

Permit Number  
**2021-3551**

# Water Appropriation Permit

Expiration Date: **08/01/2062**

DRAFT

Pursuant to Minnesota Statutes, Chapter 103G, and on the basis of statements and information contained in the permit application, letters, maps, and plans submitted by the applicant and other supporting data, all of which are made part hereof by reference, **PERMISSION IS HEREBY GRANTED** to the applicant to perform actions as authorized below.

<b>Project Name:</b> Aurora WAP 2021	<b>County:</b> St. Louis	<b>Watershed:</b> St. Louis River	<b>Resource:</b> Lake: Sabin (Embarrass Mine) (69042900)
<b>Purpose of Permit:</b> Municipal/Public Water Supply		<b>Authorized Action:</b> Withdrawal of up to 96.0 million gallons of water per year for municipal/public water supply.  All work related to construction of the raw water intake and pump station shall be as shown in plans submitted on April 5, 2023.  18" water intake to be installed at an invert elevation of 1324.0 feet (datum).	
<b>Permittees (2):</b> CITY OF AURORA CONTACT: HEIKKILA, LUCAS, (218) 229-2614 PO 160, 16 WEST, 2ND AVE. N AURORA, MN 55705 (218) 299-2614  EAST RANGE WATER BOARD CONTACT: GREGOR, DOUG 16 WEST 2ND AVE N AURORA, MN 55705 (218) 229-2614		<b>Authorized Agent:</b> SHORT ELLIOTT HENDRICKSON CONTACT: JENSEN, MILES, (651) 490-2020 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110 (800) 325-2055	
<b>To Appropriate From:</b> Lake: Sabin (Embarrass Mine) (69042900) : by means of a stationary pump at a rate not to exceed 600 gpm Point(s) of Taking UTM zone 15N, 554194m east, 5265485m north Meandered water body of Section 5, T58N, R15W			
<b>Issued Date:</b> 07/21/2023		<b>Effective Date:</b> 08/01/2023	<b>Expiration Date:</b> 08/01/2062
<b>Authorized Issuer:</b> Erika Herr	<b>Title:</b> Mine Permitting and Coordination Supervisor	<b>Email Address:</b> erika.herr@state.mn.us	<b>Phone Number:</b> 218-231-8471

This permit is granted **subject to** the following **CONDITIONS**:

**LIMITATIONS:** (a) Any violation of the terms and provisions of this permit and any appropriation of the waters of the state in excess of that authorized hereon shall constitute a violation of Minnesota Statutes, Chapter 103G. (b) This permit shall not be construed as establishing any priority of appropriation of waters of the state. (c) This permit is permissive only. No

## **CONDITIONS** *(Continued from previous page)*

liability shall be imposed upon or incurred by the State of Minnesota or any of its employees, on account of the granting hereof or on account of any damage to any person or property resulting from any act or omission of the Permittee relating to any matter hereunder. This permit shall not be construed as estopping or limiting any legal claims or right of action of any person other than the state against the Permittee, for any damage or injury resulting from any such act or omission, or as estopping or limiting any legal claim or right of action of the state against the Permittee, for violation of or failure to comply with the provisions of the permit or applicable provisions of law. (d) In all cases where the doing by the Permittee of anything authorized by this permit shall involve the taking, using, or damaging of any property, rights or interests of any other person or persons, or of any publicly owned lands or improvements thereon or interests therein, the Permittee, before proceeding therewith, shall obtain the written consent of all persons, agencies, or authorities concerned, and shall acquire all property, rights, and interests necessary therefore. (e) This permit shall not release the Permittee from any other permit requirements or liability or obligation imposed by Minnesota Statutes, Federal Law, or local ordinances relating thereto and shall remain in force subject to all conditions and limitations now or hereafter imposed by law. (f) Unless explicitly specified, this permit does not authorize any alterations of the beds or banks of any public (protected) waters or wetlands. A separate permit must be obtained from the Department of Natural Resources prior to any such alteration.

**FLOW METER:** The Permittee shall equip each installation for appropriating or using water with a flow meter, unless another method of measuring the quantity of water appropriated to within ten (10) percent of actual amount withdrawn is approved by the Department.

