

Responsiveness Summary

Gerald R Ford Intl Airport-GR – Permit No. MI0055735

The National Pollutant Discharge Elimination System (NPDES) Permit for this facility was modified and took effect on August 1, 2013. An NPDES Permit may be contested within 60 days of issuance by filing a petition for Contested Case Hearing with the State Office of Administrative Hearings and Rules of the Michigan Department of Licensing and Regulatory Affairs. A petition may be obtained from the Internet at <http://www.deq.state.mi.us/documents/deq-oah-eqp0201.dot>.

Below is a summary of comments received during the public notice period and at the Public Meeting regarding the modification of the Gerald R Ford International Airport NPDES permit. The comments have been summarized due to many of the comments being nearly identical or very similar in nature. The Department of Environmental Quality (DEQ), Water Resources Division (WRD), staff responses (italicized) follow the comments that were received (bolded).

How does the Clean Water Act apply to the Thornapple River and the proposed NPDES Permit?

The 1972 amendments to the Federal Water Pollution Control Act (known as the Clean Water Act or CWA) provide the statutory basis for the NPDES permit program and the basic structure for regulating the discharge of pollutants from point sources to waters of the United States. Section 402 of the CWA specifically required the United States Environmental Protection Agency (USEPA) to develop and implement the NPDES program. The CWA gives the USEPA the authority to set effluent limits on an industry-wide (technology-based) basis and on a water-quality basis that ensure protection of the receiving water. The CWA requires anyone who wants to discharge pollutants to first obtain an NPDES Permit, or else that discharge will be considered illegal. The CWA allowed the USEPA to authorize the NPDES Permit Program to state governments, enabling states to perform many of the permitting, administrative, and enforcement aspects of the NPDES Program. In states that have been authorized to implement CWA programs, the USEPA still retains oversight responsibilities. Michigan is a delegated state and is therefore responsible to process NPDES Permit requests.

Comments made during the public meeting at the Cascade Township Library regarding the NPDES Permit for the Gerald R. Ford International Airport (GFIA) were not entered into the official record because we did not know the secret phrase: “I wish these comments to be part of the record regarding the draft modified NPDES Permit for GFIA.” Is there a place where public comments can be reviewed?

The DEQ does not require that a secret phrase be used in order for comments to be considered for the permit record. During the DEQ’s public meeting, held on June 13, 2013, the DEQ stated that if anyone wanted to make a verbal statement for the record, they would need to come up to the podium in order to have their statement recorded. All recorded statements have been saved as part of the permit record. The DEQ staff did take notes on all other questions and comments that were made during the public meeting and these are also part of the permit record. All written comments (electronic and hardcopy) that have been received during the public notice period are also part of the permit record. The permit

record is considered public information and can be reviewed by any interested parties via the submittal of a Freedom of Information Act (FOIA) request.

Monitoring times; are they appropriate? Are there more bioslimes in the summer with warmer temperatures?

Many of the parameters in the modified permit are being monitored at least once per month during deicing discharge events between October 1 and May 31 of each year. The monitoring frequency has been established to focus on the times when the GFIA may have a discharge of storm water with Anti-icing/De-icer Fluids (ADF). Monitoring for carbonaceous biochemical oxygen demand, ammonia nitrogen, and dissolved oxygen is not as great a concern during the summer months since the discharge of ADF will have ceased. The bacterial slimes feed on the discharged glycol, which causes a rapid growth in population size during the fall and winter months. When the weather begins to warm and ADF are no longer present, the bioslimes begin to die off due to the elimination of their food source.

What was the cost of the new parking garage at the GFIA?

This question is not relevant or applicable to the NPDES permit modification.

Is the biofilm the bacteria or a byproduct of it?

The bacterial slimes are naturally-occurring populations of bacteria found in waterways. The bacterial slimes feed on the discharged glycol, which causes a rapid growth in population size during the fall and winter months. Nuisance biofilms occur when there is a propagation of the bacterial slime populations to concentrations that cause a negative effect on the aquatic community. As the bacteria metabolize the glycol, they can cause a depletion of the dissolved oxygen in the water column and sediments. The biofilms are synonymous with the bacterial slimes.

How should people provide comments to Mr. Sean Syts?

Contact information was provided in the public notice document, fact sheet, and public meeting public notice document. The contact information was also shared with the attendees of the June 13, 2013 public meeting. Comments or objections to the draft permit and proposed decision regarding the Antidegradation Demonstration received by July 8, 2013, were considered in the final decision to issue the permit. Persons desiring information regarding the draft permit, Antidegradation Demonstration, procedures for commenting, or requesting a hearing were instructed to contact Sean Syts, Permits Section, Water Resources Division, Department of Environmental Quality, P.O. Box 30458, Lansing, Michigan 48909, telephone: 517-335-4123, e-mail: sytss@michigan.gov.

Once the permit is issued, there is concern the airport can change their treatment option.

The draft permit is developed based on the complete application that was submitted. If the Airport changes their treatment option after the permit is issued, then they would be required to amend their application and apply for another permit modification if there was still a discharge. If the Airport were to have a discharge without amending their application, then

they would be in violation of their NPDES Permit and subject to compliance and enforcement actions.

Who is doing the testing and how is it monitored?

The GFIA is responsible for testing of the final effluent to ensure the conditions in the permit are being met. The DEQ will conduct periodic testing on the final effluent as part of Compliance Sampling Inspections within the DEQ's compliance program. In addition, the DEQ will assess the Thornapple River to ensure the final effluent is not causing any Water Quality Standard violations, as resources allow. The labs performing the analysis must also be approved and meet standards.

What happens if the GFIA violates the limits in the permit? How is the DEQ going to deal with violations?

If the GFIA violates the limits in their permit, they could be subjected to compliance and/or enforcement action by the DEQ. Violations vary depending on severity in regards to the impact to the environment. The DEQ will deal with violations on a case-by-case basis and follow appropriate internal operating procedures.

Some runoff is sent to a recycling center; why isn't all of it?

The collection and recycling of ADF is a Best Management Practice implemented by the GFIA, but it is not specifically required by the NPDES Permit. Runoff that contains a ration of at least 1 percent propylene glycol (PG) to water is recycled. Not all of the runoff meets the criteria.

What other airports of relevant size have treatment systems like this and are accountable to the residents?

The GFIA will be the first airport in Michigan to install on-site treatment for ADF, though this type of treatment system has been successfully used at other cold weather airports in North America.

How does this help or hinder the Pure Michigan campaign?

The permit modification is protective of the designated uses. This means that the two unnamed tributaries to the Thornapple River, an unnamed tributary to Plaster Creek, and the Thornapple River are protected for agricultural uses, navigation, industrial water supply, public water supply in areas with designated public water supply intakes, warm-water fish, other indigenous aquatic life and wildlife, partial body contact recreation, total body contact recreation (May through October), and fish consumption. The NPDES Permit Program has been developed to be protective of our nation's water resources.

Is it true the airport tried to do this last year with just a new pipe but eventually decided to add treatment because the public found out? What drove the decision regarding treatment?

The GFIA initially applied for modification of their NPDES Permit because of a permit condition that required the permittee to cease the discharge of ADF through Outfall 001, unless the Nuisance Biofilm Elimination and Prevention Program results in the elimination of GFIA's contribution to the nuisance biofilm in the unnamed tributary to the Thornapple River. The initial application received by the DEQ indicated that a new outfall structure on the Thornapple River was being proposed and that multiple treatment alternatives were being evaluated. The exact treatment system was not initially identified. Rule 1098 of our Part 4 Rules, when applicable, requires that applicants for a new discharge evaluate alternatives to the discharge. The effluent limitations for the proposed discharge were developed to be protective of water quality in the receiving water by insuring that all designated uses would be met at critical conditions. The effluent limitations were developed independently from the airport's decision to install a storm water detention and treatment system. The effluent limitations were one of the factors that drove the airport's decision to install a particular type of treatment. The DEQ believes that public interest in protection of the Thornapple River may have also influenced this decision. If the GFIA had proposed a different alternative for treatment, the effluent limitations would not have changed, provided that the location of the outfall remained the same.

How were the standards established?

The standards are described in the Part 4, Water Quality Standards, and the Part 8 Rules, promulgated pursuant to Part 31 of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). The final effluent limitations in the draft permit are consistent with these rules.

Trout Creek is Dead. The discharge to Trout Creek has caused erosion to the creek, filled it with biofilm, killed all the wildlife, and created a "foul odor" to surrounding homeowners.

The DEQ would disagree with the statements that Trout Creek is dead and that the discharge has killed all wildlife and aquatic life. During evaluations of Trout Creek, DEQ staff observed a limited number of aquatic specimens. It is speculated that the limited diversity is partially caused by poor habitat due to the nuisance bacterial slimes. As the slimes die off during the summer months, staff has observed improvements in the stream ecology. The applicant has requested modification of their NPDES Permit in order to install a storm water detention and treatment system to eliminate their contribution to the nuisance biofilms in Trout Creek as required by their NPDES Permit.

Regarding concerns about erosion, the existing permit includes a condition titled the Storm Water Pollution Prevention Plan (SWPPP). The SWPPP requires the permittee to identify and implement structural and/or nonstructural control measures to address soil erosion and sedimentation. The SWPPP condition is also a requirement in the modified permit. Please keep in mind the permit can only address erosion issues originating from the airport. Any soil erosion occurring from other sources is not the responsibility of the airport. The permit also includes a Nuisance Odor Condition as a means to attempt to minimize any and all nuisance odor conditions associated with the discharges.

If current standards are already harmful to the tributary, shouldn't standards be changed?

It was a violation of the existing narrative standard that led to the inclusion of the ADF Discharge Prohibition clause that required on or before October 1, 2015, the permittee shall cease the discharge of ADF through Outfall 001, unless the permittee was able to eliminate their contribution to the nuisance biofilm in the unnamed tributary to the Thornapple River (locally known as Trout Creek). The current standards are the impetus that required the GFIA to address the negative impacts on the receiving water and therefore propose to install a detention and treatment system.

Eight years later we still haven't corrected this problem...the Bayou looks horrible. What's wrong with zero discharge to the Thornapple River?

The GFIA has runways, parking lots, airline terminals, and hangers, which are all large impervious surfaces. It is not practical to assume that all storm water can be contained within the airport property. The GFIA did evaluate discharging industrial storm water associated with ADF to the Grand Rapids Wastewater Treatment Plant, but was eventually eliminated as an option. The report that explained the evaluation process was made available to the public during the public notice period. In addition, the DEQ does not believe that zero discharge is needed in order to meet water quality standards and protect designated uses.

How do other airports get rid of their waste without a river to dump it in? Airports around the world use more eco-friendly alternatives to PG. What do the best airports collect? I would like the DEQ to look into these alternatives in greater depth.

If the river did not exist, then other alternatives would have been considered. The GFIA looked at a number of alternatives and that information was presented as part of the Antidegradation Demonstration. Each airport is unique and site-specific considerations are made. The use of PG is a requirement by the Federal Aviation Administration (FAA) for safe winter-time operations. Alternatives to PG used in other parts of the world may not have approval to be used in the United States and is beyond the authority of the DEQ. Even airport facilities in Michigan that have implemented centralized deicing may still have discharges to waters of the state.

