

Environmental Assessment (Harms/Benefits)



Tri-County Landfill Replacement Application

Tri-County Landfill, Inc.

Pine and Liberty Township

Mercer County

Id No. 101678

Prepared by:

Pa. Department of Environmental Protection

Northwest Regional Office

Waste Management –Facilities Section

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I. Project Description

Tri-County Landfill Inc. (Tri-County) has submitted a major permit application (Application) for the construction and operation of a municipal waste landfill (Landfill) in Liberty and Pine Townships, Mercer County (Site).

Tri-County previously operated a landfill at this Site (Old Landfill). The Old Landfill was a municipal waste landfill that accepted waste between 1950 and 1990 as a natural renovation soil facility without a newer synthetic liner system. It has been inactive since 1990. Tri-County currently operates a municipal waste transfer station at the Site. The Application seeks to develop and operate new waste disposal areas within the 99-acre permit boundary of the Old Landfill. Approximately 1,551,000 cubic yards of waste was disposed within the Old Landfill, which covers approximately 44.5 acres of the 99-acre permit boundary. Under the Application, waste in an unlined area of the Old Landfill would be excavated and relocated onto new lined disposal cells.

The main approach route to the Site is from State Route 0208. Vehicles arrive at the Site both from I-79, which is 1.3 miles west of the Site, and from Grove City traveling along State Route 0208. Vehicles enter the Site via a paved access road called TCI Park Drive. Vehicles travel past a recyclable drop off area before passing through a gated entrance roughly $\frac{1}{4}$ mile from State Route 0208. The permitted transfer station area is located approximately $\frac{3}{4}$ miles from State Route 0208. As vehicles enter the main portion of the permitted area they will pass a maintenance building to the west. Another smaller building exists to the south of the maintenance building and a dumpster is located to the south of the smaller building where citizens can drop off their waste. TCI Park Drive turns west and crosses to the south of the dumpster. Directly south of the dumpster and across TCI Park Drive sits the scale, scale house/office building, and a parking lot. To the west of the maintenance building is the Tri-County Transfer Station. The transfer station is currently permitted to accept 800 tons/day with a pending application proposing to increase the daily volume to 1,200 tons/day. A wood processing/composting area sits on the south eastern portion of the permitted area. Empty dumpster containers and trucks can be found near the existing buildings.

The Old Landfill sits to the west of the transfer station. The Old Landfill permit boundary is surrounded by wooded areas and ponds/wetlands to the north, south, east, and west. Three houses and a credit union sit to the north west and across State Route 0208 from the entry way to TCI Park Drive. A U-haul facility is located across from the credit union, on the same side of Route 0208 as the Site. To the east of the landfill entry way is another house.

The Landfill plans to operate 24 hours per day, 6 days per week, except for holidays. The Application requests an average and maximum daily volume (ADV/MDV) for the Site to be 4,000 tons per day (tpd). The combined tonnage going to the transfer station and Landfill will not exceed 4,000 tons per day. The proposed Landfill disposal footprint is approximately 70.37 acres. The Landfill will consist of 10 disposal cells. Tri-County submitted two different Landfill designs to be considered for the Site. In Option 1, the overall final height of the landfill will be limited to 1360' in Pine Township and 1353.4' in Liberty Township, as agreed upon in a November 30, 2018 consent order between Tri-County, Pine Township, and Liberty Township. The total disposal capacity of the Landfill would be 7.276 million cubic yards. The relocation of

1,551,000 cubic yards of old waste from an unlined area to the new lined cells would reduce the total new disposal capacity to 5,725,000 cubic yards. Under Option 2 the proposed Landfill height would be higher than agreed upon with the townships and would be similar to the height in a previously denied application. Option 2 could only occur if both Liberty and Pine Townships agreed to new final Landfill elevations in the future. After receiving comments concerning Option 2 from both townships and local citizens, the Department has decided not to consider Option 2 as part of this review.

The Application proposes that Landfill operations will be conducted so that putrescible waste will only be disposed of during nighttime operations. Nighttime operation is proposed to help alleviate the potential that Landfill operations could create a bird hazard to aircraft using the nearby Grove City Airport.

The Application was submitted to the Department on December 17, 2018. Notices of the submission were printed in The Herald, a local newspaper, on December 22nd, December 24th, and December 31st, 2018. The permit application notice also was published in the Pennsylvania Bulletin on February 23, 2019.

Tri-County has previously submitted applications to re-open and expand the landfill. The Department denied the most recent application on September 19, 2013 due to the compliance history of other companies owned by Vogel Holdings, Inc., the Parent Company of Tri-County Landfill Inc., and conflict between the local zoning restrictions and the landfill's design.

II. Environmental Assessment Process

25 Pa. Code § 271.126 and 127 (relating to environmental assessments) require that an applicant conduct an environmental assessment and demonstrate that the benefits of the project clearly outweigh the known and potential environmental harms that will remain after the proposed mitigation. The benefits of the project can be social and economic, and/or environmental. Social and economic (SE) benefits are evaluated after offsetting them with SE harms. Environmental harms are evaluated after offsetting them with acceptable mitigation plans. To determine whether an impact is a harm or a benefit, the Department compares the applicant's proposal to the conditions that would exist if the project did not move forward. The environmental harms are then balanced against the benefits to determine if the benefits clearly outweigh the harms. Therefore, the proposal resulting in the re-opening of Tri-County Landfill, Inc. is compared to the conditions that would exist if the entire project did not move forward. In addition, the scope of this evaluation is limited to the information that relates to the proposed modifications to the facility and any changes to areas covered by previous environmental assessments and does not re-evaluate the entire facility or other operations at the facility that are not being modified. The findings and conclusions in this review are limited to the duration of the proposed permit term. An expansion to this facility would be considered a change in the areas covered by this assessment and would necessitate a new evaluation be completed.

