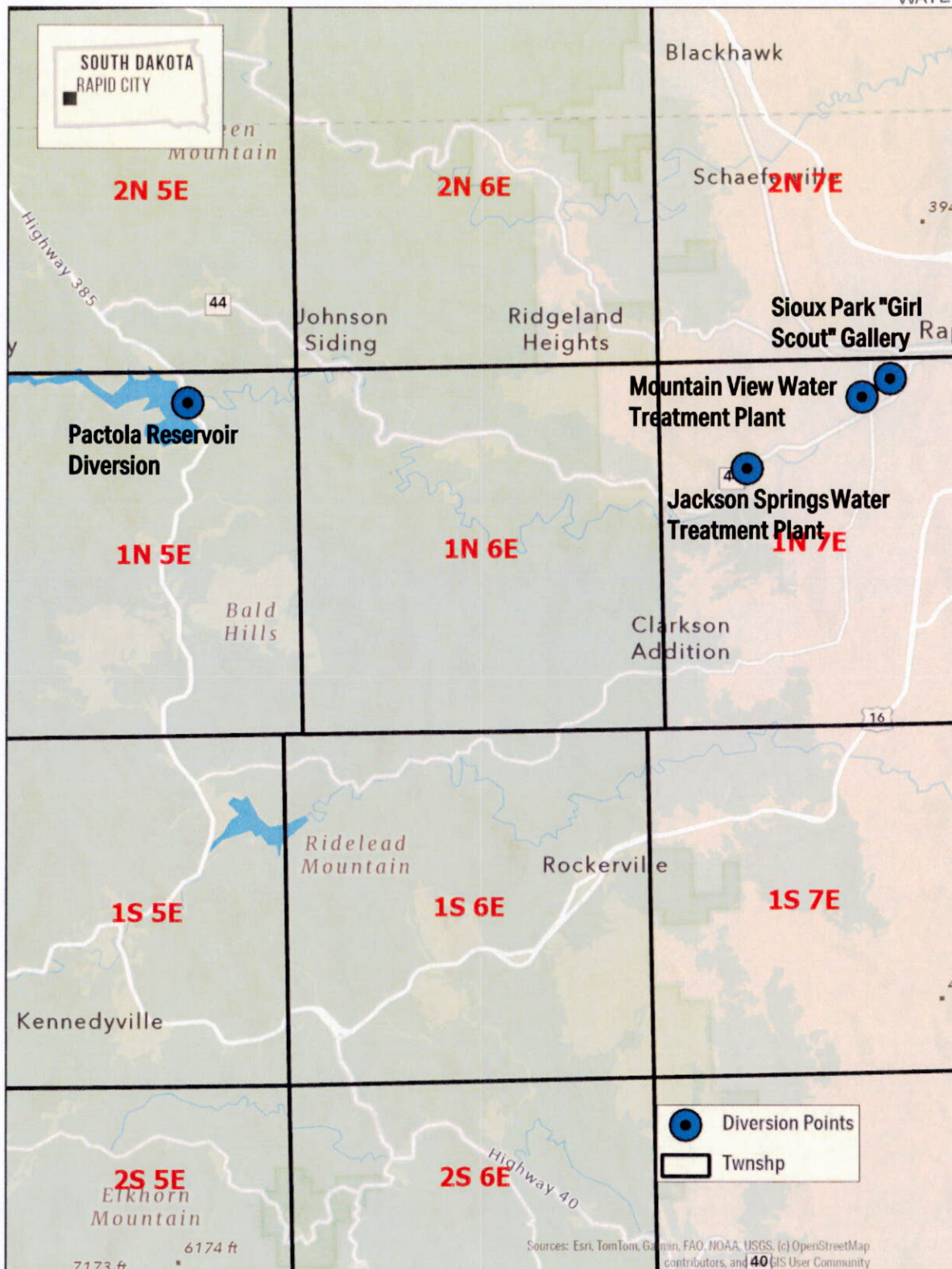
Reservoir generally located in portions of Section Two (2), Three (3), Four (4), Five (5), Ten (10), and Eleven (11), Township One (1) North, Range Five (5) East of the Black Hills Meridian, and portions of Sections Thirty-One (31), Thirty-Two (32), Thirty-Three (33), and Thirty-Four (34) Township One (1) North, Range Five (5) East of the Black Hills Meridian.

All of the above in Pennington Country, South Dakota.

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WATER



Diversions 6/27/2025 Morghan.Hurst



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Miles

RECEIPT

WATER RIGHTS PROGRAM South Dakota Department of Agriculture and Natural Resources

Date July 30th, 2025

RECEIVED OF City of Rapid City 300 6th Street Rapid City SD 57701

The following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. <u>2898-2</u> to Appropriate Water, to construct and to put water to beneficial use	\$ <u>100.00</u>
Fee for Application for Permit No. _____ to Appropriate Water for Future use	\$ _____
Fee to retain Future Use Permit No. _____ after period of seven years.	\$ _____
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>2898-2</u>	\$ <u>200.00</u>
Fee for Filing Transfer Form _____	\$ _____
Fee for _____	\$ _____
Fee for Issuing New Well Driller's License No. _____	\$ _____
Fee for Renewal of Well Driller's License No. _____	\$ _____
Fee for Issuing Well Pump Installer's License No. _____	\$ _____
Fee for Renewal of Well Pump Installer's License No. _____	\$ _____
(Any Other Work Provided by Law) TOTAL	\$ <u>300.00</u>

By Mark Mayek
Chief Engineer



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

**RECOMMENDATION OF ACTING CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 2898-2, City of Rapid City**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the acting Chief Engineer, Water Rights Program, Department of Agriculture and Natural Resources concerning Water Permit Application No. 2898-2, City of Rapid City, 300 6th Street, Rapid City SD 57701.