**WATER USE REPORTING:** Monthly records of the amount of water appropriated or used shall be recorded for each installation. Such readings and the total amount of water appropriated or used shall be reported annually to the Director of DNR Ecological and Water Resources, on or before February 15 of the following year, via the MNDNR Permitting and Reporting System (MPARS) at [www.mndnr.gov/mpars/signin](http://www.mndnr.gov/mpars/signin). Any processing fee required by law or rule shall be submitted with the records whether or not any water was appropriated during the year. Failure to report shall be sufficient cause for terminating the permit 30 days following written notice.

**MODIFICATION:** The Permittee must notify the Commissioner in writing of any proposed changes to the existing permit. This permit shall not be modified without first obtaining the written permission from the Commissioner.

**TRANSFER OR ASSIGNMENT:** Any transfer or assignment of rights, or sale of property involved hereunder shall be reported within 90 days thereafter to the Director of DNR Ecological and Water Resources. Such notice shall be made by the transferee (i.e., new owner) and shall state the intention to continue the appropriation as stated in the permit. This permit shall not be transferred or assigned except with the written consent of the Commissioner.

**COMMISSIONER'S AUTHORITY:** (a) The Commissioner may inspect any installation utilized for the appropriation or use of water. The Permittee shall grant access to the site at all reasonable times and shall supply such information concerning such installation as the Commissioner may require. (b) The Commissioner may, as he/she deems necessary, require the Permittee to install gages and/or observation wells to monitor the impact of the Permittee's appropriation on the water resource and require the Permittee to pay necessary costs of installation and maintenance. (c) The Commissioner may restrict, suspend, amend, or cancel this permit in accordance with applicable laws and rules for any cause for the protection of public interests, or for violation of the provisions of this permit.

**PUBLIC RECORD:** All data, facts, plans, maps, applications, annual water use reports, and any additional information submitted as part of this permit, and this permit itself are part of the public record and are available for public inspection at the offices of DNR Ecological and Water Resources. The information contained therein may be used by the Division as it deems necessary. The submission of false data, statements, reports, or any such additional information, at any time shall be deemed as just grounds for revocation of this permit.

**MONITORING REQUIREMENTS:** Minnesota Statutes 103G.282 authorizes the Department of Natural Resources to require permittees to install and maintain monitoring equipment to evaluate water resource impacts from permitted appropriations. You may be required to modify or install automated measuring devices and keep records for each installation. The frequency of measurements and other requirements will be based on quantity of water appropriated, source of water, potential connections to other water resources, nature of concern, and other relevant factors.

**DROUGHT PLANNING:** In accordance with M.S. 103G.293, all permits must be consistent with the drought response plan detailed in the Statewide Drought Plan at [http://files.dnr.state.mn.us/natural\\_resources/climate/drought/drought\\_plan\\_matrix.pdf](http://files.dnr.state.mn.us/natural_resources/climate/drought/drought_plan_matrix.pdf)

**WATER USE CONFLICT:** If notified by the DNR that a water use conflict is suspected and probable from your

## **CONDITIONS** (Continued from previous page)

appropriation, based on confirmation of a formal well interference complaint or a preliminary hydrologic assessment, all appropriation authorized by this permit must cease immediately until the interference is resolved. The permittee may be required to obtain additional data to support the technical analysis, such as domestic well information within a radius of one and one-half miles of the production well. The permittee and impacted party may engage in a negotiated settlement process and there may be modifications made to this permit in support of conflict resolution.

**SUSPENSION:** The Department may require the suspension of appropriation during periods of low water in order to maintain minimum water levels within the basin/watercourse/watershed.

**CONTINGENCY:** If directed by DNR Ecological and Water Resources to cease pumping, the permittee agrees to withstand the results of no appropriation as stated in the contingency statement submitted with the application.

