

WATER PERMIT NO. 8911-3

Name of Applicant: City of Sioux Falls Water Division

Address: 2100 N Minnesota Avenue, Sioux Falls SD 57104

Phone: 605-373-6944

Amount of Water Claimed: ^{4,253}
3,133 AF

Total Acres: N/A

Source of Water Supply: Groundwater

Water to be used for: Municipal

County: Minnehaha

Type of Waste Disposal System:

Location: Far northern area of Sioux Falls SD

PRIORITY Date Received: 10-03-24

Application/License Fee: \$300.00

Corrected Application Received: 11-20-24

Period of Annual Use: January 1 – December 31

Remarks: See Narrative and Table 1 for a list of Water Rights used for this application

Diversion Point: NE 1/4 SW 1/4 Sec 29-102N-
R49W

Land to be Irrigated: N/A

Depth of Well: 63.8

Well Driller: Reynolds Construction, LLC

Remarks:

Type of Map: aerial

			29		

Reviewed and the Number Assigned on: 11-20-24

By: Rachel Rodriguez

Notice of Hearing - date to intervene: _____

SOUTH DAKOTA
WATER PERMIT NO. 8911-3

Date of first receipt of application October 3, 2024.

Date of return to applicant for corrections, amendments or changes October 9, 2024.

Date of receipt of corrected application November 20, 2024.

The Acting Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8911-3 to City of Sioux Falls Water Division, 2100 N Minnesota Avenue, Sioux Falls SD 57104, 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. 8911-3 replaces an existing well for Vested Water Right No. 274-3 with a new horizontal collector well (63.8 feet deep) located in the NE 1/4 SW 1/4 Section 29-T102N-R49W on the north side of the City of Sioux Falls SD and transfers the diversion rate and volume authority authorized by the following Water Rights to the new horizontal collector well: No. 274-3 (2.0 cubic feet of water per second [cfs] and 1,448 acre-feet [ac-ft]), 264-3 (1.55 cubic feet of water per second [cfs] and 1,120 acre-feet [ac-ft]), No. 1270-3 (1.66 cfs and 348 ac-ft), No. 2244-3 (1.33 cfs and 369 ac-ft), and No. 1347-3 (1.986 cfs and 968 ac-ft), for a total of 8.526 cfs, and 4,253 ac-ft annually from the Big Sioux: Sioux Falls Aquifer. Vested Water Right No. 274-3 was issued to the City of Sioux Falls with a priority date of January 1, 1952, for municipal water use from a well (Big Sioux: Sioux Falls Aquifer) located in the SE1/4 NW1/4 Section 29-T102N-R49W. The new horizontal collector well replaces the well authorized by No. 274-3 with the 2.0 cfs and 1,448 ac-ft authorized by No. 274-3 being transferred to the new horizontal collector well. Vested Water Right No. 264-3 was issued to the City of Sioux Falls with a priority date of January 1, 1943, for municipal water use from a well (Big Sioux: Sioux Falls Aquifer) located in the NE1/4 SE1/4 Section 5-T101N-R49W. The well authorized by No. 264-3 is being decommissioned with the 1.55 cfs and 1,120 ac-ft authorized by No. 264-3 being transferred to the new horizontal collector well. Water Permit No. 1270-3 was issued to R. C. Sweetman with a priority date of February 23, 1966, and is licensed for irrigation of 116 acres from one well (Big Sioux: Sioux Falls Aquifer) all located in the S1/2 Section 20-T102N-R49W. This water right was transferred to the City of Sioux Falls on June 27, 2023. This permit amends No. 1270-3 by changing the water use from irrigation to municipal use, authorizing use of water year-round, and then transferring the diversion authority of 1.66 cfs and 348 ac-ft from No. 1270-3 to the new horizontal collector well. Water Permit No. 2244-3 was issued to Dale Swartz with a priority date of April 8, 1975, and is licensed for irrigation of 123 acres from one well (Big Sioux: Sioux Falls Aquifer) all located in the SE1/4 Section 21-T103N-R49W. This water right was transferred to the City of Sioux Falls on November 25, 2009. This permit amends No. 2244-3 by changing the water use from irrigation to municipal use, authorizing use of water year-round, and then transferring the diversion authority of 1.33 cfs and 369 ac-ft from No. 2244-3 to the new horizontal collector well. Water Permit No. 1347-3 was issued to the City of Sioux Falls with a priority date of January 10, 1967, for municipal water use from a well (Big Sioux: Sioux Falls Aquifer) located in the SW1/4 Section 4-T101N-R49W. This permit transfers the remaining diversion authority of 1.986 cfs and 968 ac-ft from No. 1347-3 to the new horizontal collector well.
2. The water appropriated shall be used for the purpose of municipal 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: January 1 – December 31.
4. The date of approval of Permit No. 8911-3 is July 28, 2025 (held at city's request until July 7, 2025).

(continued)

5. The date from which applicant may claim right is (2.0 cfs and 1,448 ac-ft) January 1, 1952; (1.55 cfs and 1,120 ac-ft) January 1, 1943; (1.66 cfs and 348 ac-ft) February 23, 1966; (1.33 cfs and 369 ac-ft) April 8, 1975; (1.986 cfs and 968 ac-ft) January 10, 1967.
6. One-fifth of the construction is to be completed on or before January 28, 2028.
7. All construction is to be completed on or before July 28, 2030.
8. Water is to be put to beneficial use on or before July 28, 2034.
9. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The well approved under Water Permit No. 8911-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals must be controlled so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. If the wells authorized by Water Right Nos. 274-3, 1270-3, 2244-3, and 1347-3 are abandoned, the wells must be plugged in accordance with Water Management Board Well Construction Rules, Chapter 74:02:04.
3. The permit holder must report to the Chief Engineer annually the amount of water withdrawn under this Permit and all other permitted diversions from the Big Sioux: Sioux Falls Aquifer.
4. Water Permit No. 8911-3 authorizes a total annual diversion of up to 4,253 acre-feet of water. This Permit and Water Permit No. 8912-3, combined, authorize a total annual diversion of up to 6,000 acre-feet of water.

WATER MANAGEMENT BOARD

By: _____

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

9/10/25
date



FORM 2: Application for uses other than irrigation
(type or print)

Mail to: SD DANR, Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8911-3</u> Hydrologic Unit <u>10170203</u>
	Basin <u>Big Sioux</u>
	Newspaper <u>Argus Leader</u> <u>(Dakota Scout)</u>
	<u>Lennox Independent</u> (office use only)

RECEIVED
OCT 03 2024
OFFICE OF
WATER

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. _____		

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

Change diversion point for permit 274-3 and transfer water appropriated under existing water right Nos. 1347-3 and request to change the type of use of water right Nos. 1270-3 and 2244-3 from irrigation to municipal year-round use.

- Name to Appear on Water Permit City of Sioux Falls Water Division
Mailing Address 2100 N Minnesota Ave Sioux Falls SD 57104
(Address) (City) (State) (Zip Code)
Phone 605-373-6944 Mobile 8-526 Email Chris.Myers@SiouxFalls.gov
4253
- Amount of water claimed 6.976 *CFS or 3.138 **GPM and 4.253 ***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 Existing water appropriations from Big Sioux Aquifer, see attached memo
- Location of point of diversion 1 well in NE1/4 SE1/4 Sec.29 Twp.102N Rg.49W (NE1/4 SW1/4) County Minnehaha
(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? n/a
(example - NW1/4 section 12-T104N-R53W)
- County or counties where water will be used Minnehaha, Lincoln
- Annual period during which water is to be used January 1st through December 31st
- 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)

Installation of new Horizontal Collector Well to replace an existing Bragstad Well and transfer water appropriated to multiple existing permits to new permit at this new diversion point, see attached memo with a full explanation of the application and engineering reports with data to support this request.

I, Chris Myers Water Superintendent, 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)

1. Well Information (check one or both as applicable)

☒ Drilling new well(s) ☐ Using existing well(s)

- a) If new wells, how many 1 Have test holes been drilled? ☒ Yes ☐ No Drilled by Reynolds Construction, LLC
(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) 63.8 Depth to Top of Water Bearing Material 11.0 Depth to Water from Surface 4.7
- d) Distance to nearest domestic well on applicant's property n/a Property owned by others 1,250-ft

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

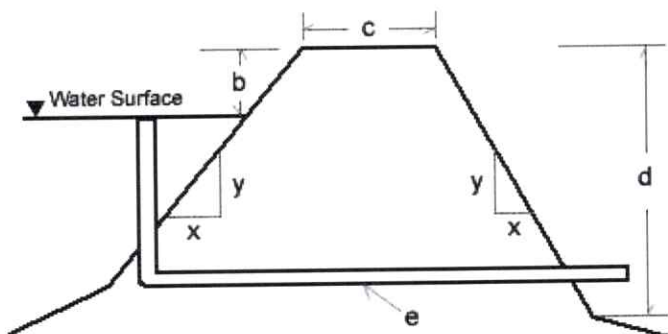
If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to be shown on the map submitted with the application.

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

- b) Freeboard _____
- c) Crest Width _____
Crest Length _____
- d) Height _____
- e) Primary Outlet Capacity _____

If pipe, diameter _____

- f) Secondary Spillway Capacity _____
Spillway Width _____
- g) X & Y Slope (e.g. 3 to 1 is a typical slope)
Upstream _____
Downstream _____
- h) Area of Impoundment _____
- i) Storage _____ Acre Feet
- j) Drainage Area Above Dam _____ Acres





102N 49W
Section: 19

102N 49W
Section: 20

102N 49W
Section: 21

72ND ST N

72ND ST

90 W

10170203 Lower Big Sioux

Big Sioux

102N 49W
Section: 30

102N 49W
Section: 29

102N 49W
Section: 28

W 60TH ST N

E HINKS LN

E 60TH ST N

E 58TH

N 4TH AVE

N MINNESOTA AVE

102N 49W
Section: 31

102N 49W
Section: 32

102N 49W
Section: 33

W NATIONAL GUARD DR

Date: Thursday, October 3, 2024
To: SD DANR, Water Rights Program
From: City of Sioux Falls Water Purification Division
Subject: New Well Diversion Point Water Allocation Explanation

The City of Sioux Falls has determined that the existing municipal well permitted under permit #274-3 (Well #25) had diminished in production potential beyond the point of rehabilitation. An investigation of the City owned property immediately to the south of the existing well resulted in the identification of a location suited for the construction of a Horizontal Collector Well (HCW) as a new diversion point to replace the existing well.

The new HCW contractor conducted a stepped flow rate pump test as well as 72-hr peak pumping flow rate pump test to determine baseline performance of the new diversion point HCW. The data from these tests were analyzed by the design engineering consultant, HDR, to determine the long-term and short-term peak pumping flow rates used in support of this application for water allocation to this new diversion point.

The long-term pumping rate was determined to be 7.75 csf and the short-term peak sustainable pumping rate has been determined to be 9.964 csf. The short-term pumping rate is expected to be utilized for intermittent periods which the City's Water Plant Operations team estimates to total no more than 90-day in a calendar year. The combination of long-term pumping rates for 275-days combined with 90-days of short-term peak pumping rate were used to calculate the requested annual volume of 6,000 ac-ft.

These requested water allocations for the new diversion point are greater than the amount allocated to permit #274-3. Therefore, additional existing permitted allocations as well as allocations from future use permits are being requested to be transferred to this new HCW diversion point.

In addition to permit #274-3 the City is requesting to transfer permit #1347-3 as well as request a change in type of use and authorization of year-round use of water and transfer of two (2) irrigation permits (permit #1270-3 & #2244-3). A conversion factor of 3-ft per acre per year has been used to determine an annual diversion volume for the irrigation permits. A portion of the future use permit #448-3 allocation is being requested to be placed into beneficial use to fully utilize the achievable water allocations at this new HCW diversion point. See Table 1 for a summary of the requested allocations:

Table 1 – Summary of Water Rights Request Volumes and Flow Rates

Description	Source	Permit Number	cfs	ac-ft/yr
Existing Well # 25	Big Sioux Aquifer	274-3	2	1,448
DC-2	Big Sioux Aquifer	1347-3	1.986	968
Irrigaion Well	Big Sioux Aquifer	1270-3	1.66	348
Irrigation Well	Big Sioux Aquifer	2244-3	1.33	369
<i>Existing Permit Allocation Sub Total:</i>			6.976	3,133
Future Use Permit	Big Sioux Aquifer	448-3	2.988	2,867
Total:			9.964	6,000

We have included two (2) permit applications for this new diversion point, the first application for the change in type of use and authorization of year-round use of water and transfer of existing permitted water rights to the new diversion point. The second permit application is for the request to place into beneficial use water reserved by the future use permit at the new diversion point.

Memo

Date: Friday, August 16, 2024
Project: Sioux Falls Collector Well 25
To: City of Sioux Falls
From: HDR
Subject: Water Permit Application Amounts – Collector Well 25

This memorandum has been developed to provide a recommended pumping rate for the new Collector Well 25 that will withdraw water from the Big Sioux Aquifer. This memorandum will be used to assist the City with applying for an updated water permit authorizing withdrawals for this new well.

In May 2023, Reynolds Construction, LLC (Reynolds) was contracted by the City of Sioux Falls to construct the caisson and laterals associated with Collector Well 25. The installation of two observation wells, performance step testing, and constant rate testing of the collector well were to be completed.

Collector Well 25 caisson had six (6) horizontal laterals installed three (3) feet off the bottom floor at an elevation of 1375 feet AMSL which can be seen in Figure 8. The Fehlmann process was used to install the laterals. This process entailed four steps. First, a blank steel casing was projected into the aquifer. Second, stainless-steel screen sections were placed inside the blank casing. Third, the projection casing was removed. Fourth, a gate valve was placed on the end of the lateral at the inner wall of the caisson. Three (3) temporary pumps were placed in the caisson and discharged into the Big Sioux River for testing purposes. The discharged lines were controlled by a gate valve and monitored by a flow meter.

In April 2024 multiple rate step testing was conducted under four rates. The four rates that were selected were, 600, 1390, 4200, and 5250 gallons per minute (gpm). The four rates were held constant for two hours then step sequentially. Reynolds testing results for the multiple rate step test are summarized in Table 1.



Table 1. Step Test Results

Results of Collector Well 25 Multiple-Rate Step Performance Test (4/22/24)
Collector Well 25, Sioux Falls, South Dakota

	Static Water Elevation <u>(Ft MSL)</u>	<u>Step 1 (600 gpm)</u> Water Elevation <u>(Ft MSL)</u>	Observed Drawdown <u>(Feet)</u>	<u>Step 2 (1390 gpm)</u> Water Elevation <u>(Ft MSL)</u>	Observed Drawdown <u>(Feet)</u>	<u>Step 3 (4200 gpm)</u> Water Elevation <u>(Ft MSL)</u>	Observed Drawdown <u>(Feet)</u>	<u>Step 4 (5250 gpm)</u> Water Elevation <u>(Ft MSL)</u>	Observed Drawdown <u>(Feet)</u>
Collector Well 25	1422.87	1420.34	2.53	1416.74	6.13	1405.11	17.76	1401.55	21.32
SF-o15	1422.9	1422.56	0.34	1422.06	0.84	1420.97	1.93	1420.49	2.41
SF-o16	1422.86	1421.2	1.66	1418.91	3.95	1412.58	10.28	1410.65	12.21
SF-o17	1422.85	1421.06	1.79	1418.53	4.32	1411.15	11.70	1408.81	14.04
SF-o19	1422.86	1422.44	0.42	1421.85	1.01	1420.52	2.34	1419.91	2.95
SF-o24	1422.87	1420.75	2.12	1417.72	5.15	1408.36	14.51	1402.48	20.39
SF-o25	1422.91	1422.46	0.45	1421.85	1.06	1420.26	2.65	1419.77	3.14
Big Sioux River	1422.90	1422.91	-0.01	1422.89	0.01	1422.89	0.01	1422.89	0.01
Pumping Rate (gpm)									
- Step 1	600								
- Step 2	1390								
- Step 3	4200								
- Step 4	5250								
Specific Capacity (gpm/ft)									
- Step 1	237.2								
- Step 2	226.8								
- Step 3	236.5								
- Step 4	246.2								

After the multiple rate step test water levels were allowed to recover for more than 24 hours before the constant rate test was conducted. Constant rate test pumping was conducted at 5000 gpm (7.2 MGD) from April 24 to April 27, 2024 for a total elapsed time of 72 hours. A hydrograph for the stepped rate and constant rate test can be seen in Figures 1 and 2. Drawdown analysis were plotted 1,440 and 4,320 minutes which can be seen in Figures 3 and 4. This data was collected from the associated observation wells as seen in Figure 7. Observation wells used in the analysis for the step and constant rate test were XD SF-16,17,24 and 25.

