

NOTICE OF INTENT TO GRANT A PERMIT TO WITHDRAW
WATER FOR STORAGE AND WATER QUALITY IMPROVEMENT PURPOSES
IN POLK COUNTY, IOWA

Notice is hereby given that pursuant to Iowa Code Chapter 455B, there is now on file with the Iowa Department of Natural Resources, Water Supply Engineering Section, 6200 Park Avenue, Suite '200'; Des Moines, Iowa 50321, an application as described below

Central Iowa Water Works, Log #34,477, requests a water use permit to withdraw water from intakes and alluvial aquifer wells along, within, and hydrologically connected with the Raccoon River for the purpose of water storage and natural water quality improvements utilizing the Chain of Lakes Complex and Dale Maffitt Reservoir. The input withdrawals for this permit include the following items:

1. a surface water intake, called the Chain of Lakes Intake, located on and along the Raccoon River in an area following the Raccoon River's channel and generally described as the N ½ of Section 29, the S ½ of Section 30, T78N, R25W, Polk County, Iowa at a maximum pumping rate of 31,250 gallons per minute (gpm) and a maximum annual allocation of 5,475 million gallons per year (mgy);
2. from one horizontal and six vertical wells, separately called the Horizontal Well, and Radial Wells #1-6, at a maximum pumping rate of 20,833 gpm and a maximum annual allocation of 9,125 mgy. Two of the vertical wells, and the southwest half of the Horizontal Well are located on land generally described as the SE ¼ of Section 25, T78N, R26W, Dallas County, Iowa. Four of the vertical wells and the northeast half of the Horizontal Well are located on land generally described as the W ½ of Section 30, T78N, R25W, Polk County, Iowa at a maximum pumping rate of 20,833 gpm and a maximum annual allocation of 9,125 mgy;
3. and from one surface water intake, called Crystal Lake Intake, hydrologically connected to Purple Martin and Hallett lakes, in an area generally described as the SE ¼ of Section 30, T78N, R25W, Polk County at a maximum pumping rate of 10,410 gpm and a maximum annual allocation of 5,475 mgy.

With the cumulative input withdrawal pumping rate limit from all input sources listed in Items 1-3 listed above to be 62,493 gpm, with an annual maximum allocation of 10,950 mgy.

A portion of that water withdrawal from the Raccoon River and associated lakes and aquifers, called the output withdrawal, is to be directed and stored at Dale Maffitt Reservoir, located on land generally described as the SE ¼ of Section 36, T78N, R26W the N½ of Section 1, T77N, R26W, Dallas County, Iowa; the SW ¼ of Section 31, T78N, R25W and the NW ¼ of Section 6, T77N, R25W, Polk County, IA at a maximum output pumping rate of 6,950 gpm at an annual output allocation limit of 10,950 mgy.

The Department has determined that this use of water conforms to the relevant criteria (Iowa Code Chapter 455B and Iowa Administrative Code Chapter 567) and recommends the permit be granted. A copy of the summary report for the application is available upon a request to the department at the address listed above. Comments on the report and on this use of water must be received by September 10, 2026, and should be addressed "ATTN: Chad Fields" and should specify the applicant's log number (34,477).

**IOWA DEPARTMENT OF NATURAL RESOURCES
WATER USE PERMIT SUMMARY REPORT**

Applicant: Central Iowa Water Works – Chain of Lakes
4601 Westown Parkway
West Des Moines, IA 50266

Application Log No.: 34,477

Permit Request

Central Iowa Water Works (Log #34,477) requests a new water use permit to withdraw water from intakes and alluvial aquifer wells along, within and hydrologically connected with the Raccoon River for the purpose of water storage and natural water quality improvements utilizing the Chain of Lakes Complex and Dale Maffitt Reservoir. The input withdrawals for this permit include the following items:

1. a surface water intake, called the Chain of Lakes Intake, located on and along the Raccoon River in an area following the Raccoon River's channel and generally described as the N ½ of Section 29, the S ½ of Section 30, T78N, R25W, Polk County, Iowa at a maximum pumping rate of 31,250 gallons per minute (gpm) and a maximum annual allocation of 5,475 million gallons per year (mgy);
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All sources, wells, and intakes provided in the requested authorization serve the purpose of municipal water source storage, management, and water quality nitrate mitigation for the city of Des Moines/Central Iowa Water Works.

