



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISION
PERMIT

Issued To:

Julie VanderWiere, Charter Township of Texas
7110 W Q Avenue
Kalamazoo, MI 49009

Permit No: WRP015489 v.1
Submission No.: HNH-TFMB-YPBP9
Site Name: 39-7244 Bentwood Trail-Kalamazoo
Issued: March 29, 2019
Revised:
Expires: September 30, 2020

This permit is being issued by the Michigan Department of Environmental Quality (MDEQ), Water Resources Division, under the provisions of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); specifically:

- Part 301, Inland Lakes and Streams
Part 303, Wetlands Protection
Part 315, Dam Safety
Part 31, Water Resources Protection (Floodplain Regulatory Authority)
Part 323, Shorelands Protection and Management
Part 325, Great Lakes Submerged Lands
Part 353, Sand Dunes Protection and Management

Permission is hereby granted, based on permittee assurance of adherence to State of Michigan requirements and permit conditions, to:

Authorized Activity:

Temporarily install 12" diameter HDPE pipes, pumps and anchors on bottomlands of Eagle Lake and Crooked Lake. Immediately following the placement of the intake pipes and pumps on lake bottomlands, the entire perimeter of the intake pump area shall be isolated with a turbidity curtain to prevent movement of suspended sediments. The turbidity curtain shall be installed to extend from the bed of the waterbody to a point above the existing water's surface. The turbidity curtain shall be maintained for the duration of pumping.

Operate pumps to lower the current water surface elevations of Eagle Lake and Crooked Lake in accordance with the terms and conditions of the permit and subject to the following conditions.

Property Location: Kalamazoo County, T03S, R12W, Sections 01, 02, 11, 12, 14 and 15, Texas Township, and T03S, R11W, Section 06, City of Portage

Authority granted by this permit is subject to the following limitations:

- A. Initiation of any work on the permitted project confirms the permittee's acceptance and agreement to comply with all terms and conditions of this permit.
- B. The permittee, in exercising the authority granted by this permit, shall not cause unlawful pollution as defined by Part 31 of the NREPA.
- C. This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.
- D. All work shall be completed in accordance with the approved plans and specifications submitted with the application and/or plans and specifications attached to this permit.
- E. No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved.
- F. It is made a requirement of this permit that the permittee give notice to public utilities in accordance with 2013 PA 174 (Act 174) and comply with each of the requirements of Act 174.
- G. This permit does not convey property rights in either real estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits, or complying with other state statutes.
- H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.
- I. Permittee shall notify the MDEQ within one week after the completion of the activity authorized by this permit by completing and forwarding the attached preaddressed postcard to the office addressed thereon.
- J. This permit shall not be assigned or transferred without the written approval of the MDEQ.
- K. Failure to comply with conditions of this permit may subject the permittee to revocation of permit and criminal and/or civil action as cited by the specific state act, federal act, and/or rule under which this permit is granted.
- L. In issuing this permit, the MDEQ has relied on the information and data that the permittee has provided in connection with the submitted application for permit. If, subsequent to the issuance of a permit, such information and data prove to be false, incomplete, or inaccurate, the MDEQ may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.
- M. The permittee shall indemnify and hold harmless the State of Michigan and its departments, agencies, officials, employees, agents, and representatives for any and all claims or causes of action arising from acts or omissions of the permittee, or employees, agents, or representative of the permittee, undertaken in connection with this permit. The permittee's obligation to indemnify the State of Michigan applies only if the state: (1) provides the permittee or its designated representative written notice of the claim or cause of action within 30 days after it is received by the state, and (2) consents to the permittee's participation in the proceeding on the claim or cause of action. It does not apply to contested case proceedings under the Administrative Procedures Act, 1969 PA 306, as amended, challenging the permit. This permit shall not be construed as an indemnity by the State of Michigan for the benefit of the permittee or any other person.
- N. Noncompliance with these terms and conditions and/or the initiation of other regulated activities not specifically authorized shall be cause for the modification, suspension, or revocation of this permit, in whole or in part. Further, the MDEQ may initiate criminal and/or civil proceedings as may be deemed necessary to correct project deficiencies, protect natural resource values, and secure compliance with statutes.
- O. If any change or deviation from the permitted activity becomes necessary, the permittee shall request, in writing, a revision of the permitted activity from the MDEQ. Such revision request shall include complete documentation supporting the modification and revised plans detailing the proposed modification. Proposed modifications must be approved, in writing, by the MDEQ prior to being implemented.
- P. This permit may be transferred to another person upon written approval of the MDEQ. The permittee must submit a written request to the MDEQ to transfer the permit to the new owner. The new owner must also submit a written request to the MDEQ to accept transfer. The new owner must agree, in writing, to accept all conditions of the permit. A single letter signed by both parties that includes all of the above information may be provided to the MDEQ. The MDEQ will review the request and, if approved, will provide written notification to the new owner.
- Q. Prior to initiating permitted construction, the permittee is required to provide a copy of the permit to the contractor(s) for review. The property owner, contractor(s), and any agent involved in exercising the permit are held responsible to ensure that the project is constructed in accordance with all drawings and

