

**NOTICE OF INTENT TO MODIFY A PERMIT AUTHORIZING THE USE OF WATER FOR
OPERATION OF A QUARRY IN SCOTT 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 Ave. Suite 200, Des Moines, IA 50321, an application as described below.

Riverstone Group (Le Claire Quarry Mc38) requests a major modification to their existing water use permit (1024-R8) to withdrawal water from one intake in their mine pit sump located on land generally described as the N ½ of Section 35 and the E ½ of the NE ¼ of Section 34, all in T79N, R05E, Scott County, Iowa, in the maximum quantity of 920.70 Acre-Feet per Year (AFY) (approximately 300 Million Gallons per Year) at a maximum pumping rate of 4,475.00 Gallons Per Minute (GPM), and concurrently, discontinue direct surface water withdrawals from McCarty Creek, all for limestone quarry operations located on said land.

The current permit allows a total allocation of 368.10 AFY at a maximum pumping rate of 2,000 GPM. The request represents a total allocation increase of 552 AFY and an increase in maximum pumping rate by 2,475 GPM.

The Department has determined that this use of water conforms to the relevant criteria (Iowa Code Chapter 455B and Iowa Administrative Code 567) and recommends the permit be granted. A copy of the summary report for the application is available upon request to the Department at the address listed above. Comments on the report and on this use of water must be received by October 28, 2026, and should be addressed "ATTN: Erik Day" and should specify the applicants log number (Log Number 34,746).

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

Applicant: Riverstone Group (LeClaire Quarry Mc38)
John Brimeyer
4640 E 56th St
Davenport, IA 52807

Application Log No.: 34,746

Permit Request

Riverstone Group (Le Claire Quarry Mc38) requests a major modification to their existing water use permit (1024-R8) to withdrawal water from one intake in their mine pit sump located on land generally described as the N ½ of Section 35 and the E ½ of the NE ¼ of Section 34, all in T79N, R05E, Scott County, Iowa, in the maximum quantity of 920.70 Acre-Feet per Year (AFY) (approximately 300 Million Gallons per Year) at a maximum pumping rate of 4,475.00 Gallons Per Minute (GPM), and concurrently, discontinue direct surface water withdrawals from McCarty Creek, all for limestone quarry operations located on said land.

The current permit allows a total allocation of 368.10 AFY at a maximum pumping rate of 2,000 GPM. The request represents a total allocation increase of 552 AFY and an increase in maximum pumping rate by 2,475 GPM.

The LeClaire Quarry is located within the corporate limits of the City of LeClaire in Scott County, situated on the McCarty Creek floodplain along the southeast bank of the creek. The quarry pit is located approximately 2,300 feet west of the Mississippi River (Figure 1).



Figure 1: Map of applicant's site including the quarry pit, sump pit, wash plant, settling ponds, outfalls, water pathways, and future expansion area.

Beneficial Use

Water withdrawn from the Le Claire Pit will be used for aggregate/limestone material washing and quarry pit dewatering. Under Iowa Code 455B.266, water use for manufacturing, industrial processing, and aggregate/rock production constitutes a recognized priority beneficial use.

Source Details

The LeClaire Quarry MC38 lies within the Southern Iowa Drift Plain, except that the northeast section is located within the Mississippi terrace. The Southern Iowa Drift plain is characterized by a steeply rolling, deeply creased landscape composed primarily of ancient Pre-Illinoian glacial drift, which comprise the uplands in this area. Erosion has built out a well-connected, branching network of streams and valleys. Many areas are capped with a thin layer of loess.

The Silurian Aquifer will be detailed in this summary report because it is the single source of water and limestone product for the LeClaire Quarry and because this aquifer is used by private wells and permitted use wells in the area. The bedrock is exposed in McCarty Creek and is approximately 300 feet thick, with top and bottom elevations of approximately 600 ft and 300 ft ASL consisting of the Gower, Scotch Grove, Hopkinton, and Blanding formations, which primarily consist of dolomite and cherty dolomite. These units overly Ordovician Age Maquoketa shale, which confines the bottom of the aquifer.

In east-central Iowa, the aquifer is confined by glacial till and/or shale layers that protect the groundwater from surface contamination. However, in areas of karst geology, these layers do not protect the aquifer. In addition, at the applicant's site, the confining layer is absent and the aquifer is considered unconfined.