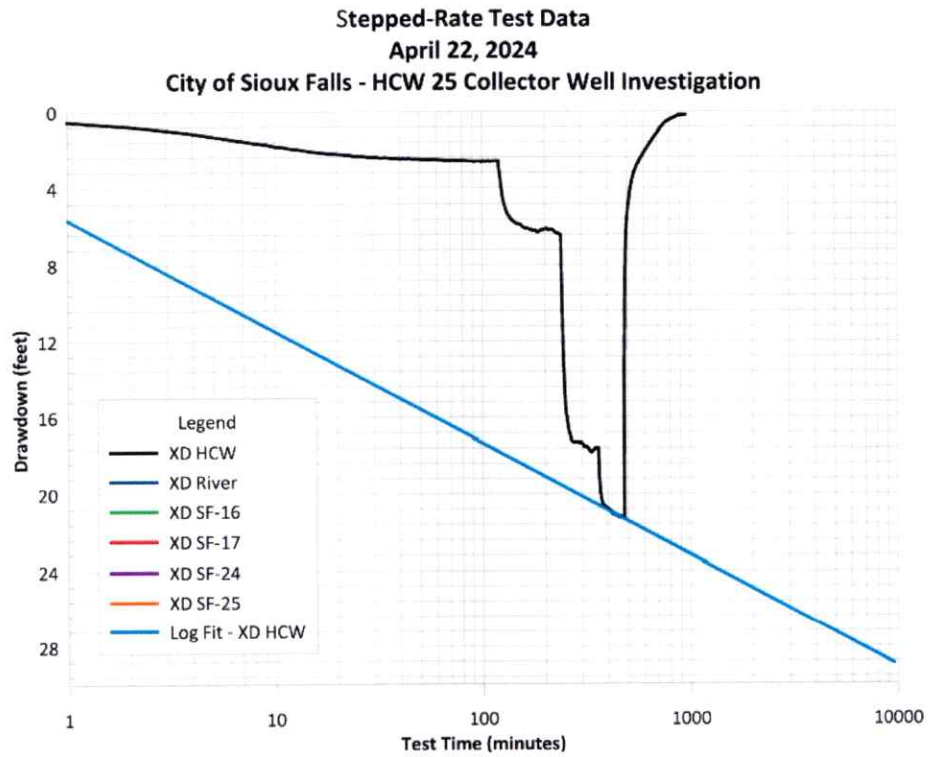


Figure 1. Stepped-Rate Test Data

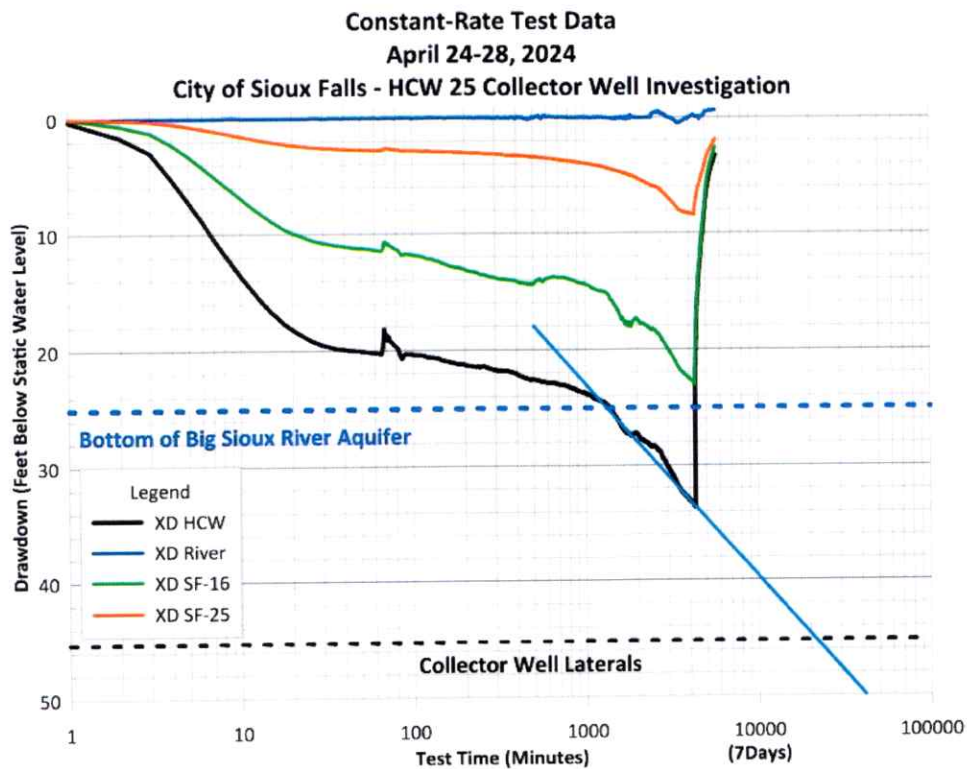


Figure 2. Constant-Rate Test Data

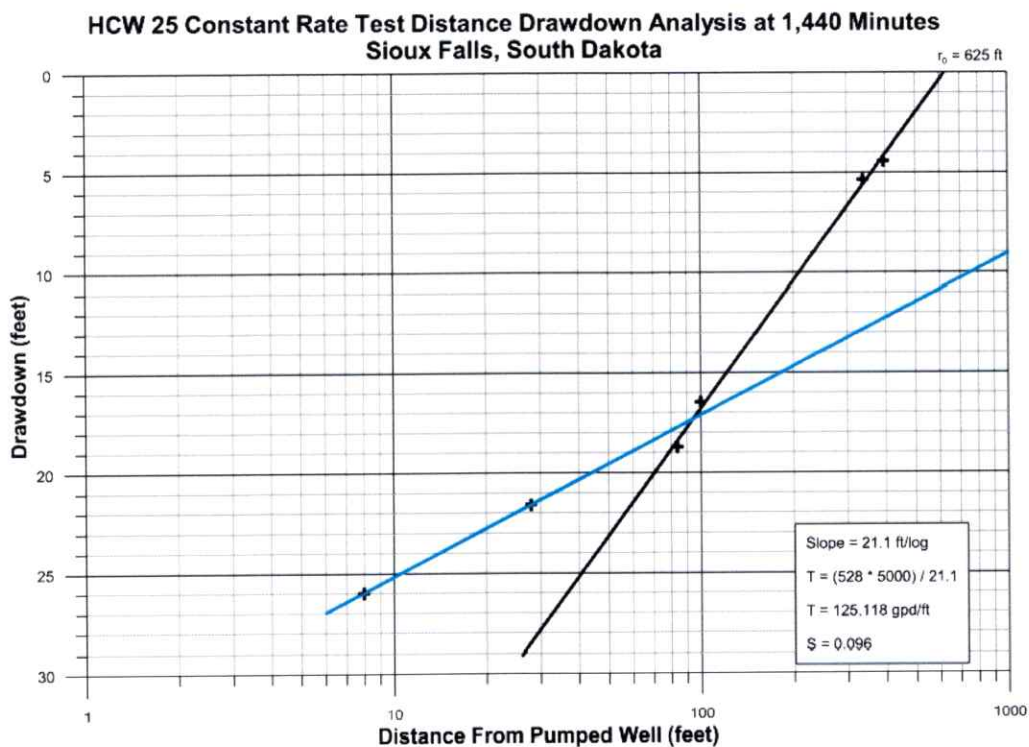


Figure 3. Collector Well 25 Drawdown Analysis 1,440 Minutes

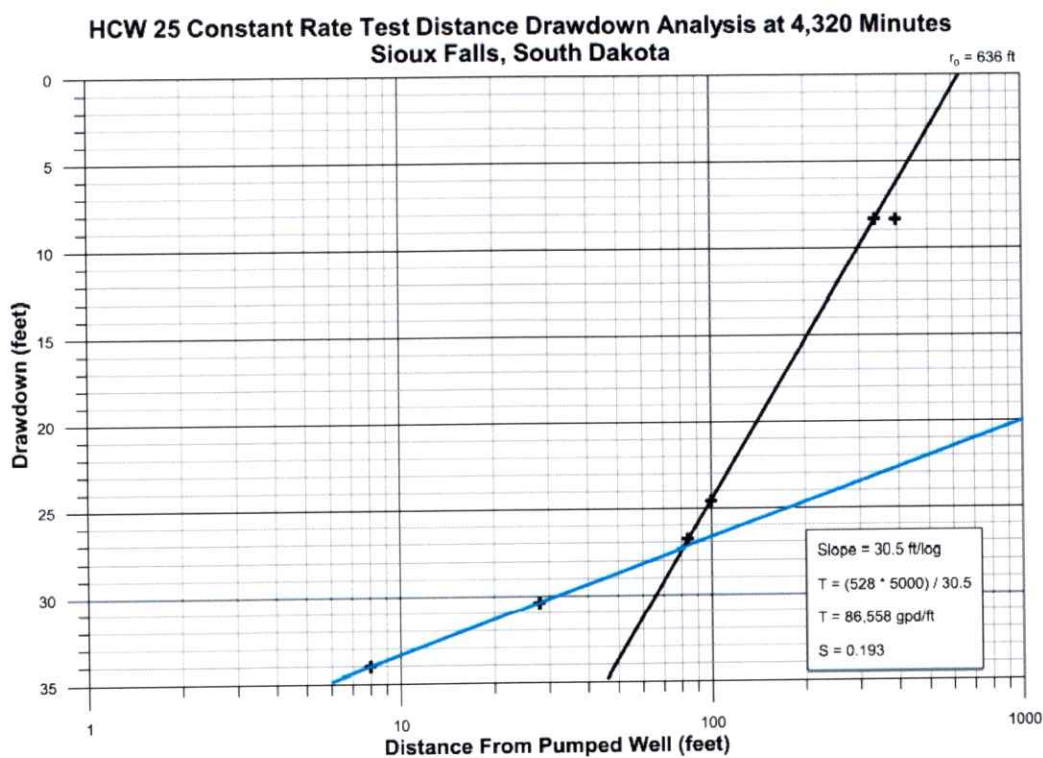


Figure 4. Collector Well 25 Drawdown Analysis 4,320 Minutes

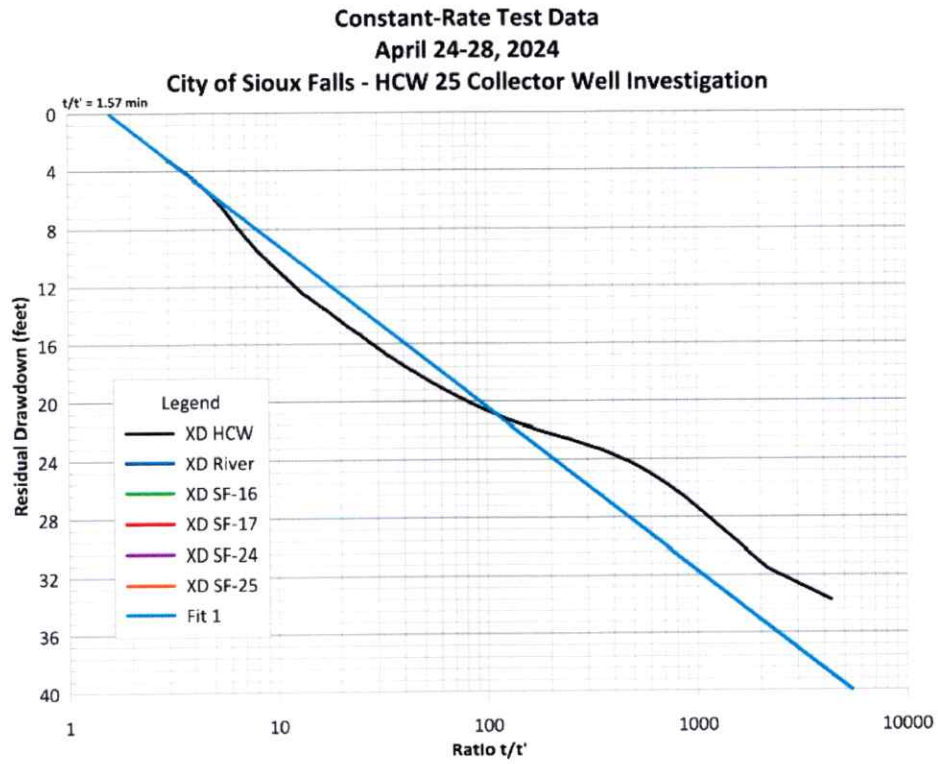


Figure 5. Residual Drawdown

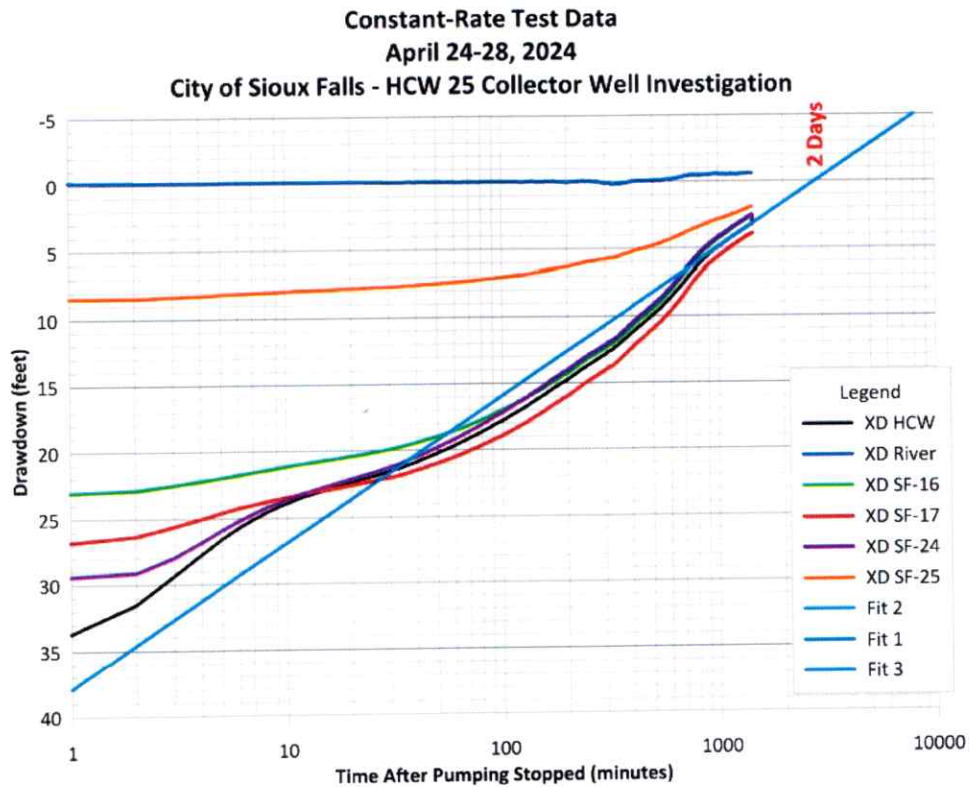


Figure 6. Drawdown vs Time

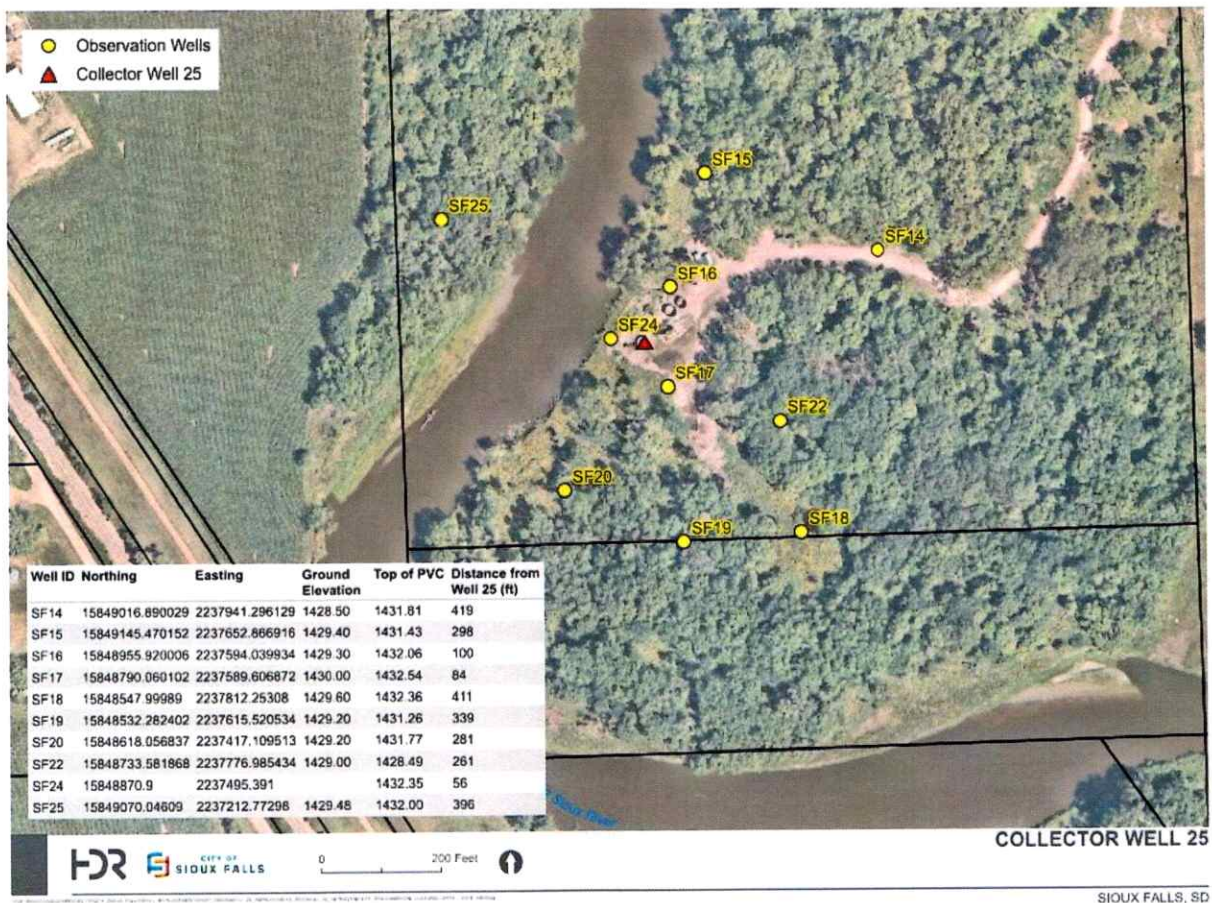


Figure 7. Observation Wells

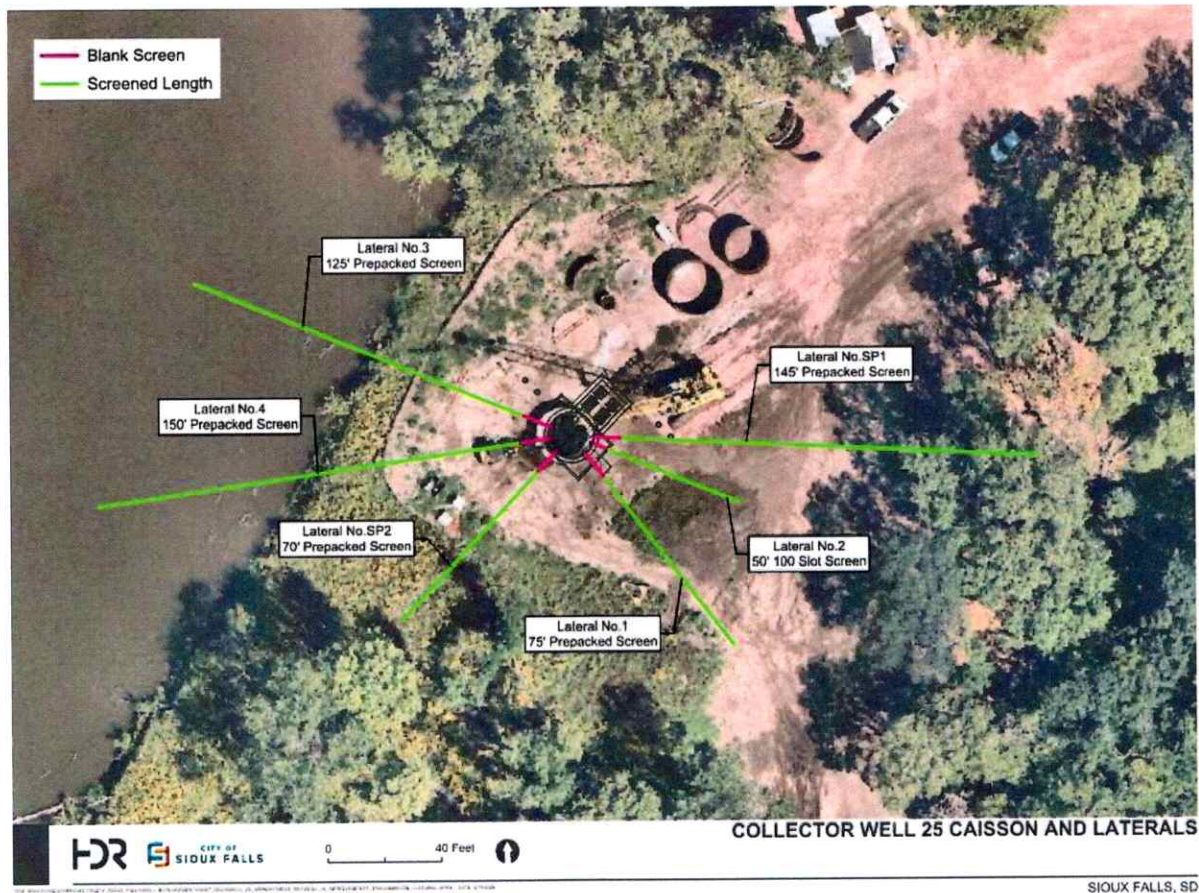


Figure 8. Collector Well 25 Cassion and Laterals

Based on the step tests and constant rate tests performed, HDR recommends a pumping rate of 3,500 gpm (5,040,000 gpd) for the new Collector Well 25. The short-term, instantaneous pumping rate could be increased to 4,500 gpm (6,480,000 gpd) while still maintaining a 2X safety factor for approach and inflow velocities. This was taken from the drawdown consideration which can be found in Figures 5 and 6.

REQUEST FOR A VARIANCE FROM CHAPTER 74:02:04
SOUTH DAKOTA WELL CONSTRUCTION STANDARDS

Pursuant to Section 74:02:04:75 of the South Dakota Well Construction Standards, the following is the decision of the Chief Engineer, Water Rights Program, Department of Agriculture and Natural Resources concerning the request for a well construction variance by Reynolds Construction, LLC, License No. 832, by licensed representative Gregory Slone.

The Chief Engineer grants APPROVAL of the request for a variance for a well to be constructed for the City of Sioux Falls as follows:

1. This is a request for a variance from SD Well Construction Standards 74:02:04:31 and 74:02:04:46.
2. SD Well Construction Standards 74:02:04:31 states: "The casing for a driven well shall be sealed with bentonite as the casing is driven by pouring dry granular bentonite around the casing at the ground surface. The granular bentonite must be an 8 x 20 mesh or 16 x 60 mesh material. A driven well may not be used as a public water supply well."
3. SD Well Construction Standards 74:02:04:46 states: "Precast curbing or concrete casing may be used to construct wells for private and reasonable domestic use, irrigation wells, and noncommercial livestock watering wells. Precast curbing or concrete curbing may not be used for public water supply wells or any other wells which require water permits. When used, construction must meet the following requirements:
 - (1) The top of the precast curbing or concrete casing shall be covered with a cover with a downward flange which will overlap the edge of the curbing or casing;
 - (2) The casing must be located deep enough into the saturated aquifer material to allow placement of the pump to meet the definition for adequate wells in subdivision 74:02:04:20(6);
 - (3) Pressure grouting as required by § 74:02:04:28 must be completed or, as an alternative, the precast curbing or concrete casing may be terminated 10 feet below the ground surface and the terminated casing covered with a concrete or steel cover. A concrete cover must have a hole in the center formed by a short section of pipe 10 inches in diameter or less. The pipe section must be an integral part of the cover and in place when the concrete cover is poured. A steel cover must have a hole in the center with a pipe 10 inches in diameter or less welded over the opening. The cover shall be placed on the terminated casing and the annular space outside the casing below the cover and the cover joint shall be sealed to a depth of no more than 2 feet above the top of the aquifer or to a depth of 20 feet below grade, whichever is nearest to ground surface, by pouring dry granular bentonite into the annular space through a tremie pipe. The space around the pipe extension to the surface shall be filled with bentonite to at least one foot above the cover and with clay or native soil to the ground surface. The pipe extension to the surface and any joints in the pipe must be watertight."
4. The reason for this request is due to the desire to use a horizontal collector well also known as a radial collector well or by the trade name "Ranney well". This type of well is constructed using a central concrete or cement caisson that is constructed in "lifts" that are sunk into the ground under the weight of the lifts and may also be hydraulically pulled into the ground while the interior of the caisson is excavated. Then horizontal laterals are hydraulically projected into the production aquifer near the bottom of the caisson.
5. The well is to be completed into Big Sioux: Sioux Falls aquifer with an approximate total depth of 65 feet.
6. The well is to be located at:
NE ¼ SW ¼ Sec. 29-T102N-R49W; 43° 36' 27", -96° 44' 41"
7. This variance allows the construction of the well outside the requirements of 74:02:04:31 and 46 as long as the well is constructed to the below listed conditions and also allows the well to be used as a public water supply that requires a water permit:



REPORT ON Construction and Performance Testing of Collector Well 25



July 2024

By:



Completed For:





July 1, 2024

Tim Krueger
Engineering Project Manager
Public Works – Engineering Division
City of Sioux Falls
231 N. Dakota Avenue
Sioux Falls, South Dakota 57104

**Re: Construction and Performance Testing Report
Collector Well 25, City of Sioux Falls, South Dakota**

Dear Mr. Krueger:

Reynolds Construction, LLC (Reynolds) is pleased to present the following report describing the construction and performance testing of Collector Well 25 for the City of Sioux Falls.

Thank you for giving us the opportunity to work on this important project. Please let us know if you have any questions or comments upon your review.

Respectfully submitted,

REYNOLDS CONSTRUCTION, LLC

A handwritten signature in black ink that reads 'Gregory B. Slone'.

Gregory B. Slone, CPG
Vice President, Collector Well Group

CONSTRUCTION AND PERFORMANCE TEST REPORT

COLLECTOR WELL 25, SIOUX FALLS, SD, JULY 2024

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CONSTRUCTION AND PERFORMANCE TEST REPORT

COLLECTOR WELL 25, SIOUX FALLS, SD, JULY 2024

Introduction

In May 2023, Reynolds Construction, LLC (Reynolds) was contracted by the City of Sioux Falls to construct the caisson and laterals associated with Collector Well 25. Included with the contract was access road construction, the installation of two observation wells, and performance testing of the collector well upon completion. Construction began in June 2023 at a site along the east bank of the Big Sioux River and was completed in April 2024 (Figure 1).

The following report summarizes the as-built construction of Collector Well 25 as well as the results of well performance testing.

CONSTRUCTION AND PERFORMANCE TEST REPORT

COLLECTOR WELL 25, SIOUX FALLS, SD, JULY 2024

Construction Procedures

Caisson Construction

The Collector Well 25 caisson was installed by the “open caisson” method, wherein the caisson sinks by its own weight as underlying soils are excavated from inside its open bottom. Construction proceeded as a sequence of lifts, generally 10 feet in height except for shorter sections on the bottom cutting shoe and at the top of the caisson. The procedure involved setting the inside-wall forms, followed by pouring of the concrete. High-early strength concrete was used to allow faster stripping of the forms and less wait between excavation events. Bentonite grout was applied around the outside of the caisson to lubricate the caisson during sinking as well as serve as a seal between the caisson and the aquifer formation.

To determine plumbness of the caisson, North, South, East, and West positions were marked on the caisson section formed at grade. An 8-foot level was used to measure caisson deviation from plumb at each position during the sinking of each lift. Upon reaching final depth, plumbness of the caisson was checked and verified every 10 feet from top to bottom using a plumb bob.

From North to South, the Collector Well 25 caisson was determined to be 3-1/2” out of plumb. From East to West, the caisson was 4” out of plumb. Both measurements were comfortably within the plumbness specification set for the project.

The bottom of the caisson shoe was stopped at an elevation of 1366 feet AMSL, with a 4-foot thick concrete plug tremied into the bottom of the caisson. The 1 foot thick finished floor placed on top of the plug was later increased to 2 feet thick for ease of future lateral maintenance at the request of the City.

CONSTRUCTION AND PERFORMANCE TEST REPORT

COLLECTOR WELL 25, SIOUX FALLS, SD, JULY 2024

Lateral Installation

Six (6) horizontal laterals were installed in the Collector Well 25 caisson 3 feet off the bottom floor at an elevation of 1375 feet AMSL. Laterals were installed by the Fehlmann process, which involved projecting blank steel casing into the aquifer, inserting stainless-steel screen sections inside the blank casing, removing the projection casing, and then placing a gate valve on the end of the lateral at the inner wall of the caisson. The lengths and radial orientation of the collector well laterals are shown in the cross-section and plan views of Figure 2.

A combination of clay and excessive jacking pressures encountered during lateral projection prevented laterals from being completed to the original design lengths. As a result, additional lateral footage was installed in the spare ports (SP-1 and SP-2). All laterals were completed with Johnson's 0.050" slot/SP 10/12 Muni-Pak screen and filter pack combination excluding Lateral 2, which was completed with 0.100" slot single-wall screen. Pertinent design parameters on the laterals in Collector Well 25 as constructed are presented in Table 1.

After completion, lateral screens were developed utilizing flushing and jetting techniques. Development of pre-packed laterals included one to two passes with a rotating water jet at pressures up to 3000 psi. Development of the single-wall screen in Lateral 2 required substantial flushing with an open-end sandline as well as 13 passes with the water jet at 3000 psi. Lateral development was considered complete when the amount of sand obtained from each lateral was considered negligible and could not be significantly reduced through further development activities.

CONSTRUCTION AND PERFORMANCE TEST REPORT

COLLECTOR WELL 25, SIOUX FALLS, SD, JULY 2024

Performance Testing

Testing Procedures

Performance testing was conducted on Collector Well 25 following lateral installation and development.

For testing purposes, three (3) temporary pumps were placed in the collector well caisson and connected to discharge lines extending to the Big Sioux River. Each discharge line was equipped with an inline flow meter as well as a sand tester for measuring sand concentration from the well. Rate of discharge was controlled with a gate valve on each discharge line. The end of each discharge line was positioned at the edge of the river such that the discharge from each line projected into the free water surface of the river rather onto the ground. This circumvented recirculation of the discharge water back into the aquifer next to the collector well and removed the potential for soil erosion along the riverbank.

Water levels were measured in the collector well throughout testing utilizing a remote pressure transducer and verified by hand with a water level indicator. Transducers were also installed in site Observation Wells SF-o16, SF-o17, SF-o24, and SF-o25 drilled directly across from the collector on the other side of the river. Hand measurements were obtained periodically at Observation Well SF-o15 and SF-o19 throughout the test. Elevation of the Big Sioux River during testing was obtained from a stilling well installed in the river at the test site and verified from readings obtained at the USGS gauging station at North Cliff Avenue south of the collector. A map of the existing observation wells at the Collector Well 25 site is included in Figure 3.

Initially, a multiple-rate step test was conducted using four incrementally increasing discharge rates, each maintained for a period of two (2) hours. Following this step test, the water levels

CONSTRUCTION AND PERFORMANCE TEST REPORT

COLLECTOR WELL 25, SIOUX FALLS, SD, JULY 2024

were allowed to recover to near static conditions prior to proceeding with additional testing. Following recovery, a constant rate test was conducted for a period of 72 hours.

Multiple Rate Step Test

Multiple rate step testing of Collector Well 25 was conducted with four incrementally-increasing rates on April 22, 2024. The four rates selected were, in sequence, 600, 1390, 4200, and 5250 gallons per minute (gpm). Each rate was held constant for two hours, prior to proceeding to the next higher rate.

Results of the multiple rate step test are summarized in Table 2, with a hydrograph of water levels in the collector and site observation wells during the test presented in Figure 4. Efficiency of the well is included in a separate report in Appendix A.

Static water level in the collector measured 1422.87 feet AMSL prior to testing. Pumping water level in the collector at the end of the 8-hour test measured 1401.55 feet AMSL, leaving 26.55 feet of water above the laterals at elevation 1375 feet AMSL. Specific capacity of the collector well, defined as the ratio of the well's pumping rate to its observed drawdown, was computed at 237.2 gpm/ft at the end of the initial step and 246.2 gpm/ft at the end of the 8 hour test. Water temperature in the collector rose from 49.5°F to 49.8°F during the multiple rate test, while the temperature of the river rose from 47.3°F to 53.2°F during the test.

Sand concentration was measured from the collector well near the conclusion of each step utilizing a Rossum Sand Tester installed at the centerline of each discharge line. Results of the sand testing are presented in Table 4. As shown, there was no measurable sand observed from the well during the multiple rate test.

CONSTRUCTION AND PERFORMANCE TEST REPORT

COLLECTOR WELL 25, SIOUX FALLS, SD, JULY 2024

Constant Rate Test

Following Step 4 of the multiple rate step test, water levels were allowed to recover for more than 24 hours prior to proceeding with the constant rate test.

Test pumping began at 0830 hours on April 24, 2024 and continued at a constant rate of 5000 gpm (7.2 MGD) until 0830 hours on April 27, for a total elapsed time of 72 hours. A hydrograph of water levels in the collector, site observation wells, and the Big Sioux River during the test period is shown in Figure 5. Water levels in the wells during the test are summarized in Table 3. Efficiency of the well is included in a separate report in Appendix A.

Static water level in the collector measured 1422.73 feet AMSL prior to the start of the test. Pumping water level in the collector at the end of the 72-hour test measured 1388.70 feet AMSL, leaving 13.7 feet of water above the laterals at elevation 1375 feet AMSL. Specific capacity of the collector was computed at 146.9 gpm/ft after 72 hours but complete stabilization of water levels had not been reached by the end of test. Water temperature in the collector rose from 48.9°F to 49.6°F during the constant rate test, while the temperature of the river rose from 51.1°F to 54.9°F during the test.

Sand concentration was measured from the collector after 1 hour, 24 hours, 48 hours, and 72 hours of pumping during the constant rate test. Results of the sand testing are presented in Table 4. As shown, there was no measurable sand observed from the well during the test.

An analysis of lateral flow and inflow temperature was conducted at Collector Well 25 on April 24, 2024 during the constant rate test. The analysis was conducted by a geologist assisted by an underwater diver utilizing a hand-held flow meter and temperature probe. During the analysis,

CONSTRUCTION AND PERFORMANCE TEST REPORT

COLLECTOR WELL 25, SIOUX FALLS, SD, JULY 2024

flow rate from the collector well continued to be held steady at 5000 gpm. Results of the analysis are presented in Table 5.

As shown, the percentage of flow contribution among the laterals determined during the analysis closely reflected lateral length, with longer Laterals 3, 4 and SP-1 producing the majority of the flow (74%). Lateral SP-1 was determined to be producing approximately 1550 gpm at the time of the analysis, which was significantly greater than its transmitting or mechanical capacity computed at 1088 gpm based upon screen length and an entrance velocity of 2 feet per minute assuming 50% blockage. Lateral 2, the shortest completed lateral, contributed the least amount of flow at 6%.

Temperature of inflow water was relatively uniform during the analysis, ranging from 47.1°F at Lateral 2 to 49.6°F at Lateral SP-1. Water temperature in the caisson during the analysis was approximately 49.3°F, while the temperature of the Big Sioux River was 55.0°F.

CONSTRUCTION AND PERFORMANCE TEST REPORT

COLLECTOR WELL 25, SIOUX FALLS, SD, JULY 2024

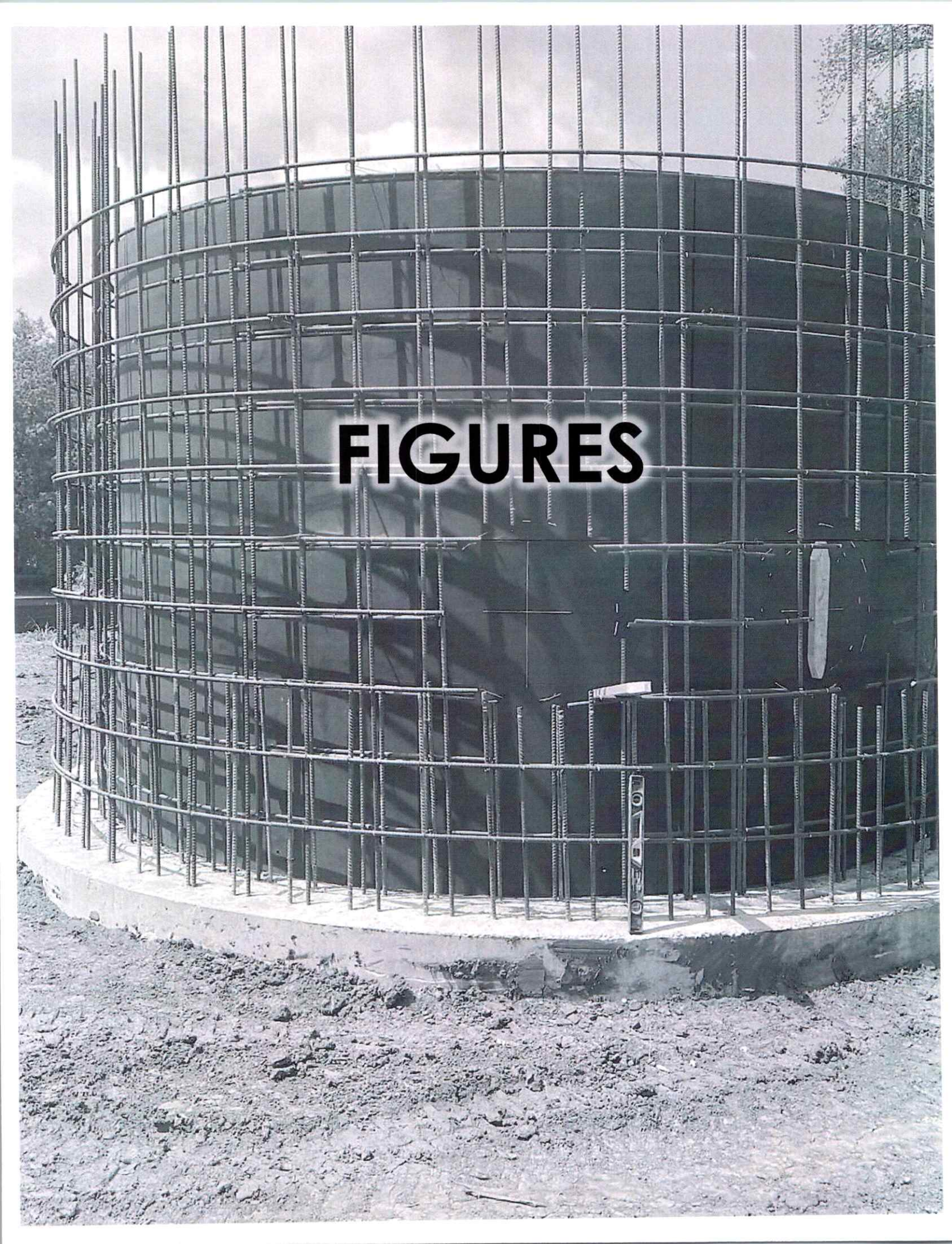
Summary, Conclusions, and Recommendations

Construction of Collector Well 25 was completed in April 2024 by Reynolds Construction, LLC. The collector well consists of 16 foot inside by 19 foot outside diameter caisson, 63.5 feet from top of caisson to bottom floor, equipped with six (6) 12-inch diameter, stainless-steel laterals installed approximately three (3) feet off the floor. All laterals were completed with 0.050" slot/SP 10/12 Muni-Pak screen excluding Lateral 2, which was completed with 0.100" slot single-wall screen.