specifications. The contractor is required to provide a copy of the permit to all subcontractors doing work authorized by the permit.

- R. Work to be done under authority of this permit is further subject to the following special instructions and specifications:

GENERAL

1. In agreeing to the terms of this permit, the permittee shall not operate the augmentation wells on Eagle and Crooked lakes while this permit is valid, with the exception of discharges necessary for typical maintenance. The permittee shall notify the MDEQ within 24 hours of such a discharge from one of the augmentation wells.
2. The permittee shall utilize a filtration system with a filter mesh of 40 microns or less in size and pass all water being pumped out of Crooked Lake through the system before discharging downstream. A Riverscreen type intake screen with #24 mesh (0.0277-inch sieve size) may be used in addition to required filtration. The screen is required to prevent the movement and potential spread of aquatic invasive species.
3. Prior to the start of pumping, the permittee shall submit detailed overhead plans and a cross-section plan of the pipe intakes on each lake showing all structures and including the following:
 - a. Lake bottom
 - b. Current water surface elevation (WSE)
 - c. Intake pipe and anchoring system
 - d. Turbidity curtain
 - e. Pump
4. The discharge from the Eagle Lake piping shall outlet through an upturned 90° bend that is cantilevered over the water surface of Crooked Lake. Flow from the outlet will be directed over an existing seawall and into the lake.
5. The discharge from the Crooked Lake piping will outlet through an upturned 90° bend. Properly sized riprap for the expected flow rate and velocity shall be placed over geotextile fabric in upland around the pump discharge outlet. No riprap shall be placed in the adjacent wetland.
6. Signs shall be placed around the lake intake pumps and at the discharge pipe from Eagle Lake warning boaters or other lake users of the operation of the pumps and the possibility for resulting thin ice or open water.
7. Prior to the start of pumping, the permittee shall clean out the existing 30-inch diameter concrete culvert beneath the Boy Scouts of America (BSA) access road using a Vacuum Truck or similar technology, and to place riprap around the upstream end of the culvert and adjacent road slope to protect and stabilize the upstream culvert end. A cofferdam shall be constructed upstream of the culvert so the clean out is performed in the dry. Once the culvert has been cleaned and riprap installed, the cofferdam will be slowly removed to return flows to the stream at a slow rate. Permittee remains responsible for maintaining the hydrologic capacity of this structure and periodically monitoring and maintaining as needed.
8. Access to the Crooked Lake intake pump controls shall be limited, only accessible through locked access.
9. The permittee and contractors will take steps to minimize the risk of spreading terrestrial and aquatic invasive species during this project and will take measures to prevent spread, where feasible, including:
 - a. Visually inspecting and removing any plants or mud from footwear (boots, hip-boots, and waders).
 - b. Visually inspecting and removing and properly disposing of any plants and mud from field equipment (nets, shovels, rakes, etc.) and vehicles.
 - c. Draining all water from vehicles and equipment, prior to leaving the site and before entering a new waterbody.
 - d. Thoroughly drying equipment (5-7 days, if possible) between sites, when possible.