Beneficial Use

Water use for the permit is for water storage and water quality mitigation during periods of water quality issues such as high nitrates in the Raccoon River, water storage for additional capacity, for eventual use as water for a community public water supply called Central Iowa Water Works (CIWW). Iowa Code §455B.262 and Iowa Administrative Code 567-Chapter 50.2 identifies water for municipal/community public water supply purposes use as a beneficial use.

Source Details

The first intake listed in Item 1, the Chain of Lakes Intake, is a movable intake located on the Raccoon River, with the location of the intake being from approximately 0.4 miles West of I-35 to 1.2 miles East of I-35, with the outfall, the Raccoon River Outfall, located in Crystal Lake (Figure 1).

The six vertical Radial wells and the 2,000 ft horizontal well in Item 2 utilize water from the sand and gravel deposits associated with the Raccoon River. Previous studies along the Raccoon River have estimated direct induced recharge from the Raccoon River to wells located in the alluvial sediments to be over 80% during normal flow and above 90% during periods of low flow (see Technical Review 2 for Permit #10,318).

The second intake listed in the application, Crystal Lake Intake, Item 3, is located on the northwest side of Crystal Lake, which is projected to be hydrologically connected to the eastern Purple Martin and Hallet Lakes through culverts (gravity drained). Elevation of the three lakes is similar, and allows the transmittal of water between all three lakes. The outfall from the intake in Crystal Lake is located in Dale Maffitt Lake and it is referred to as the Dale Moffitt Outfall (Figure 1). At 815 feet above sea level, water from Crystal Lake/Purple Martin Lake/Hallett Lake is approximately 100 feet lower in elevation than Dale Maffitt Reservoir. An outflow pump is required to transport the water from the lower elevation treatment plant to the higher elevation Dale Maffitt Lake. Maffitt lake is used as storage for treatment/denitrification, and as a source of water for Central Iowa Water Works – Raccoon River, Permit #5035

Due to hydrologic connection, water levels in the Raccoon River are normally the same elevation as water levels in the Chain of Lakes. The Raccoon River is a major tributary of the Des Moines River in central Iowa, formed by the confluence of three primary forks (the North, Middle, and South Raccoon Rivers) before flowing east to join the Des Moines River just south of downtown Des Moines, approximately eight miles to the east of the Lake Complex listed in this permit application. As measured along its longest fork, the river system extends approximately 226 miles, though the main stem is approximately 30.8 miles in length. The watershed drains approximately 3,500 square miles of west-central Iowa, passing through an intensely cultivated landscape dominated by corn and soybean production and extensive livestock farming. Extensive sand and gravel quarries are along the river approximately eight miles to the west of the Lake Complex.

Streamflow on the Raccoon River is highly variable, reflecting the seasonal patterns of precipitation and snowmelt across the watershed. The nearest continuous discharge stream gage to the Chain of Lakes Complex site is approximately eight miles to the west, located at Van Meter, IA – USGS gage ID 05484500. Figure 2 shows the discharge readings taken at the Van Meter station since 1915. The Raccoon River at Van Meter has annual average daily mean flows in the range of 950 to 1,870 cfs, with spring months producing the highest discharges and late summer producing the lowest. During drought conditions, flows can fall to the 7-day, 10-year low flow (7Q10) of approximately 42 cfs based on the long-term (1915-2026) period of record. In the 1930s and 1950s, long term drought produced near no-flow conditions in the Raccoon River. However, recent 30-year estimates place the 7Q10 near 110 cfs, reflecting relatively higher flow conditions in recent decades. The Raccoon River is also capable of producing significant flood events, the highest flood even being 65,500 cfs in 1993 (July 10th).

Elevated nitrate concentrations are a defining characteristic and persistent challenge of the Raccoon River. Nitrate export from the watershed is among the highest in the United States, driven primarily by the leaching of nitrogen fertilizers through the tile drainage network into the river. Nitrate concentrations exhibit strong seasonal patterns, with peak levels occurring in spring and fall. Concentrations frequently exceed 10 mg/L Nitrate as Nitrogen (the EPA maximum contaminant level for drinking water) approximately half the time during spring and summer months. Water from the Raccoon River is to be stored in the Lakes Complex for the purpose of naturally reducing (denitrifying) the high nitrates in the Raccoon River, improving the water quality before being distributed to the municipal water system.