As built performance testing computed specific capacity of the collector at 146.9 gpm/ft after 72 hours of pumping at a rate of 5000 gpm. Efficiency was calculated at 94% and there was no sand observed coming into the well through any of the six laterals. Laterals 3, 4 and SP-1 contributed the majority of the flow during performance testing at 74%, with Lateral 2 contributing only 6%.

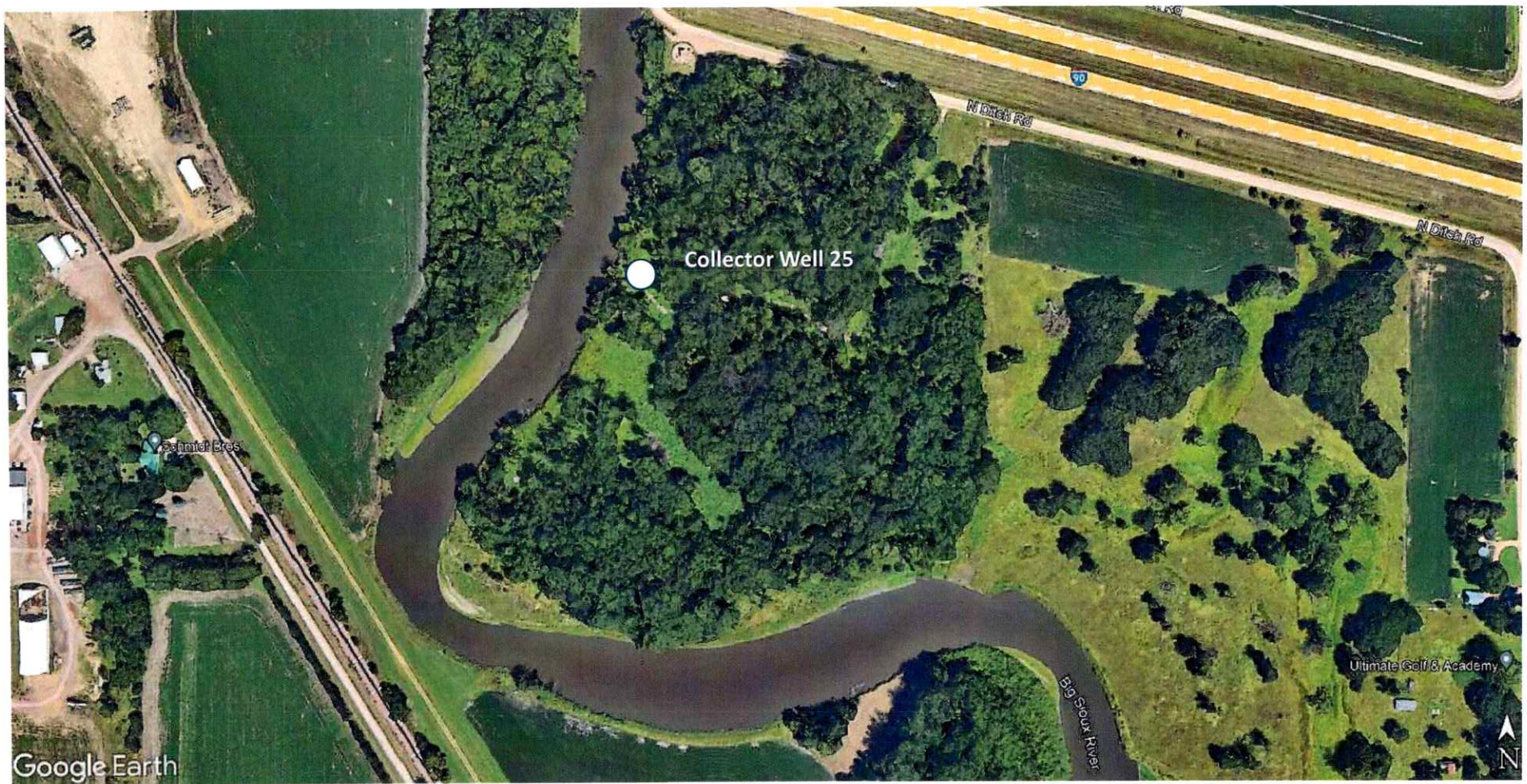
It is recommended that specific capacity of Collector Well 25 be computed and tracked in order to evaluate efficiency of the well over the long term. Rehabilitation and cleaning of the well should be scheduled once the percentage of decline in specific capacity approaches 50% of the performance test value.

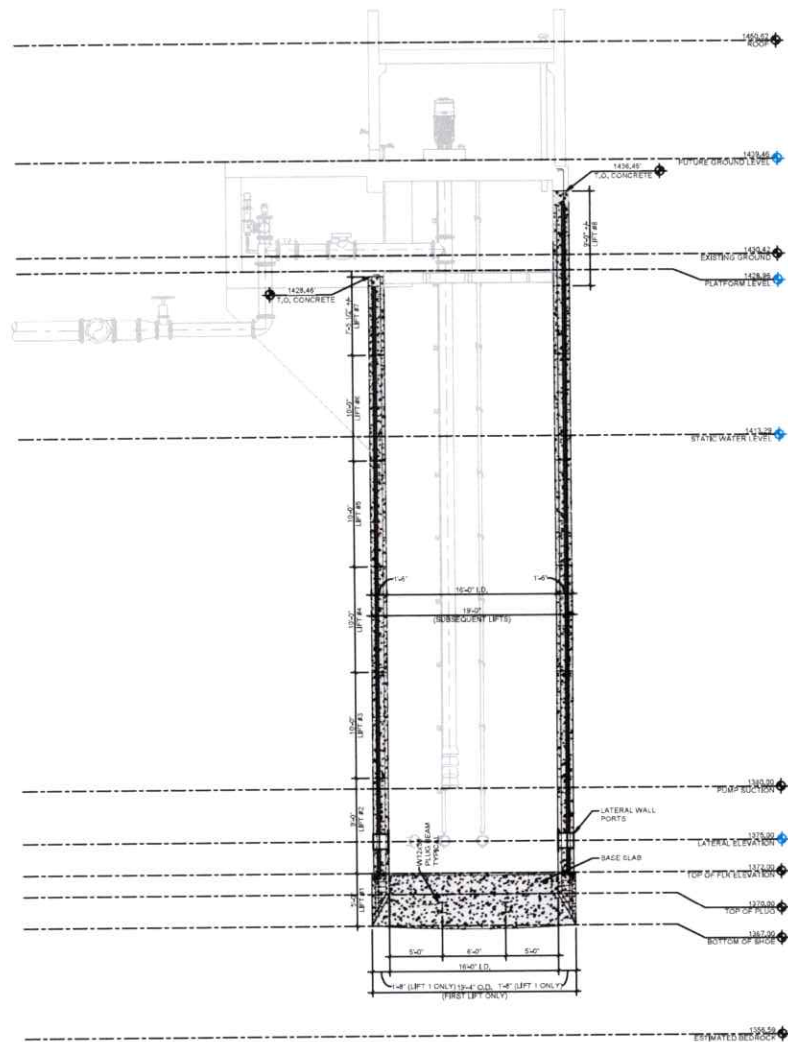
It is further recommended that the collector be inspected within the next 5 to 7 years in order to evaluate the physical condition of the lateral screens. The inspection should be conducted by an underwater dive team in conjunction with an engineer or geologist experienced with the operation and evaluation of radial collector wells.

A black and white photograph of a large, cylindrical structure under construction. The structure is covered in a dense grid of vertical and horizontal steel reinforcement bars (rebar). The vertical bars extend from a concrete base at the bottom, while the horizontal bars form a cage around the cylinder. The structure is situated on a rough, uneven ground surface. In the background, some trees and a cloudy sky are visible. The word "FIGURES" is superimposed in large, bold, black capital letters across the center of the image.

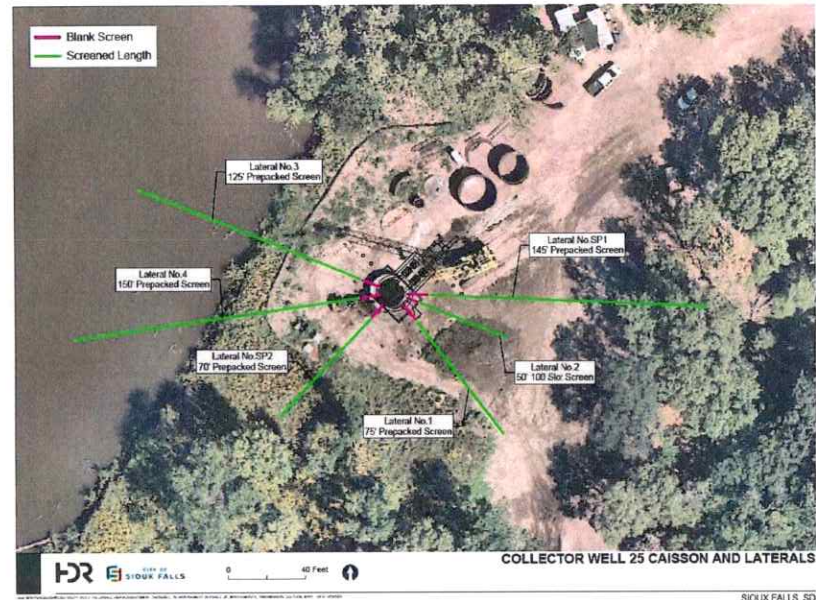
FIGURES

FIGURE 1 – Well Location Map, Sioux Falls, South Dakota





1 CAISSON ELEVATION
DETAIL VIEW 3/8" = 1'-0"



2 LATERAL PLAN
PLAN VIEW 3/8" = 1'-0"



SIOUX FALLS COLLECTOR WELL
NO. 25 AS-BUILT
N. DITCH ROAD & I90
SIOUX FALLS, SD



STRUCTURAL
ENGINEER: MIDWEST ENGINEERING
COMPANY

ISSUES & REVISIONS:

△	Date	Description

PROJECT NO.:

DATE: 04/19/2024

DRAWN BY:

SHEET TITLE:

PLAN AND
CROSS-SECTION
OF WELL
COLLECTOR 25

SAFETY NO.

Figure 2

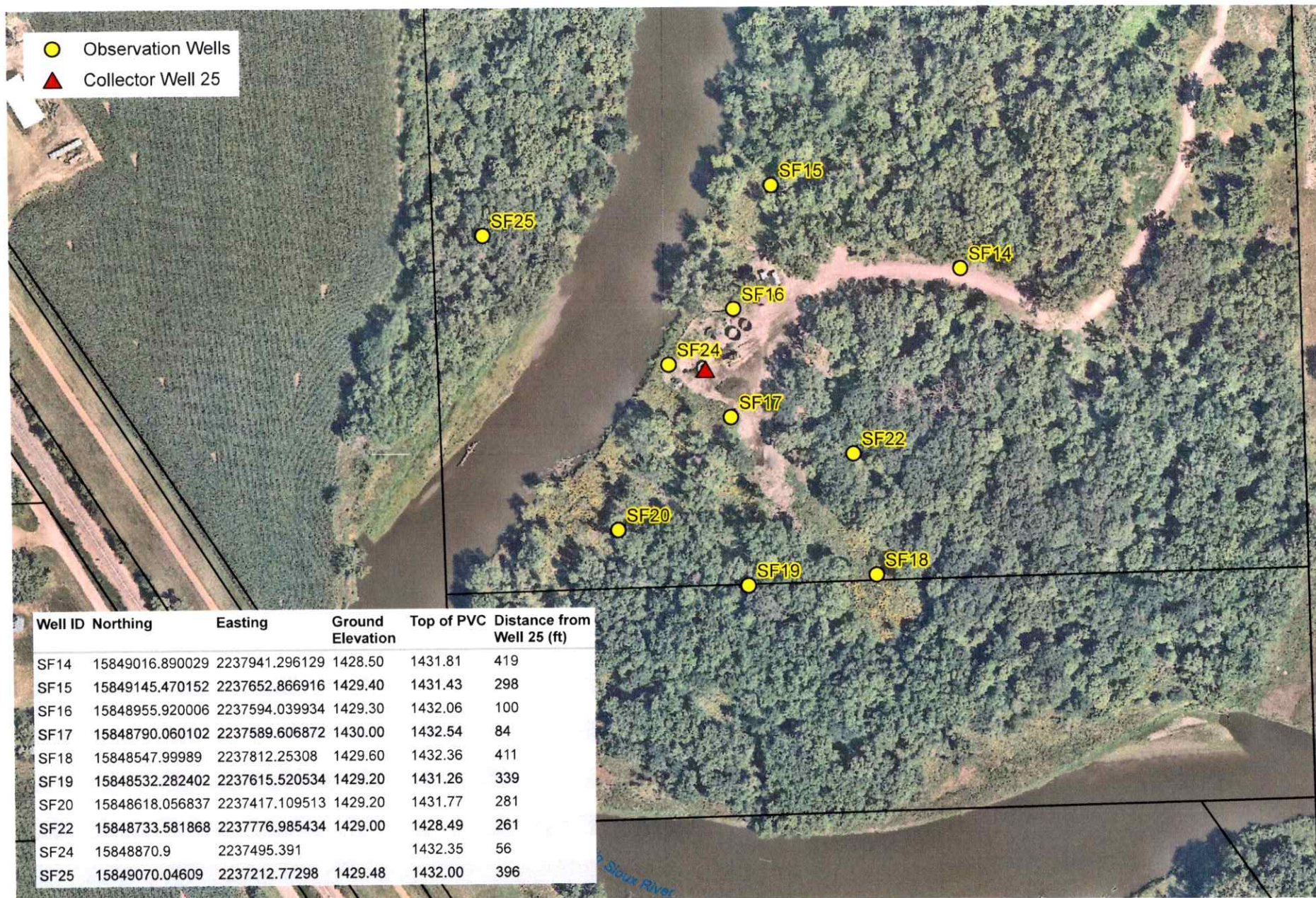


FIGURE 3 - Site Observation Wells, Collector Well 25

(from HDR, 2024)

SIOUX FALLS, SD

FIGURE 4 - Hydrograph of Collector Well 25 Multiple-Rate Step Test
City of Sioux Falls, South Dakota

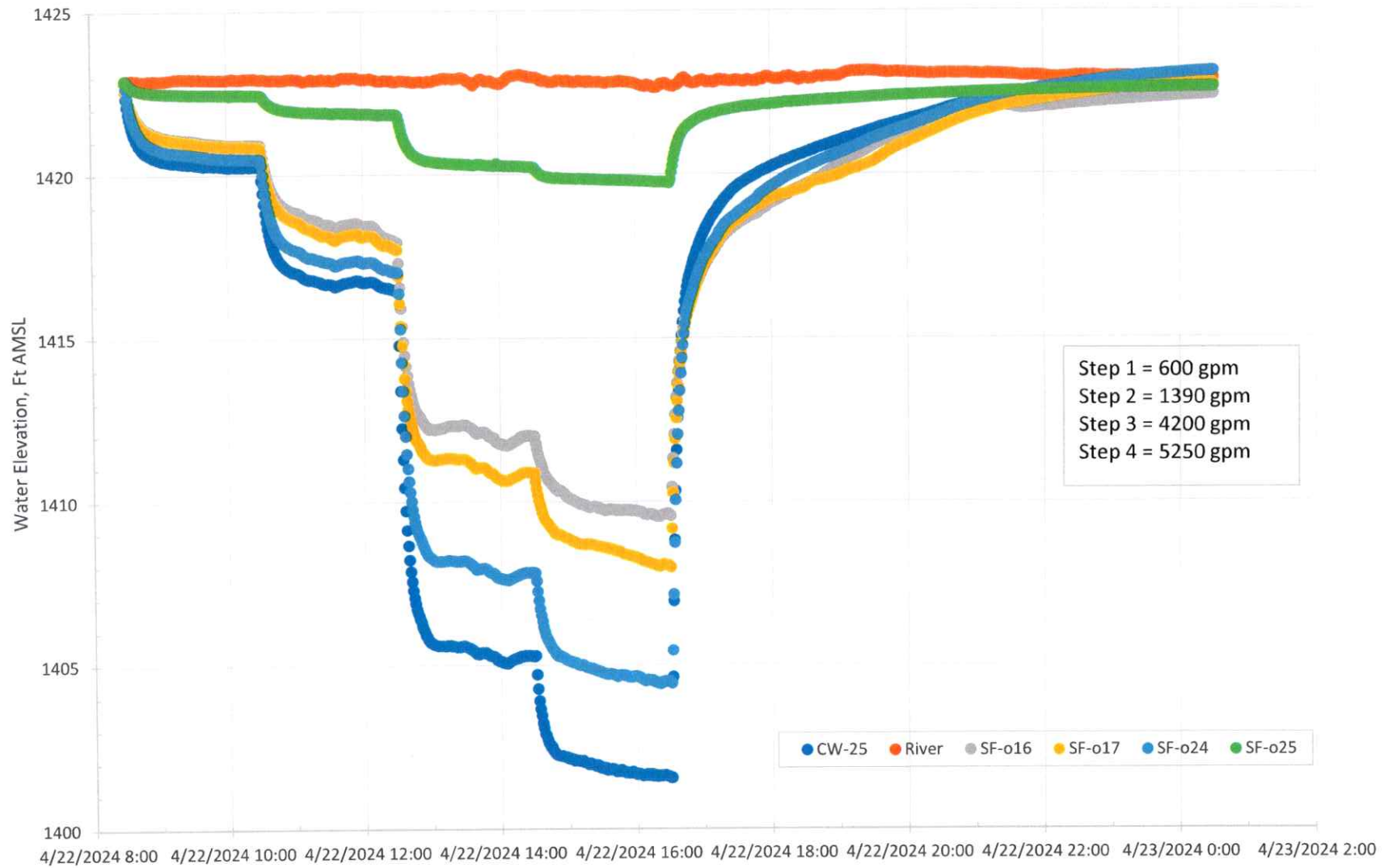
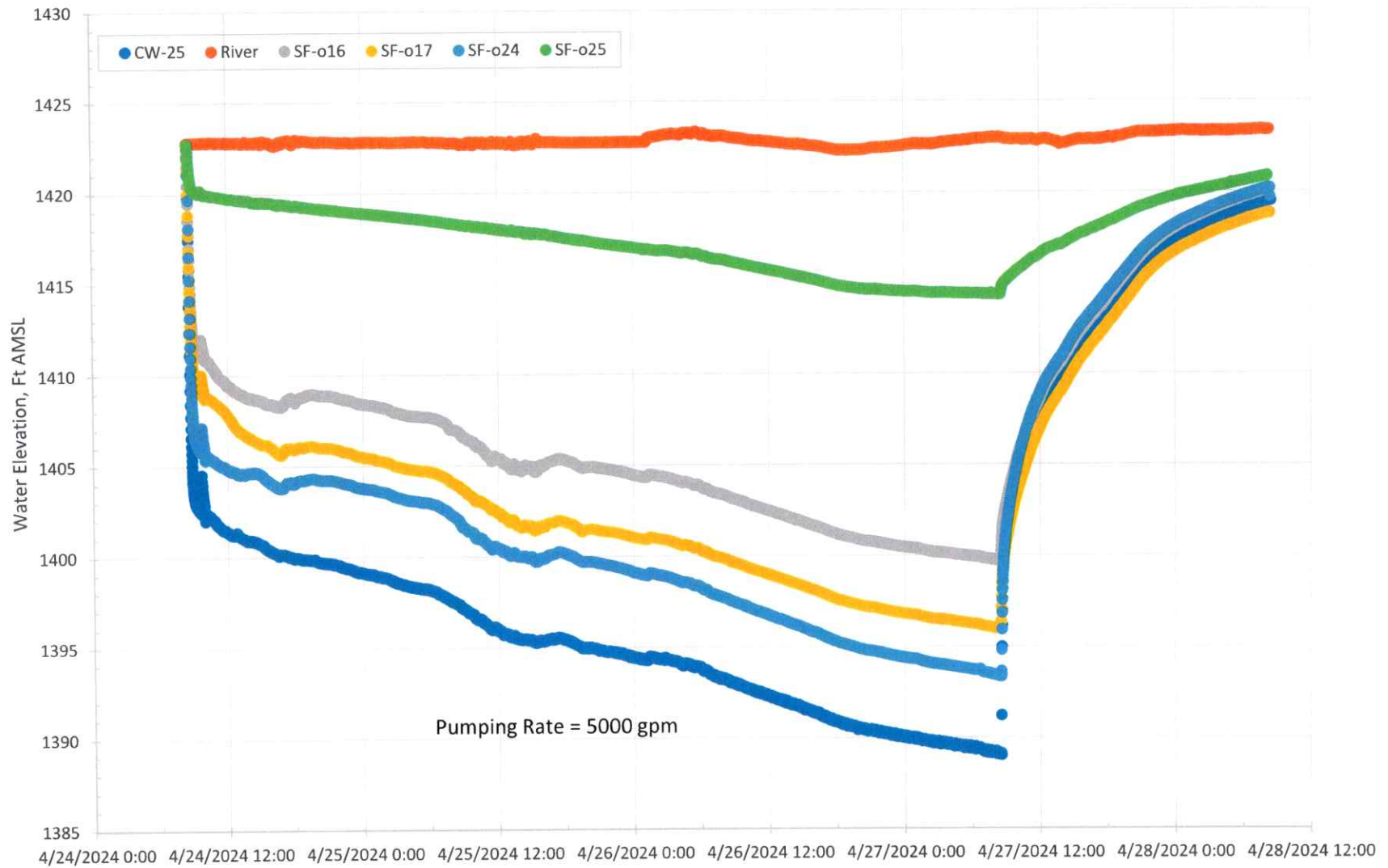


FIGURE 5 - Hydrograph of Collector Well 25 Constant-Rate Performance Test
City of Sioux Falls, South Dakota



A black and white photograph of a large cylindrical concrete structure under construction. The structure is covered in a dense grid of steel reinforcement bars (rebar). The rebar is arranged in a grid pattern, with vertical bars running along the length of the cylinder and horizontal bars encircling it. The structure is built on a concrete base. The ground in the foreground is uneven and appears to be dirt or gravel. The word "TABLES" is superimposed in large, bold, black letters across the center of the image.

TABLES

Table 1

Lateral As-Built Design and Transmitting Capacity
Collector Well 25, Sioux Falls, South Dakota

Lateral Number	<u>Lateral Length (Feet)</u>			Type	<u>Screen Design Parameters</u>			Transmitting Capacity (gpm)
	Screen	Blank	Total		Diameter (Inches)	Slot Size (Inches)	Entrance Velocity (fpm)	
1	75	10	85	Pre-Pack	12	0.05	1	563
2	50	5	55	Single Wall	12	0.10	1	540
3	125	10	135	Pre-Pack	12	0.05	1	938
4	150	8	158	Pre-Pack	12	0.05	1	1125
SP-1	145	10	155	Pre-Pack	12	0.05	1	1088
SP-2	70	10	80	Pre-Pack	12	0.05	1	525
Total	615	53	668					4778

Table 2

Results of Collector Well 25 Multiple-Rate Step Performance Test (4/22/24)

Collector Well 25, Sioux Falls, South Dakota

	Static Water Elevation (Ft MSL)	<u>Step 1 (600 gpm)</u>		<u>Step 2 (1390 gpm)</u>		<u>Step 3 (4200 gpm)</u>		<u>Step 4 (5250 gpm)</u>	
		Water Elevation (Ft MSL)	Observed Drawdown (Feet)	Water Elevation (Ft MSL)	Observed Drawdown (Feet)	Water Elevation (Ft MSL)	Observed Drawdown (Feet)	Water Elevation (Ft MSL)	Observed Drawdown (Feet)
Collector Well 25	1422.87	1420.34	2.53	1416.74	6.13	1405.11	17.76	1401.55	21.32
SF-o15	1422.9	1422.56	0.34	1422.06	0.84	1420.97	1.93	1420.49	2.41
SF-o16	1422.86	1421.2	1.66	1418.91	3.95	1412.58	10.28	1410.65	12.21
SF-o17	1422.85	1421.06	1.79	1418.53	4.32	1411.15	11.70	1408.81	14.04
SF-o19	1422.86	1422.44	0.42	1421.85	1.01	1420.52	2.34	1419.91	2.95
SF-o24	1422.87	1420.75	2.12	1417.72	5.15	1408.36	14.51	1402.48	20.39
SF-o25	1422.91	1422.46	0.45	1421.85	1.06	1420.26	2.65	1419.77	3.14
Big Sioux River	1422.90	1422.91	-0.01	1422.89	0.01	1422.89	0.01	1422.89	0.01
Pumping Rate (gpm)									
- Step 1	600								
- Step 2	1390								
- Step 3	4200								
- Step 4	5250								
Specific Capacity (gpm/ft)									
- Step 1	237.2								
- Step 2	226.8								
- Step 3	236.5								
- Step 4	246.2								

Table 3

Results of Collector Well 25 Constant Rate Performance Test (4/24 - 4/27/24)

Collector Well 25, Sioux Falls, South Dakota

	<u>Static</u> Water Elevation (Ft MSL)	<u>24 Hours Elapsed</u>		<u>48 Hours Elapsed</u>		<u>72 Hours Elapsed</u>		<u>24 Hour Recovery</u>	
		Water Elevation (Ft MSL)	Observed Drawdown (Feet)	Water Elevation (Ft MSL)	Observed Drawdown (Feet)	Water Elevation (Ft MSL)	Observed Drawdown (Feet)	Water Elevation (Ft MSL)	Residual Drawdown (Feet)
Collector Well 25	1422.73	1397.15	25.58	1392.74	29.99	1388.7	34.03	1418.86	3.87
SF-o15	1422.76	1418.57	4.19	1417.22	5.54	1416.05	6.71	1419.83	2.93
SF-o16	1422.72	1406.25	16.47	1402.29	20.43	1398.64	24.08	1418.74	3.98
SF-o17	1422.7	1404	18.70	1399.73	22.97	1395.89	26.81	1418.51	4.19
SF-o19	1422.69	1417.33	5.36	1415.60	7.09	1414.26	8.43	1418.41	4.28
SF-o24	1422.72	1401.13	21.59	1396.59	26.13	1392.33	30.39	1418.93	3.79
SF-o25	1422.75	1418.31	4.44	1416.30	6.45	1414.38	8.37	1420.38	2.37
Big Sioux River	1422.81	1422.82	-0.01	1422.8	0.01	1422.73	0.08	1422.73	0.08
Pumping Rate (gpm)									
- 24 Hours Elapsed	5000								
- 48 Hours Elapsed	5000								
- 72 Hours Elapsed	5000								
Specific Capacity (gpm/ft)									
- 24 Hours Elapsed	195.5								
- 48 Hours Elapsed	166.7								
- 72 Hours Elapsed	146.9								