**INTAKE:** All pump intakes must be screened to prevent fish from being drawn into the system.

**INVASIVE SPECIES - EQUIPMENT DECONTAMINATION:** All equipment intended for use at a project site must be free of prohibited invasive species and aquatic plants prior to being transported into or within the state and placed into state waters. All equipment used in designated infested waters, shall be inspected by the Permittee or their authorized agent and adequately decontaminated prior to being transported from the worksite. The DNR is available to train inspectors and/or assist in these inspections. For more information refer to the "Best Practices for Preventing the Spread of Aquatic Invasive Species" at [http://files.dnr.state.mn.us/publications/ewr/invasives/ais/best\\_practices\\_for\\_prevention\\_ais.pdf](http://files.dnr.state.mn.us/publications/ewr/invasives/ais/best_practices_for_prevention_ais.pdf). Contact your regional Invasive Species Specialist for assistance at [www.mndnr.gov/invasives/contacts.html](http://www.mndnr.gov/invasives/contacts.html). A list of designated infested waters is available at [www.mndnr.gov/invasives/ais/infested.html](http://www.mndnr.gov/invasives/ais/infested.html). A list of prohibited invasive species is available at [www.mndnr.gov/invasives/laws.html#prohibited](http://www.mndnr.gov/invasives/laws.html#prohibited).

**INFESTED WATERS - WATER TREATMENT REQUIREMENTS:** Surface water appropriation from waters listed as containing invasive species (see <http://www.mndnr.gov/invasives/ais/infested.html>) are required to contact 651-259-5100 or 1-888-MINN-DNR to obtain information from the DNR Division of Ecological and Water Resources on specific invasive species water treatment requirements.

**WATER CONSERVATION:** All practical and feasible water conservation methods and practices must be employed to promote sound water management and use the least amount of water necessary, such as reuse and recycling water, water-saving devices, and water storage.

**DISCHARGE AUTHORIZATION:** This permit is valid only in conjunction with all required discharge authorizations from local, state, or federal government units.

**MONITORING PLAN:** Monitoring shall be done in accordance with the attached Monitoring Plan dated [Date]. All data shall be reviewed annually in cooperation with the DNR and adjustments made to the monitoring requirements as appropriate. Changes to the Monitoring Plan shall be made through an amendment to this permit. All monitoring requirements under this Monitoring Plan become effective upon issuance of Water Appropriation Permit 2021-3551.

**QUALITY ASSURANCE PROJECT PLAN:** Monitoring procedures shall be conducted in accordance with the Quality Assurance Project Plan (QAPP) dated [Date], or as subsequently amended.

**WATER SUPPLY CONTINGENCY PLAN FOR THE CITY OF BIWABIK:** Potential impacts to the City of Biwabik's water supply shall be mitigated in accordance with the attached Water Supply Contingency Plan (WSCP) dated [Date]. All mitigation activities shall be reviewed and approved by the City of Biwabik and DNR prior to implementation. Permittee must abide by all conditions in the WSCP.

**WATER SUPPLY CONTINGENCY PLAN FOR THE QUARRY GOLF COURSE:** Potential impacts to the Iron Range Resources and Rehabilitation's (IRRR) Giant's Ridge Quarry Golf Course's water supply shall be mitigated in accordance with the attached Water Supply Contingency Plan (WSCP) dated [Date]. All mitigation activities shall be reviewed and approved by IRRR and DNR prior to implementation. Permittee must abide by all conditions in the WSCP.

**ADDITIONAL MODELING AND/OR DATA COLLECTION:** If appropriation authorized by this permit results in Embarrass Pit water level drawdown that significantly deviates from water levels modeled in the "Embarrass Pit Groundwater Model Update" technical memo, dated June 19, 2023, or results in impacts to nearby water resources, additional data collection and/or modeling may be required. Updated modeling shall use all applicable existing data.

**THIN ICE PLAN:** Permittee shall work with city or county officials to establish an approved thin ice plan for Embarrass Pit. A signed plan shall be submitted to the DNR prior to the start of appropriation authorized by this permit.

**CONDITIONS** (Continued from previous page)

**RIPARIAN CONTROL:** The East Range Water Board's existing lease that provides riparian control expires on August 1, 2062. Prior to expiration of this lease, and any subsequent ownership, lease, or agreement, the East Range Water Board shall furnish the DNR Division of Lands and Minerals with documentation that demonstrates that the East Range Water Board retains riparian control.