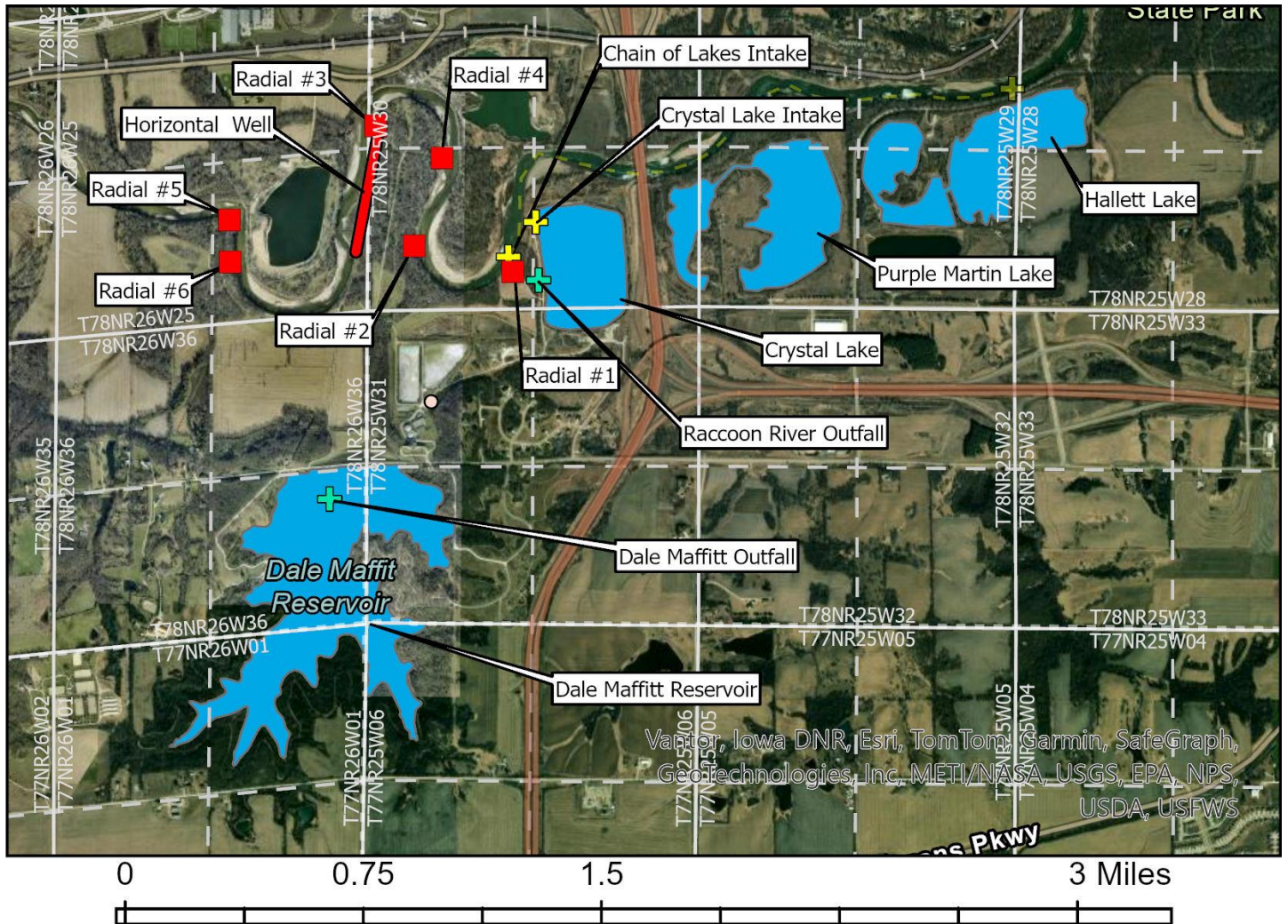


Figure 1. Lakes and river intakes for the Central Iowa Water Works Lakes Complex.