The acting Chief Engineer is recommending APPROVAL of Application No. 2898-2 because 1) the proposed diversion can be developed without unlawful impairment of existing domestic water uses and water rights, 2) the proposed use is a beneficial use and 3) it is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board with the following qualifications:

1. Permit No. 2898-2 is limited to a diversion rate of 1.007 cubic feet of water per second (cfs) for a total annual volume of 73.3 acre-feet of water annually at Pactola Reservoir or a total annual volume of 146.59 acre-feet of water annually at the SE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 3 (Mountain View Water Treatment Plant); the SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 3 (Sioux Park "Girl Scout" Gallery); the NE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 8 (Jackson Springs Water Treatment Plant); all within T1N-R7E.

Maximum monthly diversion volumes at diversion points within Rapid City or Pactola Reservoir are as follows:

Monthly Volume Limitation (acre-feet)

Water Permit No. 2898-2		
Month	Water Treatment Plant and Infiltration Galleries	Pactola Reservoir Storage
April	0	0
May	21.2	10.6
June	18.66	9.33
July	31.74	15.87
Aug	33.38	16.69
Sep	27.32	13.66
Oct	14.29	7.15
Totals	146.59	73.3

Diversion during a month may be made at either Pactola Reservoir or at the diversion points within Rapid City, but not simultaneously at both Pactola and the Rapid City diversion points.

2. Permit No. 2898-2 authorizes diversion of only natural flow water by the city of Rapid City and does not include any rights to stored irrigation water available under contract from Deerfield Reservoir.
3. Diversions under this permit when taken at the Jackson Springs treatment plant Rapid Creek intake are limited to natural flows that exceed 10 cfs as measured at USGS gaging station Rapid Creek above Canyon

RECOMMENDATION OF ACTING CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 2898-2, City of Rapid City

Lake near Rapid City No. 06412500. During the period April 1 through September 30 natural flow diversions are limited to the amount exceeding 20 cfs with the remainder of the diversion being released supplemental water equal to the amount released from storage through Rapid City's Deerfield and Pactola contracts with the United States Bureau of Reclamation.

4. The city of Rapid City shall report to the Chief Engineer annually the amount of water withdrawn each month at Pactola reservoir or the diversion points within Rapid City.
5. The Water Management Board retains jurisdiction of Permit No. 2898-2 in the event that changes occur in the system that require adjustments to be made in the monthly or total annual volumes authorized by Permit No. 2898-2.
6. Diversion under Permit No. 2898-2 may not interfere with existing water rights in effect prior to approval of No. 2898-2 or any domestic rights.
7. The amount of water with a September 29, 1881, priority date appropriated under Vested Water Right No. 2479-2, Lone Tree Ditch, is reduced by 1.007 cfs.

See report on application for additional information.



Mark Mayer, PE
Director of Office of Water
September 22, 2025

Note: Water Permit Application No. 2898-3 proposes to transfer and change the use 1.007 cfs authorized by Vested Water Right No. 2479-2, Lone Tree Ditch, from irrigation use to use by the City of Rapid City. Pursuant to Qualification No. 7, the amount of water authorized for irrigation use by Vested Right No. 2479-2 will be reduced by 1.007 cfs if Application No. 2898-2 is approved.

Report to the Chief Engineer
On Water Permit Application No. 2898-2

City of Rapid City

September 19, 2025

Water Permit Application No. 2898-2 proposes to transfer a portion of Lone Tree Ditch stockholder's/landowner's use of Rapid Creek natural flows appropriated under Vested Water Right No. 2479-2 from irrigation use via Lone Tree Ditch to water distribution system uses by the City of Rapid City. The transfer is for Rapid Creek water historically used for the irrigation of 91 acres (Howie Parcels) located in the SW $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 35; all in T1N-R9E. The portion of Rapid Creek natural flows to be transferred to the City of Rapid City is 1.007 cubic feet of water per second (cfs) with an annual volume limitation of 146.59 acre-feet of water, if diverted to the city's water treatment plant and infiltration galleries, or 73.3 acre-feet if stored in Pactola Reservoir. The existing diversion point on Lone Tree Ditch is located in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 30-T1N-R9E.

Water Permit Application No. 2898-2 also requests to change the diversion point for 1.007 cfs to four permanent diversion points used by the City of Rapid City (Jackson Springs Water Treatment Plant) NE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 8-T1N-R7E, (Sioux Park "Girl Scout" Gallery) SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 3-T1N-R7E, (Mountain View Water Treatment Plant) SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 3-T1N-R7E, and (Pactola Reservoir Inlet to Service Spillway) N $\frac{1}{2}$ SW $\frac{1}{4}$ of Section 2-T1N-R5E with water impounded in portions of Section 2, 3, 4, 5, 10, and 11; all in T1N-R5E; and portions of Sections 31, 32, 33, and 34; all in T2N-R5E.

This application does not authorize any new water to be appropriated from Rapid Creek.

If approved, Water Permit Application No. 2898-2 will retain the September 29, 1881, priority date established by the Lone Tree Ditch, Vested Water Right No. 2479-2, for natural flow from Rapid Creek.

REVIEW OF METHODOLOGY

Many previous City of Rapid City and Rapid Valley Sanitary District transfers of Rapid Creek water from irrigation use to municipal use have been completed under South Dakota Codified Law (SDCL) 46-5-34.1 (Water Rights, 2025).