The Silurian formations are highly porous and permeable and are used as the primary aquifer sources for private wells in the region. In eastern Iowa, the Silurian aquifer supplies large volumes of water to industry and municipalities, and it is also the primary water source for private wells in Johnson, Linn, and Scott Counties. The Silurian Aquifer has highly variable properties including hydraulic conductivity ranging from 0.3 to 20.2 feet per day and transmissivity values ranging from 43 to 21,500 square feet per day (DNR, 2011, Groundwater Availability Modeling of the Silurian Aquifer in East-Central Iowa), with values being on the lower end of that range near the LeClaire Quarry.

Use Details

Water withdrawn from the quarry is utilized for limestone processing and washing. The applicant's pit dewatering allows the facility to recycle internal pit drainage while maintaining dry conditions at the quarry floor. Wash water is pumped from the quarry sump pit to the processing and wash area. Outfall 1 is currently not being used, but it still has an active NPDES discharge permit. Washed material is stored in piles at the east side of the site. Stormwater runoff from the storage piles flows downgradient into the eastern-most settling basin, then passes through grassed areas, road ditches, and culverts, eventually reaching the Mississippi River via outfall 2 and outfall 3. Spent wash water is pumped into the southern and northwestern settling ponds to remove suspended solids. The water level in the northern settling pond is maintained by an open topped manhole. Water in the pond overflows into the manhole and is then piped to outfall 4 into McCarty Creek.

The dewatering pit runs continuously when the plant is in operation, then set to automatic operation on nights and weekends when the plant is not operating. In the last year, the plant operations have varied from 20 – 300 hours per month, all variable based on product needs, rainfall, and weather.

The surface elevation of the quarry ranges from approximately 610 feet above sea level (ft ASL) at the northeast corner to 690 ft ASL at the southwest corner. The quarry floor is approximately 275 to 285 feet deep (335-325 ft ASL). The groundwater accumulates at the lowest point of the quarry floor to a depth of a few feet, then is pumped from the floor, over a wall, and into the sump pit. The wall of the sump pit is higher than the floor of the quarry and the bottom of the

sump pit is approximately the same elevation as the quarry floor. The water level in the sump pit is maintained at approximately 345 to 350 ft ASL.

McCarty Creek is located on the north end of the site, and is the discharge source for outfall 1 and outfall 4. The surface elevation of McCarty Creek near the outfalls is approximately 597 ft ASL. McCarty Creek is incised into Silurian bedrock at the north end of the site. The Silurian bedrock has an approximate bottom elevation of 270 ft ASL. The current maximum depth of LeClaire Quarry is approximately 325 to 335 ft ASL. The static water level in the applicant's well was approximately 551 ft ASL when constructed in 2005, therefore, the applicant's water source is not connected to the surface water in McCarty Creek.

According to departmental records, there are no known downstream private water users requiring the diversion of water from the McCarty Creek.

The Silurian Aquifer is recharged by precipitation and infiltration from nearby rivers and streams and lateral groundwater flow. The applicant's proposed use of water could impact the availability of water from said aquifer in close proximity to the site.

Historic Water Use

State water allocation permits for this facility date back to the original permit issuance in July 1960. Their permitted use was 128.30 AFY from 1960- 1996 and 368 AFY from 1996 – 2026. Their reported water use is readily available in the Water Use Compliance Online Permitting System (WACOP). The applicant's reported water use over the last 20 years has steadily increased (Table 1). They exceeded their annual allocation for 11 of the last 20 years, averaging 520 AFY over the last five years. A departmental error resulted in the WACOP database recording their approved allocation at 736 AFY, which resulted in no exceedance triggers until the error was found and changed back to the permitted allocation of 368 AFY. The applicant's increase in water use is due to lowering of the pit floor over time.

Portions of the pit have been lowered by approximately 60 feet over the last 10-12 years, which has resulted in an increased dewatering volume. Reported water use confirms the need for more dewatering to accommodate the increased floor depth.