Raccoon River at Van Meter, IA - USGS-05484500

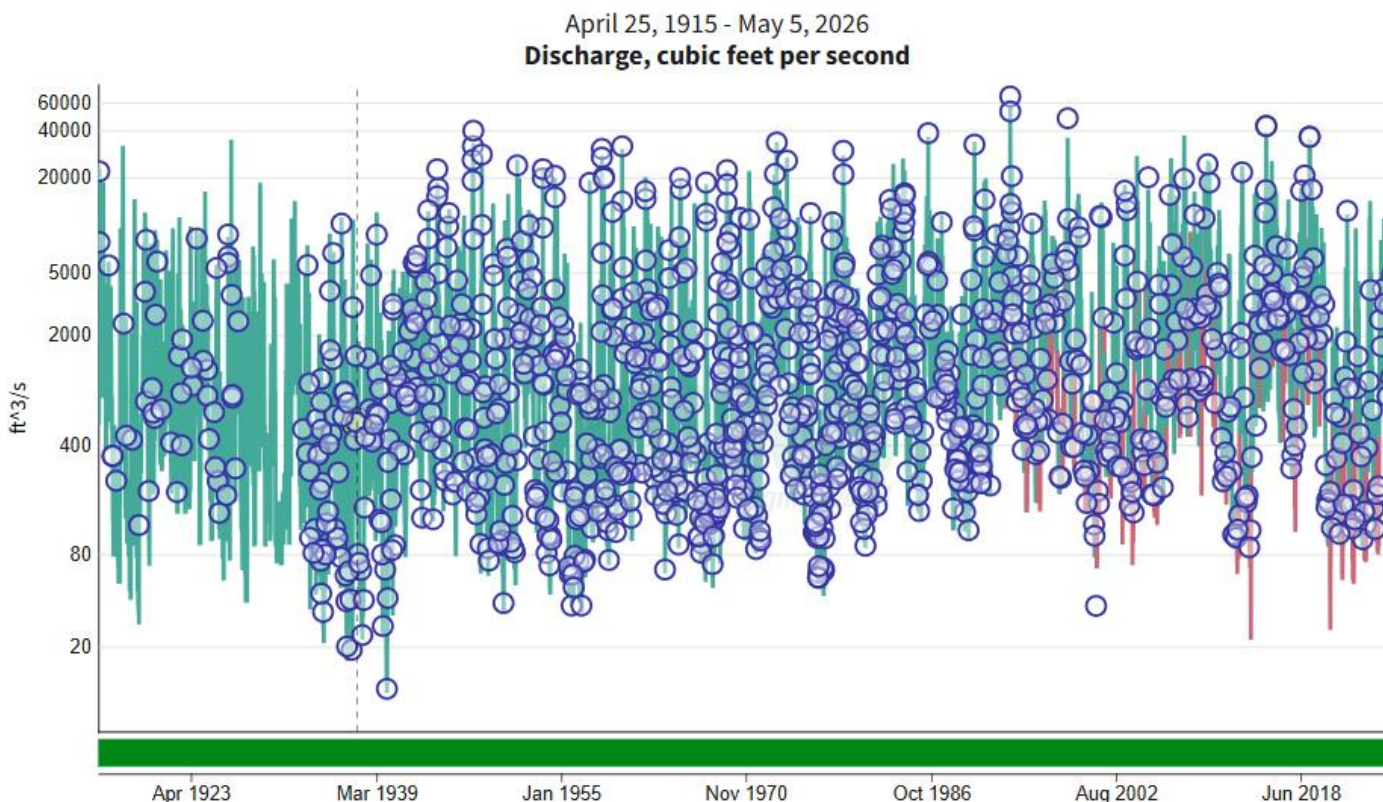


Figure 2. Historic Raccoon River daily flow measured at Van Meter, Iowa from April 25, 1915 to May 5, 2026 (from USGS).

The surface area for the three lakes in the Raccoon River alluvium are all between 65 to 95 acres, with depth of the lakes typically being around 20 feet (the thickness of the alluvial sand and gravel deposits). Water level elevation in the three Raccoon River lakes is typically 810 to 815 feet above sea level.