Table 4

Sand Concentration Calculated During Performance Testing

Collector Well 25, Sioux Falls, South Dakota

Sample Number	Date	Time	Event	Pumping Rate (gpm)	Sand Concentration (ppm)	Remarks
1	4/22/2024	09:30	Step 1	600	0.0	No sand observed
2	4/22/2024	11:30	Step 2	1390	0.0	No sand observed
3	4/22/2024	13:30	Step 3	4200	0.0	3 grains observed
4	4/22/2024	15:30	Step 4	5250	0.0	3 grains observed
5	4/24/2024	09:30	1 Hr	5000	0.0	2 grains observed
6	4/25/2024	08:30	24 Hrs	5000	0.0	No sand observed
7	4/26/2024	08:30	48 Hrs	5000	0.0	No sand observed
8	4/27/2024	08:30	72 Hrs	5000	0.0	2 grains observed

Table 5

Lateral Flow and Temperature Analysis (Conducted 4/26/24)

Collector Well 25, Sioux Falls, South Dakota

Lateral Number	<u>Lateral Length (Feet)</u>			Transmitting Capacity (gpm)	<u>Relative Flow</u>		Flow per Foot of Screen (gpm/ft)	Temperature (Degrees C)
	Screen	Blank	Total		(Percent)	(gpm)		
1	75	10	85	563	11	550	7.3	8.6
2	50	5	55	540	6	300	6.0	8.4
3	125	10	135	938	22	1100	8.8	9.2
4	150	8	158	1125	21	1050	7.0	9.5
SP-1	145	10	155	1088	31	1550	10.7	9.8
SP-2	70	10	80	525	9	450	6.4	9.5
Total	615	53	668	4778	100	5000		

Caisson Composite Temperature

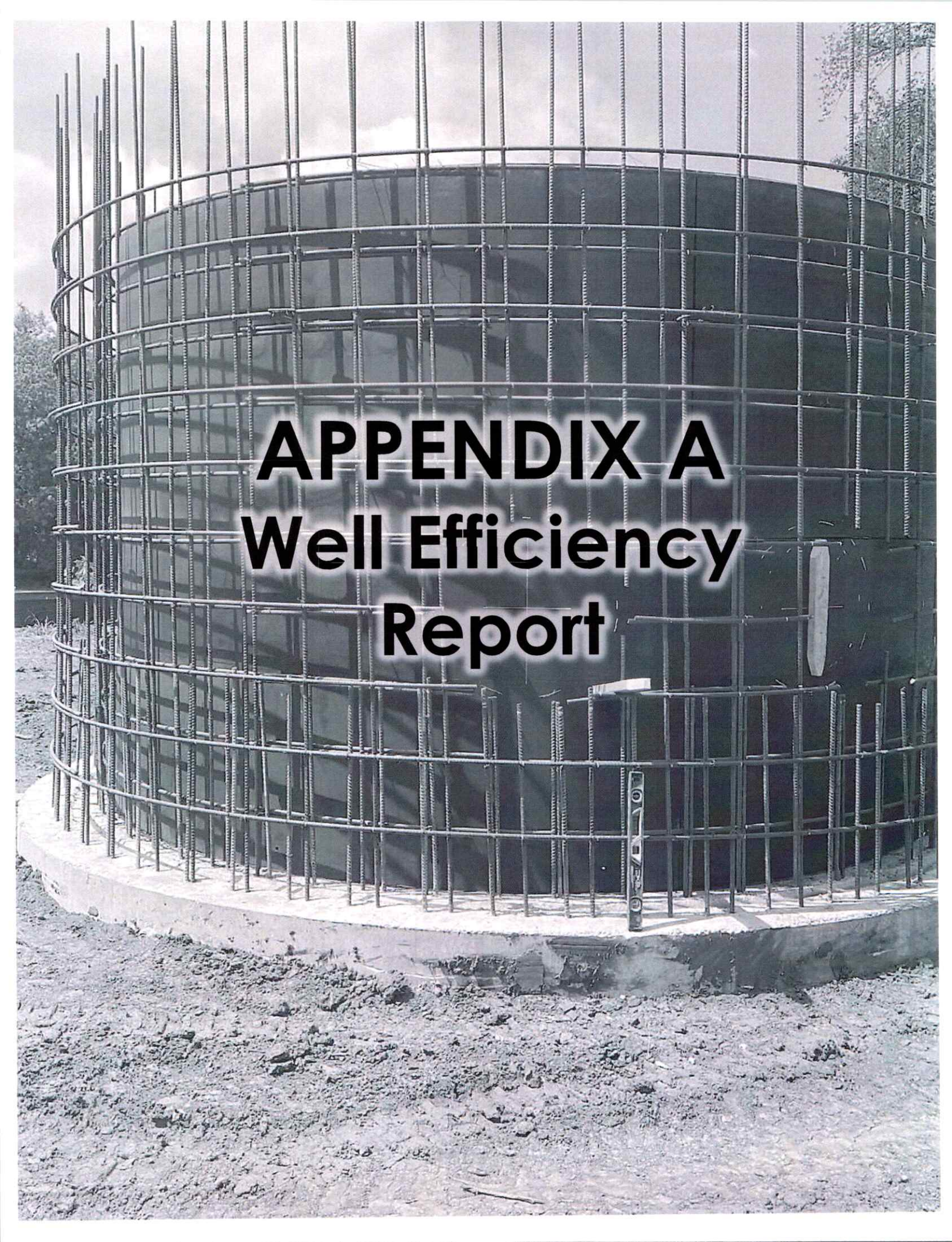
9.5

Transducer Water Temperature

9.7

River Temperature

12.8



APPENDIX A

Well Efficiency

Report

Sent Via Email

June 28, 2024

Mr. Gregory B. Slone, CPG
Vice President, Collector Well Group
Reynolds Construction, LLC
6225 N Country Road 75 E.
Orleans, IN 47452

**RE: Sioux Falls Collector Well 25 Performance Evaluation, Reynolds Construction LLC,
Orleans, Indiana**

Dear Mr. Slone:

Cox-Colvin & Associates, Inc., (Cox-Colvin) is pleased to provide this letter report to Reynolds Construction LLC (Reynolds) summarizing the evaluation of pumping test data for the City of Sioux Falls Horizontal Collector Well 25 (Collector Well 25). The primary objective of the evaluation was to determine if the efficiency of Collector Well 25 meets the performance requirements in Part 3 of Section 33 16 00 of the Sioux Falls Collector Well 25 – Bid Package 1 (Specifications). Testing of Collector Well 25 began on April 22, 2024 with an 8-hour variable-rate step test, followed by a 72-hour constant rate test. Results of that testing program and the interpretations of the collector well efficiency are presented in this report.

Well Performance Testing

Well performance tests conducted on Collector Well 25 consisted of an 8-hour variable-rate step test and a 72-hour constant rate pumping test. Pumping test supervision and data collection were performed by Reynolds. On April 22, 2024, prior to the start of the step test, Reynolds installed electronic data loggers in Collector Well 25 and observation wells SF016, SF017, SF024, and SF025 to continuously monitor and record groundwater levels and temperature. In addition to the wells, a data logger was installed in a temporary stilling well to record water levels and temperature in the Big Sioux River. Water levels in Collector Well 25, SF015, SF016, SF017, SF019, SF024, SF025, and the river stilling well were also periodically measured by hand using an electric water-level meter.

Variable-Rate Step Test

The variable-rate step test was started on April 22, 2024 at 8:30 AM and concluded at 4:30 PM. The step test consisted of pumping Collector Well 25 at four incrementally increasing rates, each held for a duration of two hours. The hydrograph of the observed water levels in Collector Well 25 is shown in Figure 1. A semi-logarithmic plot of drawdown versus time for Collector Well 25 is presented in Figure 2. Note that the drawdown trends for each step become progressively steeper as the pumping rate increases. The results of the step test are summarized in Table 1. With pumping rates varying from 600 to 5,200 gallons per minute (gpm), the observed 2-hour specific capacity values ranged from 227 to 246 gallons per minute per foot of drawdown (gpm/ft).

Constant Rate Pumping Test

Following the completion of the variable rate step test, groundwater levels were allowed to recover for 40 hours prior to the start of the constant-rate test. The 72-hour constant rate pumping test started at 8:30 AM on April 24, 2024 and continued to at 8:30 AM on April 27, 2024. During this period, Collector Well 25 was pumped at a constant rate of 5,000 gpm. During this testing, water levels in the collector well caisson, the observation wells and the Big Sioux River were monitored collectively using electric water level measuring tapes and water level transducers.

Hydrographs of the observed water levels for the collector well, observation wells and the Big Sioux River are shown on Figure 3. Observed drawdowns measured near the end of the 72-hour pumping period are provided in Table 2. The observed drawdown in the collector well at the end of the 72-hour pumping period was 34.03 feet, resulting in an observed specific capacity of 147 gpm/ft. The drawdown measured in the observation wells varied from 30.39 feet in SF024 to 6.71 feet in SF015. Observation wells SF024 and SF025 are located approximately 56 feet and 396 feet, respectively, from Collector Well 25 (Table 2).

As shown in Figure 3, there were no significant river stage fluctuations during the testing and recovery periods. Throughout the 72-hour pumping test, the Big Sioux River level dropped approximately 0.08 feet from an initial stage of 1422.81 ft amsl (feet above mean sea level) to 1422.73 ft amsl at the end of the pumping period. Because no significant river stage fluctuations occurred during the pumping test, the drawdown data was not corrected for river level fluctuations.

Semi-logarithmic plots of observed drawdown versus time for the collector well and observation wells are presented in Figure 4. As shown in Figure 4, the drawdown in the collector well and observation wells did not stabilize during the 72-hour pumping period. At the end of the pumping test, water levels in the collector well and observation wells SF016, SF017 and SF024 were dropping at a rate of approximately 0.2 feet per hour. Within 24-hours following pump shutdown, groundwater levels in Collector Well 25 and observation well SF024 recovered to approximately 89% of the drawdown caused by the pumping test.

Data Analysis

The performance objectives in the Specifications require the well efficiency of Collector Well 25 to be 80% or greater as calculated using the Cooper-Jacob distance-drawdown method¹. Using the Cooper-Jacob method, simultaneous drawdown measurements in the observation wells are plotted versus their distance from the pumping well on a semi-logarithmic diagram. The drawdown values represent the curved shape of the cone of depression and when plotted on a semi-logarithmic diagram the drawdown curve becomes a straight line. A straight line may be extended through the data to estimate the drawdown in the aquifer at any distance within the vicinity of pumping well. The intersection of the straight line with the effective radius of the pumped well

¹ Jacob, C.E., 1947. Drawdown Test to Determine Effective Radius of Artesian Well. *Trans. Am. Soc. Civ. Eng.* 112, 1047–1070.

shows the theoretical drawdown for a 100-percent efficient well. The well efficiency is then calculated as the ratio of the theoretical drawdown to the actual drawdown.

Because the Cooper-Jacob method is based on the assumption that the aquifer is confined, with uniform thickness, the observed drawdown data from the pumping test were corrected for the effects of dewatering using the following equation derived by Jacob²:

$$s' = s_o - (s_o^2/2b)$$

where: s' = drawdown corrected for dewatering (feet)
 s_o = observed drawdown (feet)
 b = initial saturated aquifer thickness (feet)

The distance drawdown data corrected for dewatering are provided in Table 2.

Effective Radius of the Collector Well

The groundwater flow pattern around a collector well is complex and the aquifer thickness and the length, location and number of laterals determine the drawdown distribution around the well. The horizontal, radial orientation of the laterals result in a zone of enhanced drawdown extending out from the caisson where the drawdown in the aquifer is comparable to the drawdown in the well. The effect of the laterals on the flow field decreases with distance from the well until they are equivalent to a vertical well of large diameter. Consequently, it is common to evaluate a collector well as a hypothetical fully penetrating vertical well with a large effective radius that reflects the enhanced drawdown zone in the surrounding aquifer. The effective radius of the collector well is the maximum radial distance from the center of the well at which the drawdown in the aquifer is comparable to the drawdown inside the collector well.

Generally speaking, the effective radius of a collector well is greater than the radius of the caisson but less than the length of the laterals. With this understanding, practitioners have used a range or correction factors, either assumed or calculated, to estimate the effective radius of the collector well using the length of the laterals. In general, correction factors published in the literature range between 0.6 and 0.8 for a wide range of lateral configurations and aquifer settings³.

Because each collector well is unique, it is best to estimate the effective radius for an individual well using pumping test data. Using this approach, the effective radius of Collector Well 25 was estimated using a composite plot generated from the constant rate pumping test data. In a composite plot, drawdown is plotted as a function of t/r^2 , where t is time since pumping began and r is the radial distance from the pumping well. By normalizing the radial distance by the function

² Jacob, C.E., 1963. Methods of Determining the Permeability, Transmissibility and Drawdown: USGS Water-Supply Paper 1536-I, 272-292.

³ Houben, Georg J., et al. 2022. Review: Horizontal, Directionally Drilled and Radial Collector Wells, Hydrogeology Journal, 30, 329-357.

t/r^2 , the drawdown data for the observation wells and pumping well should converge on a single (composite) curve at large values of t/r^2 (under uniform aquifer conditions)

A composite semi-logarithmic plot of drawdown vs t/r^2 for Collector Well 25, and observation wells SF-016, SF-017 and SF-24 is provided on Figure 5. The t/r^2 term for the collector well data plotted in Figure 5 was calculated using the radius of the caisson (9.5 feet). As shown in Figure 5, the late t/r^2 data for all the observation wells converge on a single, composite curve with a uniform slope (indicated by the black line). In comparison, the late t/r^2 data for the collector well plots far to the right of the monitor well composite curve. The offset of the collector well data from the composite curve suggests that the assumed effective radius of 9.5 feet is too small, resulting in unrealistically large t/r^2 values. Through trial and error, the effective radius of the collector well was adjusted until the late t/r^2 data curve for the collector well converged on the composite curve (Figure 6). In this approach, it was determined that an effective radius of 63 feet provided the optimal alignment of the collector well data with the composite curve. Based on these results, an effective radius of 63 feet was used for the collector well in the Cooper-Jacob distance-drawdown analysis.

Collector Well Efficiency

As previously discussed, the efficiency of the collector well was estimated using the Cooper-Jacob distance-drawdown method. With this approach, the corrected drawdown measurements for the observation wells listed in Table 2 were plotted versus their distance from the pumping well on a semi-logarithmic diagram (Figure 7). The red straight line extended through the data represents the best fit solution for observation wells SF024, SF017, SF016, SF019 and SF025 (the drawdown value for SF015 appears to be an outlier and was not included in the straight-line solution). The intersection of the red line with the effective radius of the collector well (blue vertical line) marks the theoretical drawdown for a 100-percent efficient well (approximately 21.6 feet). The actual adjusted drawdown in the collector well was 23.05 feet. Therefore, the well efficiency of Collector Well 25 for the given test conditions, as expressed by the ratio of the theoretical drawdown to the actual drawdown, is 94%, which exceeds the minimum efficiency of 80% required by the Specifications.

As previously discussed, practitioners have used a range or correction factors, either assumed or calculated, to estimate the effective radius of collector wells and therefore alternative assumptions regarding the effective radius of the collector well could produce different interpretations. Considering the difference in the observed drawdown in Collector Well 25 (34.03 feet) and observation well SF017 (26.81 feet), it can be assumed with reasonable confidence that SF017 is located outside of the effective radius of the collector well. Considering that SF017 is 84 feet from the collector well, one could assume a maximum possible effective radius of approximately 80 feet for the collector well (for the given pumping test conditions). Based on the straight-line solution in Figure 7, the theoretical drawdown in the collector well with an effective radius of 80 feet is 19.7 feet. The efficiency of the collector well for this worse-case scenario is 86%, which still satisfies the minimum efficiency requirement of 80%.

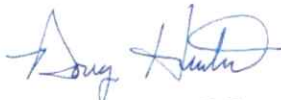
Summary

An 8-hour variable rate test and a 72-hour constant rate pumping test conducted in April 2024 were used to evaluate the performance of the newly installed Collector Well 25. During the 72-hour constant rate test, Collector Well 25 was pumped at a sustained rate of 5,000 gpm. The observed drawdown in the collector well at the end of the 72-hour pumping period was 34.03 feet, giving an observed specific capacity of 147 gpm/ft. Drawdowns in the collector well and observation wells did not stabilize during the 72-hour pumping period and were dropping at a rate of approximately 0.2 feet per hour. Using a composite plot generated from the constant rate pumping test data, the effective radius of Collector Well 25 for the test conditions was estimated to be 63 feet.

The performance objectives in the Specifications require the well efficiency of Collector Well 25 to be 80% or greater. Using the Cooper-Jacob distance-drawdown method, the theoretical drawdown for a 100-percent efficient collector well was estimated from the constant rate pumping test data. The efficiency of Collector Well 25 for the given test conditions, as expressed by the ratio of the theoretical drawdown to the actual drawdown, is 94%, which exceeds the minimum efficiency of 80% required by the Specifications.

Should you have any questions or comments concerning items presented in this letter, please feel free to contact us me (614) 526-2040.

Respectfully Submitted,
Cox-Colvin & Associates, Inc.



Doug Hunter, PG
Senior Scientist

Attachments

K:\CCA\PROJECTS\Reynolds\Sioux Falls\Report\Sioux Falls CW 25 Performance Evaluation.docx

Figures

Figure 1
Collector Well 25 Variable Rate Pumping Test Data (April 22, 2024)
Sioux Falls Collector Well 25 Performance Evaluation
Reynolds Construction LLC., Orleans, Indiana

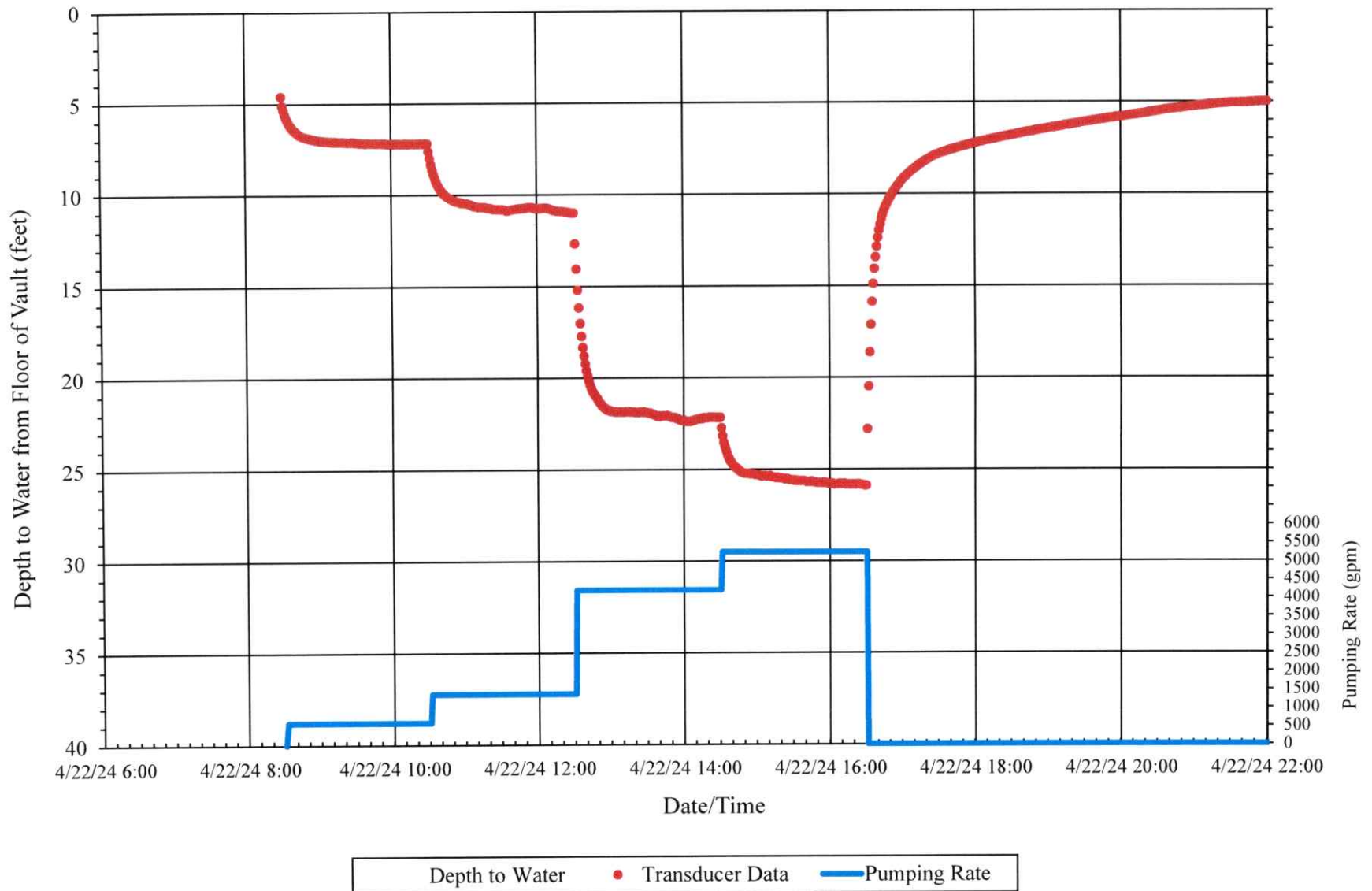


Figure 2
Collector Well 25 Variable Rate Pumping Test Semi-Logarithmic Plot of Drawdown versus Time
Sioux City Collector Well 25 Performance Evaluation
Reynolds Construction LLC., Orleans, Indiana

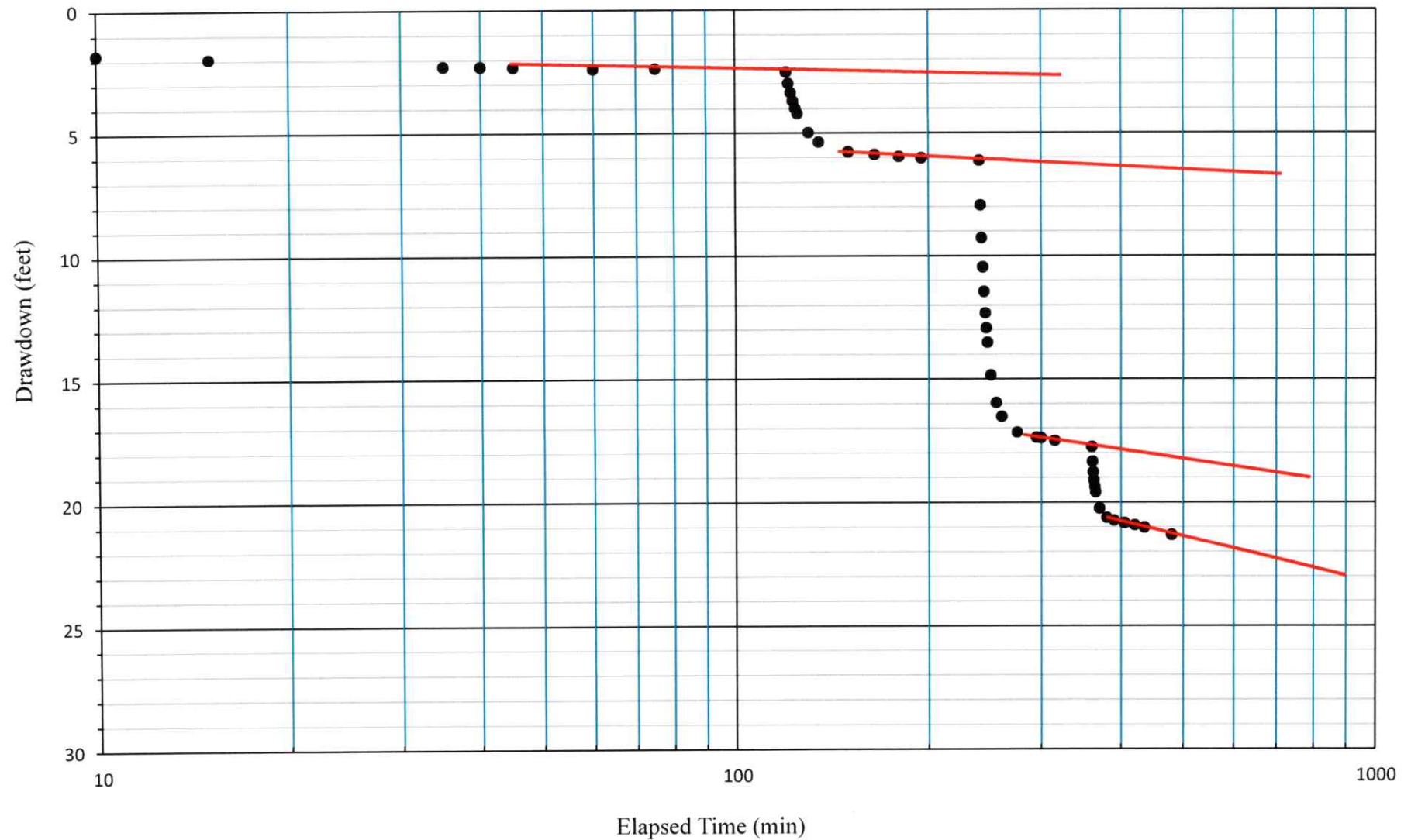


Figure 3
72-Hour Constant Rate Pumping Test Hydrographs
Sioux Falls Collector Well 25 Performance Evaluation
Reynolds Construction LLC., Orleans, Indiana