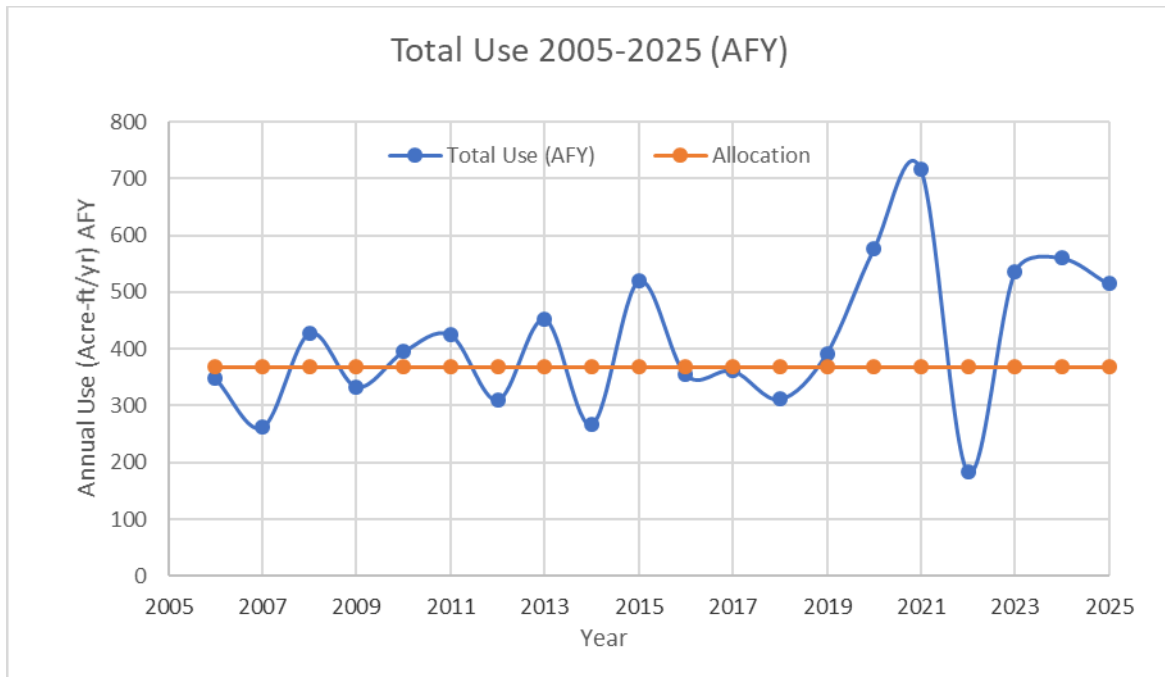


Figure 2: The applicant's reported water use over the last 20 years has steadily increased. They exceeded their annual allocation for 11 of the last 20 years. An error in the WACOP database had their allocation set at 736 AFY, instead of the actual permitted amount, 368 AFY, which is why their overuse was not triggered until the discrepancy was recently found.

Eliminating direct stream pumping from McCarty Creek reduces direct intake pressure on the creek during low-flow periods. Although the current permit allows for up to 2,000 GPM, they have no reported use of this source over the last 20 years. As part of this major modification request, they have listed the creek as inactive, and therefore, there will be no permitted use from the creek.

Nearby Wells and Potential Interference

According to the department's water use records, private well database, and the Iowa Geological Survey's GeoSam database, there is one other permitted water user within a 3-mile radius, Pebble Creek Links (permit 8833) who has one Silurian well, 400 feet deep, and one intake on their private irrigation pond. They are allocated 90 AFY at a maximum rate of 200 GPM from their well for golf course irrigation. Their well is located just over 2.5 miles southwest of the LeClaire Quarry. No well interference is anticipated for this well due.

There are 8 registered active public water supply wells within a 3-mile radius (Table 1). The three nearest wells are approximately one mile away. None of those public wells have an active water use permit. Since there have been no complaints of well interference in the past, it is unlikely that these wells will be impacted by the applicant's proposed use.

Table 1: Well information for the 8 registered public water supply wells household wells within a 3-mile radius of the quarry pit.

PWSID	NAME_OWNER	LOCAL_ID	STATUS	ELEV (FT ASL)	DEPTH (FT BGS)	DRL_DATE	AQUIFER	DISTANCE (MI)
8209359	Vista Hills Water Association	#1	Active	720	430		Silurian	1.0
8245323	McCarty Creek Homeowners Assoc	#1	Active	673	370	1973-02-01	Silurian	1.0
8271565	Cody Elementary School	#1	Active	735	255	1953-08-15	Silurian	0.9
8245357	Woods & Meadows Subdivision	#2	Active	721	425	1979-01-01	Silurian	1.8
8245303	River Highlands Subdivision	#1	Active	670	402	1995-01-01	Silurian	3.0
8245303	River Highlands Subdivision	#2	Active	710	450	2011-07-19	Silurian	3.1
8245357	Woods & Meadows Subdivision	#3	Active	707	442	2004-06-21	Silurian	1.8
8245202	Olathea Creek Vnyrd & Wnry	#1	Active	604	308	2020-12-29	Silurian	2.5