The Wayne County Airport Authority for the Detroit Metropolitan Wayne County Airport uses remote deicing pads to recycle the runoff with the highest percent ADF, and operates a retention pond system for management of the deicing operations runoff and the storm water runoff generated at the airport. The Airport can send spent ADFs to two wastewater treatment plants (WWTPs; the Detroit WWTP and the Wayne Co Downriver WWTP) from the pads and the ponds. In addition, the Airport is authorized to discharge treated deicing operations runoff and storm water runoff from some ponds, and under certain conditions, to the Sexton and Kilfoil Drain and the Frank and Poet Drain, in Wayne County.

The Flint Bishop airport is currently under our industrial storm water general permit. As part of the SWPPP, they have installed centralized deicing for the bulk of commercial operations and send spent ADF from the deicing pad to the Genesee County Anthony Ragnone

WWTP. The WRD is currently evaluating whether there remain any water quality concerns in surface waters as a result of the remaining discharge that contains spent ADF.

The draft permit includes effluent limits at the outfalls from the ponds to the two drains, that are established to protect state water quality standards (specifically meet the dissolved oxygen standard in the receiving waters).

The Dissolved Oxygen (DO) mathematical modeling was used to determine the assimilative capacity of the unnamed tributaries and Thornapple River for DO-demanding substances (CBOD and ammonia). The water quality-based effluent limits were determined from this modeling, and were incorporated into the NPDES Permit as CBOD₅ and ammonia effluent limitations that are protective of the DO standard in the receiving waters.

The current permit doesn't address erosion; does this modification?

The existing permit includes a condition titled the Storm Water Pollution Prevention Plan (SWPPP). The SWPPP requires the permittee to identify and use structural and/or nonstructural control measures to address soil erosion and sedimentation. The SWPPP condition is also a requirement in the modified permit.

If PG breaks down quickly, why in 2011-2012 was PG observed in the Bayou? Does the permit have enough teeth to deal with this?

The discharge of PG is typically associated with a corresponding discharge of storm water. The DEQ has not collected any PG samples in the bayou, but it could be speculated that during a large storm event, PG may have been transported into the bayou due to increased stream velocity. The existing permit did not have any numerical effluent limitations that had been violated; therefore, compliance and enforcement could only be taken on violations to the narrative standard or other actions that were obvious violations of the NPDES Permit. The modified NPDES Permit contains multiple effluent limitations that are protective of the water quality standards. If the permittee violates any of the effluent limitations in the permit, then the DEQ may take appropriate compliance and/or enforcement action.

Is there any plan to analyze the quality of marine life for chemicals in them? (Bald eagles feed on this.)

No. The GFIA is not discharging any compounds that are considered bioaccumulative chemicals of concern. PG is quickly metabolized by bacteria and not expected to accumulate in the environment.

Is it true that the Thornapple River is considered one of the finest water bodies in the State?

The DEQ understands and recognizes that the Thornapple River is of great importance to the local community and appreciates the concern shown by the residents. The permit modification has been developed to be protective of the designated uses. This means that the two unnamed tributaries to the Thornapple River, an unnamed tributary to Plaster Creek, and the Thornapple River are protected for agricultural uses, navigation, industrial water supply, public water supply in areas with designated public water supply intakes, warm-

water fish, other indigenous aquatic life and wildlife, partial body contact recreation, total body contact recreation (May through October), and fish consumption. The NPDES Permit Program has been developed to be protective of our nation's water resources.

The Thornapple River is not supporting the Fish Consumption designated use due to PCBs in the fish tissue and water column. The unnamed tributary to the Thornapple River (Trout Creek) is also not supporting the Other Indigenous Aquatic Life and Wildlife designated use due to bacterial slimes. Please keep in mind that the Thornapple River is a highly modified river with a man-made impoundment, which flows through both agricultural and industrial areas.

Where will monitoring information be located and will it be in plain language? Is real time monitoring an option?

Data from discharge monitoring reports is considered public information and can be obtained through a FOIA request. The DEQ's NPDES management system database does not currently support real time monitoring.

There have been no violations documented by the DEQ; are we ignoring current issues while the permit is being modified? If we have noticed issues to Trout Creek, why haven't we sent a violation notice? How do we know that the DEQ will address problems in the future?

The DEQ has documented violations at the GFIA. On October 17, 2006, the DEQ issued a letter stating that discharges from the GFIA property were in violation of the Part 4 Water Quality Standards due to the unnatural growths of biofilms established downstream of Outfall 001 in the unnamed tributary to the Thornapple River. On June 19, 2008, the DEQ issued a Notice Letter to the GFIA because the construction activity creating an earth disturbance larger than five acres was not covered by a Notice of Coverage (NOC) under Michigan's Permit-by-Rule; Rule 323.2190 of Part 21, promulgated pursuant to Part 31 of the NREPA. On August 31, 2012, the DEQ issued a Violation Notice for the unauthorized discharge of PG to the surface waters of the state

The current permit is being modified to address the issues in Trout Creek. This modification includes the construction of a treatment system that did not exist before. It is anticipated that once the treatment system is operational, the conditions in Trout Creek will improve and the biofilms will no longer exist.

What is the difference between effluent limits and narrative standard? Explain the problem we are trying to solve.

An effluent limitation is a quantifiable parameter-specific limitation that is developed to be protective of the water quality standard. Depending on the parameter, effluent limitations can be expressed as concentration based limits and/or load based limits. The narrative standard is not parameter-specific, but is a physical description of the status of the receiving water. The narrative standard states that the receiving water shall contain no turbidity, color, oil films, floating solids, foams, settleable solids, suspended solids, or deposits as a result of

this discharge in unnatural quantities that are or may become injurious to any designated use. The GFIA is installing a storm water detention and treatment system to address the bacterial slimes that have been present in Trout Creek. The propagation of the bacterial slimes are causing a violation of the narrative standard.

What is the DO standard and what is the level now?

All relevant receiving waters that receive GFIA discharges are designated as warm-water streams that have a DO standard of 5 mg/l minimum at all times. DO concentrations at a given single location will vary from season to season, hour to hour, with temperature, sunlight conditions, and plant growth intensity.

DO measurements show that the DO concentrations have been well above the DO standard in Trout Creek and the Bayou Bay. DO standard attainment has also been shown in the Thornapple River during times of AFD discharge. Please note, however, that effluent limits in the modified permit are established to ensure that the DO standard is achieved at critical conditions.

Are there additional chemicals being hidden from the public? The permit doesn't include metals monitoring or limitations? What metals are involved?

Applicants, regardless of discharge type, are required to provide a measured or estimated effluent concentration for any toxic or otherwise injurious chemicals known or believed to be present in the facility's effluent. Any intentional omissions could result in compliance or enforcement action and/or modification of the NPDES Permit. Effluent limitations are, and would be, included for any parameters that are present in the discharge that have the potential to exceed water quality standards. Monitoring requirements may also be required if the discharge of a particular parameter is at a level of concern. The DEQ does not include effluent limitations for parameters that are not present or have no potential to be of concern in the discharge. Effluent limitations and monitoring requirements for metals have not been included in the modified permit because these parameters are not typically associated with this type of discharge.

Where will treatment ponds be located and what volume will they hold?

The specific location of the detention and treatment system was clearly indicated on maps that were part of the permit application. The application and all attachments were made available during the public notice period. The total volume of the detention and treatment system will be determined by the GFIA during the engineering and construction phase of the project. The GFIA will need to design the system large enough to collect and treat the flows sent through it. Any bypasses of the system are not authorized under the NPDES Permit and would be considered a violation.

What's the maximum amount of water seen at the airport?

The permit authorizes the discharge of an unspecified amount of storm water that is associated with ADF. The amount of water being discharged is dependent on the weather and storm events. Many of the storm water discharges are not specifically identified in the NPDES Permit, but are authorized under the SWPPP. Discharges of storm water from the

public parking areas is authorized under their Municipal Separate Storm Sewer System (MS4) plan. Due to the uncontrollable nature of storm events, the DEQ does not include flow limitations on storm water discharges. Please note however, it is our understanding that the detention facility associated with the new treatment system will be at least the same size as the current detention facility (only without treatment), and that the capacity of the existing detention facility has only been exceeded during two or three storms in the past.

How will the discharge be directed into the river in order to avoid erosion?

The plan presented by the GFIA calls for a diffuser pipe within the Thornapple River.

As a resident who has applied for a permit to install a seawall along the Thornapple River, I have met resistance because it may disrupt the river ecology. I have also applied for a new permit for dredging and been met with resistance. How can the DEQ allow the Airport to dump PG into the river while setting zero tolerance limits on the other people in the community?

The installation of seawalls is not an issue that is handed though the NPDES Permit Program. NPDES permits specifically address discharges of storm water or wastewater to waters of the state.

I would like to suggest that the GFIA keep their waste on their own property by creating ponds, since they do not feel that their waste is harmful.

The FAA discourages the construction of new storm water holding ponds at airports due to the increased risk of collisions with airplanes and water fowl. The corrective actions needed at the Airport to improve water quality cannot run counter to protection of public safety at the Airport.

What percent of water will be diverted from Trout Creek to the Thornapple, and will Trout Creek dry up?

Once the storm water detention and treatment system is built, all storm water associated with deicing activities that is discharged through Outfall 001 to Trout Creek will be directed through the detention and treatment system and ultimately discharged to the Thornapple River. During the summer months, when deicing fluid is no longer detectable in the discharge, storm water will be diverted back to Outfall 001 to maintain base flow conditions.

Is there anything that triggers an existing airport to comply with central deicing requirements after May 2012?

The Federal New Source Performance Standards (NSPS) are not applicable to the discharge from the GFIA. The permit does not prohibit the GFIA from implementing centralized deicing pads, but the DEQ does not have the authority under the Federal Categorical Standards to require it at this facility.

Will the permit address proprietary chemicals in deicing fluid?

No. The use of ADF is required by the FAA to ensure safe operations during cold weather. Applicants, regardless of discharge type, are required to provide a measured or estimated effluent concentration for any toxic or otherwise injurious chemicals known or believed to be present in the facility's effluent. Any intentional omissions could result in compliance or enforcement action and/or modification of the NPDES Permit.

Is the decision based on one sample? What about sampling when the GFIA isn't expecting it?

The draft permit was not developed based on one sample. There were many pieces of information that went into developing the draft permit. However, one of these pieces did include a final effluent characterization during a significant deicing event to characterize the discharge for several pollutants, including metals, organics, and conventional parameters. This data did not indicate the need for chemical-specific final effluent limitations or monitoring, as the concentrations were below water quality standards. Many of the final effluent limitations in the draft permit are based on monitoring required in the current permit. The DEQ will, from time to time and as resources allow, collect samples from the final effluent during either routine inspections or during surprise inspections to verify that the permit conditions are being met.

What is the decision making process for the Antidegradation Demonstration? The public should be able to see the process.