**TERMINATE WATER APPROPRIATION PERMIT 1962-0182:** Once the City of Aurora is fully utilizing the Embarrass Pit as its municipal water source, the City shall notify DNR Lands and Minerals so that Water Appropriation Permit 1962-0182, which authorizes appropriation from the St. James Pit, may be terminated.

**MINNESOTA DEPARTMENT OF HEALTH APPROVAL:** This permit shall not become effective until the water supply and sanitation system has been approved by the Minnesota Department of Health.

**REQUIRED REPORTING:** The monitoring and reporting required by the conditions of this permit are necessary to protect public health, safety and welfare pursuant to Minnesota Statutes 103G.297 and shall continue during any periods when appropriation is not actively occurring unless otherwise specified by the DNR.

**FISHERY PROTECTION - EXCLUSION DATES:** No activity affecting the bed of the Embarrass Pit may be conducted between September 15 and April 1 to minimize impacts of fish spawning and migration. If work during this time is essential, it shall be done only upon written approval of DNR Lands and Minerals. Should work begin elsewhere in the project area within these dates, all exposed soils that are within 200 feet of any public waters and drain to those waters must complete erosion control measures within 24 hours of its disturbance to prevent sediment from entering the public waters.

**CONSTRUCTION DEWATERING:** All construction dewatering in excess of 10,000 gallons per day or one million gallons per year must be authorized by a separate water appropriation permit. All worksite discharge must be treated for sediment reduction prior to return to the surface water.

**EXCAVATED MATERIALS:** Excavated materials shall not be permanently placed within shoreland areas unless all necessary local permits and approvals have been obtained. Excavated materials must be deposited or stored in an upland area in a manner where the materials will not be redeposited into the public water by reasonably expected high water or runoff.

**EROSION AND SEDIMENT CONTROL:** Erosion and sediment control measures shall be installed in areas that slope to the water and on worksite areas that have the potential for direct discharge due to the pumping or draining of areas from within the worksite (e.g. coffer dams, temporary ponds, stormwater inlets). Any work below the water level shall be encircled by a flotation sediment curtain to prevent sediment from being transported beyond the construction site and the curtain shall be removed at project completion after the silt has settled. All erosion and sediment control measures should be installed concurrently or within 24 hours of the project start and shall be maintained for the duration of the project. At project completion, all exposed soils on the project site must be stabilized to prevent runoff and shoreline erosion.

**ANNUAL REPORTING:** An annual report displaying and analyzing all monitoring data shall be prepared by Permittee and submitted electronically (and in hard copy, if requested), along with associated data in a Microsoft Excel compatible format, no later than February 15th of the following year. Required monitoring reporting shall adhere to specifications in the QAPP.

---

cc: Jeff Jacobson, City of Biwabik  
Linda Johnson, IRRR  
Julie Marinucci, St. Louis County  
Duke Broughten, Conservation Officers, Aurora  
Corps of Engineers, Corps of Engineers, St. Louis (North)  
Heidi Lindgren, DNR EWR  
Jessica Parson, DNR Regional Environmental Assessment Ecologist, Region 2  
Jessica Holmes, DNR Wildlife, Tower  
Keith Reeves, DNR Fisheries, Tower Area  
Mark Lindhorst, County, St. Louis  
Phil Norvitch, SWCD, St. Louis SWCD - North

**East Range Water Board/City of Aurora**  
**Monitoring Plan for Compliance with DNR Water Appropriation Permit 2021-3551**  
**[Date] 2023**

Appropriations under Water Appropriation Permit 2021-3551 are conditioned upon the East Range Water Board (ERWB)/City of Aurora fulfilling the following monitoring requirements in accordance with this Monitoring Plan.

Changes to the Monitoring Plan shall be made through an amendment to Water Appropriation Permit 2021-3551.

All monitoring requirements under this Monitoring Plan go into effect following issuance of Water Appropriation Permit 2021-3551, or as otherwise specified below.