The surface area for Dale Maffitt Reservoir is over 200 acres, with water depths exceeding 55 feet. The water level elevation of Dale Maffitt Reservoir is generally 915-920 feet. A surface water intake on the lake serves to transport water to the Des Moines Water Works - L.D. McMullen Water Treatment Plant. The intake and water use from Dale Maffitt Reservoir is covered in another permit.

The lakes and reservoirs listed in this permit are all man-made. The three Raccoon River lakes are all former sand and gravel quarries. Dale Maffitt Reservoir was constructed in the 1940s as backup water storage for Des Moines Water Works.

Historic Water Use

Though Dale Maffitt Reservoir has been augmented with water from the Raccoon River, this is a new water use permit for this use type, and historical water use does not indicate the water withdrawals and movement for this new type of permit.

Protected Flow

All wells and intakes listed in the water use permit application are within the protected flow setback distance for the USGS Van Meter stream gage (USGS gage ID 05484500). The protected flow at this gage is 190 cfs. The use for this water is for treatment and storage for the eventual use of drinking water, but not directly as water for a community drinking water supply. Due to the need for Raccoon River flow downstream from these wells and intake, the water withdrawn in

this application for the purpose of water quality mitigation and water storage will be placed in the protected flow regulatory condition for flows at and below the threshold.

Nearby Influence and Interference

The wells and intakes listed in this water use application have been in operation for a number of years in various capacities. It is not anticipated that water withdrawn for the Chain of Lakes Complex and Dale Maffitt Reservoir will have any influence on other natural resources around the area.

Findings

The applicant has demonstrated the ability and intent to use a reasonable quantity of water for beneficial purposes from the proposed Chain of Lakes complex. No evidence suggests the proposed use would:

- Waste water resources.
- Conflict with Iowa's comprehensive water resource plan.
- Interfere with pollution control laws.
- Directly harm public interests or property owners with prior or superior water use rights.

All water users and wells that are connected to the Raccoon River, documented or undocumented, are protected in the event of substantial injury or well interference pursuant to Iowa Codes 455B.271 and 455B.281.

THEREFORE:

The requested water use conforms to Division III, Part 4, Chapter 455B of the Iowa Code and Chapter 50 of Part 567 of the Iowa Administrative Code. No adverse impacts are anticipated for nearby permitted use wells or nearby private wells. Subject to a public comment period, comments received, and modifications based on comments received, a permit shall be issued for a period of ten years.

Water Supply Engineering
Date: August 10, 2026

IOWA DEPARTMENT OF NATURAL RESOURCES

WATER USE PERMIT

Permit issued to:

CENTRAL IOWA WATER WORKS – CHAIN OF LAKES
4601 WESTOWN PARKWAY
WEST DES MOINES, IA 50266

Permit Number: xxxxxx

Effective: xx/xx/2026

Expires: xx/xx/2036

The Permittee is authorized to:

withdraw water from intakes and alluvial aquifer wells along, within, and hydrologically connected with the Raccoon River for the purpose of water storage and natural water quality improvements utilizing the Chain of Lakes Complex and Dale Maffitt Reservoir. The input withdrawals for this permit include the following Items:

1. a surface water intake, called the Chain of Lakes Intake, located on and along the Raccoon River in an area following the Raccoon River's channel and generally described as the N ½ of Section 29, the S ½ of Section 30, T78N, R25W, Polk County, Iowa at a maximum pumping rate of 31,250 gallons per minute (gpm) and a maximum annual allocation of 5,475 million gallons per year (mgy);
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All sources, wells, and intakes provided in the requested authorization serve the purpose of municipal water source storage, management, and water quality nitrate mitigation for the city of Des Moines/Central Iowa Water Works.

This authorization to withdraw water has been granted pursuant to the provisions of Part 4 of Division III of Chapter 455B, Code of Iowa, and Chapter 50, Part 567, Iowa Administrative Code, and is further subject to the general permit conditions within this permit.

Conditions of this permit may be appealed as provided in rule 567--50.8(3), Iowa Administrative Code. Appeal must be in writing and must be received at the Iowa Department of Natural Resources, Water Supply Engineering Section, 6200

Park Ave. Suite 200, Des Moines, Iowa 50321-1371 within thirty days of the date of the certification of the mailing of the permit.