*The Antidegradation Demonstration submitted by the GFIA was available on the on-line Web inquiry Web site when the permit was on public notice. The Cascade Township librarian also graciously made a copy of it and made this copy available at the library. The DEQ proposed that the applicant's Antidegradation Demonstration, based on information required by Subrule (4) of R323.1098, showed that a lowering of water quality is necessary to support the identified important social and economic development in the area. This was solely for purposes of satisfying state water quality regulations and is not intended to supplant local requirements, including land use or zoning laws. It is not, and should not be construed as, a finding by the DEQ that the proposed development meets local requirements or ordinances. In addition to the proposed permit, the DEQ was proposing to accept the Antidegradation Demonstration as adequate. This did **NOT** mean that the DEQ had approved the Antidegradation Demonstration when the draft permit was placed on public notice. Part of the approval process involves evaluating comments from the public. The procedure for evaluating Antidegradation Demonstrations is available online and can be found at: http://www.michigan.gov/documents/deq/wb-npdes-application-antidegradation_247143_7.pdf.*

The draft permit has a 2000 mg/l effluent limitation for CBOD, but the USEPA says it should be 271 mg/l. Why the difference? The DEQ proposed a maximum daily limit of 2,000 mg/l for oxygen demand; however, this value appears to be many times higher than other NPDES permits developed for airports in other states. The well-rounded value of 2,000 mg/l appears to be very generous. I would expect to observe a more refined value identified in the permit. This value appears to be rounded/truncated or negotiated, not based solely on

a scientific approach. I would like to see actual model data, the input parameters, and any information relating to the topic.

Title 40 of the Code of Federal Regulation, Part 449.11, indicates that facilities that are applicable to NSPS shall be required to comply with a daily effluent limitation for COD at 271 mg/l. NSPS are only applicable to facilities that are built after May 16, 2012, which is when these rules were promulgated. The NSPS is not applicable to the GFIA since it is an existing facility that was built before the aforementioned date. The effluent limitation for CBOD₅ was developed to be protective of water quality standards. The 2,000 mg/l effluent limitation for CBOD₅ at Monitoring Point 011A was developed using approved procedures. The effluent limitation was rounded to the nearest significant figure. The actual model data is part of the public record and can be obtained via a FOIA request. The effective concentration is expected to be much lower than 2000 mg/l at most discharge flow rates at 011, and the discharge quality will actually be controlled by the load limits specified in the permit. The purpose of this concentration limit is to ensure that at low flow rates the concentration limit will not be allowed to be extraordinarily high while still meeting loading limits. It provides an extra level of protection.

We are concerned about bad quality water in residential drinking water wells located on Kimmer Drive and how they have been impacted by ADF.

The DEQ typically does not evaluate drinking water wells as part of NPDES Permits since the permits are protective of drinking water standards at the point of intake. The DEQ did contact the Kent County Health Department regarding the concern. The response we received was that they were familiar with some of the problem wells near the vicinity; however, they were not able to comment on any link between deicer and water quality issues on Kilmer Drive.

The Cascade Charter Township Board of Trustees request that the DEQ extend the public comment period to a date that is 21 days after the Board meeting at which the presentation is made, and the Board members' questions answered, so that the Board will have an opportunity to formally comment on the proposed permit. How will the DEQ respond to the township's request to extend the PN period by 21 days after the township meeting?

The public notice period began on May 29, 2013, and was scheduled to conclude on June 28, 2013. The DEQ held a public meeting on June 13, 2013, and also participated in the Thornapple River Watershed Association town hall meeting on June 6, 2013, and the Cascade Charter Township Board meeting on June 26, 2013. In response to a request from Cascade Charter Township, the DEQ extended to the comment period through 5 PM on July 8, 2013. The DEQ believes that a public notice period beginning on May 29, 2013, and ending on July 8, 2013, provided ample time for any and all parties to submit comments, questions, or concerns.

The Cascade Charter Township requests that the DEQ only issue a permit that reduces the amount of contaminants reaching the river to the lowest possible levels within the impartial and unbiased economic constraints of the permittee.

The permit modification has been developed to be protective of the designated uses. This means that the two unnamed tributaries to the Thornapple River, an unnamed tributary to

Plaster Creek, and the Thornapple River are protected for agricultural uses, navigation, industrial water supply, public water supply in areas with designated public water supply intakes, warm-water fish, other indigenous aquatic life and wildlife, partial body contact recreation, total body contact recreation (May through October), and fish consumption. The permit also complies with the Federal Categorical Standards for airport de-icing. The USEPA does consider the aggregate of economic information across the entire category in establishing such categorical standards. The NPDES Permit Program has been developed to be protective of our nation's water resources. The additional water quality-based effluent limitations and monitoring requirements are established regardless of the type of treatment being proposed. It is the permittee's responsibility to determine how they can best comply with the requirements in the permit. Therefore, the DEQ did not consider the specific economic condition of this permittee when developing water quality-based limitations.

Were there effluent limits in the current permit?

The existing permit, issued on December 27, 2010, has monitoring requirements for flow, chemical oxygen demand, ammonia nitrogen, outfall observation, and dissolved oxygen. The only effluent limitations included in the existing permit were for pH.

In comparison, the draft permit includes effluent limitations for pH, ammonia nitrogen, and carbonaceous biochemical oxygen demand (CBOD₅), where appropriate.

When did the GFIA decide to look at rerouting Plaster Creek flows? Are flows from Sand Creek being rerouted as well?

Some areas on airport property that had discharges of storm water through Outfalls 004 and 007 will eventually be collected and directed through the storm water detention and treatment system, eventually being discharged through Outfall 011.

When did the 303 listing happen? Was this before or after Bill McCarrel's involvement? Is there any recognition for his work?

The Thornapple River is not supporting the Fish Consumption designated use due to PCBs in the fish tissue and water column. The reach affected includes the reach at the proposed new discharge location and Trout Creek. A total daily maximum load (TMDL) is scheduled to be developed in 2013, which staff are currently working on. The discharge from the GFIA is not related to the historical PCB contamination

The unnamed tributary to the Thornapple River (Trout Creek) is also not supporting the Other Indigenous Aquatic Life and Wildlife designated use due to bacterial slimes. A TMDL is scheduled to be developed in 2016. The GFIA has applied to modify their NPDES Permit in order to install storm water detention and treatment as a means to eliminate their contribution to the water quality impairment caused by the bacterial slimes.

The unnamed tributary to Plaster Creek (AUID 040500060505-02) is not supporting the Fish Consumption designated used due to mercury and PCBs in the fish tissue and PCBs in the water column. A TMDL is scheduled to be developed in 2013. The Other Indigenous Aquatic Life and Wildlife designated use is not supporting due to sedimentation/siltation, and a TMDL was completed in 2002. Finally, the Total Body Contact Recreation and Partial Body Contact Recreation designated uses are not supporting due to Escherichia coli. A

TMDL was completed in 2002. The discharge from the GFIA is not contributing to the mercury or PCB contamination.

The DEQ appreciates the involvement from Bill McCarrel and all other concerned citizens who have taken an interest in protecting and preserving Michigan's natural resources. The DEQ often relies on reports from the public to discover when problems develop and need addressing.

In 1991, people could float a boat in Burger Bayou. One of the problems is excessive erosion that has filled in the bayou. Is it the DEQ's job to regulate erosion from all sources? It seems that there is significant evidence that erosion occurring on airport property has impacted the receiving water and it should be addressed by this permit.

Part 91, Soil Erosion and Sedimentation Control, of the NREPA (Part 91) provides for the control of soil erosion and protects adjacent properties and the waters of the state from sedimentation. A permit is generally required for any earth change activity that disturbs one or more acres of land or that is within 500 feet of a lake or stream. Part 91 is administered and enforced by various state, county, and local governmental agencies. There are four categories of agencies recognized under Part 91:

- 1. Counties are mandated by statute to administer and enforce Part 91. The board of commissioners for each county must appoint an agency within the county, referred to as the County Enforcing Agency (CEA), to review soil erosion and sedimentation control plans, issue permits, and take enforcement actions when necessary to ensure compliance with Part 91.*
- 2. Municipal Enforcing Agencies (MEAs) are cities, villages, charter townships, and some general law townships that have elected to enforce Part 91 through adoption of a soil erosion and sedimentation control ordinance. After approval of the ordinance by the DEQ, the MEAs assume responsibility for administering and enforcing Part 91 within their jurisdictions, independent of the CEAs.*
- 3. Authorized Public Agencies (APAs) are state, county, or municipal agencies, such as the Michigan Department of Transportation, county road commissions, and city street departments, that have been designated by the DEQ to undertake earth change activities without having to obtain soil erosion and sedimentation control permits from the county or municipal enforcing agencies. Designation is dependent upon having acceptable procedures for controlling erosion and off-site sedimentation.*
- 4. The DEQ, WRD has oversight responsibility over the statewide SESC Program and all Part 91 agencies.*

Construction activities that disturb one or more acres of land and have a point source discharge of storm water to waters of the state (streams, rivers, lakes, and wetlands) are required to obtain an NPDES permit from the DEQ, WRD. The WRD has adopted a process called "Permit-by Rule" (Rule 2190, promulgated under Part 31, NREPA) for issuing the necessary storm water coverage. Permit-by Rule "streamlines" the permitting process and is dependent upon the applicant first obtaining Part 91 coverage, i.e., obtaining an SESC permit from the appropriate Part 91 permitting agency or being designated an APA. For sites disturbing one to five acres, the applicant/permittee receives automatic storm water coverage upon the applicant obtaining a Part 91 permit (or undertaking the project as an

APA). Although the coverage is automatic, the permittee must comply with the requirements of Permit-by-Rule. For sites disturbing five or more acres, the applicant/permittee must obtain a Part 91 permit (or undertake the project as an APA) and submit an application for Notice of Coverage (NOC) to the DEQ, WRD. Along with the NOC application, the applicant/permittee must submit a copy of the SESC permit, approved SESC plan, site location map, and the \$400 permit fee. The permittee must follow the requirements of Permit-by-Rule. Permit-by-Rule requires compliance with the SESC permit issued under Part 91, and also requires SESC measures be inspected weekly and within 24 hours of a significant rain event by a certified storm water operator. The certification materials and testing are available in most WRD district offices.

The proposed project sounds good, but what if it doesn't work? What guarantee is there that this isn't a waste of time and money? What if the area is anaerobic and doesn't degrade PG?

The storm water detention and treatment system is being designed and constructed in order to comply with the October 1, 2015, deadline for the GFIA to eliminate their contribution to the nuisance biofilm in the unnamed tributary to the Thornapple River. Regardless of the design, the permittee is required to comply with the requirements of the permit. If the treatment system cannot comply with the effluent limitations, then the discharge would be considered a violation of the NPDES Permit. The GFIA would then be required to make appropriate changes or modifications to the detention and treatment system so that the discharge complies with the permit.

Will there be any measurable progress before 2015?

The storm water detention and treatment system is being designed and constructed in order to comply with the October 1, 2015, deadline for the GFIA to eliminate their contribution to the nuisance biofilm in the unnamed tributary to the Thornapple River (locally know as Trout Creek). The permittee will continue to perform Best Management Practices, but the discharge of storm water associated with ADF will not be treated until construction is complete and the system is operational.

Can Trout Creek be measured as a baseline? Have we done sampling at the Bayou?

The DEQ does not find much value in establishing a new study of Trout Creek. The DEQ is already aware of the impairment occurring in Trout Creek, which is why the permittee is required to eliminate their contribution to the nuisance biofilms by October 1, 2015. Once the storm water detention and treatment system is installed and operational, the cause of the impairment in Trout Creek will be eliminated.