SDCL 46-5-34.1. Transfer of irrigation rights apart from land--Restricted purposes--Protection of other users. *The provisions of SDCL 46-5-33 and 46-5-34 notwithstanding, irrigation rights may be transferred apart from the land to which they are appurtenant if they are transferred for domestic use or use within a water distribution system. Such irrigation rights may be transferred or leased in whole or in part and may be acquired only through the exercise of powers possessed independently of this section. No transfer, however, may be approved by the Water Management Board unless the transfer can be made without detriment to existing rights having a priority date before July 1, 1978, or to individual domestic users. No land which has had an irrigation right*

transferred from it pursuant to this section, may qualify for another irrigation right from any water source.

A 2002 Water Management Board decision on Vested Water Right No. 2479-2 pertains to this application. In 1987, Lone Tree Ditch Company filed a vested water right claim and as a result, the Board validated Vested Water Right No. 2038-2 in 1988. In 1990, Lone Tree Ditch Company became aware that a number of acres had been inadvertently omitted from the validation completed in 1988. Therefore, Lone Tree Ditch Company filed Vested Water Right Claim No. 2479-2 for the additional acres. In 2002, during the hearing for the validation of Vested Water Right No. 2479-2, Lone Tree Ditch Company's attorney successfully argued based on a 1974 South Dakota Supreme Court ruling (*Jewett v. Redwater Ditch Co*) that Lone Tree Ditch Company is a stock-share irrigation company (established in corporate by-laws), holds a pre-1907 water right, and that the water right is not appurtenant to the land (SD Supreme Court, 1974). In the case of the stock-share ditch companies with pre-1907 water rights, the Board's decision allows the Chief Engineer to regulate the maximum diversion rate and where the water is taken but not where it is used. The Board determined that Lone Tree Ditch Company had continued to practice the allocation of irrigation water based upon the number of shares held by individual stockholders rather than the number of acres irrigated. As referenced in Conclusion of Law #3 in the water right file for Vested Water Right No. 2479-2, the Board concluded that pre-1907 water rights held by ditch companies are not appurtenant to any particular land unless the by-laws or organization of the company so provide (Water Rights, 2025). If the pre-1907 water rights are not appurtenant to the land, then SDCL 46-5-34.1 is not applicable for these types of applications.

APPLICABLE STATUTES

SDCL 46-2A-12. Amendment of permit or license--When granted. *An amendment of an existing permit or license may be granted for a change in use, a change in point of diversion or other change only if the change does not unlawfully impair existing rights and is for a beneficial use and in the public interest.*

SDCL 46-5-30.4. Amendment of permits or rights. *Subject to the limitations in SDCL 46-5-33 and 46-5-34 governing changes in irrigation rights from one parcel of land to another, any water permit or right holder may apply for a change of use of the water, a change of location of the use or other amendment to the permit or right. Permits or rights may be amended pursuant to the procedure contained in chapter 46-2A. Priority shall be retained upon amendment. An amendment of a water permit or right may not increase the rate of diversion or increase the volume of water to be appropriated under the original water permit or right. The amendment may not impair existing rights.*

Both SDCL 46-2A-12 and SDCL 46-5-30.4 allow existing rights to be amended but do not allow the amendment to impair existing water right/permit holders and domestic uses.

In the case of Water Permit Application No. 2898-2, Rapid City is proposing to transfer a portion of Vested Water Right No. 2479-2, a pre-1907 water right, held by Lone Tree Ditch Company.

Lone Tree Ditch Company is an incorporated, stock-share irrigation ditch company with water being delivered based upon the number of shares the irrigator holds.

DELIVERY SYSTEM LOSS DISCUSSION

The delivery system loss, or carriage loss is the water lost to seepage within the irrigation ditch as the water travels from the creek diversion to the where the water is applied. The carriage loss remains in the ditch to ensure that the proposed transfer does not unlawfully impair or adversely affect the remaining/existing water rights. Delivery system losses were estimated in a Bureau of Reclamation 1989 study to be 9.8 percent for Lone Tree Ditch, and the other Rapid Creek ditches. This number has been consistently referenced in all previous transfers.

REVIEW OF PROPOSED TRANSFER

Rapid City's consultant, RESPEC, conducted an engineering analysis to determine the volume and flow rate available and to ensure that the proposed transfer does not unlawfully impair existing water rights. The analysis included an assessment of the historic crop water use and historic ditch diversion records.

For the historic crop water use assessment, an online irrigation scheduling consultant tool was used, which was developed for the individual landowners within the Belle Fourche Irrigation District (BFID) in western South Dakota. This consultant tool tracks the daily water balance in a field and provides recommendation of irrigation timing and depth. Because of the close proximity of the BFID, the methods used to develop the tool were deemed appropriate to assess historic crop water use of Lone Tree Ditch. The assessment ran daily (April 15 to October 31) from 1970-2024. The inputs required to track a daily water balance are local weather and rainfall estimates, crop type and field boundaries. Weather and rainfall data were collected from the Rapid City Regional Airport located approximately 4 miles northwest of the Howie Parcels in conjunction with datasets from 2021 to 2024 using gridded data from the North American Land Data Assimilation System (NLDAS) and Parameter Elevation Regressions on Independent Slopes Models (PRISM). The consultant mentioned an added confidence in the use of the gridded result because of the similarity to the point datasets. A comparison of the overlapping years in the datasets was completed and the general trends were analogous (RESPEC, 2025). The weather datasets were input into the American Society of Civil Engineers (ASCE) Penman Monteith (PM) equation to calculate daily evapotranspiration (ET). This equation requires daily values of dew point, high temperature, low temperature, average wind speed and solar radiation, all of which were available from the airport weather station for the entire analysis period.