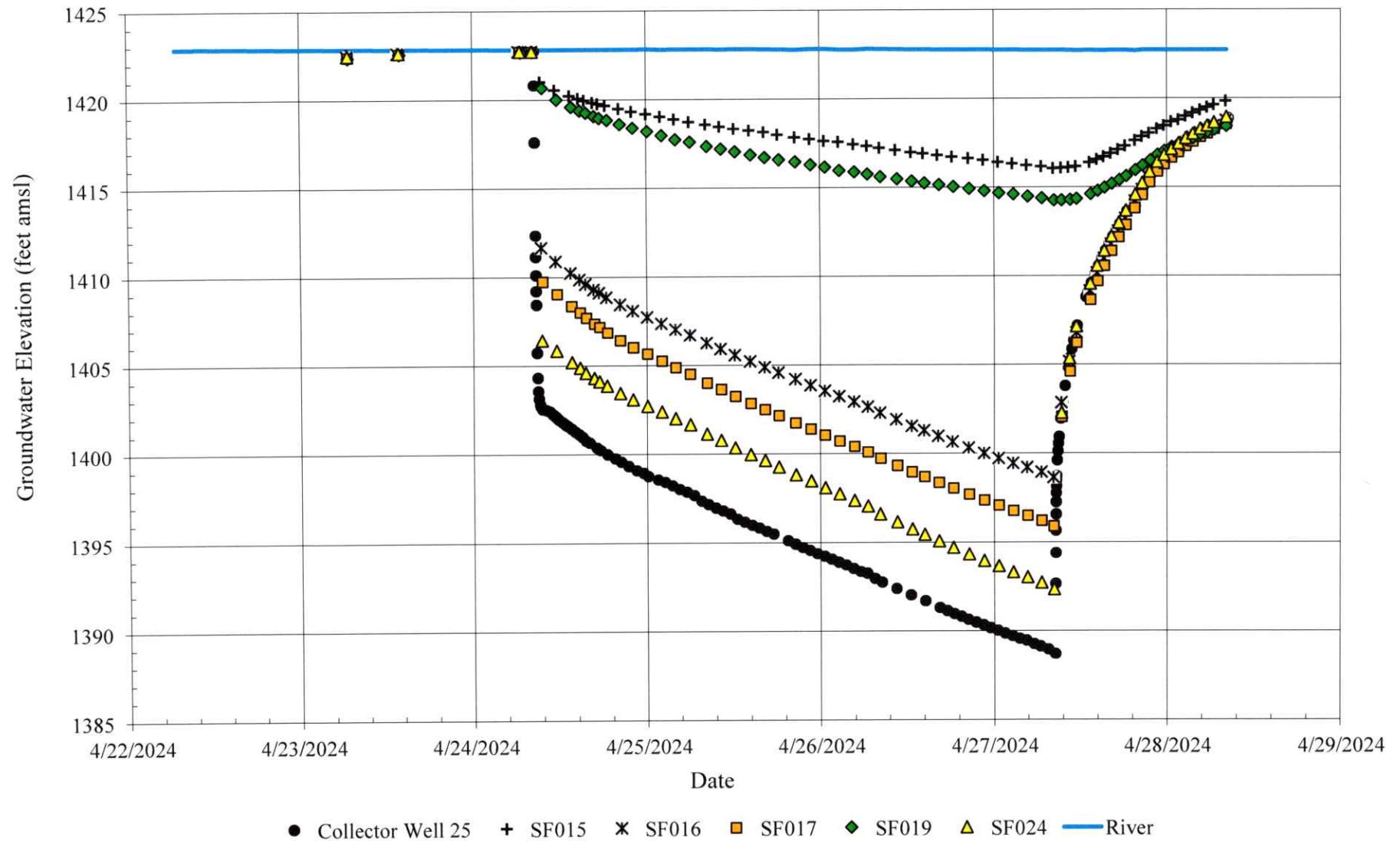


Figure 4
 Semi-Logarithmic Plot of Drawdown versus Time
 Sioux Falls Collector Well 25 Performance Evaluation
 Reynolds Construction LLC., Orleans, Indiana

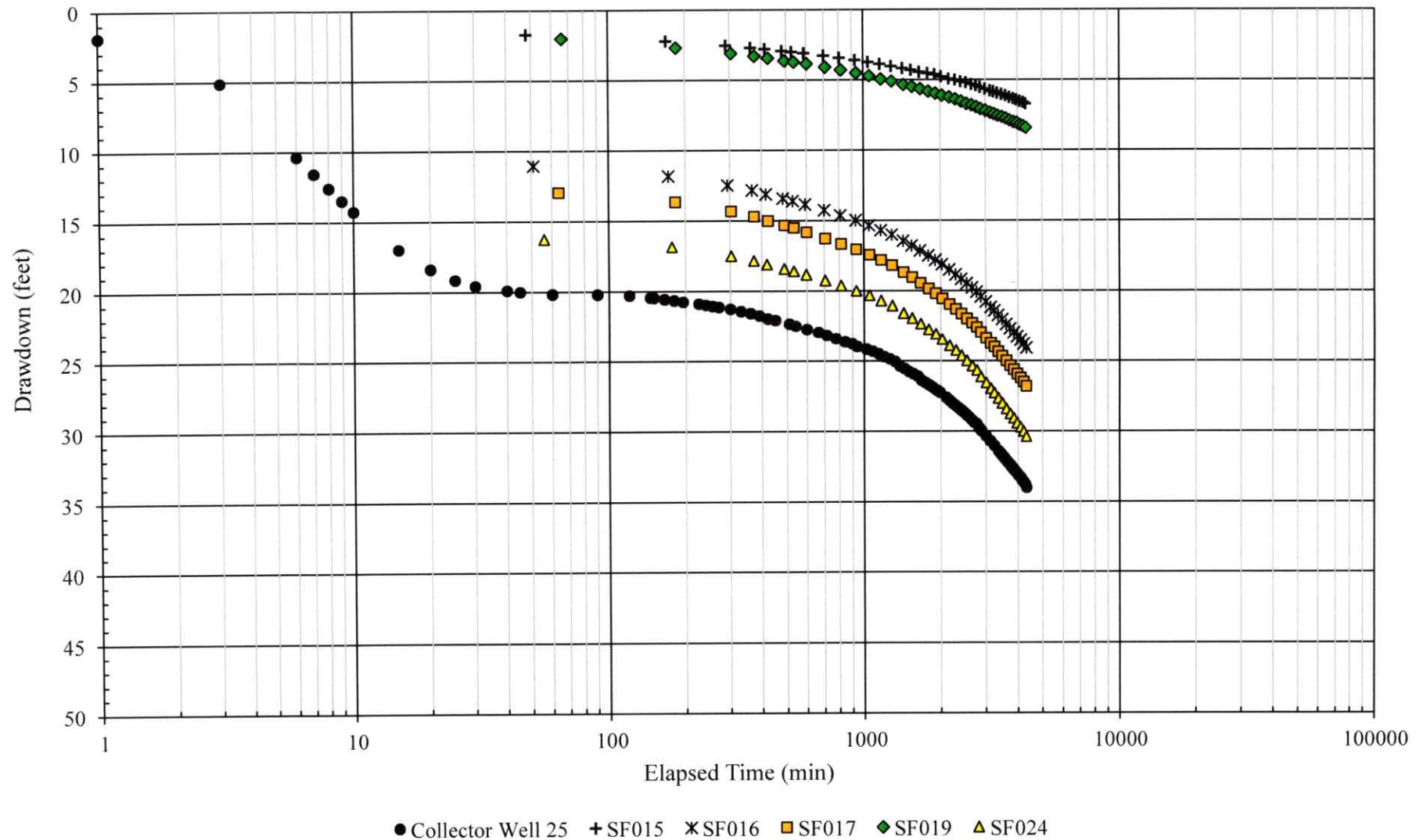


Figure 5
 Semi-Logarithmic Composite Plot of Drawdown versus t/r^2 (Effective Radius = 9.5 feet)
 Sioux Falls Collector Well 25 Performance Evaluation
 Reynolds Construction LLC., Orleans, Indiana

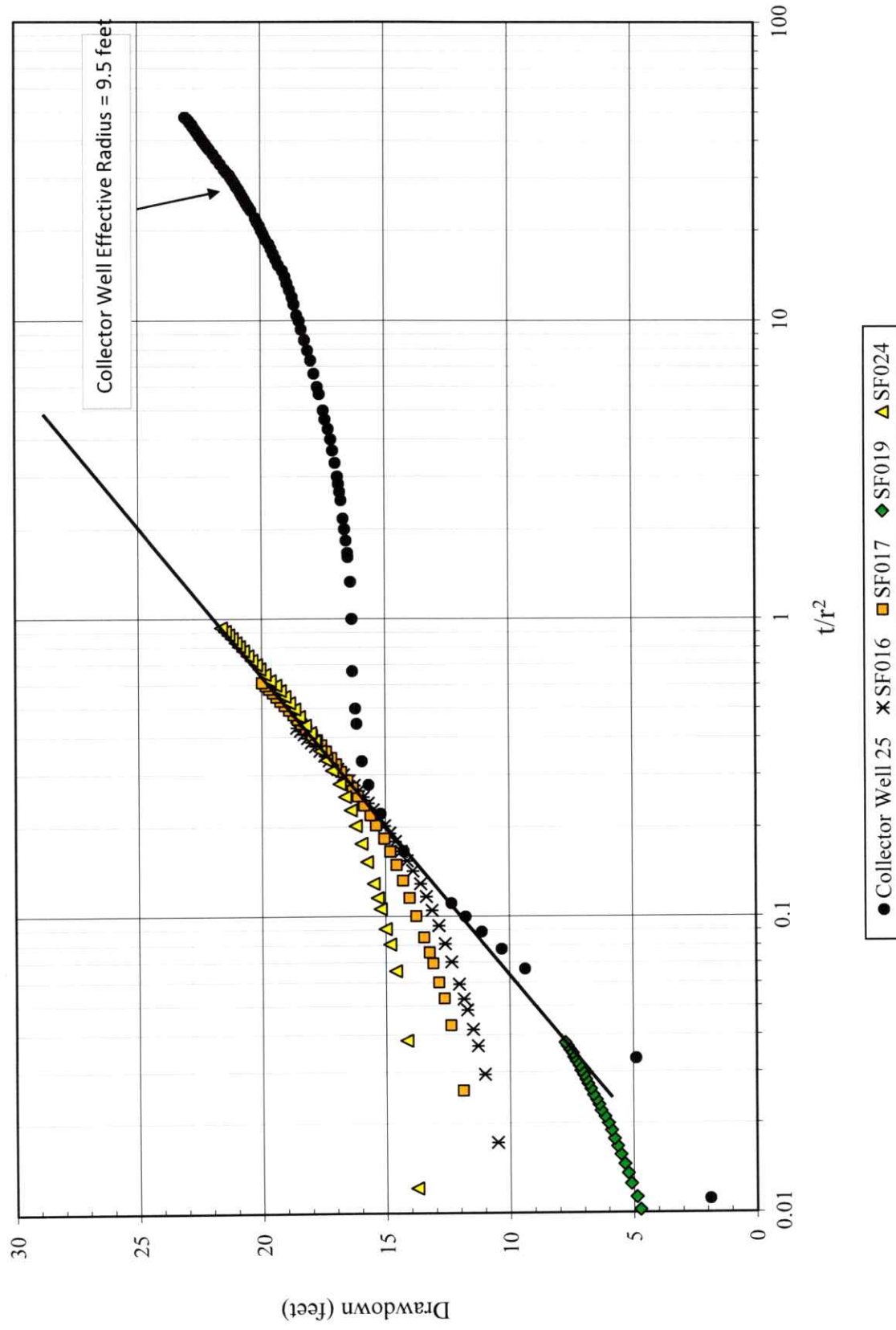


Figure 6
Semi-Logarithmic Composite Plot of Drawdown versus t/r^2 (Effective Radius = 63 feet)
Sioux Falls Collector Well 25 Performance Evaluation
Reynolds Construction LLC., Orleans, Indiana

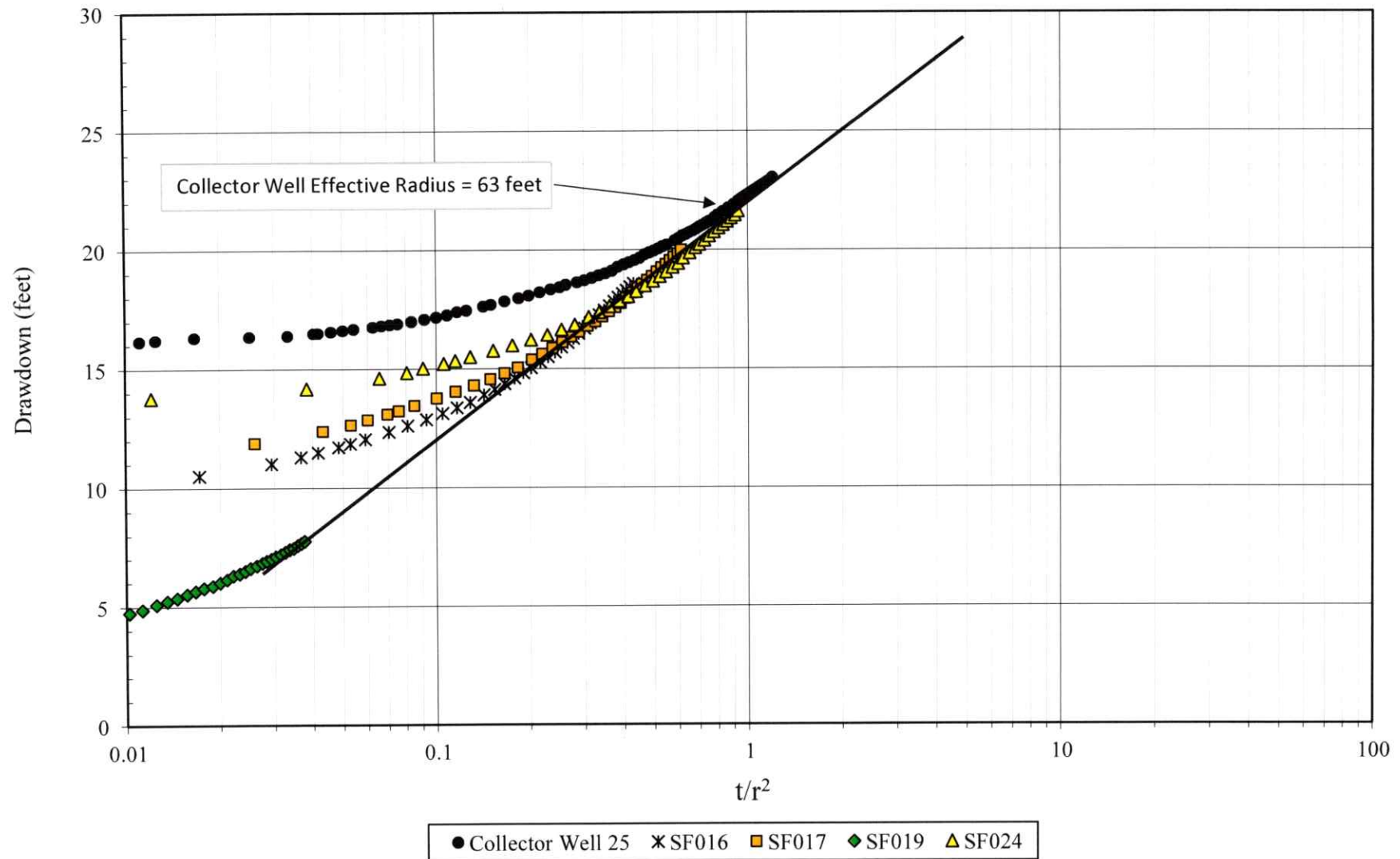
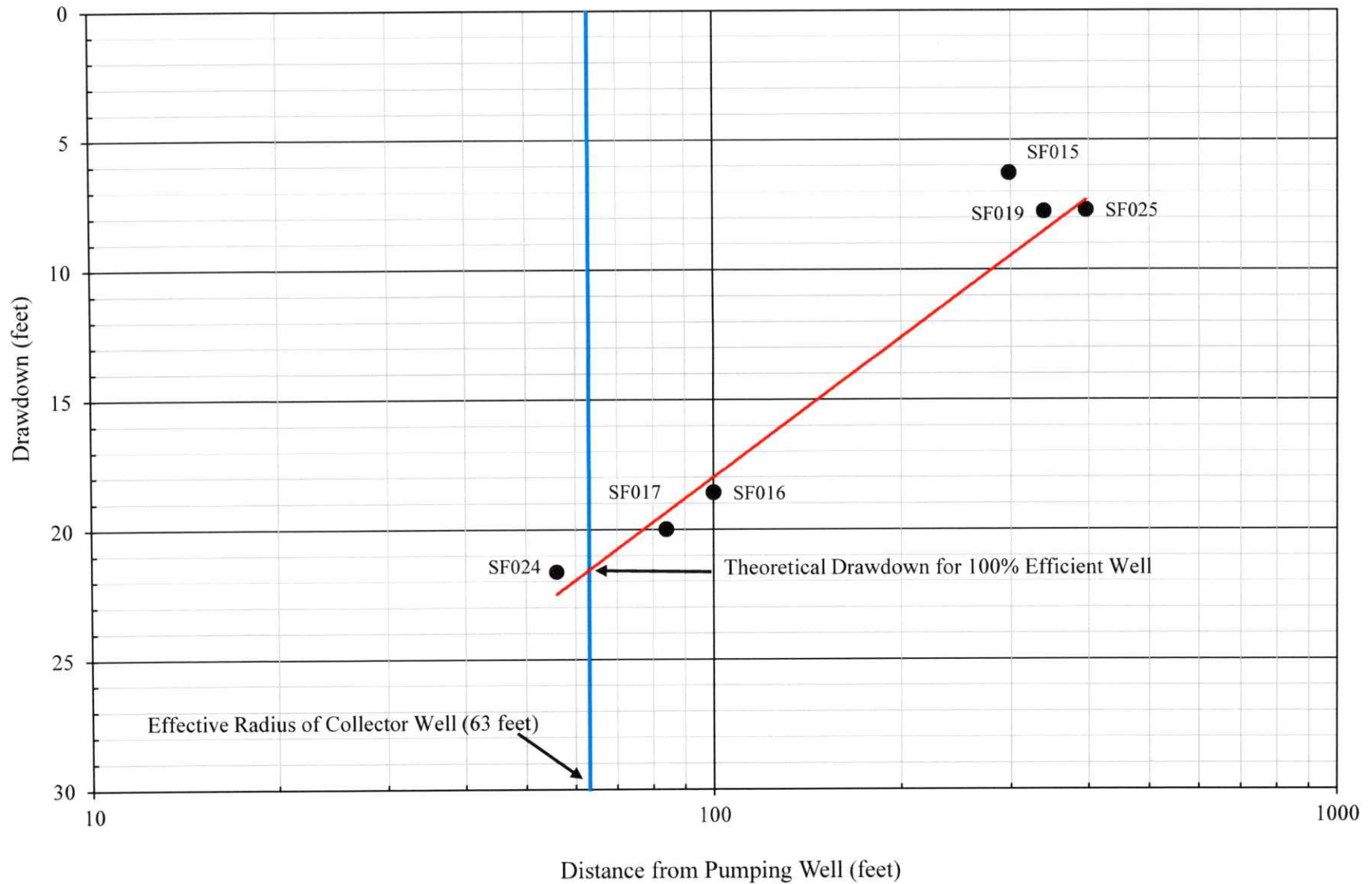


Figure 7
Semi-Logarithmic Plot of Distance versus Drawdown
Sioux Falls Collector Well 25 Performance Evaluation
Reynolds Construction LLC., Orleans, Indiana



Tables

Table 1. Collector Well 25 Variable Rate Pumping Test Results

Sioux Falls Collector Well 25 Performance Evaluation, Reynolds Construction LLC., Orleans, Indiana

Step	Step Duration (hours)	Pumping Rate (gpm)	Observed Drawdown (feet)	Water Temperature (°F)	Specific Capacity (gpm/ft)
1	2	600	2.53	49.5	237
2	2	1390	6.13	49.6	227
3	2	4200	17.76	49.9	236
4	2	5250	21.32	49.8	246

K:\CCA\PROJECTS\Reynolds\Sioux Falls\Report\Tables\[Table 1 Step test Data.xlsx]Table 2 Step Test

gpm - gallons per minute

gpm/ft - gallons per minute per foot of drawdown

°F - degrees Fahrenheit

Table 2. Drawdowns Measured Near the End of the 72-Hour Constant Rate Pumping Test
 Sioux Falls Collector Well 25 Performance Evaluation, Reynolds Construction LLC., Orleans, Indiana

Location	Distance from Pumping Well (feet)	Pre-Test Static Water Elevation (feet amsl)	72-Hour Water Elevation (feet amsl)	Observed Drawdown (feet)	Drawdown Corrected for Dewatering (feet)
Collector Well 25	NA	1422.73	1388.70	34.03	23.05
SF015	298	1422.76	1416.05	6.71	6.28
SF016	100	1422.72	1398.64	24.08	18.58
SF017	84	1422.70	1395.89	26.81	19.99
SF019	339	1422.69	1414.26	8.43	7.76
SF024	56	1422.72	1392.33	30.39	21.63
SF025	396	1422.75	1414.38	8.37	7.71
Big Sioux River	NA	1422.81	1422.73	0.08	NA

K:\CCA\PROJECTS\Reynolds\Sioux Falls\Report\Tables\Table 2 Constant Rate Pumping Test Data.xlsx\Table 2

feet amsl - feet above mean sea level

NA - Not applicable

RECEIPT

WATER RIGHTS PROGRAM South Dakota Department of Agriculture and Natural Resources

Date November 20TH, 2024

RECEIVED OF City of Sioux Falls 2100 N Minnesota Ave Sioux Falls SD 57104

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

Fee for Application for Permit No. <u>8911-3</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>8911-3</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

Eric Gundlach

Chief Engineer

Se



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

File Nos. 8911-3 and 8912-3

WATER RIGHTS PROGRAM -- FILE DOCUMENTATION

NAME: City of Sioux Falls, Ted Lewis, Water Plant Engineer

ADDRESS: 2100 N Minnesota Ave, Sioux Falls SD 57104

DATE: February 14, 2025

PHONE: 605.373.6944

RE: Modification of Water Permit Application Nos. 8911-3 and 8912-3

COMMENTS:

On February 11, 2025, Ted Lewis with the city of Sioux Falls provided proposed changes to Application Nos. 8911-3 and 8912-3 filed on October 3, 2024. The change involves decommissioning Well No. 15 covered by Vested Water Right No. 264-3 and transferring the 1.55 cubic feet of water per second (cfs) diversion authority (1,120 acre-feet annually) from Well No. 15 to the new horizontal collector well identified on Application Nos. 8911-3 and 8912-3. In making this change to Application No. 8911-3, the amount of water to be placed to beneficial by Application No. 8912-3 from water reserved by Future Use Permit No. 448-3 can be reduced by a corresponding amount (1,120 acre-feet annually) so that the total usage from the new horizontal collector well remains unchanged 6,000 acre-feet annually.

Application No. 8911-3 will now increase the amount of water being transferred by 1.55 cfs and 1,120 acre-feet (see No. 264-3) and Application No. 8912-3 will be reduced by 1,120 acre-feet. The revised diversion rate identified on Application No. 8912-3 (1.518 cfs), combined with the revised rate on Application No. 8911-3 (8.526 cfs) for a total of 10.044 cfs can produce a combined annual volume of 6,000 acre-feet from the new horizontal collector well.

The following changes will be made to the file copy of Application Nos. 8911-3 and 8912-3 as requested by Ted Lewis on behalf of the city of Sioux Falls:

Appl. Nos. 8911-3 & 8912-3	As submitted 10/3/2024	As modified on 2/11/2025
No. 8911-3 (transfer No. 264-3)	6.976 cfs, 3,133 acre-feet	8.526 cfs, 4,253 acre-feet
No. 8912-3 (from FU No. 448-3)	2.988 cfs, 2,867 acre-feet	1.518 cfs, 1,747 acre-feet
Total		10.044 cfs, 6,000 acre-feet

Ron Duvall, Engineer III
SD DANR, Water Rights Program

Rodriguez, Rachel

From: Gronlund, Eric
Sent: Tuesday, February 11, 2025 4:50 PM
To: Dewell, Amanda; Rodriguez, Rachel
Cc: Duvall, Ron; Hullinger, Brittan; Mathiowetz, Adam (DENR)
Subject: FW: [EXT] Sioux Falls Water Department Water Rights Applications
Attachments: 2025-0211--Water Rights Permit Application_Sioux Falls New Well 25.pdf

Sioux Falls is amending their two water permit applications (one to transfer diversion rate authority from a number of BS:SF aquifer water rights to their new mega well 25. They are now including the transfer of the water right for Well 15 at the SF airport that is being decommissioned due to airport renovations. This results in less water to be taken from the future use permit application.

The public notice will need to reflect the changes.

The amended applications here should be date stamped in and the draft public notice altered to reflect the amendment. Will tell you I have not reviewed this closely.

Brittan is the WR staff person that has reviewed the application and wrote the initial reports and will need to alter the report to reflect the changes.

From: Lewis, Ted <Ted.Lewis@SiouxFalls.Gov>
Sent: Tuesday, February 11, 2025 3:12 PM
To: Gronlund, Eric <Eric.Gronlund@state.sd.us>; Hullinger, Brittan <Brittan.Hullinger@state.sd.us>; Duvall, Ron <Ron.Duvall@state.sd.us>
Cc: Mathiowetz, Adam (DENR) <Adam.Mathiowetz@state.sd.us>; Myers, Chris <Chris.Myers@SiouxFalls.Gov>; Decker, Shannon <Shannon.Decker@SiouxFalls.Gov>
Subject: RE: [EXT] Sioux Falls Water Department Water Rights Applications

Hello Eric,

Attached please find the updated permit application package for our new Well #25 diversion point.

Please review and let me know if there are any questions or concerns that need to be addressed!

Thank you very much!

Always,

Ted Lewis, PE
City of Sioux Falls, Water Pur
605-310-8532

From: Lewis, Ted
Sent: Thursday, February 6, 2025 4:03 PM
To: Gronlund, Eric <Eric.Gronlund@state.sd.us>; Hullinger, Brittan <Brittan.Hullinger@state.sd.us>; Ron Duvall <ron.duvall@state.sd.us> <ron.duvall@state.sd.us>
Cc: Adam mathiowetz <Adam.Mathiowetz@state.sd.us> <Adam.Mathiowetz@state.sd.us>; Myers, Chris <Chris.Myers@SiouxFalls.Gov>
Subject: Sioux Falls Water Department Water Rights Applications

Hello Eric,

This eMail is follow up to our discussion regarding the water rights applications for our new Well #25 and confirming that the City is requesting to hold the permit application review process until we can provide updated permit applications for the new diversion point as well as the beneficial use of future water rights.

As discussed I will prepare new application forms with the updated information and diversion rate and volume for the new Well #25 and forward them to you as soon as possible.

If you have any further questions or comments please do not hesitate to contact me directly!

Thank you very much!

Ted Lewis
605-310-8532

From: Hullinger, Brittan <Brittan.Hullinger@state.sd.us>
Sent: Thursday, February 6, 2025 10:19 AM
To: Lewis, Ted <Ted.Lewis@SiouxFalls.Gov>
Cc: Gronlund, Eric <Eric.Gronlund@state.sd.us>
Subject: RE: URGENT - Sioux Falls Water Rights discussion

I spoke with Eric and he will be able to answer your questions about this better, Ted.
I pulled those reports for the new well and are holding them until we talk about your concerns with well 15 and its associated water right after the decommissioning, and the timeframe to get the new well to beneficial use.

Anytime today after 2pm will work fine for us to meet on a call. Thank you!

Brittan R. Hullinger
Natural Resources Engineer
Water Rights Program, SD DANR
(605)-773-3352

From: Lewis, Ted <Ted.Lewis@SiouxFalls.Gov>
Sent: Thursday, February 6, 2025 9:48 AM
To: Hullinger, Brittan <Brittan.Hullinger@state.sd.us>
Subject: [EXT] URGENT - Sioux Falls Water Rights discussion

Hello Brittan,

Would you please call me at your earliest convenience after the meeting this morning.

Thank you very much!

Ted Lewis
605-310-8532



Date: Tuesday, February 11, 2025
To: SD DANR, Water Rights Program
From: City of Sioux Falls Water Purification Division
Subject: New Well Diversion Point Water Allocation Explanation

The City of Sioux Falls has determined that the existing municipal well permitted under permit #274-3 (Well #25) had diminished in production potential beyond the point of rehabilitation. An investigation of the City owned property immediately to the south of the existing well resulted in the identification of a location suited for the construction of a Horizontal Collector Well (HCW) as a new diversion point to replace the existing well.

The new HCW contractor conducted a stepped flow rate pump test as well as 72-hr peak pumping flow rate pump test to determine baseline performance of the new diversion point HCW. The data from these tests were analyzed by the design engineering consultant, HDR, to determine the long-term and short-term peak pumping flow rates used in support of this application for water allocation to this new diversion point.

The long-term pumping rate was determined to be 7.75 csf and the short-term peak sustainable pumping rate has been determined to be 9.964 csf. The short-term pumping rate is expected to be utilized for intermittent periods which the City's Water Plant Operations team estimates to total no more than 90-day in a calendar year. The combination of long-term pumping rates for 275-days combined with 90-days of short-term peak pumping rate were used to calculate the requested annual volume of 6,000 ac-ft.