**Pit Water Levels** – The East Range Water Board (ERWB)/City of Aurora shall monitor water levels at the following locations according to the schedule below:

- Embarrass Pit (Weekly, year-round during the initial draw down of the Embarrass Pit until the pit water level stabilizes; Monthly, during ice-free periods after the water level in the Embarrass Pit stabilizes)

**Lake Water Levels** – The ERWB/City of Aurora shall monitor water levels according to the following schedule:

- Embarrass Lake, DNR Lake ID# 69-049600 (Weekly, year-round during the initial draw down of the Embarrass Pit until the pit water level stabilizes; Monthly, during ice-free periods after the water level in the Embarrass Pit stabilizes)
- Wynne Lake, DNR Lake ID# 69-043402 (Weekly, year-round during the initial draw down of the Embarrass Pit until the pit water level stabilizes; Monthly, during ice-free periods after the water level in the Embarrass Pit stabilizes)
- Sabin Lake, DNR Lake ID# 69-043401 (Weekly, year-round during the initial draw down of the Embarrass Pit until the pit water level stabilizes; Monthly, during ice-free periods after the water level in the Embarrass Pit stabilizes)

Once water level drawdown on the Embarrass Pit occurs and water levels have stabilized, lake water level monitoring may be reduced in frequency or eliminated if monitoring data shows that Embarrass Pit appropriation is not impacting lake levels.

**Thin Ice Plan** – The East Range Water Board (ERWB)/City of Aurora shall work with county officials to establish an approved thin ice plan for the Embarrass Pit and obtain/display the appropriate signage during freezing months.

**Annual Report, Re-evaluation of Monitoring Plan, Closure and Temporary Idle**

- Data shall be collected and reported in accordance with the requirements outlined in the Quality Assurance Project Plan (QAPP) dated July 2023.
- If monitoring data and/or modeling results show unacceptable impacts to public health, to public safety, or to the public interest in land and waters, that could potentially be caused by the appropriation and use of water authorized under Permit 2021-3551, then the DNR may revise the requirements of this Monitoring Plan.
- This Monitoring Plan shall remain in effect during a cessation of pumping until the pit water level stabilizes.

---

**Erika Herr**  
**Mine Permitting and Coordination Section**  
**Minnesota Department of Natural Resources**

---

**Doug Gregor**  
**Chair**  
**East Range Water Board**

---

**Lucas Heikkila**  
**City Administrator**  
**City of Aurora**

**East Range Water Board/City of Aurora**  
**Quality Assurance Project Plan (QAPP) for Water Appropriation Permit Monitoring Procedures**  
**2021-3551**  
**[Date] 2023**

### **Background**

This QAPP applies to the monitoring and reporting requirements imposed under Water Appropriation Permit 2021-3551 issued to the East Range Water Board (ERWB)/City of Aurora and details the methods for data collection. The permits require data collection and reporting under the Department of Natural Resources (DNR) approved Monitoring Plans in order to monitor for potential impacts from water appropriations under these permits. Any changes to the Monitoring Plan shall occur through an amendment to the Water Appropriation Permit.

### **Reporting Requirements**

An annual report displaying and analyzing all monitoring data shall be prepared by the ERWB/City of Aurora and submitted electronically (and in hard copy, if requested), along with associated data in a Microsoft Excel compatible format, no later than February 15th of the following year. Data shall be submitted in template(s) should they be provided by the DNR. The annual report shall include a narrative analyzing monitoring data for short-term and long-term trends, comparison of data trends to short-term and long-term predictions, effects of dewatering or pumping activities, effectiveness of the Monitoring Plan, and provide recommendations for any monitoring changes. The DNR shall provide guidance on development of this report and submittal of data as needed.

### **Survey Requirements**

Survey elevations shall be determined using either the NGVD 29 or NAVD 88 vertical datum. An alternative vertical datum may be used if approved by the DNR. If the NGVD 29 vertical datum is not used, a site-specific correction shall be calculated to convert the survey elevations to the NGVD 29 datum. If horizontal coordinates are reported, they shall be determined using the NAD 83 horizontal datum and reported in UTM coordinates. An alternative horizontal datum and/or coordinate system may be used if approved by the DNR.