For the historic diversion assessment, the ditch company's diversion records were collected by the Bureau of Reclamation on a monthly basis over a 13-year period. The historic diversion estimates to the ditch were then multiplied by the fraction of land (pro rata share) that the property encompasses within the water rights minus the estimated delivery system losses of 9.8 percent to determine the historic monthly delivery amount to the field.

The applicant's proposed methodology in determining the transferable yield is to calculate the pro rata share of water delivered to the shareholder's farm turnout, then determine the portion of

the delivered water utilized by the crop. The volume of water estimated to have been consumed by the crop is calculated on a monthly basis. This is compared to the amount of water that is available for the crop's use based on historical ditch diversions and the total acreage irrigated annually from the ditch. A determination is made, on a monthly basis, whether maximum crop water usage or available water supply is the limiting factor. The lesser of these is used as the volume of water consumed by the crop for that month.

The portion attributed to the inefficiency of flood irrigation and not used by the crop has historically been returned to Rapid Creek and would have been available for use by downstream water rights. The City of Rapid City pipes its wastewater to the Rapid City wastewater treatment plant for treatment with the effluent being discharged back into Rapid Creek. Like the irrigation return flows, this treated effluent will continue to be available for downstream existing water use. If the City chooses to store the water in Pactola Reservoir, there will be no return flow credit and the City will be limited to storing the portion attributed to the historic crop consumptive use less the ditch delivery loss (RESPEC, 2025). If in the future the City of Rapid City's water reclamation facility stops returning effluent to Rapid Creek, the diversion proposed by this application will need to be recalculated to reflect that condition.

The pro rata deliveries are equal to the ditch company's total authorized diversion for the Lone Tree Ditch Company's September 29, 1881, priority right (Vested Water Right No. 2479-2), less ditch carriage loss, times the shareholder's interest in the authorized diversion. The volume of water which can be diverted by the City of Rapid City if withdrawn at the water treatment plant and infiltration gallery diversion points is 146.59 acre-feet annually with the monthly totals shown in Table 1 (RESPEC, 2025). The volume of water which can be diverted by the City of Rapid City if stored in Pactola Reservoir is 73.30 acre-feet annually with the monthly totals shown in Table 2 (RESPEC, 2025).

Table 1. 1881 Lone Tree Ditch Vested Water Right Transferable Volume by the City of Rapid City (water treatment plant and infiltration galleries)

Month	Volume Limitation (acre-feet)
April	0
May	21.20
June	18.66
July	31.74
August	33.38
September	27.32
October	14.29
TOTAL:	146.59

Table 2. 1881 Lone Tree Ditch Vested Water Right Transferable Volume by the City of Rapid City (Pactola Reservoir)

Month	Volume Limitation (acre-feet)
April	0
May	10.60
June	9.33
July	15.87
August	16.69
September	13.66
October	7.15
TOTAL:	73.30

Calculations using accepted scientific methods described above and available climatic and cropping data in the engineering analysis submitted with the application were analyzed to ensure that there is no unlawful impairment on existing water rights/permits and domestic use (RESPEC, 2025). The applicant is proposing a transferable diversion rate of 1.007 cfs. If this application is approved, it would not be expected to impair existing water rights/permits including domestic use. To protect existing rights from being unlawfully impaired, the transferable diversion rate is based on the pro-rata share of the ditch diversion rate decreased by a 9.8 percent carriage loss attributed to the seepage lost from the irrigation ditch prior to delivery at the farm headgates. This carriage loss is to remain as part of the ditch's authorized diversion rate and is consistent with previous Rapid Creek ditch transfers.

If this transfer is approved, the diversion rate authorized by the September 29, 1881, priority date of Vested Water Right No. 2479-2, held by Lone Tree Ditch Company, should be decreased by 1.007 cfs due to the transfer. The water available for transfer is only from the natural flow in Rapid Creek and does not include water stored in or stored water released from Deerfield or Pactola Reservoirs.

If approved, Water Permit Application No. 2898-2 should contain the following qualifications:

- The Water Management Board retains the jurisdiction of Permit No. 2898-2 in the event additional information shows that changes need to be made in the monthly or total annual volumes authorized by Permit No. 2898-2;
- The City of Rapid City shall report to the Chief Engineer annually the amount of water withdrawn each month at the City's water treatment plant and infiltration gallery diversion points or stored in Pactola Reservoir.

REVIEW OF EXISTING WATER RIGHTS

Including the vested water right for Lone Tree Ditch, there are 97 water rights/permits, collectively authorized to divert up to 262.74 cfs from Rapid Creek between Pactola Reservoir and the confluence with the Cheyenne River. Additionally, there are two future use permits (Nos.

439-2 and 1088-2), both held by the City of Rapid City, collectively reserving a total of 8,197 acre-feet of water from multiple sources, including Rapid Creek (Water Rights, 2025).

Existing water rights/permits may be amended under SDCL 46-2A-12 and 46-5-30.4, but the amendments are not allowed to cause impairment to water right/permit holders or domestic users. The engineering analysis submitted with Water Permit Application No. 2898-2 demonstrates the portion of the Lone Tree Ditch water right historically associated with irrigation of the Howie Parcels can be transferred to the City of Rapid City without unlawfully impairing existing rights (RESPEC, 2025). This author concurs.