The DEQ included new permit conditions in Part I.A.17 of the permit, called the Storm Water Detention and Treatment System Report. The condition will require the permittee to submit a report that will summarize the overall effectiveness of the treatment system. The report also requires additional sampling at Monitoring Point 011 when the treatment system is operational and discharging to the Thornapple River.

Are we willing to state in the permit that the new discharge must be better than the current discharge to Trout Creek?

No additional statements will be added to the permit. Please keep in mind that the NPDES Permit issued on December 27, 2010, included effluent limitations for pH only and no treatment; whereas the modified permit includes effluent limitations for pH, CBOD₅, and ammonia nitrogen and treatment will be installed.

What prevents river water from flowing into the pipeline in a storm?

The proposed detention and treatment system is to be built at a higher elevation than the Thornapple River, therefore, river water should not be entering the system.

What prevents toxic fungus/mold from growing in the treatment area?

There is no information to suggest that the discharge contains toxic fungus/mold; therefore, it is not expected to grow in the treatment area.

What prevents the basin and treatment area from overflowing?

Any overflow of the detention and treatment basin is considered a bypass of the system and therefore is considered a violation of the permit. The GFIA will need to size the detention and treatment system appropriately to accommodate the expected storm flows. Please note however, it is our understanding that the detention facility associated with the new treatment system will be at least the same size as the current detention facility (only without treatment), and that the capacity of the existing detention facility has only been exceeded during two or three storms in the past.

How will this discharge affect the buffalo farm?

The DEQ is not aware of any downstream buffalo farms that may come in direct contact with the discharge from the GFIA. The effluent limitations and permit requirements have been developed to be protective of water quality standards and the designated uses. The storm water detention and treatment system being installed will improve the quality of the GFIA's discharge. Please keep in mind that livestock should not be allowed in waters of the state due to stream bank damage and subsequent erosion that may occur.

What is the class of chemicals?

PG is an organic compound with attached alcohol component. The formula for PG is C₃H₈O₂. The freezing point of water is depressed when mixed with PG. Other synonymous names for PG are 1,2-Dihydroxypropane, Propane-1,2-diol, 1,2-Propanediol, Methylethylene glycol, 2-Hydroxypropanol, Monopropylene glycol, and MPG. PG is a colorless, odorless liquid, which is generally recognized as safe by the U.S. Food and Drug Administration (FDA) in 21 CFR 185.1666. PG is not considered acutely toxic except at very high concentrations and is not expected to bioaccumulate.

What is the amount of PG being discharged in gallons, not percent?

The NPDES Permit does not include a limit on the amount of ADF used at the GFIA. It does include limits on a property of ADF-contaminated storm water; CBOD₅, which is set to ensure that the in-stream DO levels in the Thornapple River and other receiving streams will be met. ADF is required to be used for safe wintertime operations. The amount of ADF used can vary from day to day and year to year, based on the need of the airport to deal with winter weather. Information regarding percentages of PG was not provided by the DEQ at either the town hall meeting or the DEQ's public meeting. Information identifying specific percentages of ADF use, capture, treatment, and discharge were included in presentations by the airport and other individual's outside of the DEQ.

Request that any permit issued by the DEQ provide for immediate notification of noncompliance with discharges to the DEQ and the general public. Can the permit require notification to the townships if violations occur? I would like the township to decide if the violation should be posted in the newspaper to notify the public.

The permit requires that the GFIA notify the DEQ in situations of noncompliance, spills, upset noncompliance, bypasses, changes in discharge, and changes in facility operations. The permit does not require that the permittee notify the neighboring townships. All information in the DEQ's files is, of course, available under FOIA.

Can the outfall be moved further north away from residences?

The location of the outfall was proposed by the GFIA and is on their property. The DEQ developed a permit that complies with federal requirements and is protective of water quality standards at that specific discharge location.

What do we plan to do about drinking water sources?

When the DEQ evaluates a proposal for an NPDES discharge, limitations are developed to be protective of drinking water sources at the point of intake. Our records indicate that there were no known surface water intake structures for drinking water in close proximity to the discharge.

Is the GFIA debris from the treatment system being hauled away?

When the treatment system is eventually built, it will be in the best interest of the GFIA to properly maintain and operate the system. In fact, the permit requires the permittee to properly operate and maintain all treatment and control systems installed or used by the permittee to achieve compliance with the terms and conditions of the permit (see Part II.D.3). The modified permit does address the handling of debris from the storm water detention and treatment system (see Part II.D.7). Bypasses of the treatment system and/or exceedances of effluent limitations caused by debris would be in violation of the NPDES Permit and therefore could be subject to compliance and enforcement action.

I respectfully request that the DEQ include the following items as obligations required to be provided for in the SWDP for the GFIA: 1. Water monitoring of the discharges at all points of discharge (outfall and otherwise) from the GFIA property on a continual basis. Monitoring should include flow volumes of all outfalls and points of discharge. 2. Publication of the water testing and monitoring results on the GFIA Web page. 3. Water testing within 24 hours of any atmospheric event that produces precipitation at a rate of more than 1" in 2 hours, 2" in 6 hours or 2.5" in any 12-hour period. 4. Water testing within a 12-hour period any time the outdoor air temperature reaches a mean daily average of 45 degrees in the months of December thru April. 5. Outfall flow controls on Sand Creek, Plaster Creek, and Trout Creek that do not exceed the average normal flow by more than 50 percent in any 24-hour period. 6. A full containment deicing isolation pad to capture all deicing agents and chemicals, oils, grease, metal shavings, garbage, luggage tags, rubber gloves, ear plugs, rubber, soot, carbon dust, asbestos, and any other foreign object that is washed to the ground and into the storm drainage system and ultimately the Thornapple River. 7. A secondary containment/filtering system with a capacity no less than 35 percent larger than the highest flow event recorded in the last ten years. 8. A requirement to restore the erosion damage caused by their discharges in all outfalls, including Sand Creek, Trout Creek, and Plaster Creek, and to restore the various bays and bayou that have been in-filled by years and years of uncontrolled erosion events. 9. A requirement to prohibit the contribution of any defoliation agents/chemicals used on all GFIA property to the storm water discharge. 10. A requirement to prohibit the contribution of all phosphorous-containing lawn chemicals to any storm water discharge. 11. A requirement to prohibit the contribution of MEK in any outfall. 12. A requirement to investigate and study the secondary use of all recycled deicing agents for use on County roads in winter time deicing activities.

The DEQ has evaluated the suggestions and determined that many of them are arbitrary and capricious. Controls regarding the discharge volume of storm water are not practical. The purpose of a storm sewer collection system is to remove storm water away from a particular area as quickly as possible in order to provide and maintain airport operations in a safe and reliable manner. The Federal NSPS are not applicable to the discharge from the GFIA; therefore, the DEQ does not have the authority to require centralized de-icing pads.

The NPDES Permit Program does not have the specific authority to address stream restorations. Stream restorations would need to be addressed through a separate legal action.

The permit modification has been developed to be protective of water quality standards and the designated uses. The permit also complies with the actual Federal Categorical Standards for airport de-icing. Applicants, regardless of discharge type, are required to provide a measured or estimated effluent concentration for any toxic or otherwise injurious chemicals known or believed to be present in the facility's effluent. Any intentional omissions could result in the compliance or enforcement action and/or modification of the NPDES Permit. Effluent limitations are, and would be, included for any parameters that are present in the discharge that have the potential to exceed water quality standards. Monitoring requirements may also be required if the discharge of a particular parameter is at a level of concern. Data from discharge monitoring reports is considered public information and can be obtained through a FOIA request. The DEQ does not include effluent limitations for parameters that are not present or have no potential to be of concern in the discharge.

Just because a parameter may be detected in a sample does not mean that the concentration is great enough to warrant additional sampling or an effluent limitation. Effluent limitation and monitoring requirements for metals have not been included in the modified permit because these parameters are not typically associated with this type of discharge in concentrations that would be of concern. The single data sample that contained methyl ethyl ketone (MEK) is not considered representative. There have been no other samples that have indicated the presence of MEK. It is speculated that the MEK was due to laboratory or sample contamination or a one-time event. MEK is not considered to be a component of ADF operations. Even if the sample was representative, the concentration reported in the sample was significantly less than the water quality standard for MEK.

Issues related to the SWPPP will be handled as determined appropriate by DEQ staff.

An additional permit requirement has been added, which requires the permittee to submit a report to the DEQ summarizing the effectiveness of the constructed storm water detention and treatment system. This report is due on or before July 1, 2017, which will allow for the system to be constructed and operational for two winter seasons. Additional sampling will also be required as part of the report.

The fugitive portion of the ADF is carried by the aircraft and deposited on the runways and taxiways, where there is no attempt to contain it. We know this is the case by the proof and testimony of residents who see the outfalls change color during the winter and spring. These outfalls need to be included in the SWDP and the airport needs to provide the same containment/filter/processing system on all outfalls that measure higher levels of ADF than permitted at any point in time for any duration.

The fugitive component of ADF identified by the GFIA is not considered atypical according to documentation reviewed by the DEQ. Certain types of ADF are designed to adhere to airplanes for safe operations during inclement weather. It is not practical to assume that all ADF used can be captured. Outfalls that discharge storm water commingled with ADF contain monitoring requirements and effluent limitations where appropriate. Storm water outfalls not specifically identified in the NPDES Permit are subject to the requirements of the SWPPP. The sole purpose of the detention and treatment system to be constructed at the GFIA is to treat the majority of the collected ADF. Any future occurrences of negative impacts on the receiving waters should be reported to the DEQ.

The Association objects to ADF Best Management Practices as a permit conditions, as it is vague and the Airport's management practices are not fully identified as required under the permit.

The ADF Best Management Practices permit condition is an existing permit requirement that is being continued from the existing permit. Any challenges to this condition should have been made in 2010 when the permit was originally being proposed. The DEQ has decided to maintain the permit condition as written.

Instead of continued efforts to establish a nuisance biofilm elimination program that complies with the permit, the Airport is merely seeking to discharge its deicing fluid-laden storm water to a different point in the watershed.

The GFIA requested a permit modification in order to comply with the October 1, 2015, requirement to cease the discharge of ADF through Outfall 001 unless the nuisance biofilm elimination and prevention program resulted in the elimination of the GFIA's contribution to the nuisance biofilm in the unnamed tributary to the Thornapple River. The proposal included the installation of a storm water detention and treatment system, which will reduce the amount of ADF by providing treatment, that is also designed to meet effluent limits and thus protect the designated uses of the Thornapple River.

The presentation provided additional information, so the public could visualize 1,000,000 gallons and understand the potency of PG. There was never a direct reference that PG and raw sewage were identical, other than the oxygen demand potential. Based on the DEQ's public response on June 13, 2013, the DEQ was unaware of this document and the direct comparison to raw sewage. The USEPA has a tremendous amount of information on this topic, which should have been used and evaluated through this process. This reference was even located within the first ten pages of the USEPA document. The point of using this comparison, which even the USEPA finds appropriate, is that PG poses an incredibly high oxygen demand to an aquatic environment. Small volumes have an incredible effect on the oxygen demand.