FOR THE DIRECTOR:

By: _____ Date Executed: _____ xxxxxx, 2026
cc: Permit File

CERTIFICATE OF MAILING
On the date shown below, a copy of the foregoing permit was mailed to the Permittee and to each person entitled to receive a copy as provided by rule 567--50.8(2), Iowa Administrative Code.

Certified by (initials): _____ Date: _____

GENERAL PERMIT CONDITIONS

1. Permittee shall maintain accurate and up-to-date records of monthly water use from each authorized source and submit them annually to the Department.
2. Permittee may be required to submit other information related to the regulation of this use of water as directed by the Department.
3. This Permit is issued pursuant to Iowa Code chapter 455B.265(1) to authorize the withdrawal and use of water by the permittee, subject to the terms contained herein and to the laws and rules of the Department that regulate the withdrawal and use of water. Issuance of this permit does not relieve the permittee of the responsibility to comply with applicable local, state and federal laws, ordinances, regulations or other legal requirements.
4. Permittee shall be responsible for notifying the Department when there are changes to any conditions and authorizations given in this permit, including additional water source(s), well(s), intake(s), an expansion of the facility, or any other listed condition.
5. Permittee shall construct, maintain, and monitor observation wells as directed by the Department to define the effects of Permittee's water withdrawals on groundwater resources or on other water users who might be affected by the withdrawals authorized herein.
6. Each well authorized as a source of water in this permit must be constructed to allow for accurate measurement of water levels.
7. Withdrawals from permitted wells may be made only after the Permittee has made the following information available to the Department: well location(s), well log(s), and results of yield tests. Required chip samples shall be submitted to the Iowa Geological Survey.
8. Permittee shall be responsible for accurately measuring depth to water under non-pumping (static) conditions, depth to water under pumping conditions, and pumping rate(s) for all active wells listed in this permit, at a minimum of one measurement per year. These records shall be submitted annually to the Department.
9. Permittee shall cease withdrawals of water from all authorized intakes and wells utilized to supply water from the Raccoon River and associated alluvial aquifer for water treatment water storage in the Chain of Lakes and Dale Maffitt Reservoir when stream flow is below the protected flow designation of 190 cubic feet per second at the official gage at Van Meter, Iowa. [USGS 05484500]
10. Permittee shall limit intake to provide for the downstream discharge of that portion of the natural flow in said Raccoon River that is required to prevent material damage to downstream users.
11. Permittee shall provide screening on water intakes as required in Section 481A.14, Code of Iowa, to protect fish and other aquatic life.
12. Permittee must apply to renew this water use permit using the appropriate DNR form prior to the expiration date of the current permit version.
13. If water withdrawals or uses authorized under this permit are determined by the Department, based on available monitoring data, field observations, or other credible evidence, to be the cause of adverse effects on surface water streams, springs, or ponds, or the ecosystems attached or adjacent thereto, then the Department shall notify the Permittee in writing and may require the Permittee to reduce withdrawal rates, conduct additional hydrogeologic investigations, or take other corrective measures deemed necessary to protect the

ecological integrity of those surface waters. The Permittee shall respond to any such notice within 30 days with a proposed corrective action plan, subject to Department approval. For purposes of this condition, "adverse effects" include but are not limited to reductions in baseflow, degradation of cold-water or other designated uses, or harm to species or their habitat.

14. Permittee shall submit to the Department within 90 days of being notified by the Department or no later than the expiration date of this permit, whichever first occurs, a plan for implementing routine day-to-day water conservation measures and for implementing emergency water conservation measures during periods of water shortage. Until such a plan has been submitted to and approved by the Department, Permittee shall implement those emergency water conservation measures determined to be necessary by the Department pursuant to Iowa Code Sections 455B.265 and 455B.266.

CAVEAT

Permittee is advised that pursuant to Section 455B.271, Code of Iowa, the authority to withdraw water provided by this permit may be modified, canceled or suspended in case of any breach of the terms or conditions herein, in case of any violation of state law pertaining to the permit, or if found necessary to prevent substantial injury to private or public interests.