CONCLUSIONS:

1. Water Permit Application No. 2898-2 proposes to transfer a portion of Lone Tree Ditch stockholder's/landowner's use of Rapid Creek natural flows appropriated under Vested Water Right No. 2479-2 from irrigation use via Lone Tree Ditch to water distribution system uses by the City of Rapid City. The transfer is for Rapid Creek water historically used for the irrigation of 91 acres (Howie Parcels) located in the SW $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 35; all in T1N-R9E. The existing diversion point on Lone Tree Ditch is located in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 30-T1N-R9E.
2. Water Permit Application No. 2898-2 also requests to change the diversion point for 1.007 cfs to four permanent diversion points used by the City of Rapid City (Jackson Springs Water Treatment Plant) NE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 8-T1N-R7E, (Sioux Park "Girl Scout" Gallery) SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 3-T1N-R7E, (Mountain View Water Treatment Plant) SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 3-T1N-R7E, and (Pactola Reservoir Inlet to Service Spillway) N $\frac{1}{2}$ SW $\frac{1}{4}$ of Section 2-T1N-R5E with water impounded in portions of Section 2, 3, 4, 5, 10, and 11; all in T1N-R5E; and portions of Sections 31, 32, 33, and 34; all in T2N-R5E.
3. This application does not authorize any new water to be appropriated from Rapid Creek. If approved, Water Permit Application No. 2898-2 will retain the September 29, 1881, priority date established by the Lone Tree Ditch, Vested Water Right No. 2479-2, for natural flow from Rapid Creek.
4. Existing water rights/permits may be amended under SDCL 46-2A-12 and 46-5-30.4, but amendments are not allowed to cause impairment to water right/permit holders or domestic users.
5. The transfer is for Rapid Creek water historically used for the irrigation of 91 acres within the Howie Parcels of Lone Tree Ditch Company located in a portion of Section 35-T1N-R9E as identified in the RESPEC analysis (RESPEC, 2025). The portion of Rapid Creek natural flows to be transferred to the City of Rapid City is 1.007 cfs with an annual volume limitation of 146.59 acre-feet of water, if diverted to the city's water treatment plant and infiltration galleries, or 73.3 acre-feet if stored in Pactola Reservoir.

1881 Lone Tree Ditch Vested Water Right Transferable Volume by the City of Rapid City (water treatment plant and infiltration galleries)

Month	Volume Limitation (acre-feet)
April	0
May	21.20
June	18.66
July	31.74
August	33.38
September	27.32
October	14.29
TOTAL:	146.59

1881 Lone Tree Ditch Vested Water Right Transferable Volume by the City of Rapid City (Pactola Reservoir)

Month	Volume Limitation (acre-feet)
April	0
May	10.60
June	9.33
July	15.87
August	16.69
September	13.66
October	7.15
TOTAL:	73.30

6. The RESPEC analysis submitted with the application demonstrates this water right can be transferred without impairing existing rights. This author concurs.
7. If approved, the diversion rate authorized by the September 29, 1881, priority date of Vested Water Right No. 2479-2, held by Lone Tree Ditch Company, should be decreased by 1.007 cfs due to the transfer.
8. If approved, Water Permit Application No. 2898-2 should contain the following qualifications:
 - The Water Management Board retains the jurisdiction of Permit No. 2898-2 in the event additional information shows that changes need to be made in the monthly or total annual volumes authorized by Permit No. 2898-2;
 - The City of Rapid City shall report to the Chief Engineer annually the amount of water withdrawn each month at the City's water treatment plant and infiltration gallery diversion points or stored in Pactola Reservoir.

Nakaila Steen

Nakaila Steen
Natural Resources Engineer III
SD DANR - Water Rights Program

References

- RESPEC, 2025. Engineering Report; Lone Tree Ditch Water Volume for Water Rights Transfer. RESPEC Topical Report RSI-3638. Prepared by Nick Marnach, PE and Morghan Hurst. 3824 Jet Drive. Rapid City, SD.
- SD Supreme Court. 1974. O.A. Jewett et al. v. Redwater Irrigating Association and the State Water Resources Commission of the State of South Dakota.
- Water Rights, 2025. Water Right/Permit Files, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, South Dakota.

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Wednesday, July 2, 2025 9:48 AM
To: Quiett Brandon
Subject: FW: [EXT] Lone Tree Ditch Water Rights Transfer
Attachments: Transfer of Ownership_encrypted_ (6).pdf; map.pdf

Good Morning Brandon,

I was wondering about the transfer of Permit 2479-2. The Notice of Transfer fee is \$50.00, see attached. Also, there was no email address on the application. So, I wasn't sure whom to address it to, as it needs the following:

- A signature on the first page
- A map, for your convenience, I have enclosed a map with the designations provided. Please mark the proposed diversion point with an "X" and outline the proposed storage dam.
- And the fees; application fee \$100.00 + inspection fee \$200.00 = \$300.00.

Once I receive the items above, I can begin processing the application.

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us



From: Steen, Nakaila <Nakaila.Steen@state.sd.us>
Sent: Wednesday, July 2, 2025 9:01 AM
To: Dewell, Amanda <Amanda.Dewell@state.sd.us>; Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>
Subject: FW: [EXT] Lone Tree Ditch Water Rights Transfer

Please see below , from Rapid City

From: Quiett Brandon <Brandon.Quiett@rcgov.org>
Sent: Wednesday, July 2, 2025 7:34 AM
To: Steen, Nakaila <Nakaila.Steen@state.sd.us>
Subject: FW: [EXT] Lone Tree Ditch Water Rights Transfer

Nakaila,

Will you please forward this email to whomever receives payment for our transfer application?