The survey method used to collect elevation data for the Monitoring Plan shall be capable of reporting elevations within 0.05-foot accuracy and calibrated to an approved Minnesota Department of Transportation (MnDOT) GSID benchmark or a temporary benchmark approved by the DNR. If an approved temporary benchmark is used, ERWB/City of Aurora shall use a survey grade GPS with a 0.05-foot accuracy and provide information on the MnDOT GSID benchmark used to establish that temporary benchmark. ERWB/City of Aurora is responsible for choosing the appropriate survey methodology based on the monitoring requirements and DNR recommendations. However, any method chosen must meet the 0.05-foot accuracy requirement. Optical survey equipment should be used when greater accuracy is needed because of its ability to meet 0.01-foot accuracy for water level measurements or staff gage establishment.

All survey data shall be reported with the date and time of survey, surveyed elevation, vertical datum, site name and number of the MnDOT GSID benchmark or temporary benchmark, survey method used and site-specific datum correction if elevations are not reported in NGVD 29. If horizontal data is reported, the horizontal datum and coordinate system shall be reported with the data.

### **Monitoring Data Collection**

Data shall be presented in the annual report and submitted in electronic format according to the Reporting Requirements. All surveyed water level elevations shall be reported according to the Survey Requirements for survey method and survey

accuracy. Should the ERWB/City of Aurora be unable to collect scheduled data in accordance with the Monitoring Plan, the ERWB/City of Aurora shall notify the DNR of the issue and develop a plan to correct the issue.

### ***1. Rates and Monthly Water Volumes***

Unless otherwise noted in the Monitoring Plan, all installations shall be equipped with flow meters and totalizers to record instantaneous rates and total monthly volumes of water appropriated and/or discharged. Flow meters shall be accurate to within 10% of the total volume. This information shall be used to complete the annual Water Use Report in the MN DNR Permitting and Reporting System (MPARS).

### ***2. Pit and Lake Water Levels***

Pit and lake water levels shall be monitored in accordance with requirements set forth in the Monitoring Plan. Pit and lake water levels shall be measured using the method specified in the Monitoring Plan. If no method is specified, elevations may be measured using a data logger, staff gage or other DNR approved method(s). If both data loggers and staff gages are used they should be installed separately or the top of the staff gage must be surveyed at each visit (or water level measurement).

#### *Data Logger*

Following installation of a continuous recording data logger, the ERWB/City of Aurora shall download and calibrate the data logger monthly and submit the manual water level measurement and corresponding logger measurement by the end of each month for six (6) months or unless otherwise approved by the DNR. Data will be assessed for data logger and calibration accuracy. Once the DNR concludes after this initial reporting period that the data loggers are accurate and appropriately calibrated, the ERWB/City of Aurora may begin collection and calibration of data at the frequency set forth in the Monitoring Plan.

If no calibration requirements are included in the Monitoring Plan then the data logger shall be calibrated, at minimum, quarterly unless otherwise approved by the DNR. The data logger shall be calibrated with a surveyed manual water level elevation measurement taken immediately before and after data are downloaded or calibrated with a staff gage measurement unless otherwise approved by the DNR. Data logger calibration shall be conducted by resetting the water level elevation to the surveyed manual water level elevation or staff gage measurement. At a minimum, data should be downloaded during each calibration and data logger corrected, if needed, in a timely manner. Any problems with the data logger shall be reported to the DNR as soon as possible.

All calibration corrections and data logger data shall be submitted with the date and time of correction and measurement. Any difference in the manual and data logger water level measurements at the time of calibration shall be reported to the nearest hundredth of a foot (0.01'). If drift corrections are retroactively applied to the logger data, the ERWB/City of Aurora shall include a narrative explaining the correction applied and submit both the raw and corrected data files.

#### *Staff Gage*

Staff gages shall be surveyed upon installation and measured during ice-free periods in accordance with requirements set forth in the Monitoring Plan. Should the staff gage need to be reset, the ERWB/City of Aurora shall report the new staff gage location and survey information. Staff gage water level elevations shall be reported with the date and time of measurement, gage zero elevation, and gage plate reading.