These requested water allocations for the new diversion point are greater than the amount allocated to permit #274-3. Therefore, additional existing permitted allocations as well as allocations from future use permits are being requested to be transferred to this new HCW diversion point.

In addition to permit #274-3 the City is requesting to transfer permit #1347-3 and #264-3 as well as request a change in type of use and authorization of year-round use of water and transfer of two (2) irrigation permits (permit #1270-3 & #2244-3). A conversion factor of 3-ft per acre per year has been used to determine an annual diversion volume for the irrigation permits.

To fully utilize the achievable water allocation at this new HCW diversion point the City is requesting to amend the future use area of the Future Use Permit #448-3 to include all of section 29-T102N-R49W which includes the site of the new HCW diversion point along with the request a portion of Future Use Permit #448-3 to be placed in to beneficial use. See Table 1 below for a summary of the requested allocations:

Table 1 – Summary of Water Rights Request Volumes and Flow Rates

Description	Source	Permit Number	cfs	ac-ft/yr
Existing Well # 25	Big Sioux Aquifer	274-3	2	1,448
Well # 15	Big Sioux Aquifer	264-3	1.55	1,120
DC-2	Big Sioux Aquifer	1347-3	1.986	968
Irrigaion Well	Big Sioux Aquifer	1270-3	1.66	348
Irrigation Well	Big Sioux Aquifer	2244-3	1.33	369
<i>Existing Permit Allocation Sub Total:</i>			8.526	4,253
Future Use Permit	Big Sioux Aquifer	448-3	1.518	1,747
Total:			10.044	6,000

We have included two (2) permit applications for this new diversion point, the first application for the change in type of use and authorization of year-round use of water and transfer of existing permitted water rights to the new diversion point. The second permit application is for the request to place into beneficial use water reserved by the future use permit at the new diversion point. These documents amend and replace the City's initial applications and memorandum for the new Well #25 were dated October 3rd, 2024.

RECEIVED

FEB 11 2025

OFFICE OF
WATER

Mail to: SD DANR, Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. _____ Hydrologic Unit _____
	Basin _____
	Newspaper _____
	(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. _____		

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

Change diversion point for permit 274-3 and transfer water appropriated under existing water right Nos. 1347-3 and 264-3
as well as request to change the type of use of water right Nos. 1270-3 and 2244-3 from irrigation to municipal year-round use.

- Name to Appear on Water Permit City of Sioux Falls Water Division
Mailing Address 2100 N Minnesota Ave Sioux Falls SD 57104
(Address) (City) (State) (Zip Code)
Phone 605-373-6944 Mobile _____ Email Chris.Myers@SiouxFalls.gov
- Amount of water claimed 8.526 *CFS or 4,253 **GPM and 4,253 ***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 Existing water appropriations from Big Sioux Aquifer, see attached memo
- Location of point of diversion 1 well in NE1/4 SE1/4 Sec.29 Twp.102N Rg.49W County Minnehaha
(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? n/a
(example - NW1/4 section 12-T104N-R53W)
- County or counties where water will be used Minnehaha, Lincoln
- Annual period during which water is to be used January 1st through December 31st
- 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)

Installation of new Horizontal Collector Well to replace an existing Bragstad Well and transfer water appropriated to multiple existing permits to new permit at this new diversion point, see attached memo with a full explanation of the application and engineering reports with data to support this request.

I, Chris Myers Water Superintendent, 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)

RECEIVED

FEB 11 2025

OFFICE OF
WATER

1. Well Information (check one or both as applicable)

☒ Drilling new well(s) ☐ Using existing well(s)

a) If new wells, how many 1 Have test holes been drilled? ☒ Yes ☐ No Drilled by Reynolds Construction, LLC
(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) 63.8 Depth to Top of Water Bearing Material 11.0 Depth to Water from Surface 4.7

d) Distance to nearest domestic well on applicant's property n/a Property owned by others 1,250-ft

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:

b) Freeboard _____

c) Crest Width _____

Crest Length _____

d) Height _____

e) Primary Outlet Capacity _____

If pipe, diameter _____

f) Secondary Spillway Capacity _____

Spillway Width _____

g) X & Y Slope (e.g. 3 to 1 is a typical slope)

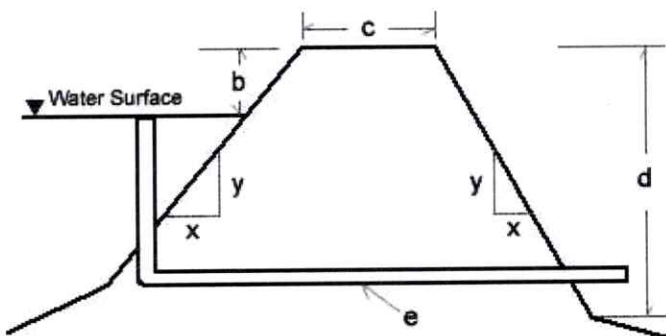
Upstream _____

Downstream _____

h) Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres



Gronlund, Eric

From: Lewis, Ted <Ted.Lewis@SiouxFalls.Gov>
Sent: Thursday, February 6, 2025 4:03 PM
To: Gronlund, Eric; Hullinger, Brittan; Duvall, Ron
Cc: Mathiowetz, Adam (DENR); Myers, Chris
Subject: [EXT] Sioux Falls Water Department Water Rights Applications

Hello Eric,

This eMail is follow up to our discussion regarding the water rights applications for our new Well #25 and confirming that the City is requesting to hold the permit application review process until we can provide updated permit applications for the new diversion point as well as the beneficial use of future water rights.

As discussed I will prepare new application forms with the updated information and diversion rate and volume for the new Well #25 and forward them to you as soon as possible.

If you have any further questions or comments please do not hesitate to contact me directly!

Thank you very much!

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605-310-8532

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Cc: Gronlund, Eric <Eric.Gronlund@state.sd.us>
Subject: RE: URGENT - Sioux Falls Water Rights discussion

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I pulled those reports for the new well and are holding them until we talk about your concerns with well 15 and its associated water right after the decommissioning, and the timeframe to get the new well to beneficial use.

Anytime today after 2pm will work fine for us to meet on a call. Thank you!

Brittan R. Hullinger
Natural Resources Engineer
Water Rights Program, SD DANR
(605)-773-3352

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To: Hullinger, Brittan <Brittan.Hullinger@state.sd.us>
Subject: [EXT] URGENT - Sioux Falls Water Rights discussion

Hello Brittan,

Would you please call me at your earliest convenience after the meeting this morning.

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Friday, November 8, 2024 10:03 AM
To: Lewis, Ted; Myers, Chris; Decker, Shannon
Subject: RE: [EXT] Sioux Falls Water Rights Application for new well #25

Good morning,

We are still waiting for the fee of \$3,250.00. Once we receive payment, I can begin processing your application.

Thank you,

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



From: Lewis, Ted <Ted.Lewis@SiouxFalls.Gov>
Sent: Wednesday, October 9, 2024 2:05 PM
To: Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>; Gronlund, Eric <Eric.Gronlund@state.sd.us>; Myers, Chris <Chris.Myers@SiouxFalls.Gov>; Decker, Shannon <Shannon.Decker@SiouxFalls.Gov>
Cc: Duvall, Ron <Ron.Duvall@state.sd.us>; Dewell, Amanda <Amanda.Dewell@state.sd.us>
Subject: RE: [EXT] Sioux Falls Water Rights Application for new well #25

Hello,

Thank you for the correction on the location description, I agree with the NE ¼ SW ¼ Sec 29-T102N-R49W correction.

Thank you for the assistance with the public notice, let me know when that is ready for review and I will follow up with the application fee as soon as possible.

Always,

Ted Lewis, PE
City of Sioux Falls, Water Pur
605-310-8532

From: Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>
Sent: Wednesday, October 9, 2024 1:41 PM
To: Lewis, Ted <Ted.Lewis@SiouxFalls.Gov>; Gronlund, Eric <Eric.Gronlund@state.sd.us>; Myers, Chris <Chris.Myers@SiouxFalls.Gov>; Decker, Shannon <Shannon.Decker@SiouxFalls.Gov>
Cc: Duvall, Ron <Ron.Duvall@state.sd.us>; Dewell, Amanda <Amanda.Dewell@state.sd.us>
Subject: RE: Sioux Falls Water Rights Application for new well #25

Rodriguez, Rachel

From: Lewis, Ted <Ted.Lewis@SiouxFalls.Gov>
Sent: Wednesday, October 9, 2024 2:05 PM
To: Rodriguez, Rachel; Gronlund, Eric; Myers, Chris; Decker, Shannon
Cc: Duvall, Ron; Dewell, Amanda
Subject: RE: [EXT] Sioux Falls Water Rights Application for new well #25

Hello,

Thank you for the correction on the location description, I agree with the NE ¼ SW ¼ Sec 29-T102N-R49W correction.

Thank you for the assistance with the public notice, let me know when that is ready for review and I will follow up with the application fee as soon as possible.

Always,

Ted Lewis, PE
City of Sioux Falls, Water Pur
605-310-8532

From: Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>
Sent: Wednesday, October 9, 2024 1:41 PM
To: Lewis, Ted <Ted.Lewis@SiouxFalls.Gov>; Gronlund, Eric <Eric.Gronlund@state.sd.us>; Myers, Chris <Chris.Myers@SiouxFalls.Gov>; Decker, Shannon <Shannon.Decker@SiouxFalls.Gov>
Cc: Duvall, Ron <Ron.Duvall@state.sd.us>; Dewell, Amanda <Amanda.Dewell@state.sd.us>
Subject: RE: Sioux Falls Water Rights Application for new well #25

External email - use caution when clicking on links or attachments.

Good afternoon,

In looking over the applications, I have one item that needs clarification:

- The diversion point on the applications is NE ¼ SE ¼ Sec 29-T102N-R49W. However, in looking at the map you provided, it is actually in the NE ¼ SW ¼ Sec 29-T102N-R49W, please see attached map. Do you agree?
- Waiting for the fee.

Once I receive the items above, I can begin processing your application. Please note that the public notice will be in 3 newspapers, the Dakota Scout, Argus Leader and the Lennox Independent. Also, the applicant is responsible for authorizing publication and arranging for payment. The public notice is due 60 days after the application is processed. I will contact you at that time with the information regarding the public notice process.

Thank you,

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

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Wednesday, October 9, 2024 1:41 PM
To: Lewis, Ted; Gronlund, Eric; Myers, Chris; Decker, Shannon
Cc: Duvall, Ron; Dewell, Amanda
Subject: RE: [EXT] Sioux Falls Water Rights Application for new well #25
Attachments: Map.pdf

Good afternoon,

In looking over the applications, I have one item that needs clarification:

- The diversion point on the applications is NE ¼ SE ¼ Sec 29-T102N-R49W. However, in looking at the map you provided, it is actually in the NE ¼ SW ¼ Sec 29-T102N-R49W, please see attached map. Do you agree?
- Waiting for the fee.

Once I receive the items above, I can begin processing your application. Please note that the public notice will be in 3 newspapers, the Dakota Scout, Argus Leader and the Lennox Independent. Also, the applicant is responsible for authorizing publication and arranging for payment. The public notice is due 60 days after the application is processed. I will contact you at that time with the information regarding the public notice process.

Thank you,

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



From: Lewis, Ted <Ted.Lewis@SiouxFalls.Gov>
Sent: Tuesday, October 8, 2024 5:38 PM
To: Gronlund, Eric <Eric.Gronlund@state.sd.us>; Myers, Chris <Chris.Myers@SiouxFalls.Gov>; Decker, Shannon <Shannon.Decker@SiouxFalls.Gov>
Cc: Duvall, Ron <Ron.Duvall@state.sd.us>; Dewell, Amanda <Amanda.Dewell@state.sd.us>; Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>
Subject: RE: [EXT] Sioux Falls Water Rights Application for new well #25

Thank you Eric.

We will publish the notice in the Dakota Scout.

Would you please provide the copy for the public notice publication that will be used for the Argus Leader and we will submit it with the legal notices for the City in the Dakota Scout for our own notice requirements.

Thank you very much!

Rodriguez, Rachel

From: Lewis, Ted <Ted.Lewis@SiouxFalls.Gov>
Sent: Tuesday, October 8, 2024 5:38 PM
To: Gronlund, Eric; Myers, Chris; Decker, Shannon
Cc: Duvall, Ron; Dewell, Amanda; Rodriguez, Rachel
Subject: RE: [EXT] Sioux Falls Water Rights Application for new well #25

Thank you Eric.

We will publish the notice in the Dakota Scout.

Would you please provide the copy for the public notice publication that will be used for the Argus Leader and we will submit it with the legal notices for the City in the Dakota Scout for our own notice requirements.

Thank you very much!

Always,

Ted Lewis, PE
City of Sioux Falls, Water Pur
605-310-8532

From: Gronlund, Eric <Eric.Gronlund@state.sd.us>
Sent: Friday, October 4, 2024 9:58 AM
To: Lewis, Ted <Ted.Lewis@SiouxFalls.Gov>; Myers, Chris <Chris.Myers@SiouxFalls.Gov>; Decker, Shannon <Shannon.Decker@SiouxFalls.Gov>
Cc: Duvall, Ron <Ron.Duvall@state.sd.us>; Dewell, Amanda <Amanda.Dewell@state.sd.us>; Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>
Subject: RE: Sioux Falls Water Rights Application for new well #25

External email - use caution when clicking on links or attachments.

The notice will need to be published in both the Argus Leader and the Dakota Scout. One to comply with state law and one so the city can comply with their own laws.

In addition to the reason set forth below regarding applications needing to be published in official newspapers designated by the county commission, SDCL 46-2A-4 requires publication in a daily newspaper. I do not believe the Dakota Scout is a daily newspaper.

Eric

From: Gronlund, Eric
Sent: Thursday, October 3, 2024 4:15 PM
To: Lewis, Ted <Ted.Lewis@SiouxFalls.Gov>; Myers, Chris <Chris.Myers@SiouxFalls.Gov>; Shannon.Decker@SiouxFalls.Gov
Cc: Duvall, Ron <Ron.Duvall@state.sd.us>; Dewell, Amanda <Amanda.Dewell@state.sd.us>; Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>
Subject: FW: [EXT] Sioux Falls Water Rights Application for new well #25

I concur with the total filing fee of \$3,250.00. A licensing fee is not being charged for the application to construct and place to beneficial use reserved water under the future use permit because ultimately the "amendment" and the "reserved water" applications will be incorporated into one water license once fully developed.

Noted regarding Sioux Falls requiring the notice to be published in the Dakota Scout. However, that potentially brings up a legal question that I will have to discuss with Ron and our legal counsel. The publication requirements set forth in SDCL 46-2A-4 states the newspaper shall be a newspaper designated as an official newspaper pursuant to SDCL 7-8-3 (see below). That statute provides the designation of official newspapers are selected annually by the board of county commissioners. Do you know if the Dakota Scout is one of the official newspapers for the county?

Do I recall that the Dakota Scout is only in digital and not print form. Not sure if that factors into this in anyway but may seek clarification for legal counsel on that as well if Dakota Scout is only available digitally.

Eric

7-18-3. Designation of official newspapers for county--Publication of board proceedings and notices.

At its regular meeting in January of each year the board of county commissioners shall designate three legal newspapers printed in the county as official newspapers. If there are not three legal newspapers within the county, then as many newspapers that are legal newspapers. No more than two newspapers within the same municipality may be designated as official newspapers by the county, if there are other legal newspapers published elsewhere within the county.

The board shall publish a full and complete report of all its official proceedings at all regular and special meetings and shall publish proceedings as soon after any meeting as practicable. The board shall pay for publishing the proceedings at a rate not to exceed ninety percent of the legal line rates for weekly newspapers and not to exceed the legal line rate for daily newspapers, as provided in chapter 17-2.

All notices required by law to be published by the county auditor shall also be published in the official newspapers. If any notice includes a legal description of property outside the incorporated limits of a municipality, the notice may include a physical description of the property from the nearest incorporated municipality.

From: Lewis, Ted <Ted.Lewis@SiouxFalls.Gov>

Sent: Thursday, October 3, 2024 3:00 PM

To: Gronlund, Eric <Eric.Gronlund@state.sd.us>

Cc: Duvall, Ron <Ron.Duvall@state.sd.us>; Dewell, Amanda <Amanda.Dewell@state.sd.us>; Decker, Shannon <Shannon.Decker@SiouxFalls.Gov>; Dekker, David <David.Dekker@SiouxFalls.Gov>; Myers, Chris <Chris.Myers@SiouxFalls.Gov>

Subject: [EXT] Sioux Falls Water Rights Application for new well #25

Hello Eric,

Attached please find a PDF document containing the water rights applications with cover memo and supporting engineering reports and memos for the new Horizontal Collector Well (HCW) to replace the existing well #25.

I understand that this application fee consists a \$100.00 application fee and \$200.00 inspection/licensing fee as well as \$2,950.00 for the application for the water allocation from the future use permit for a total of \$3,250.00. Would you please "reply all" and confirm this amount and Shannon Decker will submit the payment for the application.

With regard to the public notice for this water rights application, the City of Sioux Falls requires the notice to be published in the Dakota Scout as our paper of record.

Do not hesitate to contact me if you have any other questions or require any additional information.

Thank you very much!

Always,

Ted Lewis

Water Plant Engineer // City of Sioux Falls

Desk 605-373-6946 **Mobile** 605-310-8532

231 North Dakota Avenue, Sioux Falls, SD, 57105



He who works with his hands is a laborer.

He who works with his hands and his head is a craftsman.

He who works with his hands and his head and his heart is an artist.

-- Saint Francis of Assisi

Duvall, Ron

From: Lewis, Ted <Ted.Lewis@SiouxFalls.Gov>
Sent: Monday, July 7, 2025 11:30 AM
To: Dewell, Amanda; Duvall, Ron; Gronlund, Eric; Borns, Nicholas; Myers, Chris
Subject: RE: [EXT] Sioux Falls Well #25 Application Discussion

Hello Amanda!

This eMail is to serve as notice that the City has completed its assessment of the water rights applications (No. 8911-3 & 8912-3) and has determined that we would like to proceed with the applications as they were submitted with no changes.

We appreciate being given the opportunity to reassess our application and are now ready to proceed with the public notice and board review of our applications.

Please contact me with any questions or requirements to proceed with the application process.

Thank you very much!

Always,

Ted Lewis, PE
City of Sioux Falls, Water Pur
605-310-8532

From: Dewell, Amanda <Amanda.Dewell@state.sd.us>
Sent: Wednesday, March 5, 2025 1:54 PM
To: Lewis, Ted <Ted.Lewis@SiouxFalls.Gov>; Duvall, Ron <Ron.Duvall@state.sd.us>; Gronlund, Eric <Eric.Gronlund@state.sd.us>; Borns, Nicholas <Nicholas.Borns@SiouxFalls.Gov>; Myers, Chris <Chris.Myers@SiouxFalls.Gov>
Subject: RE: Sioux Falls Well #25 Application Discussion

Thank you Ted, we will add this correspondence to the file and await a new/revised application.

Amanda Dewell
DANR - Water Rights Program
Permitting Administrator
Main Phone: 605 773-3352
Website: danr.sd.gov



From: Lewis, Ted <Ted.Lewis@SiouxFalls.Gov>
Sent: Wednesday, March 5, 2025 1:46 PM
To: Duvall, Ron <Ron.Duvall@state.sd.us>; Gronlund, Eric <Eric.Gronlund@state.sd.us>; Dewell, Amanda <Amanda.Dewell@state.sd.us>; Borns, Nicholas <Nicholas.Borns@SiouxFalls.Gov>; Myers, Chris

<Chris.Myers@SiouxFalls.Gov>

Subject: RE: [EXT] Sioux Falls Well #25 Application Discussion

Hello!

This eMail serves as follow up from our discussion regarding the water rights application for the City of Sioux Falls new well #25.

The anticipated date of completion for the new well #25 is January of 2026.

At this time the City is requesting to postpone the public notice of the water rights application to allow for additional internal discussions at the City of Sioux Falls regarding the transfer of existing water rights allocations to the new well #25.

The City anticipates modifying the application to transfer existing water rights allocations and will therefor update the application forms and resubmit for review.

Thank you very much!

Always,

Ted Lewis, PE
City of Sioux Falls, Water Pur
605-310-8532

-----Original Appointment-----

From: Lewis, Ted

Sent: Friday, February 28, 2025 12:58 PM

To: Lewis, Ted; Ron.Duvall@state.sd.us; Eric.Gronlund@state.sd.us; Dewell, Amanda; Borns, Nicholas; Myers, Chris

Subject: Sioux Falls Well #25 Application Discussion

When: Wednesday, March 5, 2025 1:00 PM-2:00 PM (UTC-06:00) Central Time (US & Canada).

Where: WebEx

Discuss project status and considerations with regard to future water rights and transferring existing water rights.

-- Do not delete or change any of the following text. --

When it's time, join your Webex meeting here.

Join meeting

More ways to join:

Join from the meeting link

<https://siouxfalls.webex.com/siouxfalls/j.php?MTID=m62f3a18f2a138dead71da663c29ea39b>

Join by meeting number

Meeting number (access code): 2486 978 8230

Meeting password: DNkNBgtE972



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8911-3, City of Sioux Falls Water Division**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Agriculture and Natural Resources concerning Water Permit Application No. 8911-3, City of Sioux Falls Water Division, 2100 N Minnesota Ave, Sioux Falls SD 57104.

The Chief Engineer is recommending APPROVAL of Application No. 8911-3 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 with the following qualifications:

1. The well approved under Water Permit No. 8911-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals must be controlled so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. If the wells authorized by Water Right Nos. 274-3, 1270-3, 2244-3, and 1347-3 are abandoned, the wells must be plugged in accordance with Water Management Board Well Construction Rules, Chapter 74:02:04.
3. The permit holder must report to the Chief Engineer annually the amount of water withdrawn under this Permit and all other permitted diversions from the Big Sioux: Sioux Falls Aquifer.
4. Water Permit No. 8911-3 authorizes a total annual diversion of up to 4,253 acre-feet of water. This Permit and Water Permit No. 8912-3, combined, authorize a total annual diversion of up to 6,000 acre-feet of water.

See report on application for additional information.

Eric Gronlund, Chief Engineer
February 25, 2025

Report to the Chief Engineer
Water Permit Application No. 8911-3
City of Sioux Falls Water Division
02/25/2025

Water Permit Application No. 8911-3 proposes to replace an existing well for Vested Water Right No. 274-3 with a new horizontal collector well (63.8 feet deep) completed into the Big Sioux: Sioux Falls aquifer located in the NE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 29, T102N-R49W, and proposes transfer the diversion rates and annual volume to the new horizontal collector well from Vested Water Right No. 264-3 authorizing 1.55 cubic feet of water per second (cfs) and 1,120 acre-feet (ac-ft) per year, Vested Water Right No. 274-3 authorizing 2.0 cfs and 1,448 ac-ft per year, Water Right No. 1270-3 authorizing 1.66 cfs and 348 ac-ft per year, Water Right No. 2244-3 authorizing 1.33 cfs and 369 ac-ft per year, and Water Right No. 1347-3 authorizing 1.986 cfs and 968 ac-ft per year, for a total transfer of 8.526 cfs and 4,253 ac-ft of water annually from the Big Sioux: Sioux Falls aquifer to the new horizontal collector well. This water will be for municipal use for the City of Sioux Falls.

Water Source: Big Sioux: Sioux Falls aquifer (BS:SF)

Description of aquifer:

The Big Sioux aquifer is an unconfined aquifer consisting of fine to coarse, poorly sorted sand and fine to coarse gravel with interbedded clay and till layers (Davis et al., 2019). The BS:SF aquifer underlies the Big Sioux River floodplain, bound laterally by a glacial till confining unit and below by the Sioux Quartzite to the north (near Dell Rapids) and on the south (near Sioux Falls). The aquifer is thickest closer to the river and thins out as the aquifer materials extend toward the glacial till on either side. The mean thickness of aquifer materials of the Big Sioux aquifer is 34 feet and can be up to 96 feet in the study area (Davis et al., 2019). The study area for Davis et al. (2019) is approximately the same portion of the Big Sioux aquifer as the areal extent of the Big Sioux: Sioux Falls management unit delineated by Hedges et al. (1982) that is used by the Water Rights Program (Water Rights, 2025c).

The new horizontal collector well (Collector Well 25), also known as a Ranney style collector well, consisting of a caisson with six horizontal laterals (ranging from 55 to 158 feet long) which connect to the caisson three feet above the bottom of the caisson. The well was constructed under Variance No. 02-2024 to comply with SD well construction standards. Two observation wells were installed near the horizontal well as well as multiple test holes. Lithologic logs within 500 feet of the horizontal collector well indicate saturated aquifer thicknesses ranging between approximately 24 feet and 48 feet and that the aquifer is unconfined in this area (Water Rights, 2025b and 2025d).

Background

Vested Water Right No. 274-3 was issued to the City of Sioux Falls with a priority date of January 1, 1952, for municipal water use from one well (BS:SF) located in the SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 29, T102N-R49W. The new horizontal collector well proposed by this application will

replace the well authorized by Vested Water Right No. 274-3, and this application will transfer the diversion rate and annual volume authorized by No. 274-3 (2.0 cfs and 1,448 ac-ft) to the new well.

Vested Water Right No. 264-3 was issued to the City of Sioux Falls with a priority date of January 1, 1943, for municipal water use from a well (BS:SF) located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 5, T101N-R49W. The well authorized by Vested Right No. 264-3 is being decommissioned with the 1.55 cfs and 1,120 ac-ft authorized by Vested Right No. 264-3 being transferred to the new horizontal collector well proposed by this application.

Water Right No. 1270-3 was issued to R.C. Sweetman with a priority date of February 23, 1966, for the irrigation of 116 acres from one well (BS:SF) all located in the S $\frac{1}{2}$ of Section 20, T102N-R49W under the provision that the City of Sioux Falls has priority rights to the water under Future Use Permit No. 448-3 and that Water Right No. 1270-3 was approved subject to those prior rights when the city develops the reserved water supply. The water right was transferred to the City of Sioux Falls on June 27, 2023. This application amends No. 1270-3 by changing the water use from irrigation to municipal use, authorizing use of water year round, and then transfer the diversion rate and annual volume authorized by No. 1270-3 (1.66 cfs and 348 ac-ft) to the new horizontal collector well.

Water Right No. 2244-3 was issued to Dale Swartz with a priority date of April 8, 1975, for the irrigation of 123 acres from one well (BS:SF) all located in the SE $\frac{1}{4}$ of Section 21, T103N-R49W under the provision that the City of Sioux Falls has priority rights to the water under Future Use Permit No. 448-3 and that Water Right No. 2244-3 was approved subject to those prior rights when the city develops the reserved water supply. The water right was transferred to the City of Sioux Falls on November 25, 2009. This application amends No. 2244-3 by changing the water use from irrigation to municipal use, authorizing use of water year-round, and then transferring the diversion rate and annual volume authorized by No. 2244-3 (1.33 cfs and 369 ac-ft) to the new horizontal collector well.

Water Right No. 1347-3 was issued to the City of Sioux Falls with a priority date of January 10, 1967, for municipal water use from one well (BS:SF) located in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 4, T101N-R49W. This application transfers the remaining diversion rate and annual volume authorized by No. 1347-3 (1.986 cfs and 968 ac-ft) to the new horizontal well.

A summary of the proposed water rights to be transferred and their respective diversion rates and annual volumes are shown in **Table 1**.

Table 1. Summary of existing Water Rights appropriations to be transferred to this Application No. 8911-3 for the City of Sioux Falls (Water Rights, 2025c).