Thanks,
Brandon Quiett

Operations Engineering Manager
City of Rapid City
605-394-4154

From: Martin Lindsey <Lindsey.Martin@rcgov.org>
Sent: Tuesday, July 1, 2025 3:48 PM
To: Quiett Brandon <Brandon.Quiett@rcgov.org>
Subject: RE: Lone Tree Ditch Water Rights Transfer

I'll get this added in Tyler. A check will be mailed July 22.
Thanks!

Lindsey Martin
Capital Improvement Program Manager
City of Rapid City | Public Works Department

From: Quiett Brandon <Brandon.Quiett@rcgov.org>
Sent: Tuesday, July 1, 2025 3:45 PM
To: Martin Lindsey <Lindsey.Martin@rcgov.org>
Subject: FW: Lone Tree Ditch Water Rights Transfer

Lindsey,

Will you please prepare a check for \$950 payable to DANR? Funding will be CIP 50303. I assume you send it to the same address as the application:

SD DANR Water Rights
523 E Capitol Ave.
Pierre, SD 57501

If you can add a note: "Lone tree Ditch Water Rights Transfer"

Brandon Quiett
Operations Engineering Manager
City of Rapid City
605-394-4154

From: Quiett Brandon
Sent: Tuesday, July 1, 2025 3:37 PM
To: Ainslie Daniel <Daniel.Ainslie@rcgov.org>; Titus Stacey <Stacey.Titus@rcgov.org>; Boyda Eric <Eric.Boyda@rcgov.org>; Cushman Carla <Carla.Cushman@rcgov.org>; Gordon Howie (gkhowie@yahoo.com) <gkhowie@yahoo.com>
Cc: 'Morghan Hurst' <Morghan.Hurst@respec.com>; Nicholas (Nick) Marnach <Nicholas.Marnach@RESPEC.com>; 'Steen, Nakaila' <Nakaila.Steen@state.sd.us>
Subject: Lone Tree Ditch Water Rights Transfer

All,

The attached application was mailed to DANR today. It is for a water rights transfer from the Lone Tree Ditch to the City of Rapid City.

Let me know if you have any questions.

Brandon Quiett



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

**NOTE: TO BE SURE OF PUBLICATION ON
THE CORRECT DATES, CONTACT
THE NEWSPAPER RIGHT AWAY.**

September 23, 2025

City of Rapid City
c/o Brandon Quiett
300 6th Street
Rapid City SD 57701

Dear Mr. Quiett:

Water Permit Application No. 2898-2 has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Rapid City Journal printed in Rapid City SD (see email sent from the newspaper directly to you). You will need to contact the newspaper and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Acting Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper to authorize publication of your Notice and to arrange for payment. Early contact with the paper can eliminate delays. Upon receiving authorization from you, the publisher has been instructed to publish your notice. The newspaper has also been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the application.

Sincerely,

Rachel Rodriguez

Rachel Rodriguez
Water Rights Program
(605) 773-3352

enclosures

NOTE: If you plan to contest any part of the Acting Chief Engineer's recommendation, you must file a petition pursuant to the procedures outlined in the attached notice of hearing. The Water Management Board will then consider your concerns during a hearing on the application.

NOTICE OF APPLICATION NO. 2898-2 TO CHANGE WATER USE AND MOVE PUMPING LOCATION

Notice is given that the City of Rapid City, 300 6th Street, Rapid City SD 57701, has filed an application to transfer a portion of Lone Tree Ditch stockholder/landowner's use of Rapid Creek natural flows appropriated under Vested Water Right No. 2479-2 from irrigation use via Lone Tree Ditch to water distribution system uses by the City of Rapid City. The transfer is for Rapid Creek water historically used for irrigation of 91 acres (Howie Parcels) located in the SW 1/4, SW 1/4 NW 1/4 Section 35; all in T1N-R9E. The portion of Rapid Creek natural flows to be transferred to the City of Rapid City is 1.007 cubic feet of water per second (cfs) with an annual volume limitation of 146.59 acre-feet of water, if diverted at the city's water treatment plant and infiltration galleries, or 73.3 acre-feet if stored in Pactola Reservoir. The existing diversion point on Lone Tree Ditch is located in the NE 1/4 NE 1/4 Section 30-T1N-R9E. This application also requests to change the diversion point for 1.007 cfs to four permanent diversion points used by the City of Rapid City, (Jackson Springs Water Treatment Plant) NE 1/4 SW 1/4 Section 8-T1N-R7E, (Sioux Park "Girl Scout" Gallery) SW 1/4 SW 1/4 Section 3-T1N-R7E, (Mountain View Water Treatment Plant) SE 1/4 NE 1/4 Section 3-T1N-R7E, and (Pactola Reservoir Inlet to Service Spillway) N 1/2 SW 1/4 Section 2-T1N-R5E with water impounded in portions of Sections 2, 3, 4, 5, 10, and 11; all in T1N-R5E; and portions of Sections 31, 32, 33, and 34 all in T2N-R5E. This application does not authorize any new water to be appropriated from Rapid Creek. If approved, this permit will retain the September 29, 1881, priority date established by Lone Tree Ditch Vested Water Right No. 2038-2, which was later incorporated into Vested Water Right No. 2479-2, for natural flows from Rapid Creek. These sites are all located within north-central Pennington County, South Dakota.