#### *Other Method*

The DNR may approve an alternative method for pit or lake water level elevation collection. In order to request for DNR approval of an alternative method, the ERWB/City of Aurora shall submit a report detailing the proposed method for data collection, proposed equipment accuracy, and a feasibility review of using data loggers and staff gages.



**East Range Water Board/City of Aurora  
Water Supply Contingency Plan (WSCP) for the  
Iron Range Resources and Rehabilitation's Quarry Golf Course**

**Section 1. Purpose:** This agreement is entered into by the Department of Natural Resources (DNR), the East Range Water Board (ERWB)/City of Aurora, and the Department of Iron Range Resources and Rehabilitation ("IRRR") ("parties") to describe measures to be taken to ensure protection of the IRRR's Quarry Golf Course water supplies at the quantity that would have existed absent appropriation to supply the City of Aurora and the Town of White.

**Section 2. Background:** IRRR was issued Water Appropriation Permit 2001-2029 on October 13, 2000, authorizing appropriation from the Embarrass Pit to supply water for the purpose of irrigation for the Quarry Golf Course. In October 2021, the ERWB/City of Aurora applied for Water Appropriation Permit 2021-3551 for the purpose of utilizing the Embarrass Pit as a municipal water source supply for the City of Aurora and the Town of White. As IRRR is an existing appropriator from the Embarrass Pit, a Water Supply Contingency Plan (WSCP) is required should IRRR's water supplies be impacted as a result of the appropriation for use by the City of Aurora and Town of White. The primary risk to IRRR's Quarry Golf Course's water supply from ERWB/City of Aurora's appropriation is the lowering of Embarrass Pit water levels to levels below what is required for normal operation.

**Section 3. Existing Facilities:** The Quarry Golf Course has a removable floating pump house (barge) that is anchored to the shoreline of the Embarrass Pit by two cables. The barge is removed by November 1<sup>st</sup> of each year and reinstalled immediately after ice out each spring. The barge has a minimum operating level of approximately 1370.51 (NGVD29). Water Appropriation Permit 2001-2029 authorizes pumping at a rate of 600 gallons per minute and a maximum volume of 50 million gallons per year. There is one pump on the barge that moves water from the Embarrass pit to a holding pond and four stationary pumps that move water from a holding pond to the golf course. Over the last ten years, water use for the Quarry Golf Course has averaged 25 million gallons per year.

**Section 4. Monitoring and Reporting:** As a condition of Water Appropriation Permit 2021-3551, a Monitoring Plan shall be implemented. The Monitoring Plan includes water level monitoring for the Embarrass Pit.

- A. IRRR agrees to maintain their water intake in good working condition and will provide to ERWB/City of Aurora and DNR on an annual basis available information concerning the quantity of water pumped, as well as any significant changes to water quality.
- B. Data from monitoring as described in the Monitoring Plan shall be provided in electronic form to the DNR and IRRR. The monitoring data, as well as information provided by IRRR, will be used to evaluate whether mitigative measures should be implemented and also to assist in determining the appropriate response actions.

- C. A copy of ERWB/City of Aurora’s annual water appropriation report will be provided to the DNR and to IRRR during the term of this agreement and will include the following information: a summary of the data collected during the previous year; a description of any changes to the monitoring network; recommended changes to the monitoring; and a determination as to any effects of water appropriation on IRRR’s water supply for the Quarry Golf Course. The report shall also include a short narrative describing any impacts to water appropriation during the previous year as well as any anticipated changes to water appropriation in the upcoming calendar year.
- D. The ERWB/City of Aurora and IRRR will meet quarterly to:
- i. Review water level and water withdrawal data – including that of the City of Biwabik’s water intake and climate data to mutually conclude on the current status and any apparent changes in water levels.
  - ii. Compare existing pit water levels to the amount of drawdown that was predicted in the June 19, 2023, *Embarrass Pit Groundwater Model Update* technical memo.
  - iii. Mutually conclude on the adequacy of the water level for suitable operation of IRRR’s water intake.
  - iv. Mutually review and conclude on water level projections for the next five (5) years, based on projected water needs of the City of Aurora/Town of White, the City of Biwabik and IRRR’s Quarry Golf Course.
  - v. Provide a report that summarizes the meeting to DNR Division of Lands and Minerals within 30 days of the meeting.