- e. Disinfecting vehicles and equipment between sites (e.g. diluted bleach solution, heated pressure washer), when possible. Disinfection should be conducted away from surface waters, where the disinfecting solution will not enter any storm sewers and/or surface waters.
 - i. Typical diluted bleach solution treatment is ½ cup (4 fluid ounces) bleach to 5 gallons of water, applied by spraying or sponge so surface is thoroughly exposed to bleach solution for 10 minutes.
 - ii. Typical heated pressure wash is 140° water temperature, sprayed for 5-10 seconds.
 - iii. Thoroughly washing vehicles and boats between sites (e.g. drive-through car wash).
10. Within 45 days from issuance of this permit, the permittee shall develop, submit for MDEQ approval, and then implement plans for monitoring water chemistry, aquatic invasive species and zooplankton using MDEQ approved methods, in Eagle, Crooked and Bass Lakes in 2019. For the water chemistry monitoring, the same parameters previously collected on these lakes, and as summarized in the December 6, 2018 report from Advanced Ecological Management, LLC shall be collected during July or August 2019 on Eagle, Crooked, and Bass Lakes from at least three different sampling locations. This shall include one from the deepest point of the lake and the other two from other previously established locations.

FLOOD RELIEF PUMPING AND MONITORING

11. Permittee agrees to record/collect water surface elevation (WSE) readings at least three times per week at the upstream end of the following culverts:
 - a. 29-inch by 42-inch diameter elliptical culvert at 8th Street
 - b. 24-inch culvert at Bass Lake outlet on BSA property
 - c. 7-foot diameter culvert at 12th Street

WSE monitoring shall include a vertical measurement from the culvert crown at the spray-painted location to the current WSE. Measurements shall be taken with the use of a rigid measuring device in units of one tenth of one foot. If ice is present directly below the culvert crown, it shall be removed before sampling current WSE. If no water is present under the ice, or the ice cannot be removed, this shall be noted and a measurement to the surface of the ice shall be taken. When possible, a photo shall be taken depicting the measurement to WSE.

12. The permittee shall perform daily inspections of:
 - a. the intake pumps at both Eagle Lake and Crooked Lake
 - b. the Eagle Lake pump discharge site into Crooked Lake
 - c. the Crooked Lake discharge site to uplands within the Bentwood Trail Subdivision.

The contractor shall also perform weekly inspection of the pipe route.

13. Permittee agrees to conduct daily monitoring of stream flows at the following locations:
 - a. USGS gauge 04106500, Portage Creek at Kalamazoo
(https://waterdata.usgs.gov/nwis/inventory/?site_no=04106500)
 - b. USGS gauge 04106000, Kalamazoo River at Comstock
(https://waterdata.usgs.gov/mi/nwis/inventory/?site_no=04106000&agency_cd=USGS)

Gauge stream flows may be accessed remotely at the above websites. It is recommended that those responsible for monitoring of stream flows at the above stations sign up to receive a Water Alert text when the gauge exceedance threshold is reached.

14. The permittee shall install a staff gauge at the 48-inch culvert on the Al Sabo Land Preserve property owned by the City of Kalamazoo and conduct daily monitoring of gauge levels.

15. The permittee shall conduct daily monitoring of the condition of Sun Valley Drive in the City of Kalamazoo.
16. Permittee agrees to conduct wetland monitoring a minimum of once per week at least at the 7 wetland monitoring sites established by MDEQ, and as depicted on the attached plans. The MDEQ may establish several additional wetland monitoring sites later based on monitoring information submitted and site inspections. Progression and encroachment of any project-related surface water toward or into sensitive wetlands, as well as first signs of vegetation stress during the growing season, shall be documented. Monitoring shall include:
 - a. A rapid general assessment of vegetation, soil saturation, and current water levels and inundation distribution at and near each monitoring site.
 - b. Photo documentation from permanent photo station in cardinal directions, orientated towards the ground surface (i.e., a photo view of ground surface at a shallow viewing angle that shows approximately 5 feet from the plot center outward to potentially 30+ feet from the plot center)
 - c. Staff gauge measurement of inundation (i.e., water depth) at plot centerpoint, as well as water depth measurements at the base of all nearby woody vegetation (i.e., trees and large shrubs within 15-ft radius). Staff gauges for WSE readings shall be installed by the permittee in at the MDEQ established plot centerpoints.
 - d. Evidence of stunted or stressed woody or herbaceous vegetation
 - e. Summary of any relative changes (i.e., changes noted since previous wetland monitoring inspection and since commencement of the project).The permittee shall hire a qualified wetland professional to conduct the wetland monitoring. A concise report of the wetland monitoring shall be provided to MDEQ no longer than 3 business days after the date of the wetland monitoring.
17. The permittee shall monitor the outlet stream from Bass Lake, from the 24-inch culvert to downstream of the 30-inch diameter concrete culvert beneath the BSA access road, for evidence of any streambank erosion due to pumping. Any erosion shall be noted, reported to MDEQ, and a corrective action plan submitted.
18. The permittee shall install a RainWise Inc. RainNew211 model rain gauge at the Township Hall property. Monitoring of the culverts listed in permit condition 11 shall occur in the event of a rainfall of 2-inches or greater within a 24 hour period (exceedance rainfall) as recorded at the Oshtemo MAWN observation point (<https://mawn.geo.msu.edu/station.asp?id=ost>, until installation of the RainWise gauge. Once the Township rain gauge is installed, it shall be used as the primary source of precipitation data. The additional monitoring shall be performed within 2 days of the day the exceedance rainfall is received.
19. Permittee shall collect daily readings from staff gauges of the Crooked Lake WSE at 1213 East Crooked Lake Drive and the Eagle Lake WSE at 1442 North Eagle Lake Drive.