Riverstone Group has their own well that is listed as “household” use in the private well database, and it is map located on the Applicant’s property. Their well was constructed in 2005 with an approximate surface elevation of 594 feet above sea level (ft ASL) and has a confirmed depth of 275 feet below ground surface (BGS) (319 ft ASL). At the time of construction, that well had a static water level (SWL) of 43 feet BGS (551 ft ASL) and a pumping water level (PWL) of 120 feet BGS (474 ft ASL) when pumping at 70 gallons per minute (GPM).

There are 12 domestic wells located within a 0.5-mile radius of the applicant’s site (Table 2) and numerous other private wells between ½ to 3 miles away (Figure 3). To the east, the nearest household well to is 0.5 miles away, however, well construction records are not available for this well to confirm its existence and depth. A neighborhood approximately 0.5 miles northwest has private wells with confirmed depths ranging from 220 feet – 355 feet below ground surface (BGS). The surface elevation for these private wells range from 30 – 90 feet higher in elevation than the surface elevation of the quarry. The SWLs of these private wells ranged from 522 to 609 ft ASL. The bottom of the quarry floor elevation is 325 to 335 ft ASL at its deepest point. It is likely that the quarry floor dewatering has a local impact on groundwater flow by drawing water towards the quarry. The natural groundwater flow in this area likely comes from the north and west, following natural flow gradients dictated by elevation and gravity drainage since the aquifer becomes unconfined and outcrops at the Mississippi River, so the private wells are upgradient of the quarry.

Table 2: Well information for the 12 domestic household wells within a 0.5-mile radius of the quarry pit. One of the wells is owned and used by the applicant. Static water levels are based on data reported on the driller’s log at the time of well construction. The data source is the Iowa Geological Survey’s GeoSam database.

Well Number	Well Depth	Status	Permit Number	Owner Name	Lat	Long	Surface Elevation (ft ASL)	Bottom Elevation (ft ASL)	Static Water Level (ft ASL)
2136309	150	Active		Randy Fish	41.6094	-90.3445			
2136310	150	Active Water Test		Randy Fish	41.6094	-90.3445			
2143175	150	Active Water Test		Scott Bolster	41.6154	-90.3584			
2231683	300	Active Water Test		Amy Tulleen	41.6160	-90.3490			
2084793	342	Active Logged	12549	Herb Tyler	41.6161	-90.3512	688	346	538
2109748	355	Active Completed	19705	Alden Myers	41.6141	-90.3607	689	334	560
2109749	355	Active Completed	19706	Thomas Beeks	41.6138	-90.3622	683	328	573
2108599	222	Active Logged	19344	Patricia Copeland	41.6139	-90.3586	639	417	609
2114111	275	Active Logged	21151	River Stone Group	41.6123	-90.3497	594	319	551
2114545	220	Active Completed	21303	Tom Ramirez	41.6144	-90.3585	629	409	539
2126447	264	Active Completed	25429	Sara Vandeven	41.6145	-90.3570	647	383	549
2201561	335	Active Logged	51469	Don Jones	41.6147	-90.3587	634	299	522