Pursuant to SDCL 46-2A-2, the Acting Chief Engineer recommends APPROVAL of Application No. 2898-2 because 1) the proposed diversion can be developed without unlawful impairment of existing domestic water uses and water rights, 2) the proposed use is a beneficial use and 3) it is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board. The Acting Chief Engineer's recommendation with qualifications, the application, and staff report are available at <https://danr.sd.gov/public> or contact Ron Duvall for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing this application or recommendation shall allege that the application, upon approval, will cause injury to the person that is unique from any injury suffered by the public in general. The injury must concern a matter either within the regulatory authority found in SDCL 46-2A-9 for approval or denial of the application, or other matter concerning the application within the regulatory authority of the board to act upon as defined by SDCL 46-2-9 and 46-2-11, or both. Any person meeting the petitioner requirements and wishing to be a party of record in a contested case hearing shall file a written petition to oppose the application with BOTH the applicant and Acting Chief Engineer. A petition opposing the application shall be filed on a form provided by the Acting Chief Engineer. The petition form is available online at <https://danr.sd.gov/public> or by contacting the Acting Chief Engineer. The Acting Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501" or call (605) 773-3352. The applicant's mailing address is given above. If contesting the Acting Chief Engineer's recommendation, the applicant shall also file a petition. A petition filed by either an interested person or the applicant must be filed by October 14, 2025.

The petition shall include a statement describing the unique injury upon approval of the application on the petitioner, the petitioner's reasons for opposing the application, and the name and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

Any interested person may file a comment on the application with the Acting Chief Engineer. The comment shall be filed on a form provided by the Acting Chief Engineer and is available online at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Acting Chief Engineer at the address provided above. Filing a comment

does not make the commenter a party of record or a participant in any hearing that may be held. Any comment must be filed by October 14, 2025.

If the applicant does not contest the recommendation of the Acting Chief Engineer and no petition to oppose the application is received, the Acting Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled, and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Published once at the total approximate cost of_

Rodriguez, Rachel

From: Amber F <leelegals@column.us>
Sent: Tuesday, September 23, 2025 11:52 AM
To: Rodriguez, Rachel; brandon.quiett@rcgov.org
Subject: Re: [EXT] 2898-2 City of Rapid City - Public Notice
Attachments: ra8X4gTjkQKYDWnuSrV2_1758646293295.pdf

Hi there,

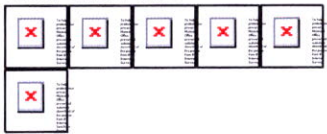
Your notice is scheduled to be published in the The Rapid City Journal on October 2, 2025.
Your Notice ID is: ra8X4gTjkQKYDWnuSrV2

You will be receiving a notification from Column Support with your proof. If you don't see it, check your spam folder and any email restrictions you may have.

For the fastest and most reliable placement process, use column.us to quickly place notices yourself, get proofs, view pricing, and access your invoices and affidavits. Visit our [help center](#) for tips, or sign up for one of our [training webinars](#).

If you have any questions or concerns, please don't hesitate to let us know so we can look into it!

—
// Amber
// Support Associate
How did I do?



On September 23, 2025 at 11:36 AM CDT rachel.rodriguez@state.sd.us wrote:

Good morning,

I have not received a confirmation email. I called 307-266-0554 and the person I spoke with suggested that I send a follow up email. Please provide the confirmation email, as I need to send it to the applicant with other information.

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us



Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Tuesday, September 23, 2025 9:03 AM
To: RCY Legals
Subject: 2898-2 City of Rapid City - Public Notice
Attachments: 2898-2 public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on October 2, 2025.

City of Rapid City, c/o Brandon Quiett, 300 6th Street, Rapid City SD 57701, 605-394-4154,
brandon.quiett@rcgov.org has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP to the Water Rights Program, 523 E Capitol Ave, Pierre SD 57501.

Let me know if you have questions. Please acknowledge receipt of this email.

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us



AFFIDAVIT OF PUBLICATION

Public Works Directo,
300 Sixth Street
Rapid City South Dakota 57701

State of Florida, County of Orange, ss:

I, Ankit Sachdeva, of lawful age, being duly sworn upon oath depose and say that I am an agent of Column Software, PBC, duly appointed and authorized agent of the Publisher of The Rapid City Journal, a corporation of Rapid City, South Dakota, a legal and daily newspaper printed and published in Rapid City, in said County of Pennington, and has full and personal knowledge of all the facts herein stated as follows: that said newspaper is and at all of the times herein mentioned has been a legal and daily newspaper with a bonafide paid circulation of at least Two Hundred copies daily, and has been printed and published for at least one year prior to the first date of the published notice. This affidavit is a true and corrected copy of notice which appeared in said newspaper on the following dates.

Publication Dates:

- Oct 2, 2025

NOTICE ID: ra8X4gTjkQKYDWnuSrV2

NOTICE NAME: 2898-2 City of Rapid City - Public Notice

TOTAL AD COST: \$117.48

Ankit Sachdeva

Agent

VERIFICATION

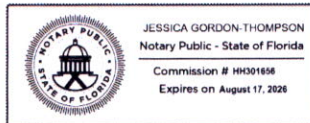
State of Florida
County of Orange

Signed or attested before me on this: 10/02/2025



Notary Public

Notarized remotely online using communication technology via Proof.