PUMPING CESSATION

20. Pumping shall cease and MDEQ notified if WSE reaches:
 - a. The upstream culvert crown of the 29-inch by 42-inch diameter elliptical culvert at 8th Street which is at elevation 885.80-feet.
 - b. 884.99-feet at the 24-inch culvert at Bass Lake outlet on BSA property, which is 0.14-feet below the upstream culvert crown.
 - c. 870.20-feet at the 7-foot diameter culvert at 12th Street, which is 3.57-feet below the upstream culvert crown.
21. Pumping shall cease and the MDEQ notified if any of the following conditions occur:
 - Sun Valley Drive in the City of Kalamazoo becomes inundated with water and impassible.

- USGS gauge 04106500, Portage Creek at Kalamazoo exceeds flows of 200 CFS
 - USGS gauge 04106000, Kalamazoo River at Comstock exceeds flows of 3,100 CFS. At 2,800 CFS the permittee shall communicate with the City of Kalamazoo City Engineer.
 - 13 consecutive days of pumping have occurred. In this event, pumping shall be ceased for 2 days to minimize potential adverse hydrologic change impacts to aquatic wildlife.
22. At the direction of MDEQ, pumping shall cease or be reduced if it is determined that the pumping is causing an adverse impact to wetlands, wildlife habitat, or any other aquatic resources based on the findings of the monitoring and other site inspections.
 23. Pumping shall commence at no greater than a rate of 1,000 gallons per minute (GPM) for the first week of operation. The rate may be increased to the maximum of 2,000 GPM if approved by MDEQ staff, based on a determination of no significant ecological effects to the wetland or receiving waters.
 24. When Eagle Lake reaches an elevation of 899.7-feet, or 0.10 feet below the target drawdown elevation of 899.80-feet, additional pumping is only authorized to maintain the target drawdown elevation. When Crooked Lake reaches an elevation of 894.90-feet, or 0.10 feet below the target drawdown elevation of 895.00-feet, additional pumping is only authorized to maintain the target drawdown elevation. The permittee shall not maintain either lake at a lower elevation than the target drawdown elevation, with the exception of the initial establishment as described above. Pumping may be used to maintain the target drawdown elevations until September 30, 2020.
 25. All pumping shall cease by September 30, 2020 unless either lake is still above the target drawdown elevation and the MDEQ authorizes a date extension in writing. The extension shall be no longer than one year. Once it is determined by MDEQ that no further pumping will be authorized, the permittee shall remove all associated equipment from lake bottomlands.
 26. In the event that pumping is still occurring by October 1, 2019 in one or both lakes, pump operation shall be such to allow pumping to continue to maintain the existing downstream WSE at a stable level throughout the winter and prevent adverse impacts to hibernating/dormant wildlife susceptible to changes in hydrology. Starting October 1, 2019, pumping shall occur at a rate and frequency so that the downstream WSE shall be maintained at a stable level through at least April 15, 2020.
 27. Monitoring as required in permit conditions 11 through 15 and 17 through 19 above may be performed either by the permittee or by a designated third-party representative of the permittee. For any required monitoring that is to be conducted by a third-party, the permittee agrees to submit written documentation of any monitoring agreement/arrangement with the third party.
 28. For the duration of pumping, the permittee shall maintain records of all of the collected data, including:
 - a. logs of discharge at the two proposed USGS gauge monitoring locations
 - b. the recorded WSE at the three proposed culvert monitoring locations
 - c. Staff gauge readings from 48-inch culvert at Al Sabo Land Preserve
 - d. WSE at Eagle Lake and Crooked Lakes
 - e. Pumping operation duration and rate. All changes in pumping rate and start and stop time and date shall be recorded.
 - f. Daily rainfall, to the tenth of an inch.