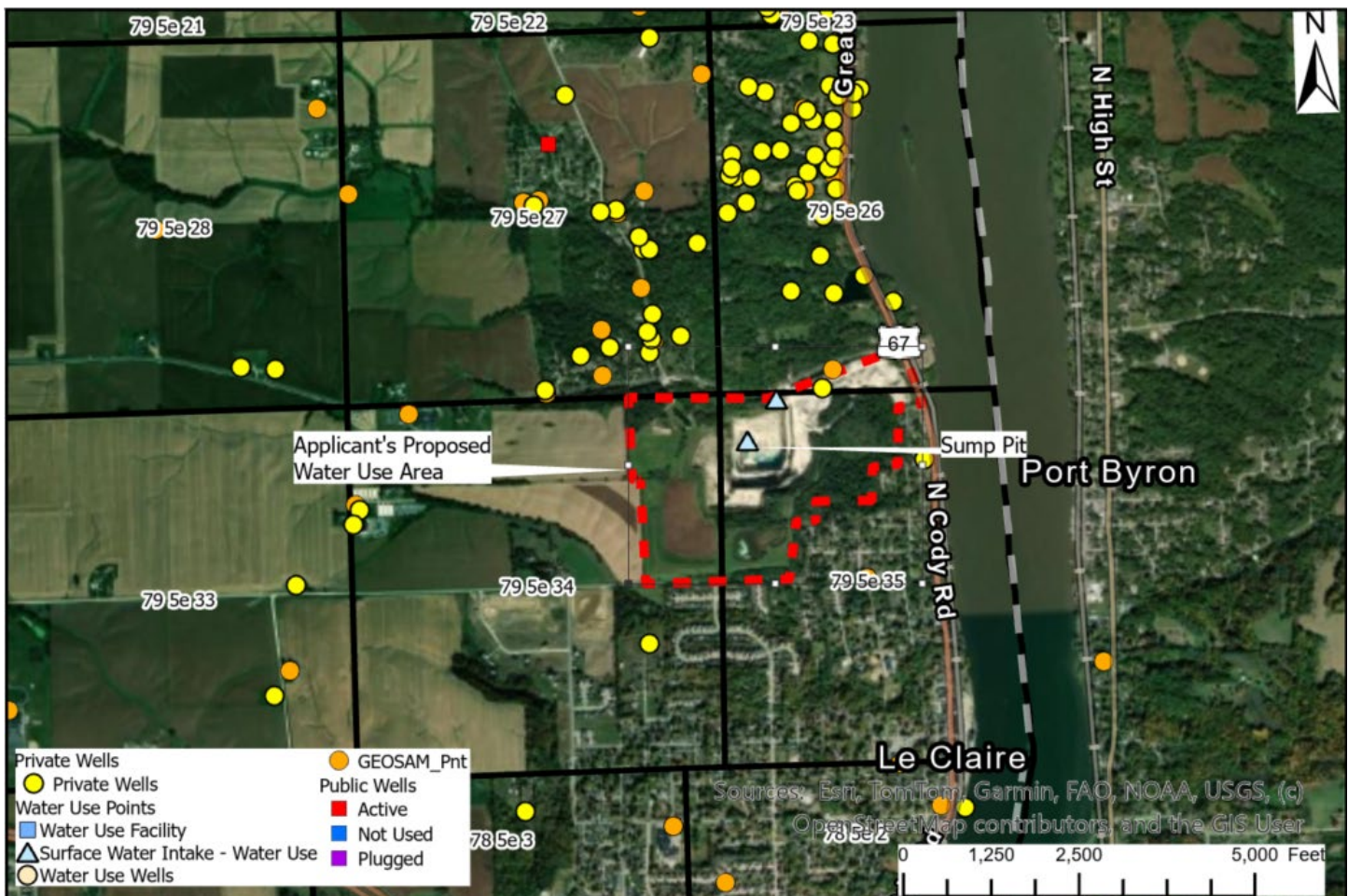


Figure 3: Map showing the applicant's use area and sump pit relative to all known water use wells, public wells, and private wells. Data gathered from the department's water use records, private well database, and the Iowa Geological Survey's GeoSam database.

Seven of the private wells, excluding the applicant's, have well construction information available. The bottom depth of those domestic wells ranges from 299 to 417 ft ASL, with static water levels ranging from 522 to 609 feet ASL. The current quarry floor, which is dewatered to maintain a dry quarry floor, is approximately 325 feet ASL. Four other wells have no records to verify their construction information, but it is likely that these wells are at similar depths and water levels to the seven wells with available data because the bedrock aquifer is the only viable groundwater source near this location. To assess for potential interference, we must estimate the radius of influence of the quarry dewatering.

Potential drawdown from dewatering or well use can be estimated using the Sichardt formula for unconfined aquifers:

$$R = 3000 \times s \times \sqrt{K}$$

Where:

S = drawdown (meters)

K = hydraulic conductivity (meters/second)

The water table at the applicant's site is available from the applicant's well, drilled in 2005. The SWL was 551 ft ASL. The current quarry floor has a maximum dewatering depth of 325 ft ASL, giving a total drawdown (s) of 226 feet (69 meters). The hydraulic conductivity (K) from the 2013 Silurian Aquifer Study was estimated to be 3.5 ft/day (1.23x10⁻⁵ meter/second). Using the Sichardt formula reveals the radius of influence to be 2,383 feet (726 meters) or approximately 0.5 miles.