**Section 5. Mitigation:** The DNR shall be immediately notified if it is determined that appropriation to supply the City of Aurora and the Town of White is adversely impacting IRRR’s ability to satisfy normal water supply demands for the Quarry Golf Course. ERWB/City of Aurora, IRRR, and DNR will determine response actions, if necessary, to mitigate those adverse impacts. Depending on the nature and severity of the impacts, response actions could range from increased monitoring to moving IRRR’s intake to a deeper water depth and/or increasing pump capacity, or finding an alternative water supply.

**Section 6. Trigger Action Elevations and Timelines:** In the event that dewatering or pumping activities have adverse impacts on the quantity of IRRR’s water supply, additional monitoring and mitigation may be necessary. ERWB/City of Aurora shall immediately notify IRRR and DNR should data show impacts to IRRR’s water supply. ERWB/City of Aurora shall work with IRRR and DNR to determine the appropriate response actions to mitigate adverse impacts to the Quarry Golf Course’s water supply. The DNR reserves the right to modify the elevation and/or timeline triggers in this agreement at any time, following consultation with all parties.

The following is background on the Embarrass Pit:

- a. Approximate current Embarrass Pit water level
  - 1373.51 ft (NGVD29)/1374.19 (NAVD88)
- b. Approximate drawdown of the Embarrass Pit with the City of Aurora and Town of White appropriating as predicted by the June 19, 2023, *Embarrass Pit Groundwater Model Update* technical memo.
  - -1.6 ft

Below are the key water elevations to be used as action triggers to provide enough time for IRRR to respond to significant source water quantity changes:

- a. Approximate elevation at which IRRR must modify their water supply intake:
  - 1370.51 (NGVD29)/1371.19 (NAVD88)
- b. Approximate elevation at which additional pump capacity would be required:
  - 1367.51 (NGVD29)/1368.19 (NAVD88)

- c. Elevation at which a detailed contingency plan shall be developed:
  - 1370.51 (NGVD29)/1371.19 (NAVD88)
- d. Elevation at which a detailed contingency plan shall be developed:
  - Results of the detailed contingency plan will determine the elevation at which the plan shall be implemented.

**Section 7. Funding:** ERWB/City of Aurora will be responsible for funding the monitoring activities and response actions required by this agreement. If response actions taken under this agreement are eligible for grant programs for water system improvements, IRRR shall pursue funding from those programs. ERWB/City of Aurora will reimburse IRRR for the cost of any grant writing incurred under this provision. Funds received by IRRR through any such grant programs will be used to offset ERWB/City of Aurora’s costs for response actions under this agreement.

**Section 8. Term:** This agreement shall be effective upon execution by all the parties and may be terminated at any time by the written agreement of all parties. Nothing herein shall prohibit the DNR, IRRR, and ERWB/City of Aurora from agreeing upon an earlier termination of this agreement. This agreement will remain in effect until it has been determined that appropriation under Permit 2021-3551 does not have the potential to adversely impact IRRR’s water supply for the Quarry Golf Course.

**Section 9. Disputes:** This Water Supply Contingency Plan may be amended at any time by written agreement of the parties. In the event that the parties cannot agree on the cause of any adverse impacts to IRRR’s water supply or the appropriateness of a proposed response action, nothing in this agreement shall prevent the parties from utilizing the DNR dispute resolution process provided in MN Rules 6115.0730 – Well Interference Problems Involving Appropriation.

**Section 10. Reporting:** All data shall be collected and summarized in an annual report as required by the Quality Assurance Project Plan unless otherwise noted.

The undersigned parties agree to be bound by the terms and conditions of this Water Supply Contingency Plan:

For the **Iron Range Resources and Rehabilitation:**

Signature	Printed Name	Title	Date

For the **East Range Water Board:**

Signature	Printed Name	Title	Date

For the **City of Aurora:**

Signature	Printed Name	Title	Date

For the **Minnesota Department of Natural Resources**:

Signature

Printed Name

Title

Date

---