All of the above shall be recorded on a daily basis unless otherwise specified in the conditions of this permit.

A concise summary report of all of the above records shall be submitted to the MDEQ on a monthly basis; the first report shall be provided no later than 31 days after pumping begins. The permittee agrees to maintain the records in a manner such that the records can be shared immediately with the MDEQ upon request.

STANDARD CONDITIONS

- 29. Authority granted by this permit does not waive permit or program requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA, or the need to acquire applicable permits from the County Enforcing Agent (CEA). Please contact Mr. Jason Wiersma, Kalamazoo CEA, at jlwier@kalcountry.org or at 269-384-8117 for more information or to obtain Part 91 approval.
- 30. Prior to initiation of pumping, a preconstruction meeting shall be held with the contractor, permittee, and the MDEQ. To arrange the required meeting, please contact Derek Haroldson at haroldsond@mi.gov.
- 31. Dredging is not authorized by this permit.
- 32. Immediately following the placement of the intake pipes and pumps on lake bottomlands, the entire perimeter of the intake pump area shall be isolated with a turbidity curtain to prevent movement of suspended sediments, and to act as a barrier to fish and other animals. The turbidity curtain shall be installed to extend from the bed of the waterbody to a point above the existing water's surface. The turbidity curtain shall be maintained for the duration of pumping.
- 33. The permittee is responsible for acquiring all necessary easements or rights-of-way before commencing any work authorized by this permit. All construction operations relating to or part of this project shall be confined to the existing right-of-way limits or other acquired easements.
- 34. No fill, excess soil, or other material shall be placed in the 100-year floodplain, any wetland or surface water area not specifically authorized by this permit, its plans, and specifications.
- 35. The proposed intake pumps shall be anchored to bottomlands.
- 36. The authority to conduct the activity as authorized by this permit is granted solely under the provisions of the governing act as identified above. This permit does not convey, provide, or otherwise imply approval of any other governing act, ordinance, or regulation, nor does it waive the permittee's obligation to acquire any local, county, state or federal approval or authorization, necessary to conduct the activity.
- 37. The permit placard shall be kept posted at the work site, in a prominent location at all times for the duration of the project, or until permit expiration.
- 38. Upon signing by the permittee named herein, this permit must be returned to the MDEQ's Water Resources Division, for final execution. This permit shall become effective on the date of the MDEQ representative's signature.

Permittee hereby accepts and agrees to comply with the terms and conditions of this permit.

X _____

Permittee

Date

X _____

Printed Name and Title of Permittee

Issued By: _____
 Derek Haroldson
 Kalamazoo District Office
 Water Resources Division
 269-567-3567

cc:

Senator Sean McCann
Representative Brandt Iden
Linda Kerr, Charter Township of Texas, Clerk
Kendra Gwin, City of Portage, Director of Transportation and Utilities
James Baker, City of Kalamazoo, Public Services
Christine Morse, Kalamazoo County Commissioner, District 9
Travis Bartholomew, Kalamazoo County Road Commissioner
Jeff VanBelle, Kalamazoo County Deputy Drain Commissioner
Jason Wiersma, Kalamazoo CEA
Tom Smith, Prein & Newhof, Agent
Tom Wheat, Prein & Newhof, Agent
Amy Coon, Eagle Lake Property Owners Association
Jim Roberts, Crooked Lake Association
Tom Murch, Birchwood Shores Association
John Casper, Bass Lake
Aaron Collins, Boy Scouts of America
Matt Diana, MDNR Fisheries Division
Amy Bleisch, MDNR Wildlife Division
Michelle O'Neill, MDOT
Eric Bacon, Aquatic Nuisance Control, MDEQ
Eric Calabro, MDEQ
Gary Kohlhepp, MDEQ
Keto Gyekis, T&E Coordinator, WRD, MDEQ
Sarah LeSage, MDEQ
Marlio Lesmez, MDEQ
Amy Lounds, Wetlands, Lakes, and Streams Unit, WRD, MDEQ
Marcy Wilmes-Knowles, MDEQ