The department has no records of well interference complaints from neighboring well owners. However, the increased usage will be gradual, as it has been over the last 20 years. In any event, the interests of individuals using water for domestic purposes, as well as those persons benefiting from the permits mentioned above, are amply protected, in the event of substantial injury, pursuant to Section 455B.271, Code of Iowa. The applicant will be made aware of this influence and reminded of the well interference laws and rules in Iowa.

Aquifer Sustainability

There are no water use wells with continuous reported water level measurements within a one-mile radius. There have been no well interference complaints or known aquifer shortages reported in the Silurian Aquifer near this location. The applicant's proposed use of water should not have a significant impact on the availability of water from said aquifer.

Findings

The applicant has demonstrated the ability and intent to devote the requested water volume to a reasonable beneficial use. The applicant proposed to increase the total cumulative maximum allocated amount from the Quarry from 368.10 AFY to 920.70 AFY and increase the maximum withdrawal rate from 2,000 GPM to 4,475 GPM, and to inactive McCarty Creek as a water source.

Evaluated against state statutory criteria under Iowa Code Chapter 455B, no evidence indicates that the proposed modification will:

- Waste the water resources of the State.
- Conflict with Iowa's comprehensive water resources plan.
- Impair or violate state pollution control laws.
- Harm public interests or the prior rights of neighboring water users.

The applicant is requesting the increase in water allocation because the bottom of the quarry has been lowered by up to 60 feet over the last 10-12 years, requiring more water to be dewatered from the quarry floor and sump pit to maintain quarry operations. The estimated radius of influence is approximately 0.5 miles for the Silurian aquifer, but the amount of influence is unknown. However, the Department has no records of well interference claims in this area, despite the presence of a 11 domestic private wells within a 0.5-mile radius. In any event, the interests of individuals using water for domestic purposes, as well as those persons benefiting from the permits mentioned above, are amply protected, in the event of substantial injury, pursuant to Section 455B.271, Code of Iowa. The applicant will be made aware that the potential for well interference has been established in this summary report, and this will be considered for any future well interference claims in the area. A special permit condition will be added that requires the LeClaire Quarry to submit a plan for resolving claims of well interference within 90 days of permit issuance.

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 on other water users are anticipated at this time. Subject to public notice and potential revisions based on comments received, a draft permit should be issued for a term of ten years.

Water Supply Engineering
Date: October 7, 2026
Updated October 8, 2026

IOWA DEPARTMENT OF NATURAL RESOURCES

WATER USE PERMIT

Permit issued to:

RIVERSTONE GROUP (LECLAIRE QUARRY MC38)
JOHN BRIMEYER
4650 E 56TH ST
DAVENPORT IA 52807

Permit Number: 1024-M9

Effective: MM/DD/YYYY

Expires: MM/DD/YYYY

The Permittee is authorized to:

withdrawal water from one intake in their mine pit sump located on land generally described as the N ½ of Section 35 and the E ½ of the NE ¼ of Section 34, all in T79N, R05E, Scott County, Iowa, in the maximum quantity of 920.70 Acre-Feet per Year (AFY) (approximately 300 Million Gallons per Year) at a maximum pumping rate of 4,475.00 Gallons Per Minute (GPM) all for limestone quarry operations located on said land.

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: MONTH, DAY, YEAR
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: _____

SPECIAL PERMIT CONDITIONS

1. Permittee shall provide the Department with a written plan describing a plan for resolving claims of well interference within 90 days of permit issuance. The plan must be approved by the department.

DRAFT

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. Permittee shall provide screening on water intakes as required in Section 481A.14, Code of Iowa, to protect fish and other aquatic life.
7. Water withdrawn pursuant to this permit shall be discharged to McCarty Creek and drainage ways leading to the Mississippi River in accordance with all applicable rules and regulations, shall be of suitable quality, and shall be so discharged as to preclude flooding, erosion, or other adverse effects.
8. Permittee must apply to renew this water use permit using the appropriate DNR form prior to the expiration date of the current permit version.
9. 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.
10. 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.

12. This permit supersedes Water Use Permit No. 1024-R8.

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.

DRAFT