NOTICE OF APPLICATION NO.
2898-2 TO CHANGE WATER
USE AND MOVE PUMPING
LOCATION

Notice is given that the City of Rapid City, 300 6th Street, Rapid City SD 57701, has filed an application to transfer a portion of Lone Tree Ditch stockholder/landowner's use of Rapid Creek natural flows appropriated under Vested Water Right No. 2479-2 from irrigation use via Lone Tree Ditch to water distribution system uses by the City of Rapid City. The transfer is for Rapid Creek water historically used for irrigation of 91 acres (Howie Parcels) located in the SW 1/4, SW 1/4 NW 1/4 Section 35; all in T1N-R9E. The portion of Rapid Creek natural flows to be transferred to the City of Rapid City is 1.007 cubic feet of water per second (cfs) with an annual volume limitation of 146.59 acre-feet of water, if diverted at the city's water treatment plant and infiltration galleries, or 73.3 acre-feet if stored in Pactola Reservoir. The existing diversion point on Lone Tree Ditch is located in the NE 1/4 NE 1/4 Section 30-T1N-R9E. This application also requests to change the diversion point for 1.007 cfs to four permanent diversion points used by the City of Rapid City, (Jackson Springs Water Treatment Plant) NE 1/4 SW 1/4 Section 8-T1N-R7E, (Sioux Park "Girl Scout" Gallery) SW 1/4 SW 1/4 Section 3-T1N-R7E, (Mountain View Water Treatment Plant) SE 1/4 NE 1/4 Section 3-T1N-R7E, and (Pactola Reservoir Inlet to Service Spillway) N 1/2 SW 1/4 Section 2-T1N-R5E with water impounded in portions of Sections 2, 3, 4, 5, 10, and 11; all in T1N-R5E; and portions of Sections 31, 32, 33, and 34 all in T2N-R5E. This application does not authorize any new water to be appropriated from Rapid Creek. If approved, this permit will retain the September 29, 1881, priority date established by Lone Tree Ditch Vested Water Right No. 2038-2, which was later incorporated into Vested Water Right No. 2479-2, for natural flows from Rapid Creek. These sites are all located within north-central Pennington County, South Dakota.

Pursuant to SDCL 46-2A-2, the Acting Chief Engineer recommends APPROVAL of Application No. 2898-2 because 1) the proposed diversion can be developed without unlawful impairment of existing domestic water uses and water rights, 2) the proposed use is a beneficial use and 3) it is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board. The Acting Chief Engineer's recommendation with qualifications, the application, and staff report are available at <https://danr.sd.gov/public> or contact Ron Duvall for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing this application or recommendation shall allege that the application, upon approval, will

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Program**

will cause injury to the person that is unique from any injury suffered by the public in general. The injury must concern a matter either within the regulatory authority found in SDCL 46-2A-9 for approval or denial of the application, or other matter concerning the application within the regulatory authority of the board to act upon as defined by SDCL 46-2-9 and 46-2-11, or both. Any person meeting the petitioner requirements and wishing to be a party of record in a contested case hearing shall file a written petition to oppose the application with BOTH the applicant and Acting Chief Engineer. A petition opposing the application shall be filed on a form provided by the Acting Chief Engineer. The petition form is available online at <https://danr.sd.gov/public> or by contacting the Acting Chief Engineer. The Acting Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501" or call (605) 773-3352. The applicant's mailing address is given above. If contesting the Acting Chief Engineer's recommendation, the applicant shall also file a petition. A petition filed by either an interested person or the applicant must be filed by October 14, 2025.

The petition shall include a statement describing the unique injury upon approval of the application on the petitioner, the petitioner's reasons for opposing the application, and the name and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

Any interested person may file a comment on the application with the Acting Chief Engineer. The comment shall be filed on a form provided by the Acting Chief Engineer and is available online at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Acting Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in any hearing that may be held. Any comment must be filed by October 14, 2025.

If the applicant does not contest the recommendation of the Acting Chief Engineer and no petition to oppose the application is received, the Acting Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled, and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

(Published October 2, 2025 for a total approximate cost of \$117.48 and may be viewed for free at www.sdpublicnotices.com)
Legal No: COL-SD-3371

RECEIVED

OCT 02 2025

**Water Rights
Program**

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Tuesday, September 23, 2025 12:23 PM
To: Quiett Brandon
Subject: 2898-2 City of Rapid City - Public Notice
Attachments: 2898-2Rec.pdf; 2898-2 Ltr.pdf; 2898-2 PubNotice.pdf

Attached is a copy of the report, acting chief engineer's recommendation, and information regarding the public notice for your water permit application. As stated in the letter, please contact the paper(s) as soon as possible to authorize publication and arrange for payment. The newspaper will send you an email regarding the notice. This information is also being mailed to you today.

Let me know if you have questions. Please acknowledge receipt of this email.

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

November 4, 2025

City of Rapid City
c/o Daniel Ainslie
300 6th Street
Rapid City SD 57701

Dear Mr. Ainslie:

Enclosed is Water Permit No. 2898-2 authorizing construction of the water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

An informational sheet *Common Water Right Questions* is also enclosed. This sheet is intended to answer some of the questions associated with obtaining and keeping a water right.

Sincerely,

Mark Mayer, PE
Director of Office of Water

enclosures



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

**Affidavit of Public Notice
Posting on DANR Website**

Pursuant to SDCL § 46-2A-4, public notice of the following application was posted on the DANR web site at <https://danr.sd.gov/public>. The posted public notice is the same notice as published in the pertinent newspaper(s) and a copy of the public notice is maintained in the application file. If the application is contested, the posting is moved to the DANR contested case website at <https://danr.sd.gov/public/ContestedCase.aspx> until final action is taken on the application pursuant to SDCL § 46-2A-4.

Application No.: 2898-2

Name of Applicant: City of Rapid City

Date of Posting: 9/29/2025

Date of Removal: 11/4/2025

Ron Duvall, Engineer III

11/4/2025

Date

Subscribed and sworn to before me, a notary public, this 4th day of Nov, 2025.

Notary Public - South Dakota

My commission expires:

Rachel Rodriguez
My Commission Expires
May 16, 2029

(SEAL)