The DEQ acknowledges that both PG and raw sewage have very high biochemical oxygen demand loads. These high biochemical oxygen demands are the very reason for the new protective effluent limits in the modified permit. The DEQ also acknowledges that the USEPA made a comparison between PG and raw sewage in the development documents for the Airport Deicing Category, but these comparisons were specific to BOD. The comparison was not intended to raise concerns about pathogens or human health concerns. The images used in the presentation at the June 6, 2013, town hall meeting included discharges of raw sewage and a calculation that describe one million gallons of sewage as covering a football field to a depth of over eight feet. We believe that, based on the response from the public, it was apparent that many individuals did not grasp the concept of BOD and instead believed that PG was a carrier of pathogens and posed a human health concern similar to that of raw sewage. At the June 13, 2013, public meeting, the DEQ acknowledged that PG had a tremendous BOD load similar to raw sewage, but that the comparison was misleading.

The modeling conducted for the permit appears to only evaluate the dilution effect of the available water within Thornapple River. The DEQ does not appear to have assessed the potential sediment/pore space deterioration. The benthic community of aquatic species support the entire food chain of the river system. Aside from the aesthetical impacts (odors, nuisance biofilm, other narrative standard violations that PG has caused in Trout Creek and Plaster Creek), impairing the sediments of the river system would certainly have a significant consequence on the health of the entire river system. There is no mechanism in the draft permit to assess, identify, or control this issue.

Benthic sediments have no input of DO except for diffusion from the water column. Sediments will act as a sink for DO. A healthy benthic biological community will exert a DO

demand as organisms respire aerobically and microbes aerobically decompose organic matter present in the sediments. Therefore, if DO in the water column is protected for the DO standard, adequate DO can enter sediment pore waters to satisfy the DO demand. This is why DO modeling conservatively considers this factor when calculating permit limits, known as sediment oxygen demand (SOD). Glycols are completely miscible in water and would not 'settle' on the bottom of the stream bed, exerting additional DO demand over that in the water column.

Can you provide information on what the key differences are between an industrial permit and municipal permit that would apply directly to this project? I think that if the airport is so confident in their new plan that they would be willing to follow the industrial permit!

It is a very broad topic and there are many similarities and differences between the two. Any municipal or industrial facility that desires to discharge a wastewater directly to a water of the state is required to obtain authorization via an NPDES Permit. Each NPDES-regulated facility that has an individual permit is unique and, therefore, has site-specific conditions. Municipal facilities collect and treatment municipal waste water, which is primarily composed of sanitary wastewater. Industrial facilities tend to be more focused on the treatment and/or discharge of industrial or commercial wastewater usually associated with a particular production process. The GFIA is not discharging either a municipal wastewater or a production wastewater. The GFIA is discharging storm water associated with industrial activity, which includes the application of ADF during inclement weather. There is no such thing as a standard industrial permit. Additional information regarding the NPDES Program can be found on the DEQ Web site (www.michigan.gov/deqnpdes) or in the NPDES Permit Writer's Manual located on the U.S. EPA website (The link provided was broken and has been removed). The NPDES Permit developed for the GFIA is protective of water quality standards and complies with the Federal categorical standards. Copies of our state rules can be found on the aforementioned DEQ Web site located under the "Applicable Rules and Regulations" bullet. The federal categorical standards for the Airport Deicing Point Source Category are found in 40 CFR Part 449 (<http://www.gpo.gov/fdsys/pkg/CFR-2012-title40-vol31/pdf/CFR-2012-title40-vol31-part449.pdf>).

I just want to convey my support of the community and urge the state to hold the Airport accountable for the costlier, but much more environmentally-friendly, clean up. It will have such a lasting long-term impact on the area. The Airport executive's complaints about cost seem a little insincere given their just recent multi-million dollar parking structure/ custom glass-covered wave roof renovation.

Costs associated with parking structures and the airline terminal are neither applicable nor relevant to the NPDES Permit and were not considered. The modified NPDES Permit is protective of water quality standards and complies with the Federal categorical standards.

We have experienced a significant impact from the Airport runoff into Trout Creek. At times, the smell was unpleasant enough for us to avoid using the back yard.

The permit includes a Nuisance Odor Condition as a means to attempt to minimize any and all nuisance odor conditions associated with the discharges. In addition, this modified permit will result in the elimination of ADF-contaminated storm water from Trout Creek.

Over the last decade, local ice fishermen have noted that the bayou has had poor ice cover.

The water quality standards and NPDES Permit do not protect for ice coverage.

The Burger Bayou was 6 to 8 feet deep just 13 years ago, but sedimentation has filled in the area. The Cascade Thornapple River Association feels strongly that the Burger Bayou area should be restored to pre-1996 levels.

An NPDES Permit is not an enforceable document that can be used for restoration.

I was always under the impression that the DEQ was the “protector of our waterways” and has such high standards that they would not allow any industry to discharge chemicals or their byproducts into a body of water.

The NPDES Permit Program is specifically tasked with authorizing discharges to waters of the state that are protective of water quality standards and comply with federal categorical standards. We take our role seriously. The WRD makes nearly 9000 permit decisions a year in all programs, including NPDES. As stated at the public meeting, we share these common goals; water that is fishable and swimmable.

"HOW MUCH POLLUTION SHALL WE ALLOW TO BE PIPED INTO THE THORNAPPLE RIVER?" That seems like a question we should all know the answer to in light of so many examples throughout our country. It certainly seems like an answer the DEQ should have. Why doesn't the airport use the infrared method that JFK uses? Why would the airport use Heathrow as an example of their model when Heathrow has been fined for fish kill and groundwater contamination? Why not other methods? I realize everything is cost/benefit analysis, but what is the benefit for the Thornapple River? People on the river do not want to pay the price of our river. I see what the benefit is to the airport but I don't see it for anyone else.

The GFIA looked at a number of alternatives and that information was presented as part of their Antidegradation Demonstration. Each airport is unique and site-specific considerations are made. The use of PG is a requirement by the FAA for safe winter-time operations. Alternatives to PG used in other parts of the world may not have approval to be used in the United States and is beyond the authority of the DEQ. Even airport facilities in Michigan that have implemented centralized deicing may still have discharges to waters of the state. The effluent limits specified in the modified permit are designed to protect the designated uses of the receiving waters.

Commercial Airports can and are able to operate without the significant ADFs that are currently used. The least potential for harm would seem to be those infrared systems, which have shown the ability to reduce ADF consumption by 90 percent, and it is my understanding that the cost (both construction and operationally) would be significantly less and would not interrupt traffic flow.

As addressed earlier, the GFIA looked at a number of alternatives and that information was presented as part of their Antidegradation Demonstration. The use of PG is a requirement by the FAA for safe winter-time operations. Each airport is unique and site-specific

considerations are made. Local conditions, such as climate, facility layout, geography, and cost, are all important factors that an airport may consider when proposing a de-icing operation.

I would propose that you intervene with this process to allow the public and the DEQ more time to review and consider all the effects of this newly-proposed change. As a member of this watershed, I think that there has to be a better way to resolve this issue, where every stakeholder can be considered in the process.

The public notice period began on May 29, 2013, and was scheduled to conclude on June 28, 2013. In response to a request from the Cascade Charter Township, the DEQ extended the comment period through 5 PM on July 8, 2013. The DEQ held a public meeting on June 13, 2013, and also attended the Thornapple River Watershed Association town hall meeting on June 6, 2013, and the Cascade Township board meeting on June 26, 2013. The purpose of these meetings was to provide information to concerned residents while also attempting to address their questions and concerns regarding the proposed modified permit. We believe that ample time and opportunity has been provided for the stakeholders to consider the process, and the DEQ truly appreciates all the input we received.

The permit should require real time, independent monitoring equipment for the discharge for the parameters that will affect the water quality. The reliance by the DEQ on self-monitoring is problematic. The direct monitoring results should be connected to the internet for public viewing and consider Total Organic Compounds, Dissolved Oxygen, Biological Oxygen Demand, and possibly other constituents. Other airports use real-time monitors to demonstrate their effectiveness.

The GFIA is required to submit self-monitoring data via the DEQ's Electronic Environmental Discharge Monitoring Report (e2-DMR) system. Self-monitoring data is common in virtually all NPDES Permits. Monitoring data is considered public information and can be requested via a FOIA request; unfortunately, the e2-DMR system is not capable of providing real time postings to the internet. In addition, the DEQ completes inspections that periodically include DEQ sampling to ensure compliance with permit limits and conditions.

The permit should require that baseline conditions are determined for the existing river basin of the Thornapple River at the confluence with the proposed outfall prior to the airport's discharge through the new outfall. This baseline study should be inclusive of metals, biofilm, foam, color, odor, and all other narrative standards specified in the Clean Water Act. The DEQ has been unwilling to assert violations for issues relating to these narrative standards, odor, and metals noted in the sediments. The baseline conditions should be noted within the permit and relevant for enforcement.

Part I.A.12.g. of the permit requires that the permittee visually assess the conditions of the Thornapple River monthly near the proposed location of Outfall 011 for bacterial slimes. The evaluation of the proposed location will document baseline conditions that exist prior to the redirection from Outfall 001 to Outfall 011.

An additional permit requirement has been added, which requires the permittee to submit a report to the DEQ summarizing the effectiveness of the constructed storm water detention

and treatment system. This report is due on or before July 1, 2017, which will allow for the system to be constructed and operational for two winter seasons. Additional sampling will also be required as part of the report. The additional sampling will include metals, volatile organic compounds, acid-extractable compounds, base/neutral compounds, and additional parameters. No additional sampling will be required prior the construction of the new outfall on the Thornapple River.

The DEQ has documented violations at the GFIA. On October 17, 2006, the DEQ issued a letter stating that discharges from the GFIA property were in violation of the Part 4 Water Quality Standards due to the unnatural growths of biofilms established downstream of Outfall 001 in the unnamed tributary to the Thornapple River. On June 19, 2008, the DEQ issued a Notice Letter to the GFIA because the construction activity creating an earth disturbance larger than five acres was not covered by a Notice of Coverage (NOC) under Michigan's Permit-by-Rule; Rule 323.2190 of Part 21, promulgated pursuant to Part 31 of the NREPA. On August 31, 2012, the DEQ issued a Violation Notice for the unauthorized discharge of PG to the surface waters of the state.

The permit should establish clear measurements of acceptable levels of PG.

The DEQ has not included a parameter-specific effluent limitation for PG. The discharge of PG does not present a human health concern and it is not present in concentrations that exceed the water quality standard; therefore, a limitation is not needed. The propagation of the nuisance bacterial slimes in Trout Creek is a secondary affect from the discharge. CBOD₅ is used as an indicator to determine if PG is present in the discharge. The effluent limitation for CBOD₅ is essentially a measurement of PG's effect on the receiving water and has been established to protect water quality. Part I.A.17 has been added to the permit, which requires the permittee to submit a report to the DEQ summarizing the effectiveness of the constructed storm water detention and treatment system. The permit condition also requires the permittee to perform additional sampling following the construction of the treatment system. The sample will be analyzed for PG.

The permit should establish a contingency plan to provide a quick response in the event there is a change in condition or deterioration of the water quality in the Thornapple River. The contingency plan must include enforcement, including identifying thresholds for cause of action, identifying appropriate response times, notifying the public, and the full restoration of the river to original baseline conditions. The contingency plan should use clear terms and not be subjective.