Source	Priority Date	Current Use Type	Diversion Rate (cfs)	Annual Volume (ac-ft)
Vested Water Right No. 264-3	01/01/1943	Municipal	1.55	1,120
Vested Water Right No. 274-3	01/01/1952	Municipal	2.0	1,448
Water Right No. 1270-3	02/23/1966	Irrigation	1.66	348
Water Right No. 2244-3	04/08/1975	Irrigation	1.33	369
Water Right No. 1347-3	01/10/1967	Municipal	1.986	968
Total			8.526	4,253

SDCL 46-5-13.1

The location of a point of diversion may be changed or additional points of diversion may be approved if the new or additional point of diversion is from the same source of water, no additional water is appropriated, and, if the water use is for irrigation, no new land is to be irrigated.

SDCL 46-5-30.4

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.

SDCL 46-5-31

Any appropriator of water may use the water for purposes other than for what it was appropriated, or may change the place of diversion, storage, or use, in a manner and under conditions approved by the Water Management Board, except that changes in irrigation permits shall be as prescribed by SDCL 46-5-34 to 46-5-36, inclusive.

SDCL 46-5-34.1

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.

SDCL 46-2A-12

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.

This application is not proposing additional diversions of water but is the transfer of existing permitted water rights to the new diversion point, changes in use type, and authorization of year-round use. Since this application does not seek to increase the City of Sioux Falls' total diversion rate or the total annual volume of water authorized by Water Right Nos. 264-3, 274-3, 1270-3, 2244-3, and 1347-3, water availability is not an issue. This report will address the potential of unlawful impairment when transferring the aforementioned water rights appropriations to the new horizontal collector well. For the information of the Chief Engineer and the Water Management Board (board), a brief section on water availability will be included.

SDCL 46-6-3.1

No application to appropriate groundwater may be approved if, according to the best possible information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source. An application may be approved, however, for withdrawals of groundwater from any groundwater formation older than or stratigraphically lower than the Greenhorn formation in excess of the average estimated annual recharge for use by water distribution systems.

This application is for use by the City of Sioux Falls for their water distribution system. However, the BS:SF aquifer is not older or stratigraphically lower than the Greenhorn formation. Since Application No. 8911-3 is not proposing to appropriate additional water, any discussion on water availability in this report is solely for the information of the Chief Engineer and the board.

Water Availability: Recharge

Recharge to the Big Sioux: Sioux Falls occurs primarily through the infiltration of precipitation in the flood plain of the Big Sioux River and seepage from the Big Sioux River when the river stage is higher relative to the head of water in the aquifer (Davis et al., 2019). Annual recharge rates to the BS:SF aquifer estimated by Hedges et al. (1985) and Koch (1982) range from 1,908 to 13,176 ac-ft per year. However, these recharge rates are considered "natural recharge" to the aquifer from infiltration of precipitation. Due to the excellent hydrologic connection between the Big Sioux River and the BS:SF aquifer, surface water flows are available to contribute additional recharge water "induced recharge" for the aquifer under the assumption that development of the aquifer increases the frequency that space becomes available for induced recharge (Koch, 1982; Buhler and Goodman, 1991; Water Rights, 1991).

1991 Declaratory Ruling

On November 14th, 1991, through a declaratory ruling, the Water Management Board established a limitation on annual withdrawals due to pumping from the BS:SF aquifer to 32,200 ac-ft per year, excluding the withdrawals from individual domestic wells that do not require a water permit (Water Rights, 1991). The basis for this amount is that it is the maximum amount of water that can be pumped from the BS:SF that causes no net change in storage (decline of water levels in observation wells) in the aquifer when considering both natural and induced recharge vs. possible withdrawals, during years with normal river stage and average precipitation. When that limit is approached, water use will be restricted on a priority basis until withdrawals do not exceed 32,200 ac-ft per year.

Water Availability: Discharge

Discharge from the aquifer occurs through evapotranspiration, seepage to the Big Sioux River when the river stage is lower relative to the head of the aquifer, seepage to adjacent aquifers, and well withdrawals (Davis et al., 2019). There are currently 72 total appropriations from the aquifer, including Water Rights Nos. 264-3, 274-3, 1270-3, 2244-3, and 1347-3 to be transferred by this application. Major water users from this aquifer are the City of Sioux Falls and Minnehaha Community Water Corporation (MCWC).

Future Use permits

Of the 72 total active appropriations, five are future use permits reserving 8,675 acre-feet of water annually, shown in **Table 2**. The remaining volume of water reserved in those permits are assumed to be fully developable and will be included in the hydrologic budget.

Table 2. Remaining annual water reservations for BS:SF future use permits (Water Rights, 2025c).

Permit No.	Name	Priority Date	Remaining Reserved Water (ac-ft)
448-3	City of Sioux Falls	04/08/1957	3,842
5523-3		08/22/1991	4,050
4838-3		10/19/1981	0.0
5716-3	MCWC	08/07/1992	750
4838A-3		10/19/1981	33
Total			8,675

Temporary Use permits

Of the 72 total appropriations, six are temporary use water permits issued pursuant to SDCL 46-5-39, which allows temporary use of all or part of the water subject to future use permit(s). These are Permit Nos. 5966-3, 5967-3, 6008-3, 7430-3, 7431-3, and 7559-3 all for irrigation use. Since all future use permits are assumed to develop their remaining reserved water for the hydrologic budget, the temporary use permit appropriations will not be included.

Existing water rights/permits

Of the 72 total appropriations, 61 are regular water rights/permits. Water Rights Nos. 656-3 and 4034A-3 for irrigation use are not temporary use permits but are subject to Sioux Falls' development of prior rights. This is because those water rights are located within the future use area for Future Use Permit No. 448-3 and were approved with the following qualification: "The City of Sioux Falls has priority rights to the water under future use withdrawal permits, and this application is approved subject to these prior rights if or when the city develops the reserve water supplies." Water Right Nos. 1270-3 and 2244-3 also had the same qualifications before they were transferred to the City of Sioux Falls (See Background section).

Of the 61 regular water rights or permits, six are for irrigation use. Irrigation water rights/permits have been typically required to report annual usage on an irrigation questionnaire since 1979. The average reported pumpage for active permits for the years 1979 to 2023 (excluding reported pumping from temporary use permits) is approximately 254 acre-feet. The average reported pumpage for active permits for the years 2014 to 2023 (excluding reported pumping from temporary use permits) is approximately 235 acre-feet (Water Rights, 2025a and 2025c). To reflect the current development of irrigation water rights/permits, the average total reported pumpage for irrigation appropriations from 2014 to 2023 will be used for the budget.

Of the 61 regular water rights/permits, nine are for non-irrigation use not held by the City of Sioux Falls and are not required to report to the Chief Engineer. Non-irrigation appropriations limited by an instantaneous diversion rate have historically been assumed to pump 60% of the time throughout the year at their permitted diversion rate. This is the standard methodology used by the Water Rights Program to estimate non-irrigation use not required to report and limited only by diversion rate. This methodology is likely an overestimation for those water rights/permits and has been previously accepted by the Water Management Board. The City of Dell Rapids holds Water Right No. 562-3 and authorizes a diversion rate of 1.445 cfs from both the Big Sioux: Sioux Falls aquifer and the Sioux Quartzite (Water Rights, 2025c). However, the developed wells for Water Right No. 562-3 are completed into the Sioux Quartzite aquifer and will not be included in the hydrologic budget. Water Permit No. 8281-3 for the MCWC does not appropriate additional water and will also not be included in the budget (Water Rights, 2025c). Water rights limited by an annual volume are assumed to pump the entire volume. The estimated average appropriative use for the nine non-irrigation water rights is approximately 499 acre-feet/year, shown on **Table 3**.

Table 3. Estimated annual appropriative use by non-irrigation water rights/permits from the BS:SF not held by the City of Sioux Falls (Water Rights, 2025c).

Permit No.	Name	Use Type	Diversion Rate (cfs)	Annual volume limit (ac-ft)	Estimated annual use (ac-ft)
4843-3	KOA Kampgrounds of Sioux Falls	COM/DOM	0.15	0.0	65
5019-3	Midwest Lawn Care Corp.	COM	0.23	0.0	100
5681-3	St. Michael Cemetary	COM	0.06	0.0	26
7174-3	The Truck Washout	COM	0.50	60.0	60
7247-3	Sioux Falls Regional Airport	COM	0.11	0.0	48
4620-3	Climate Systems Inc.	GEO/IRR	0.40	0.0	174
4880-3	Henry Carlson	GEO	0.06	0.0	26
8281-3	MCWC	RWS	0.00	0.0	0
562-3	City of Dell Rapids	MUN	1.445	0.0	0
TOTAL					499
COM: Commercial, DOM: Domestic, GEO: Geothermal, IRR: Irrigation, MUN: Municipal, RWS: Rural Water System					

Of the 61 regular water rights/permits, 13 are for non-irrigation (municipal and rural water system use) and are required to report to the Chief Engineer. The entities required to report are the City of Sioux Falls, Lincoln County RWS, and MCWC. The Lincoln County RWS purchases 100% of their water from Lewis and Clark Regional Water System and Water Right No. 6162-3 has not reported use since 2013, therefore average annual use is estimated to be zero ac-ft (Drinking Water, 2025). Of the 61 regular water rights/permits, 33 belong to the City of Sioux Falls for municipal use and are not required to report to the Chief Engineer. After inquiry to the City of Sioux Falls during February 2025, the Water Rights Program has received information on the total pumping from the BS:SF aquifer from the City of Sioux Falls, and not only the amount pumped from the 10 water rights that are required to report. There were decreases to the amount of water pumped from the BS:SF aquifer in 2015 due to contaminated wells and greater water use from the Lewis and Clark Regional Water System (Lewis, 2025). To reflect current use, the updated annual reported pumping from the years 2014 to 2023 will be averaged to estimate total use by the City of Sioux Falls from the BS:SF aquifer. The last ten years of reported data (2014 to 2023) from MCWC will also be averaged to estimate annual use from that entity. These data can be seen on **Table 4**.

Table 4. Annual water use reported to the Chief Engineer from the City of Sioux Falls, MCWC, and Lincoln County RWS since 1990 (Buhler and Goodman, 1996; Lewis, 2025; Water Rights, 2025e). All volumes are reported in acre-feet. Reported pumping for MCWC and Lincoln RWS are not yet available for the year 2024.

Year	Sioux Falls	Lincoln RWS	MCWC
1990	17,788		1,253
1991	10,257		1,400
1992	12,334		1,458
1993	9,956		1,489
1994	10,597		1,722
1995	8,211		1,753
1996	10,586		1,966
1997	12,383		1,842
1998	11,647		1,967
1999	11,507		2,098
2000	9,014	0	2,219
2001	12,873	0	2,314
2002	6,788	0	2,405
2003	11,402	695	2,630
2004	12,284	858	2,636
2005	16,712	881	2,661
2006	17,540	876	2,888
2007	14,992	935	2,722
2008	13,113	64	2,725
2009	16,713	402	2,552
2010	18,401	450	2,468
2011	22,279	457	2,662
2012	15,935	333	2,839
2013	14,019	7	2,338
2014	11,745	0	2,262
2015	8,992	0	2,252
2016	10,003	0	2,370
2017	9,989	0	2,412
2018	9,429	0	2,366
2019	7,833	0	2,026
2020	11,975	0	2,007
2021	10,340	0	2,460
2022	10,517	0	2,417
2023	11,137	0	2,497
2024	9,967	n/a	n/a
Avg. 2014-2023	10,196	0	2,307
Avg. Full Record	12,264	248	2,238

There are domestic wells completed into the BS:SF aquifer that do not require a water right, so the withdrawal amount from those wells is unknown (Water Rights, 2025d). Due to their low diversion rates, withdrawals from domestic wells is estimated to be negligible to the hydrologic budget. Furthermore, there are a number of rural water systems that serve the area where these domestic wells are located and thus some of these wells may no longer be in use.

Water Availability: Observation Well Analysis

Administrative Rule of South Dakota (ARSD) 74:02:05:07 requires that the Water Management Board shall rely upon the record of observation well measurements in addition to other data to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge of the aquifer. The Water Rights Program monitors 11 observation wells completed into the BS:SF aquifer. The nearest observation wells to the new horizontal collector well are MA-80M (2.6 miles north) and MA-80L (3.7 miles northeast). Hydrographs for these wells are shown in **Figures 1 and 2** below. Static water level elevations are referenced to the top of casing at each well. These observation well hydrographs illustrate climatic conditions, seasonal precipitation patterns, and, to a minor degree, pumping from the BS:SF aquifer in close proximity to the observation wells (Water Rights, 2025b).

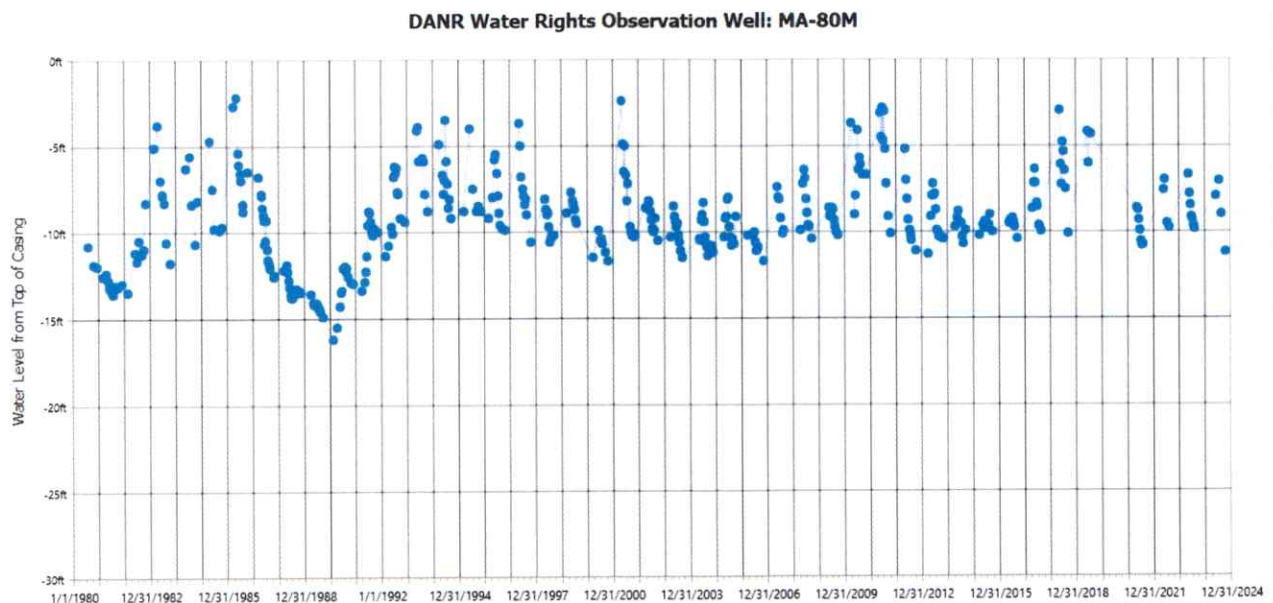


Figure 1. Hydrograph of observation well MA-80M

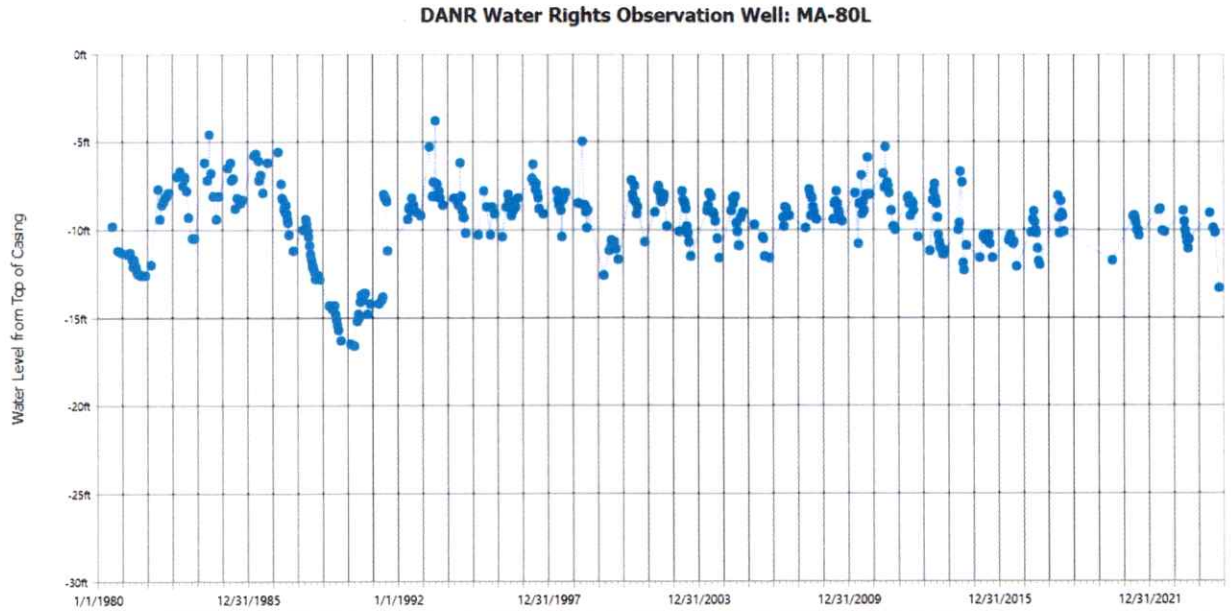


Figure 2. Hydrograph of observation well MA-80L

Figures 1 and 2 reflect stable water levels over the period of record. Times of dry climatic conditions align with lower static water levels during those periods. Notably, the late 1980s and early 1990s at which time there were board hearings concerning the decreasing water levels in the BS:SF aquifer. However, at that time the decrease was mostly attributed to the multiple year drought. This becomes evident as the aquifer recovers in the mid-1990s and maintains stability up to the present day. Static water levels bounce back after withdrawals and generally have had less than five feet of fluctuation in response to climatic conditions and withdrawals. This indicates that the overall recharge (induced and natural), and natural discharge govern the long-term fluctuations in water levels of the aquifer rather than the impacts of pumping. Hydrographs for other wells completed into the BS:SF aquifer show the same trends (Water Rights, 2025b).

Water Availability: Summary

Natural recharge to the BS:SF aquifer is estimated to range from 1,908 to 13,176 ac-ft per year. The total average annual withdrawals from the 72 users (including full future use development) are estimated to be 21,912 ac-ft, shown in **Table 5**. At the current level of development, induced recharge from the Big Sioux River offsets the difference between natural recharge estimates and withdrawals, and this is evident in the observation well data. Flows are available in the river to contribute additional recharge water for the aquifer, and this is the basis of the 32,200 ac-ft per year limitation on the aquifer established in the 1991 declaratory ruling (Water Rights, 1991).

Table 5. Summary of annual use from the BS:SF aquifer (Drinking Water, 2025; Lewis, 2025; Water Rights, 2025a, 2025c and 2025e).

Type	No. permits	Estimated annual use (ac-ft)
Future use	5	8,675
Temporary Use	6	0
Irrigation (excluding temp. use)	6	235
Non-Irrigation Non-Report (do not belong to City of Sioux Falls)	9	499
Reported Use by Lincoln RWS	1	0
Reported Use by MCWC	2	2,307
Reported Use by City of Sioux Falls	10	10,196
Non-Reported Use by City of Sioux Falls	33	
Total	72	21,912

The majority of appropriations are by the City of Sioux Falls. Although the amount of water actually utilized from the BS:SF aquifer annually is less than the 32,200 ac-ft limit, the amount of water under permit far exceeds that volume. It is reasonable to believe that actual usage will remain at the level substantially below that permitted. Nonetheless, the existence of a large amount of unused water under permit suggests caution in the consideration of new applications in order to provide a reasonable margin for expanded use under existing permits and future use reservations.

At the current level of development, it is not likely that withdrawals from appropriative users will equate to 32,200 acre-feet per year. However, development of water reserved by future use permits and expansion of existing water rights could cause annual pumping to reach the established annual volume limitation. Water use is currently restricted on a priority basis if there are conflicts of water availability and currently, only temporary use permits pursuant to SDCL 46-5-39 are issued by the Water Rights Program for new appropriation requests.

Since this application is not requesting to appropriate additional water, but rather transfer existing water right diversion locations to the new horizontal collector well, the use of water is already accounted for and water availability does not need to be evaluated pursuant to SDCL 46-2A-12. As stated earlier, this hydrologic budget is provided for the information of the Chief Engineer and the board.

Potential for Unlawful Impairment

According to SDCL 46-2A-12 and 46-5-30.4, a change of diversion points for Water Rights Nos. 264-3, 274-3, 1270-3, 2244-3, 1347-3 to the new horizontal collector well requires analysis to determine the potential for unlawful impairment.

There are currently 72 water rights/permits and temporary use permits authorized to appropriate water from the BS:SF aquifer, five of which are future use permits reserving water. The closest water rights to the new horizontal collector well not belonging to the City of Sioux Falls are KOA Kampgrounds of Sioux Falls (Water Right No. 4843-3) located approximately 1.8 miles east and The Truck Washout (Water Right No. 7174-3) located approximately 1.8 miles southeast (Water Rights, 2025c).

There are domestic wells on file with the Water Rights Program that are completed into the BS:SF aquifer, with two domestic wells on file (not held by the applicant) located less than a mile southeast. There are potentially other domestic wells that are not on file with the Water Rights Program (Water Rights, 2025d). The location of domestic wells as discussed above is based off of the location provided by the well driller on the well completion report submitted to the Water Rights Program.

There were numerous pumping tests done on the horizontal collector well that were submitted with this application. Drawdown analysis indicated that 72 hours of pumping at a constant rate of 5,000 gallons per minute, observed a static water level drawdown of about 34 feet in the collector well. Nearby monitoring wells (SF024 and SF025, installed by the City of Sioux Falls) located approximately 56 feet and 396 feet from the collector well, indicated drawdown of 30.39 feet and 6.71 feet, respectively. At a 5,000 gpm pumping rate over 72 hours there was relatively limited drawdown in the monitoring well 396 feet away, and the recommended long-term pumping rate for the new well is approximately 3,500 gpm (7.75 cfs) which is much less than the tested rate of 5,000 gpm (11.14 cfs). The collector well is also on the bank of the river, indicating a positive drawdown boundary and as a result the collector well will experience less drawdown than a well further away from the river. The saturated thickness of the nearest domestic well is approximately 21 feet, and the domestic well is over 2,500 feet away.

Domestic wells in South Dakota have a priority over other use types pursuant to SDCL 46-1-5(1). In giving preference to domestic use over appropriative rights does so without regard to 1) whether lowered groundwater levels are due to drought, 2) the location of the domestic wells in the aquifer, or 3) the thickness of the water bearing sands and gravel; subject to compliance with minimum requirements for adequate wells, which are defined in ARSD 74:02:04:20(6) as:

“A well constructed or rehabilitated to allow various withdrawal methods to be used, to allow the inlet to the pump to be placed not less than 20 feet into the saturated aquifer or formation material when the well is constructed, or to allow the pump to be placed as near to the bottom of the aquifer as is practical if the aquifer thickness is less than 20 feet.”

Assuming that nearby wells to the new horizontal collector well meet the adequate well rule (ARSD 74:02:04:20(6)), the wells are protected from well interference. Regardless, any drawdown as a result of the new horizontal collector well is not expected to unlawfully impair nearby adequate wells.

Conclusions

1. Water Permit Application No. 8911-3 requests to transfer water annually from the diversion authority of Vested Water Right No. 264-3 (1.55 cfs and 1,120 ac-ft) with a priority date of January 1st 1943; Vested Water Right No. 274-3 (2.0 cfs and 1,448 ac-ft) with a priority date of January 1st 1952; Water Right No. 1270-3 (1.66 cfs and 348 ac-ft) with a priority date of February 23rd 1966; Water Right No. 2244-3 (1.33 cfs and 369 ac-ft) with a priority date of April 8th 1975; and Water Right No. 1347-3 (1.986 cfs and 968 ac-ft) with a priority date of January 10th 1967. This application amends Water Right Nos. 1270-3 and 2244-3 by changing the water use from irrigation to municipal use and authorizing use of water year-round. This application would collectively authorize a total diversion authority of 8.526 cfs and an annual volume of 4,253 ac-ft for a new horizontal collector well completed into the Big Sioux: Sioux Falls aquifer. The new collector well is located in the NE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 29, T102N-R49W to serve municipal water uses.
2. On November 14, 1991, through a declaratory ruling, the Water Management Board established a limitation on the amount of water pumped from the BS:SF aquifer to 32,200 ac-ft per year and if that limit is reached, water use will be restricted on a priority date basis. There is currently not a reasonable probability that unappropriated water is available for new appropriations.
3. This application does not seek to increase the City of Sioux Falls' total diversion rate or the total annual volume of water authorized by Water Right Nos. 264-3, 274-3, 1270-3, 2244-3, and 1347-3, and therefore water availability is not an issue. Information on water availability was included in this report for the benefit of the Water Management Board and the Chief Engineer.
4. There is a reasonable probability that the proposed diversion by Water Permit Application No. 8911-3 will not unlawfully impair adequate wells for existing water right/permit holders and domestic users.
5. The City of Sioux Falls shall report to the Chief Engineer annually the total amount of water withdrawn from the BS:SF aquifer from this permit, if approved, and all other permitted diversions from the Big Sioux: Sioux Falls aquifer.



Brittan R. Hullinger

Natural Resources Engineer I
SD DANR, Water Rights Program

Reviewed by:



Adam Mathiowetz, P.E.

Natural Resources Engineer IV
SD DANR, Water Rights Program

References

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Rodriguez, Rachel

Cancelled

From: Rodriguez, Rachel
Sent: Wednesday, February 26, 2025 12:26 PM
To: Myers, Chris
Subject: Water Permit Nos. 8911-3 & 8912-3 - Public Notice
Attachments: 8911-3 Rec.pdf; 8912-3 Rec.pdf; 8911-3 & 8912-3 Ltr.pdf; 8911-3 & 8912-3 PubNotice.pdf; ArgusLeader Info.pdf

Good afternoon,

Attached is a copy of the report, chief engineer's recommendation, and information regarding the public notice for your water permit application. I believe you would also like the notice published in the Dakota Scout. However, I do not have the newspaper's information to submit the request. Please let me know if I can assist in submitting on your behalf for publication. As stated in the letter, please contact the paper(s) as soon as possible to authorize publication and arrange for payment. 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



Order Confirmation

Not an Invoice

Cancelled

Account Number:	1248805
Customer Name:	City of Sioux Falls - Supt Water Division
Customer Address:	City of Sioux Falls - Supt Water Division 2100 N Minnesota AVE Sioux Falls SD 57104-0111
Contact Name:	_ DEFAULT
Contact Phone:	
Contact Email:	ggraverson@siouxfalls.org
PO Number:	

Date:	02/26/2025
Order Number:	11077904
Prepayment Amount:	\$ 0.00

Column Count:	1.0000
Line Count:	344.0000
Height in Inches:	0.0000

Print

Product	#Insertions	Start - End	Category
SFA SiouxFalls Argus Leader	1	03/06/2025 - 03/06/2025	Public Notices
SFA argusleader.com	1	03/06/2025 - 03/06/2025	Public Notices

As an incentive for customers, we provide a discount off the total order cost equal to the 3.99% service fee if you pay with Cash/Check/ACH. Pay by Cash/Check/ACH and save!