In the event that the GFIA violates any permit conditions, then the DEQ will take appropriate compliance or enforcement action to return the GFIA to compliance. A cease and desist order is not included in the permit because the use of ADF is required for safe winter-time operations. A cease and desist order would essentially require the Airport to shut down or bypass safety requirements, neither of which is recommended by the DEQ. There are no emergency shutoff valves at the Airport. The discharge of storm water from the GFIA does not pose a human health concern. If determined necessary, fines can be issued as an enforcement action.

Hold the GFIA financially liable for all clean-up, without the use of tax dollars to assist in the event of a clean-up.

The authority delegated to the DEQ through the NPDES Permit Programs includes the authority to regulate discharges to waters of the state. The NPDES Permit Program does not have the specific authority to address stream restorations. Any attempts to include overreaching authority within an NPDES Permit could be contested and subsequently removed from the permit. Stream restorations would need to be addressed through a separate legal action. If the permittee violates their NPDES Permit, appropriate compliance and enforcement action can be administered by the DEQ. If determined necessary, fines can be issued as an enforcement action.

Improve the actual reduction of the discharge waste on an annual basis.

Currently the GFIA provides no treatment for the discharge of storm water associated with ADF. The modified permit includes effluent limitations that require the airport to install treatment in order to maintain compliance with the permit. The storm water detention and treatment system will improve the quality of the discharge when compared to existing conditions.

The DEQ should require a fund to be set aside by the GFIA.

If the permittee violates their NPDES Permit, progressive compliance and enforcement action can be administered by the DEQ. If determined necessary, fines can be issued as an enforcement action.

Equipment exists that can significantly reduce the amount of ADF that is applied to an aircraft. The Hybrid Deicing System was proven successful by Federal Express approximately ten years ago at the GFIA. Federal Express reduced their volume by 49 percent. The GFIA does not force their tenants to use technologically-based equipment to reduce the volume of ADF. GFIA does not wish to support the use of Centralized Deicing Pads to capture the greatest percentage of ADF. Reduction and Capture methods were not effectively evaluated during this process. As the responsible permittee, the GFIA should strongly consider mandating tenants to use alternative equipment that can significantly reduce the ADF applied and/or use capture methods that achieve greater efficiency than their current system.

The NPDES Permit Program is specifically tasked with authorizing discharges to water of the state that are protective of water quality standards and comply with federal categorical standards. As explained previously, NSPS under the federal regulations for airports are not applicable to the GFIA. If centralized deicing was included in the permit, the permit would not be defensible if contested and the condition would be removed. Please keep in mind that the permit does not prohibit the GFIA from implementing centralized deicing pads, but the DEQ does not have the authority under the Federal Categorical Standards to require it at this facility.

The GFIA evaluated a variety of other alternatives and decided that their best option was a discharge to the Thornapple River. The Federal Categorical Standards do not specifically address hybrid deicing systems and therefore, their use cannot be required. Each airport is

unique and site-specific considerations are made. Local conditions such as climate, facility layout, geography, and cost are all important factors that an airport may consider when proposing a deicing operation. Based on their request, the DEQ developed effluent limitations that will be protective of water quality and the designated uses.

Based on the many comments the DEQ received during the public notice period, a Storm Water Detention and Treatment System Report requirement has been added to the permit. Part I.A.17 requires the permittee to submit a report to the DEQ, summarizing the effectiveness of the constructed storm water detention and treatment system while also requiring additional sampling following the construction of the treatment system.

There was a mention about 7 percent of the flow into the river. Initially this was not the deicing and then it was. Or they indicated that 7 percent of the oxygen demand. Did you understand this? Was it correct? What do you feel the impact would be to the river? Second, there was a comment that they have never found any other pollutants in the river from the outflow except the deicing and its oxygen effect. That also sounds hard to believe, as it is stated to be a great solvent and should be taking other pollutants with it like oils, metals etc. Finally, I heard that you cannot dictate which option the airport chooses, but can you state which sounds best from an environmental perspective?

The GFIA will be required to meet the CBOD₅ effluent limitations regardless of any stated percentage reduction. These effluent limitations are designed to ensure that designated uses are protected.

I am questioning the completeness of the draft permit in regards to the actions planned for Outfall 004.

The Fact Sheet for Permit No. MI0055735 states "Discharges of storm water with ADF are currently discharged to an unnamed tributary to the Thornapple River (Outfall 001), an unnamed tributary to Plaster Creek (Outfall 007), and another unnamed tributary to the Thornapple River (Outfall 004). The permittee currently uses and is in compliance with ADF best management practices. The permittee is proposing to redirect storm water associated with ADF from Outfalls 001 and 007 to a new outfall (011) in the Thornapple River. "

I find no mention in any of the NPDES permit documents regarding a request for the permittee to redirect storm water from Outfall 004.

However, in the document entitled *GFIA Storm Water/Deicing Management Program DRAFT Environmental Assessment; May 2013*, Section 2.1 of Chapter 2 (Proposed Action) states "The Airport's west apron storm water system would also be reconfigured to redirect storm water flows that currently discharge to Outfalls 004 and 007." Furthermore, Section 2.1.6 states, "In addition, there is an area of approximately 15 acres where snow pile runoff that can contain aircraft deicers currently flows to the Outfall 004 collection system and 41 acres that flow to the Outfall 007 collection system. This drainage would be rerouted as part of the west apron reconfiguration, and would receive the same water quality benefits noted above. "

The NPDES Permit needs to include explicit language that addresses Outfall 004 remediation, for example: "The permittee is proposing to redirect storm water associated with ADF from Outfalls 001, 004, and 007 to a new outfall (011) in the Thornapple River. "

The permit specifically provides authorizations to discharge through Outfalls 001, 004, 007, and 011. A permit provides a permittee authorization to discharge, but it does not obligate a permittee to have a discharge through any specific outfall; therefore, it is not necessary to include language in the permit that explains that portion of the storm water drainage area that was previously directed through Outfall 004 will eventually be directed through Outfall 011. The authorization to discharge via Outfall 011 was thoroughly identified in the various permit development documents. The treatment system is being designed to treat the bulk of the storm water that is comingled with ADF. The permittee is required to comply with effluent limitations that have been developed to be protective of water quality standards during critical conditions. The permit also contains effluent limitations for the combined loads from Outfalls 004 and 011 for CBOD₅ to be protective of their cumulative impacts on the Thornapple River.

In this day and age, how can you or anyone else approve dumping anything of a toxic chemical nature into one of the most personally used rivers in West Michigan? It is clear what this dumping has done to the tributary that has been the subject of the dumping for years. During one of the meetings, one of the representatives stated that any airports built after, I believe 2012, had to have a central de-icing pad. Since this type of language is typically used to grandfather in new legislation, and since the airport is required to do some treatment anyway, it would seem to me to make sense to have the airport do both: Have a central de-icing facility and have any runoff go through the treatment facility that is now being planned, only on a smaller scale, which could be cut down in its size and cost.

As explained previously, NSPS under the federal regulations for airports are not applicable to the GFIA. If centralized de-icing were included in the permit, the permit would not be defensible if contested and the condition would be removed. Please keep in mind that the permit does not prohibit the GFIA from implementing centralized deicing pads, but the DEQ does not have the authority under the Federal Categorical Standards to require it at this facility.

The permit does not require any reduction of PG or EG containing substances, nor does it require an increase in recycling activities. This seems incongruous with the purpose of the permit, to mitigate potential contaminants to receiving waters. Therefore I request that increased reduction and increased recycling requirements be added to the permit.

As previously explained, the DEQ has not included a parameter-specific effluent limitation for PG. However, the impact of PG on surface waters is due to its carbonaceous biochemical oxygen demand, and these limits are established in the permit to protect water quality standards and designated uses. The GFIA has stated on multiple occasions that they do not use ethylene glycol as an ADF. The permittee is required to utilize Best Management Practices to minimize the discharge of ADF to waters of the state, and future treatment will be used for Outfall 011. There are no applicable Federal Categorical Standards that give the DEQ the authority to specifically require increased recycling requirements.

The permit requires testing/observation of the outfall during deicing periods only (Oct 1 - May 31); however, other associated permit activities (reviewed from the official GFIA site: *(The link provided was broken and has been removed)*) stated that 'all elevated storm event runoff would be directed to' the NTS. This indicates that the NTS would continue processing GFIA-contaminated water outside the testing/observing time period. Is not the purpose of the conditions of the permit to ensure that the NTS is properly processing GFIA-contaminated water/solution? Therefore, it needs to be working correctly any time of year, and therefore, testing/observation should continue throughout the year with special focus around any storm event (snow or rain).

Oil sheen has been observed on the unnamed streams currently used as GFIA outfalls. This indicates that the GFIA may be contributing additional contaminants other than PG and EG-induced ones. Does the NTS have the capacity or capability to process such contaminants or other ones associated with deicing fluid or other airport activities? If not, will those contaminants kill the NTS bacteria, which is critical for the successful treatment of water? If the answer to either of those questions is true, the contaminate water should go through a pre-NTS treatment to remove such harmful contaminants.

I request additional testing requirements be included in the permit to include the other components (non-PG or EG byproducts) of deicing fluid, as well as chemicals known to be in used at the GFIA. This will give agencies an idea of possible contaminant sources to the Thornapple River should the water or biological quality degrade. Additionally, baseline testing of, at a minimum, the same contaminants and health of the River should be done prior to the project's implementation to aid in the comparison of pre- and post-project environmental quality.

The treatment system will be designed to treat pollutants of concern that are expected to be present in storm water associated with ADF. Please note that effluent limits in the modified permit are established to ensure that water quality standards are protected at critical conditions. Any permit violations could be subject to progressive compliance or enforcement action.

The permit allows for the GFIA to request for a reduction in monitoring activities after two years. It is my understanding that the purpose of monitoring is to ensure that the NTS is working correctly; therefore, releasing permitted quality water. However, should monitoring lessen or cease, we could no longer verify the NTS's effectiveness. I understand that it could be argued that by providing consistent data of a properly working system it could be extrapolated that it would continue working in such a manner for a certain period of time; however, systems do fail and without consistent and frequent monitoring, we often don't know if they are working until environmental damage is visibly evident and often in those cases irrevocable. I understand that as a state agency you are often underfunded and understaffed; therefore, you may be unable to frequently visit the site to observe the NTS functioning, so it seems that it would better to keep monitoring levels consistent, thereby giving you the information needed (in a cost-effective way for the agency) to confirm its continuing effectiveness.

Would it not be prudent to include in-process testing of the NTS to verify that the bacteria and substrate are at sufficient levels to process the contaminants as anticipated, rather than have to wait until it is released to the Thornapple River? This would allow corrective

actions (such as adding bacteria) should failure or less than desirable performance is observed at any stage of the system prior to releasing permit exceeding water to the Thornapple River. I request that such requirements be added to the permit.

The DEQ has considered the concerns expressed during the public notice period and included an additional permit requirement, which requires the permittee to submit a report to the DEQ summarizing the effectiveness of the constructed storm water detention and treatment system. This report is in addition to the monthly reports that have to be submitted to demonstrate compliance with the specified effluent limits. This report is due on or before July 1, 2017, which will allow for the system to be constructed and operational for two winter seasons. Additional sampling will also be required as part of the report. The additional sampling will include metals, volatile organic compounds, acid-extractable compounds, base/neutral compounds, and additional parameters.

Regarding concerns about reduced monitoring approvals, please be assured that the DEQ will thoroughly evaluate any requests for changes in monitoring frequency. If the request is considered inappropriate, the DEQ will deny the request. If the DEQ does grant a reduction in monitoring frequency, the DEQ still retains the authority to revoke the approval for reduced or eliminated monitoring at any time upon notification to the permittee. The DEQ also performs compliance inspections to check on proper facility operations. Samples are also periodically collected to insure that the submitted data is representative of the discharge.

I request that restoration of the previous outfall waterways be required within the permit. Admittedly, restoration activities may not be regularly required by this type of permit; however, they are not unheard of in permits where degradation has been admitted/anticipated as is the case with 404 permits (wetland). Similarly, this permit indicates that harm has been caused by the GFIA activities, as does the associated EA prepared by the GFIA. Therefore, it seems logical that restoration would be required in this case.

The authority delegated to the DEQ through the NPDES Permit Programs includes the authority to regulate discharge to waters of the state. The NPDES Permit Program does not have the specific authority to address stream restorations. Any attempts to include overreaching authority within an NPDES Permit could be contested and subsequently removed from the permit. Stream restorations would need to be addressed through a separate legal action.

Other airports in the country have programs in place that allow the runoff from deicer to be recycled and processed properly instead of pumping a diluted version of it directly into a public waterway that feeds into substantial fisheries, such as the Grand River and eventually Lake Michigan.

This simply seems like the most inexpensive and not most responsible option that the GFIA is choosing. Allowing the Airport to dump their waste into our waterways seems absurd and would not be allowed so easily if it were a true private entity. For some reason, government always seems to be the one entity that thinks it can get away with whatever toxic dumping it chooses.

As previously discussed, this permit is designed to comply with all water quality standards and Federal Categorical Standards.

We pay property taxes, sales taxes, and use fees to keep our water and our general environment clean and to allow this plan to continue is an injustice and a fraud to the people of Michigan. I do not want any of my tax dollars paid to federal or state or township to be used to construct any engineered construction that will in any way dump any pollutants however temporary they may be, into the Thornapple River

The DEQ acknowledges your comments, but please note that it is not involved with the Federal FAA program that will apparently provide some funds for construction of the necessary correction project. The DEQ does appreciate your concern, however, treatment will be provided and designed to ensure compliance with effluent limits that will protect designated uses of the Thornapple River.

The permit should require the centralized de-icing pad with the wastewater being sent to the Grand Rapids Wastewater Treatment Plant and not to our public waterways.

As mentioned previously, the GFIA did evaluate the use of centralized de-icing operations and also directing their discharge to the Grand Rapids WWTP. Both of these options were evaluated and information was made available to the public during the public notice period as part of the Antidegradation Demonstration. The Grand Rapids WWTP lacked the available hydraulic and BOD capacity to meet the Airport's long-term projected needs. Please be aware that the Grand Rapids WWTP discharges to the Grand River. Any discharge to the Grand Rapids WWTP will still eventually be discharged to a water of the state.

The Cascade Charter Township Board of Trustees expects to commission a baseline environmental study of the soils and sediments near and surrounding the new proposed storm water discharge outfall. This baseline study will be used by the Township for comparative analysis in the future to determine if, and to what extent, any new storm water discharge system that the DEQ ultimately approves contributes on an ongoing basis to soil and sediment contamination near and surrounding a new storm water discharge outfall. The Cascade Charter Township Board of Trustees requests that this comparative analysis, once preformed, be considered by the DEQ in any future renewals or modifications of the GFIA NPDES storm water discharge permit.

The DEQ will consider for review any applicable information that is submitted. Please keep in mind that samples must be collected using appropriate sampling techniques and quantification levels or the data might not be usable.

The DEQ would be remiss to issue a new permit to the Airport without requiring the water bodies to be restored to their original state. The DEQ needs to approve a plan for the whole property and nothing less. That would include other outfalls that have not been addressed.

An NPDES Permit is not an enforceable document that can be used for restoration. The purpose of the NPDES Permit is to ensure that a discharge does not cause violations of the water quality standards and federal categorical standards. Discharges from outfalls not specifically identified in the permit are subject to the requirements of the SWPPP. Storm water runoff from public areas is not addressed through this permit, but is addressed via an administrative consent order under the MS4 program.

There are problems in Plaster Creek. There is a sheen and an oil boom sitting in the waterway. Biofilms have also been seen in Plaster Creek. It doesn't seem like enforcement is being done. Odor should be a narrative standard.

Plaster Creek is a separate water body and not a water body that the GFIA discharges to. There is, however, an unnamed tributary to Plaster Creek to which Outfall 007 discharges. The draft NPDES Permit includes monitoring requirements and final effluent limitations to ensure designated uses are protected in the unnamed tributary to Plaster Creek. The permit also includes a condition titled the Nuisance Odor Condition, which requires the permit to attempt to minimize any and all nuisance odor conditions associated with the discharge.

The DEQ staff did receive information regarding a sheen and oil boom in the unnamed tributary to Plaster Creek downstream of Patterson Avenue, and followed up with the GFIA staff. Information obtained by the DEQ staff did not suggest that the GFIA was the responsible party.

Biofilms have been observed in the unnamed tributary to Plaster Creek downstream of Outfall 007.

The DEQ assesses each situation for appropriate enforcement actions.

There should be a contingency plan to shut down the facility if there are future permit violations. The contingency plan must include enforcement, a cease and desist order, and restoration of the river to conditions found in the baseline study. Will there be any emergency shutoff valves in the event of an emergency or in the event the Airport is exceeding any effluent limitations?

In the event that the GFIA violates any permit conditions, then the DEQ will take appropriate compliance or enforcement action. A cease and desist order is not included in the permit because the use of ADF is required for safe winter-time operations. A cease and desist order would essentially require the Airport to shut down or bypass safety requirements, neither of which would be recommended by the DEQ. There are no emergency shutoff valves at the Airport. The discharge of storm water from the GFIA does not pose a human health concern.

How often, and for how many years, will the Thornapple water quality be tested and, once tested, will those results be available for public viewing?

All NPDES regulated facilities can be subject to unannounced compliance inspections. Any data collected is considered public record and can be made available via a FOIA request. In addition, the Thornapple River watershed is assessed every five years to determine if designated uses are being met. These assessments are available to the public or can be found on the DEQ Web site.

Are there any plans for long-term monitoring of local well drinking water supplies?

There are no plans for any monitoring of local wells. Well monitoring would not be under the authority of the NPDES program. The effluent limitations contained in the permit are protective for public water supply at the point of intake in the surface water.

We would like a commitment from the DEQ to make the information available through the Cascade Township Library.

The DEQ will send copies of the modified NPDES Permit and the responsiveness summary to the Cascade Township Library. This information will also be available on the DEQ's NPDES web page for a limited time.

The problem is that no discharge of pollution should be allowed. We are frustrated that the DEQ has mandated that the Airport install a new pipeline directly to the Thornapple River instead of looking at alternatives.

The NPDES Permit Program is specifically tasked with authorizing discharges to water of the state that are protective of water quality standards and comply with federal categorical standards. The DEQ has NOT mandated that the GFIA install a new outfall on the Thornapple River. The GFIA evaluated a variety of alternatives and decided that their best option was a discharge to the Thornapple River that includes treatment when none existed previously. Based on their request, the DEQ developed effluent limitations that will be protective of water quality and the designated uses.

If the DEQ is not willing to prevent the flow into the river, then why can't you have strict penalties of up to 1 million dollars for every day the Airport is not in compliance with water quality standards?

The Michigan Act, Section 3115(2) states that fines may be imposed of not more than \$25,000 for each day during which the unlawful discharge occurred. Additional fines are possible in cases of convictions. In addition to a fine, the Attorney General may file a civil suit in a court of competent jurisdiction to recover the full value of the injuries done to the natural resources of the state and the costs of surveillance and enforcement by the state resulting from the violation.

My concern is that the Airport will discontinue their glycol recycling once the treatment is installed.

The NPDES Permit does not have any requirements for the Airport to recycle their glycol, although they are required to report the volumes of ADF used, recycled, or discharged in Part I.A.10 of the permit. The GFIA is required to utilize Best Management Practices to minimize the discharge of ADF. The Airport has also stated that they plan to continue recycling their glycol.

The discharge of MEK has not been disclosed in the past.

The single data sample that contained MEK is not considered representative. There have been no other samples that have indicated the presence of MEK. It is speculated that the MEK was due to laboratory or sample contamination or a one-time event. MEK is not considered to be a component of ADF operations. Even if the sample was representative, the concentration reported in the sample was significantly less than the water quality standard for MEK.

The wetlands and/or soils that were previously on Airport property were impacted with heavy metals and may be contaminating the groundwater.

Historical land use issues are outside of the scope of the NPDES Permit. The WRD has received confirmation from appropriate staff that these issues were addressed prior to the Airport being constructed. The NPDES Permit specifically addresses only the discharge of storm water and ADF to waters of the state.

This process has been anything but transparent as claimed by both the Airport and DEQ: Why did we have to contact the governor's office to get the DEQ to meet with Jim Dixon, the Thornapple Rivers Environmental Consultant? Why weren't we given two weeks' notice by the DEQ prior to the announced plans? Many of the documents that were/are supposed to be easily available on Airport's Web site are next to impossible to find. Representatives of the individual river associations were never asked to be involved in the original planning sessions even though they were included later on in the process. Our Township officials have only recently gotten involved.

The DEQ disagrees with this statement. The DEQ made many attempts to be as transparent as possible. Typically, when a permittee submits a request to modify their permit, the DEQ will initially work with the permittee before making it available to the public. Once the draft permit is ready for public review, the draft permit is placed on public notice and the permit and associated documents, including the application, are made available via the internet. Copies of the documents were also made available at the Grand Rapids District Office and at the Cascade Library. The public notice was available on-line and also posted at the GFIA. During the permit process, and prior to the public noticed permit being drafted, the DEQ met with Mr. Dixon on more than one occasion. The DEQ also met with the chairs of the watershed groups. The DEQ attended several Airport stakeholder meetings, the Thornapple River Association town hall meeting on June 6, 2013, and held a public meeting on June 13, 2013. During these meetings, the DEQ provided a presentation of the proposed permit modification while also attempting to answer all applicable questions from the public. The DEQ also attended the Cascade Charter Township monthly board

meeting later in June to answer questions related to the draft permit. It is true that the DEQ did not provide a two-week notice to the concerned parties prior to the permit being placed on public notice as previously discussed, and this question was addressed by the Permit Section Chief. Due to time constraints, the DEQ decided to place the permit on public notice on May 29, 2013. The draft permit was open to comment through June 28, 2013, plus the comment period was extended through the close of business on July 8, 2013. The DEQ believes that it has made every effort to be as transparent as possible while also moving forward to address and resolve the issues related to the GFIA.

In the August 2009 USEPA-proposed rule for the Airport Deicing category identified over 90 pollutants associated ADF-contaminated storm water. The USEPA eventually reduced the scope of the pollutants to glycols in the ADF and ammonia in the urea-based pavement deicers. The DEQ is perpetuating this narrow focus on oxygen-demanding parameters. This permit neither characterizes this issue nor offers any mechanism to protect the public and waterway from the unknown chemicals/toxicity.