Total Cash Order Confirmation Amount Due	\$109.76
Tax Amount	\$0.00
Service Fee 3.99%	\$4.38
Cash/Check/ACH Discount	-\$4.38
Payment Amount by Cash/Check/ACH	\$109.76
Payment Amount by Credit Card	\$114.14

Order Confirmation Amount

\$109.76

Rodriguez, Rachel

Cancelled

From: Gannett Legals Public Notices 4 <ganlegpubnotices4@gannett.com>
Sent: Wednesday, February 26, 2025 12:05 PM
To: Rodriguez, Rachel
Subject: RE: [EXT] 11077904 Water Permit Nos. 8911-3 & 8912-3 - Public Notice
Attachments: 11077904.pdf

Good Afternoon,

Please find your order confirmation and proof of ad attached.

Your ad is set to run in the Argus Leader on March 6. The order cost is \$109.76 which includes an affidavit, that will be mailed to you 7-10 business days after the last day of the ad printing.

All orders are subject to a 3.99% service fee. As an incentive for customers, we provide a discount off the order cost equal to the 3.99% service fee if you pay with ACH. Pay by ACH and Save!
Final order cost provided at time of payment and via a receipt.

Your notice is scheduled to run per your request and will publish unless you reply to this email requesting changes or to cancel.

If you would like to utilize our online self-serve ad portal to place your legal notices in the future, please visit your local publication's online classifieds legal section. There, you can conveniently submit and immediately preview your notices anytime, 24/7.

Thank you!

Brittany Grady
Public Notice Representative



Office: 844-254-5287

From: Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>
Sent: Wednesday, February 26, 2025 11:32 AM
To: SFA-Legals mbx <allegals@gannett.com>
Subject: 11077904 Water Permit Nos. 8911-3 & 8912-3 - Public Notice

Attached is a notice to be published on March 6, 2025.

City of Sioux Falls Water Division, 2100 N Minnesota Avenue, Sioux Falls SD 57104, 605-373-6944,
Chris.Myers@SiouxFalls.gov 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,

Rodriguez, Rachel

Cancelled

From: Rodriguez, Rachel
Sent: Wednesday, February 26, 2025 11:31 AM
To: Newspaper Notices
Subject: Water Permit Nos. 8911-3 & 8912-3 - Public Notice
Attachments: 8911-3 & 8912-3 public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on March 6, 2025.

City of Sioux Falls Water Division, 2100 N Minnesota Avenue, Sioux Falls SD 57104, 605-373-6944 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



Rodriguez, Rachel

Cancelled

From: Rodriguez, Rachel
Sent: Wednesday, February 26, 2025 11:32 AM
To: legals@argusleader.com
Subject: Water Permit Nos. 8911-3 & 8912-3 - Public Notice
Attachments: 8911-3 & 8912-3 public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on March 6, 2025.

City of Sioux Falls Water Division, 2100 N Minnesota Avenue, Sioux Falls SD 57104, 605-373-6944,
Chris.Myers@SiouxFalls.gov 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





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

Cancelled

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

February 26, 2025

City of Sioux Falls
c/o Chris Myers
2100 N Minnesota Avenue
Sioux Falls SD 57104

Dear Mr. Myers:

Water Permit Application Nos. 8911-3 and 8912-3 for municipal use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Lennox Independent printed in Lennox SD (Ph # 605 647-2284) and the Argus Leader printed in Sioux Falls SD (see attachment for contact number). You will need to contact the newspapers and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the 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 newspapers to authorize publication of your Notice and to arrange for payment. Early contact with the papers can eliminate delays. Upon receiving authorization from you, the publishers have been instructed to publish your notice. The newspapers have 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 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.

Cancelled

NOTICE OF APPLICATION NO. 8911-3 to Amend Water Right Nos. 1270-3 and 2244-3 and Transfer
Diversion Authority and APPLICATION NO. 8912-3 to Amend Future Use Permit No. 448-3 and Place Water
Appropriated and Reserved by Future Use Permit No. 448-3 to Beneficial Use

Notice is given that City of Sioux Falls Water Division, 2100 N Minnesota Avenue, Sioux Falls SD 57104, has filed an Water Permit Application No. 8911-3 to replace an existing well for Vested Water Right No. 274-3 with a new horizontal collector well (63.8 feet deep) located in the NE 1/4 SW 1/4 Section 29-T102N-R49W on the north side of the City of Sioux Falls SD and transfer the diversion rate and volume authority authorized by the following Water Rights to the new horizontal collector well: No. 274-3 (2.0 cubic feet of water per second [cfs] and 1,448 acre-feet [ac-ft]), 264-3 (1.55 cubic feet of water per second [cfs] and 1,120 acre-feet [ac-ft]), No. 1270-3 (1.66 cfs and 348 ac-ft), No. 2244-3 (1.33 cfs and 369 ac-ft), and No. 1347-3 (1.986 cfs and 968 ac-ft), for a total of 8.526 cfs, and 4,253 ac-ft annually from the Big Sioux: Sioux Falls Aquifer. Vested Water Right No. 274-3 was issued to the City of Sioux Falls with a priority date of January 1, 1952, for municipal water use from a well (Big Sioux: Sioux Falls Aquifer) located in the SE1/4 NW1/4 section 29-T102N-R49W. The new horizontal collector well replaces the well authorized by No. 274-3 with the 2.0 cfs and 1,448 ac-ft authorized by No. 274-3 being transferred to the new horizontal collector well. Vested Water Right No. 264-3 was issued to the City of Sioux Falls with a priority date of January 1, 1943, for municipal water use from a well (Big Sioux: Sioux Falls Aquifer) located in the NE1/4 SE1/4 section 5-T101N-R49W. The well authorized by No. 264-3 is being decommissioned with the 1.55 cfs and 1,120 ac-ft authorized by No. 264-3 being transferred to the new horizontal collector well. Water Permit No. 1270-3 was issued to R. C. Sweetman with a priority date of February 23, 1966, and is licensed for irrigation of 116 acres from one well (Big Sioux: Sioux Falls Aquifer) all located in the S1/2 section 20-T102N-R49W. This water right was transferred to the City of Sioux Falls on June 27, 2023. This application amends No. 1270-3 by changing the water use from irrigation to municipal use, authorizing use of water year-round, and then transferring the diversion authority of 1.66 cfs and 348 ac-ft from No. 1270-3 to the new horizontal collector well. Water Permit No. 2244-3 was issued to Dale Swartz with a priority date of April 8, 1975, and is licensed for irrigation of 123 acres from one well (Big Sioux: Sioux Falls Aquifer) all located in the SE1/4 section 21-T103N-R49W. This water right was transferred to the City of Sioux Falls on November 25, 2009. This application amends No. 2244-3 by changing the water use from irrigation to municipal use, authorizing use of water year-round, and then transferring the diversion authority of 1.33 cfs and 369 ac-ft from No. 2244-3 to the new horizontal collector well. Water Permit No. 1347-3 was issued to the City of Sioux Falls with a priority date of January 10, 1967, for municipal water use from a well (Big Sioux: Sioux Falls Aquifer) located in the SW1/4 section 4-T101N-R49W. This application transfers the remaining diversion authority of 1.986 cfs and 968 ac-ft from No. 1347-3 to the new horizontal collector well.

Notice is given that City of Sioux Falls Water Division, 2100 N Minnesota Avenue, Sioux Falls SD 57104, has filed Water Permit Application No. 8912-3 to amend Future Use Permit No. 448-3 by expanding the future use reservation area and to construct and place to beneficial use a portion of the water appropriated and reserved by Future Use Permit No. 448-3. The amount of reserved water to be placed to beneficial municipal use is 1,747 acre-feet of water annually, at a pump rate of 1.518 cubic feet of water per second (cfs) to be used in combination with the 8.526 cfs pump rate specified on Application No. 8911-3 from a new horizontal collector well (same well described above for Application No. 8911-3) completed into the Big Sioux: Sioux Falls Aquifer (63.8 feet deep) located in the NE 1/4 SW 1/4 Section 29-T102N-R49W on the north side of the City of Sioux Falls SD. If this application and Application No. 8911-3 are both approved, the applications will authorize a

combined, total appropriation of 10.044 cfs and 6,000 ac-ft annually from the new horizontal collection well. Future Use Permit No. 448-3 will have 2,095 ac-ft remaining in reserve if Application No. 8912-3 is approved.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8911-3 with qualifications because 1) existing domestic water uses and water rights will not be unlawfully impaired, 2) it is a beneficial use of water, and 3) it is in the public interest as it pertains to matters within the regulatory authority of the Water Management Board.

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The Chief Engineer's recommendations with qualifications, the applications, 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 one, or both, of these applications or recommendations shall allege that the application(s), 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(s), or other matter concerning the application(s) 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(s) with BOTH the applicant and Chief Engineer. A petition opposing the application(s) shall be filed on a form provided by the Chief Engineer. The petition form is available online at <https://danr.sd.gov/public> or by contacting the Chief Engineer. The 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 Chief Engineer's recommendation(s), the applicant shall also file a petition. A petition filed by either an interested person or the applicant must be filed by March 17, 2025.

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

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Published once at the total approximate cost of_



**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 NEWSPAPERS RIGHT AWAY.**

July 8, 2025

City of Sioux Falls Water Division
c/o Chris Myers
2100 N Minnesota Avenue
Sioux Falls SD 57104

Dear Mr. Myers:

Water Permit Application Nos. 8911-3 and 8912-3 for municipal use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Lennox Independent printed at Lennox SD (Ph # 605 647-2284) and the Argus Leader printed at Sioux Falls SD (see attachment for contact number). You will need to contact the newspapers 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 newspapers to authorize publication of your Notice and to arrange for payment. Early contact with the papers can eliminate delays. Upon receiving authorization from you, the publishers have been instructed to publish your notice. The newspapers have 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. 8911-3 to Amend Water Right Nos. 1270-3 and 2244-3 and Transfer
Diversion Authority and APPLICATION NO. 8912-3 to Amend Future Use Permit No. 448-3 and Place Water
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Published once at the total approximate cost of_

Rodriguez, Rachel

From: Gannett Legals Public Notices 4 <ganlegpubnotices4@gannett.com>
Sent: Tuesday, July 8, 2025 12:52 PM
To: Rodriguez, Rachel
Cc: chris.myers@siouxfalls.gov
Subject: RE: [EXT] 11479191 8911-3 & 8912-3 City of Sioux Falls - Public Notice
Attachments: 11479191.pdf

Good Afternoon,

Please find your order confirmation and proof of ad attached.

Your ad is set to run in the Argus Leader on July 17. The order cost is \$113.20 which includes an affidavit, that will be mailed to you 7-10 business days after the last day of the ad printing.

Your notice is scheduled to run per your request and will publish unless you reply to this email requesting changes or to cancel.

**Our invoicing is done on a monthly basis.
You will receive an invoice for this ad after the close of the month.**

All orders are subject to a non-refundable 3.99% service fee. As an incentive for customers, we provide a discount off the order cost equal to the 3.99% service fee if you pay by ACH. Pay by ACH and Save! Final order cost provided at time of payment and via a receipt.

Thank you!

Brittany Grady
Public Notice Representative



Office: 844-254-5287

From: Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>
Sent: Tuesday, July 8, 2025 11:56 AM
To: SFA-Legals mbx <allegals@gannett.com>
Subject: 11479191 8911-3 & 8912-3 City of Sioux Falls - Public Notice

Attached is a notice to be published on July 17, 2025.

City of Sioux Falls Water Division, 2100 N Minnesota Avenue, Sioux Falls SD 57104, 605-373-6944,
chris.myers@siouxfalls.gov 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,



Order Confirmation

Not an Invoice

Account Number:	1248805
Customer Name:	City of Sioux Falls - Supt Water Division
Customer Address:	City of Sioux Falls - Supt Water Division 2100 N Minnesota AVE Sioux Falls SD 57104-0111
Contact Name:	_ DEFAULT
Contact Phone:	
Contact Email:	ggraverson@siouxfalls.org
PO Number:	

Date:	07/08/2025
Order Number:	11479191
Prepayment Amount:	\$ 0.00

Column Count:	1.0000
Line Count:	344.0000
Height in Inches:	37.6800

Print

Product	#Insertions	Start - End	Category
SFA SiouxFalls Argus Leader	1	07/17/2025 - 07/17/2025	Govt Public Notices
SFA argusleader.com	1	07/17/2025 - 07/17/2025	Govt Public Notices

As an incentive for customers, we provide a discount off the total order cost equal to the 3.99% service fee if you pay with Cash/Check/ACH. Pay by Cash/Check/ACH and save!

Total Cash Order Confirmation Amount Due	\$113.20
Tax Amount	\$0.00
Service Fee 3.99%	\$4.52
Cash/Check/ACH Discount	-\$4.52
Payment Amount by Cash/Check/ACH	\$113.20
Payment Amount by Credit Card	\$117.72

Order Confirmation Amount	\$113.20
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Rodriguez, Rachel

From: Newspaper Notices <notices@lennoxnews.com>
Sent: Tuesday, July 8, 2025 11:58 AM
To: Rodriguez, Rachel
Subject: Re: [EXT] 8911-3 & 8912-3 City of Sioux Falls - Public Notice

Received, thank you!

Julia Eng
notices@lennoxnews.com

On Jul 8, 2025, at 11:53 AM, Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us> wrote:

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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
<image001.png>

<8911-3 & 8912-3 public.short_final.docx><FORM8.FRM.doc>



PO Box 630567 Cincinnati, OH 45263-0567

AFFIDAVIT OF PUBLICATION

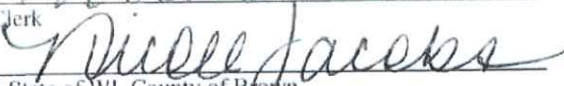
City of Sioux Falls - Supt Water Division
2100 N Minnesota AVE
Sioux Falls SD 57104-0111

STATE OF WISCONSIN, COUNTY OF BROWN

The Argus Leader, a daily newspaper published in the city of Sioux Falls, Minnehaha County, State of South Dakota, and personal knowledge of the facts herein state and that the notice hereto annexed was Published in said newspapers in the issue:

07/17/2025

and that the fees charged are legal.
Sworn to and subscribed before on 07/17/2025

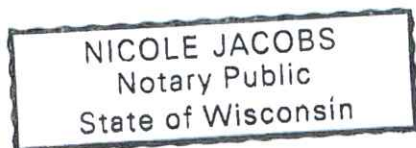

Legal Clerk

Notary, State of WI, County of Brown
8-21-26

My commission expires

Publication Cost:	\$113.20	
Tax Amount:	\$0.00	
Payment Cost:	\$113.20	
Order No:	11479191	# of Copies:
Customer No:	1248805	1
PO #:		

THIS IS NOT AN INVOICE!

Please do not use this form for payment remittance.



NOTICE OF
APPLICATION NO. 8911-3
to Amend Water Right
Nos. 1270-3 and 2244-3 and
Transfer Diversion
Authority and
APPLICATION NO. 8912-3
to Amend Future Use
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the future use area expansion will not increase the volume of water appropriated, 2) the amendment and placing water to beneficial reserved for future use by the City of Sioux Falls can be done without unlawful impairment of existing domestic water uses and water rights, 4) the proposed use is a beneficial use and 5) it is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board. The Chief Engineer's recommendations with qualifications, the applications, 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.

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The petition shall include a statement describing the unique injury upon approval of the application(s) on the petitioner, the petitioner's reasons for opposing the application(s), 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(s) with the Chief Engineer. The comment shall be filed on a form provided by the Chief Engineer and is available online at

<https://danr.sd.gov/public>
or by calling (605) 773-3352
or writing the 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 July 28, 2025.

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

Published July 17, 2025 at the total approximate cost of \$113.20 and may be viewed free of charge at www.sdpublishnotices.com.

AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA

:SS

COUNTY OF LINCOLN

Julia Eng

being first duly sworn, disposes and says: That (he/she) is a resident of the County of Lincoln and State of South Dakota; that THE LENNOX INDEPENDENT is a weekly legal newspaper of general circulation, printed and published in Lennox, in said County and State, and is now, and has been such newspaper continuously, during all the times hereinafter mentioned; that the affiant is affiliated with said newspaper as employer or employee and has personal knowledge of all the facts stated in this affidavit, and the notice and advertisement headed

Notice of Application No. 8911-3

a printed copy of which is hereonto attached and made a part hereof, was printed and published in the said newspaper 1 successive issues. That the first publication of said notice in said newspaper aforesaid was on Thursday the 17 day of July A.D., 20 25 and that the succeeding publication was severally

on Thursday the _____ day of _____ A.D., 20 _____
on Thursday the _____ day of _____ A.D., 20 _____
on Thursday the _____ day of _____ A.D., 20 _____
on Thursday the _____ day of _____ A.D., 20 _____
on Thursday the _____ day of _____ A.D., 20 _____
on Thursday the _____ day of _____ A.D., 20 _____

that the fees charged for the printing and publication of said notice and advertisement in said newspaper as aforesaid were 80 Dollars and 69 Cents, and that said fees for the printing and publishing of said notice and advertisement, and for the affidavit as aforesaid, have been fully paid; that the full amount of the fee charged for the publishing of the said attached and annexed notice and advertisement inures to the benefit of the publishers of the said Lennox Independent, that no agreement or understanding for the division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any person, whomsoever.

Julia Eng

Subscribed and sworn to before me this 1 day of

Aug, 20 25.

Anne Hornum

Notary Public

Lincoln County, South Dakota

My Commission expires Oct. 26, 20 30.

RECEIVED

AUG 08 2025

OFFICE OF
WATER

NOTICE OF APPLICATION NO.
8911-3 to Amend Water Right
Nos. 1270-3 and 2244-3 and
Transfer Diversion Authority
and APPLICATION NO. 8912-3 to
Amend Future Use Permit No.
448-3 and Place Water
Appropriated and Reserved by
Future Use Permit No. 448-3 to
Beneficial Use

Notice is given that City of Sioux Falls Water Division, 2100 N Minnesota Avenue, Sioux Falls SD 57104, has filed an Water Permit Application No. 8911-3 to replace an existing well for Vested Water Right No. 274-3 with a new horizontal collector well (63.8 feet deep) located in the NE 1/4 SW 1/4 Section 29-T102N-R49W on the north side of the City of Sioux Falls SD and transfer the diversion rate and volume authority authorized by the following Water Rights to the new horizontal collector well: No. 274-3 (2.0 cubic feet of water per second [cfs] and 1,448 acre-feet [ac-ft]), No. 264-3 (1.55 cubic feet of water per second [cfs] and 1,120 acre-feet [ac-ft]), No. 1270-3 (1.66 cfs and 348 ac-ft), No. 2244-3 (1.33 cfs and 369 ac-ft), and No. 1347-3 (1.986 cfs and 968 ac-ft), for a total of 8.526 cfs, and 4,253 ac-ft annually from the Big Sioux: Sioux Falls Aquifer.

Vested Water Right No. 274-3 was issued to the City of Sioux Falls with a priority date of January 1, 1952, for municipal water use from a well (Big Sioux: Sioux Falls Aquifer) located in the SE 1/4 NW 1/4 section 29-T102N-R49W. The new horizontal collector well replaces the well authorized by No. 274-3 with the 2.0 cfs and 1,448 ac-ft authorized by No. 274-3 being transferred to the new horizontal collector well. Vested Water Right No. 264-3 was issued to the City of Sioux Falls with a priority date of January 1, 1943, for municipal water use from a well (Big Sioux: Sioux Falls Aquifer) located in the NE 1/4 SE 1/4 section 5-T101N-R49W. The well authorized by No. 264-3 is being decommissioned with the 1.55 cfs and 1,120 ac-ft authorized by No. 264-3 being transferred to the new horizontal collector well. Water Permit No. 1270-3 was issued to R. C. Sweetman with a priority date of February 23, 1966, and is licensed for irrigation of 116 acres from one well (Big Sioux: Sioux Falls Aquifer) all located in the S 1/2 section 20-T102N-R49W. This water right was transferred to the City of Sioux Falls on June 27, 2023. This application amends No. 1270-3 by changing the water use from irrigation to municipal use, authorizing use of water year-round, and then transferring the diversion authority of 1.66 cfs and 348 ac-ft from No. 1270-3 to the new horizontal collector well. Water Permit No. 2244-3 was issued to Dale Swartz with a priority date of April 8, 1975, and is licensed for irrigation of 123 acres from one well (Big Sioux: Sioux Falls Aquifer) all located in the SE 1/4 section 21-T103N-R49W. This water right was transferred to the City of Sioux Falls on November 25, 2009. This application amends No. 2244-3 by changing the water use from irrigation to municipal use, authorizing use of water year-round, and then transferring the diversion authority of 1.33 cfs and 369 ac-ft from No. 2244-3 to the new horizontal collector well. Water Permit No. 1347-3 was issued to the City of Sioux Falls with a priority date of January 10, 1967, for municipal water use from a well (Big Sioux: Sioux Falls Aquifer) located in the SW 1/4 section 4-T101N-R49W. This application transfers the remaining diversion authority of 1.986 cfs and 968 ac-ft from No. 1347-3 to the new horizontal collector well.

Notice is given that City of Sioux Falls Water Division, 2100 N Minnesota Avenue, Sioux Falls SD 57104, has filed Water Permit Application No. 8912-3 to amend Future Use Permit No. 448-3 by expanding the future use reservation area and to construct and place to beneficial use a portion of the water appropriated and reserved by Future Use Permit No. 448-3. The amount of reserved water to be placed to beneficial municipal use is 1,747 acre-feet of water annually, at a pump rate of 1.518 cubic feet of water per second (cfs) to be used in combination with the 8.526 cfs pump rate specified on Application No. 8911-3 from a new horizontal collector well (same well described above for Application No. 8911-3) completed into the Big Sioux: Sioux Falls Aquifer (63.8 feet deep) located in the NE 1/4 SW 1/4 Section 29-T102N-R49W on the north side of the City of Sioux Falls SD. If this application and Application No. 8911-3 are both approved, the ap-

plications will authorize a combined, total appropriation of 10.044 cfs and 6,000 ac-ft annually from the new horizontal collection well. Future Use Permit No. 448-3 will have 2,095 ac-ft remaining in reserve if Application No. 8912-3 is approved.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8911-3 with qualifications because 1) existing domestic water uses and water rights will not be unlawfully impaired, 2) it is a beneficial use of water, and 3) it is in the public interest as it pertains to matters within the regulatory authority of the Water Management Board.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8912-3 to amend Future Use Permit No. 448-3 to expand the future use area because 1) the future use area expansion will not increase the volume of water appropriated, 2) the amendment and placing water to beneficial reserved for future use by the City of Sioux Falls can be done without unlawful impairment of existing domestic water uses and water rights, 4) the proposed use is a beneficial use and 5) it is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board.

The Chief Engineer's recommendations with qualifications, the applications, 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 one, or both, of these applications or recommendations shall allege that the application(s), 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(s), or other matter concerning the application(s) 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(s) with BOTH the applicant and Chief Engineer. A petition opposing the application(s) shall be filed on a form provided by the Chief Engineer. The petition form is available online at <https://danr.sd.gov/public> or by contacting the Chief Engineer. The 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 Chief Engineer's recommendation(s), the applicant shall also file a petition. A petition filed by either an interested person or the applicant must be filed by July 28, 2025.

The petition shall include a statement describing the unique injury upon approval of the application(s) on the petitioner, the petitioner's reasons for opposing the application(s), 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(s) with the Chief Engineer. The comment shall be filed on a form provided by the Chief Engineer and is available online at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the 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 July 28, 2025.

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

Published once at the total approximate cost of \$88.69 and can be viewed free of charge at www.sdpublicnotices.com. (7-17)

STATE OF SOUTH DAKOTA
County of Lincoln

IN THE CIRCUIT COURT
JUDICIAL CIRCUIT

VS.

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Tuesday, July 8, 2025 2:06 PM
To: Chris.Myers@SiouxFalls.Gov
Subject: 8911-3 & 8912-3 City of Sioux Falls - Public Notice
Attachments: 8911-3 Rec.pdf; 8912-3 Rec.pdf; 8911-3 & 8912-3 Ltr.pdf; 8911-3 & 8912-3 PubNotice.pdf; ArgusLeaderInvoice.pdf

Good afternoon,

Attached is a copy of the report, 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. 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

SEP 10 2025

City of Sioux Falls Water Division
c/o Chris Myers
2100 N Minnesota Avenue
Sioux Falls SD 57104

Dear Mr. Myers:

Enclosed is Water Permit No. 8911-3 authorizing construction of the water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, is enclosed. Please return this completed form after you have finished the system and have put the water to beneficial use. An investigation can then be scheduled so the water license may be issued, thus completing the acquisition of a water right.

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

File Nos. 274-3, 264-3, 1270-3, 2244-3, and 1347-3

WATER RIGHTS PROGRAM -- FILE DOCUMENTATION

NAME: City of Sioux Falls

DATE: August 8, 2025

RE: Approval of Water Permit No. 8911-3 transferring diversion rate and volume authority from other city water rights to a new collector well

The files for each of the following water rights need to have this file documentation added and the database updated accordingly to reflect approval of Water Permit No. 8911-3, City of Sioux Falls.

The list below identifies the amount of water transferred to Permit No. 8911-3 and the amount of water remaining in the water right, if any:

- No. 274-3 (2.0 cfs and 1,448 ac-ft),
 - No water remaining in No. 274-3
- No. 264-3 (1.55 cfs and 1,120 ac-ft),
 - No water remaining in No. 264-3
- No. 1270-3 (1.66 cfs and 348 ac-ft),
 - No water remaining in No. 1270-3
- No. 2244-3 (1.33 cfs and 369 ac-ft),
 - No water remaining in No. 2244-3
- No. 1347-3 (1.986 cfs and 968 ac-ft)
 - This was the last of the remaining water in No. 1347-3

The status in the database of each of the above should be incorporated license "IL." Since no water remains under any of the above water rights, the wells either need to be capped or plugged in accordance with SD Well Construction Standards Chapter 74:02:04.

Ron Duvall, Engineer
SD DANR, Water Rights Program



**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.: 8911-3

Name of Applicant: City of Sioux Falls, c/o Chris Myers

Date of Posting: 7/14/2025

Date of Removal: 9/10/2025

Ron Duvall, Engineer III

9/10/2025

Date

Subscribed and sworn to before me, a notary public, this 10th day of Sept, 20 25.

Notary Public - South Dakota
My commission expires:

(SEAL)

Rachel Rodriguez
My Commission Expires
May 16, 2029





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

April 24, 2026

8911-3, 8912-3

City of Sioux Falls Water Division
C/O Chris Myers
2100 N Minnesota Ave
Sioux Falls, SD 57104

Dear Mr. Myers:

I am writing to acknowledge receipt of the "Notice of Completion of Works" forms that you sent in to let us know that you are completed with your water use systems.

The systems are now ready for inspection. Inspections are done on a county-by-county basis as staff time permits. You have done everything you need to do and the intervening time between the completion of your project and the staff inspection has no bearing on your water permits.

Someone from our office will contact you prior to the inspections to set up a time that is convenient for you. If you have any questions, please contact me.

Sincerely,

Shannon Konst
Water Rights Program
(605) 773-3352
email: Shannon.konst@state.sd.us



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

**NOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USE**

TO: Water Rights Program, DANR
523 E. Capitol Ave.
Pierre, SD 57501-3182
or via email to DANRmail@state.sd.us

Date 4/24/2026

FROM: Chris Myers
(name)
2100 N Minnesota Ave
(address)
Sioux Falls, SD 57104
(city, state, zip)

605-373-6944
(phone)
chris.myers@siouxfalls.gov
(email)

I have completed the construction of the water use system and I have put the water to beneficial use to the maximum extent it is going to be used.

Water Permit No. 8911-3 & 8912-3 states that the water use system is to be constructed by

July 28th, 2030 , and water is to be put to beneficial use by July 28th, 2034 .
(date) (date)

The water use system was completed on 4/15/2026
(date)

Applying the water to beneficial use was completed on 4/15/2026
(date)

You may schedule an inspection so that the water license may be issued.