The DEQ cannot include Federal Categorical Standards that were never finalized. The permit modification has been developed to be protective of water quality standards and the designated uses. The permit also complies with the actual Federal Categorical Standards for airport de-icing. Applicants, regardless of discharge type, are required to provide a measured or estimated effluent concentration for any toxic or otherwise injurious chemicals known or believed to be present in the facility's effluent. Any intentional omissions could result in the compliance or enforcement action and/or modification of the NPDES Permit. Effluent limitations are, and would be, included for any parameters that are present in the discharge that have the potential to exceed water quality standards. Monitoring requirements may also be required if the discharge of a particular parameter is at a level of concern. The DEQ does not include effluent limitations for parameters that are not present or have no potential to be of concern in the discharge. Just because a parameter may be detected in a sample does not mean that the concentration is great enough to warrant additional sampling or an effluent limitation. Effluent limitation and monitoring requirements for metals have not been included in the modified permit because these parameters are not typically associated with this type of discharge in concentrations that would be of concern.

Please review and consider analytical data collected from sediment samples. The watershed users would like a definitive and comprehensive statement from the DEQ whether this data represents a problem to the watershed response activity for corrective action. Sediment data has been collected and analyzed at Plaster Creek and Trout Creek for various metals and polynuclear aromatic hydrocarbons.

The DEQ reviewed the sediment quality data as it related to potential impacts to aquatic life. Generally, it is considered, with some exceptions, that concentrations of contaminants protective of the aquatic ecosystem are protective of human health. The request from Mr. Dixon was for a definitive response on the sediment quality. Unfortunately, the DEQ does not have numeric sediment quality data to compare the results to and the direct comparison to the Part 201 soil criteria is inappropriate. The Part 201 criteria is intended to evaluate contaminant levels in dry soil, not wet sediment. Ecological screening criteria have been developed for some of the data, including arsenic, chromium, copper, and zinc. There was only one sample that exceeded any of the screening criteria and that was copper at the CSX sample. Based on the DEQ's review of the data, there does appear to be some elevated

metals at some of the sampling locations, but they appear to be below concentrations that would cause impacts to designated uses.

Many of the private wells are screened in the unconfined drift aquifer in close proximity to the Airport. The NPDES Permit apparently does not extend coverage for this type of exposure and a Groundwater Discharge Permit appears to be exempt in this situation. I also understand that several of the shallow drinking water wells were required to be abandoned recently within the down gradient neighborhoods due to nitrate impact. Urea was formerly used at the Airport and farming takes place between the Airport and the river. Shouldn't the DEQ reach out and offer greater protection within the context of the only permit that is required to cover this pollution discharge? Can the DEQ explain how they are being protective of the groundwater used by the public and private in this watershed with this permit? Who is evaluating the "big picture"?

The NPDES Permit for the GFIA does not authorize a discharge to groundwater. The permit modification has been developed to be protective of the designated uses. This means that the receiving waters are protected for agricultural uses, navigation, industrial water supply, public water supply in areas with designated public water supply intakes, warm-water fish, other indigenous aquatic life and wildlife, partial body contact recreation, total body contact recreation (May through October), and fish consumption. Since NPDES permits are specific to surface water discharges, the applicable rules do not specifically protect for shallow, unconfined wells.

The permit also specifically prohibits the use of urea as a pavement/runway deicer. So the authorized discharge will not influence the water quality of these private wells. Since urea has been prohibited, the Airport should no longer be considered a source of concern regarding this issue.

The Thornapple Association, Incorporated objects to the issuance of a modified NPDES Permit in that there should be no direct discharge to the Thornapple River of the Airport's storm water discharge.

The GFIA has runways, parking lots, airline terminals, and hangers that are all large impervious surfaces. It is not practical to assume that all storm water can be contained within the airport property.

Rule 98(4)(a) requires the applicant to identify the social and economic development and benefits that would be foregone if the new or increased loading of pollutants is not allowed. The demonstration of the important economic or social development entails two steps. First, the applicant should describe and analyze the current state of economic and/or social development in the area that would be affected. This is to establish the baseline "economic or social status of the community to measure the effect of a water quality downgrade." Second, the applicant is required to demonstrate the incremental increase in the rate of economic or social development. The applicant is to provide the analysis, along with supporting data used in its preparation, showing the extent to which the factors listed above will benefit from the important economic or social development. The Antidegradation Demonstration submitted provides two brief summary paragraphs pertaining to baseline economic information and to economic and social impacts associated with the proposed discharge.

The DEQ has determined that the submitted Antidegradation Demonstration satisfies the requirements for Rule 1098. The rule specifically states that the applicant shall identify the social and economic development and the benefits to the area in which the water are located that would be forgone if the new or increased loading of pollutants is not allowed. One of the factors to be addressed may include environmental or public health problem corrections. The GFIA proposed the construction of Outfall 011 and the installation of the storm water detention and treatment system as a means to eliminate their contribution to the nuisance bacterial slimes occurring in the unnamed tributary to the Thornapple River. The rule does not require that the applicant describe and analyze the current state of economic and/or social development in the area, nor does it require the applicant to analyze the incremental increase in the rate of economic or social development. Any analysis of improvements to the receiving water would be difficult to evaluate prior to the implementation of the treatment system.

An additional permit requirement has been added, which requires the permittee to submit a report to the DEQ summarizing the effectiveness of the constructed storm water detention and treatment system. This report is due on or before July 1, 2017, which will allow for the system to be constructed and operational for two winter seasons. Additional sampling will also be required as part of the report.

The DEQ is required to evaluate whether or not alternatives to the proposed discharge have been explored sufficiently. The demonstration must provide an explanation as to why the discharge is “necessary.” The applicant should demonstrate that alternatives to a surface discharge are not viable. Most importantly, the guidance requires that if a municipal sewer exists and has available capacity, efforts should be made to direct the proposed discharge to the existing treatment system. Since a viable option to surface water discharge exists, that applicant’s application “should be prepared for a permit denial.” The Airport’s Antidegradation Demonstration provides a very limited discussion of the alternatives considered, including discharge to the Grand Rapids POTW. It does not provide the thorough analysis required by the Antidegradation rule.

The DEQ agrees that an Antidegradation Demonstration shall provide an explanation as to why a discharge is necessary. The DEQ also agrees that if connection to a municipal treatment system is a viable option, then that option should be encouraged. As mentioned previously, the GFIA did evaluate directing their discharge to the Grand Rapids WWTP. This option was evaluated, and the information was made available to the public during the public notice period as part of the Antidegradation Demonstration. Technically, the wastewater could and has been sent to the WWTP, but it was determined to be cost prohibitive. The WWTP lacked the available hydraulic and BOC capacity to consistently meet the Airport’s long-term program requirements. Due to the high BOD load, the WWTP would have required that a detention area be built for the incoming deicing fluid in order to prevent operational issues. The high-strength wastewater would have needed to be fed into the system at a controlled rate to prevent bacterial slimes from developing in the treatment plant. Municipal treatment and collection systems typically prefer not to accept wastewater that is comingled with storm water because they end up treating large volumes of water that essentially do not require to be treated. Due to the additional constraints associated with the Grand Rapids WWTP, the DEQ agreed that the GFIA had complied with Rule 1098

regarding Antidegradation and that it was appropriate for alternative options to be considered.

The Association does not believe that the Airport has addressed the impact of the proposed lowering of water quality standards to the high quality water of the Thornapple River and, therefore, a permit decision cannot be made without fully considering the impact on the designated and existing uses of the Thornapple River.

The permit modification has been developed to be protective of water quality standards and of the designated uses. This means that the two unnamed tributaries to the Thornapple River, an unnamed tributary to Plaster Creek, and the Thornapple River are protected for agricultural uses, navigation, industrial water supply, public water supply in areas with designated public water supply intakes, warm-water fish, other indigenous aquatic life and wildlife, partial body contact recreation, total body contact recreation (May through October), and fish consumption. As part of the DEQ's evaluation of the Antidegradation Demonstration, an existing use review was also completed. The DEQ determined that the proposed modified permit was also protective of the existing uses.

The draft permit states that the effluent limit for CBOD₅ is based on flow and outfall location is subject to "permit writer's judgment." However, the Association does not believe that there is adequate flow information available to establish a baseline for setting effluent limits at this time.

The information provided in this comment is inherently wrong. Monitoring requirements for flow and outfall observation are based on permit writer's judgment. Permit Writer's Judgment is used as a basis for a limit or monitoring requirement when information that is needed for another permit requirement, such as flow, is used to determine compliance with load-based limitations, but we don't have a specific rule or standard to require the specific condition. The effluent limitations for CBOD₅ are water quality-based effluent limitations (WQBEL), as was clearly stated in the Fact Sheet. WQBELs were developed using DEQ-approved procedures and regulations. Copies of the WQBEL memos and development documents can be obtained upon request.

The pilot has total control to determine the level of deicing that is being done and, if not satisfied, has the ability to demand the plane be re-deiced until he feels it is safe. What criteria do they use and how much education do they have or incentive to use less?

The question is outside the scope of the NPDES Permit and the authority of the DEQ. Pilot training and education issued would fall under the authority of the FAA.

The current occupied land of the Thornapple Point Golf Course equals 134.7 acres. Does the current NPDES Permit cover the GFIA and the Thornapple Point Golf Course for storm water discharges from construction activities or does the Thornapple Point Golf Course need to acquire an additional permit separate from NPDES Permit No. MI0055735?

Discharges from the Thornapple Point Golf Course are not authorized under NPDES Permit No. MI0055735. The GFIA will need to seek coverage under the construction storm water permit prior to beginning construction if it is determined that they will be disturbing more than 5 acres.

Why call it an “elimination” permit if we truly are not eliminating the problem.

In November 1972, Congress passed a comprehensive recodification and revision of the Federal water pollution control law, known as the Federal Water Pollution Control Act amendments of 1972. These amendments include the NPDES Permit Program as the focus of efforts for national water pollution control. The enactment of the 1972 amendments maintained the water quality-based controls, but added an equal emphasis on technology-based, or end-of-pipe, control strategy. The 1972 Act established a series of goals or policies in Section 101 that illustrated Congressional intent. One of the most notable goals was that the discharge of pollutants into navigable water would be eliminated by 1985. This goal was not realized, but remains a principle for establishing permit requirements.

The discharge into the Thornapple River appears to create a defined zone of impact that extends most of the way across the River. I am concerned that the proposed design has the potential to create a kind of barrier to fish migration.

The permit modification has been developed to be protective water quality standards and of the designated uses. This means that the receiving waters are protected for warm-water fish and other indigenous aquatic life and wildlife as it relates to this discharge. The discharge from the GFIA is not anticipated to create any type of barrier to fish migration.

This Responsiveness Summary shall also serve as notification that the modification of NPDES Permit No. MI0055735 for the Kent County Department of Aeronautics, Gerald R Ford International Airport was signed on August 1, 2013. The permit included an additional requirement identified as a Storm Water Detention and Treatment System Report, which will require the permittee to submit a report summarizing the overall effectiveness of the treatment system and require some additional sampling data.

Completed on August 9, 2013, by Sean Syts, Permits Section, WRD, DEQ