Tri-County Landfill, LLC. submitted an environmental assessment in this application that provided an analysis of the potential impact of the proposed facility on the environment, public health, and safety. The Department, after consultation with appropriate government agencies and potentially affected parties, evaluated the environmental assessment to determine whether

the proposed project has the potential to cause environmental harm. Where appropriate, past performance is used to predict future conditions related to a harm or benefit. In this document, the Department provides its analysis of the known and potential environmental harms that will remain after implementation of the proposed mitigations and whether the benefits of the proposed project clearly outweigh the remaining harms.

Each harm is discussed individually below to determine if it has been fully mitigated. If the harm is fully mitigated, that harm is not included in the balancing portion of this document. If there is harm remaining after mitigation, that remaining harm is included in the balancing. The balancing looks at the individual and collective impacts of all of the harms and the benefits to ensure that the total effect of the project is such that the benefits clearly outweigh the harms.

Among other things, the degree to which a harm or benefit affects the Department's balancing turns on the following factors:

1. *Harms and benefits.* Harms are identified as known or potential. Benefits must be associated with the project and not be speculative. A known harm or benefit is one that the Department concludes is certain to occur in the future. A potential harm is one that would result from the proposed project under some circumstances, but not others. A known harm carries greater weight than if it were a potential harm for a particular project.

2. *What is the duration, frequency, and intensity of the benefit or harm?* "Duration" refers to how long a harm or benefit continues. "Frequency" refers to how often it will occur; it can be measured on a daily, weekly, or yearly basis, or it may be constant. "Intensity" refers to how much the harm or benefit will be if or when it occurs. For example, a loud noise is more intense than a softer noise. All other things being equal, the longer a harm or benefit lasts, the more frequently it occurs, and the more intense it is, the more it will affect the Department's balancing.

3. *How many people are impacted by a benefit or harm?* All other things being equal, the more people impacted by a harm or benefit, the more that harm or benefit will affect the Department's balancing.

4. *How sensitive are the receptors?* All other things being equal, the more sensitive the receptors are to a harm or benefit, the more that harm or benefit will affect the Department's balancing. For example, if a harm would impact children more than adults and the proposed project is in an area with a high population of children, that harm would affect the Department's balancing for that project more than if the project would be located in an area without children nearby.

III. Harms and Mitigation Discussion

In 2004 Tri-County Landfill LLC., submitted a landfill permit application that contained an environmental evaluation that was reviewed by the Department. The Department found that the harms outweighed the benefits of that evaluation in a letter dated November 1, 2006. The reason for that determination was based on the potential harm to aircraft. At that time, Tri-County

appealed the decision. Tri-County then submitted supplemental and expert information that resulted in the Department concluding the potential harm of a bird/aircraft strike was sufficiently mitigated and that the benefits of the project clearly outweighed the harms. The determination was agreed upon in a September 9, 2008 Settlement Agreement.

Tri-County has resubmitted that evaluation with additional comments for the portions of the evaluation Tri-County feels are affected by the Landfill's revised design under both Option 1 and Option 2. As previously stated, the Department will only consider the Option 1 design in this analysis. Each harm is identified and then discussed using narrative pulled from the submitted application. This is followed by the Department's brief comments in bold text on the harm and any mitigation measures where applicable.

A. Social and Economic Harms

1. Visual impact / Aesthetics

The visual impact of the landfill on the surrounding areas is an issue of concern to the local residents. Tri-County recognized this and conducted a "Line of Sight" survey as part of the permit application. The survey is used to determine the degree to which the landfill operation will be visible from surrounding areas. At final configuration, the landfill will appear as a mound with 3 to 1 sideslopes with benches every 50 vertical feet. The mound will be covered with vegetation. The conclusion from the survey is that the landfill will only be visible on a line of sight originating from the Center Presbyterian Church, located at 333 Center Church Road.

Since the final grading plan has been changed, an evaluation of the visual impact is warranted. The evaluation of visual impact included with the prior submission is included in Section V, 1.0 of Attachment D-15 and in a Line of Sight Analysis in Exhibit D-15.6. This prior analysis is still relevant to the proposed Option 2. Option 2 has the same final permanent elevation of 1476 as the application previously denied by the Department on September 19, 2013. Although the configuration of final grades under Option 2 is somewhat different, the modifications are of a nature that should not result in significant changes to the visual impact analysis previously proposed. The revisions are primarily associated with the berm arising from the townships' review of the project to achieve zoning authorization for Option 1. The perimeter anchor trench remains in the same location and the maximum height also remains.

The proposed Option 1 has maximum final grades over 100' lower than Option 2 and therefore the visual impact will be greatly reduced. No further analysis is proposed for this previously identified harm. The resulting harm is significantly reduced.

Proposed Mitigation

To mitigate the visual impacts on this line of sight, the applicant proposes to plant trees along the edge of the neighboring properties. Tri-County recognizes that some property owners might not agree with the plan. Tri-County will seek permission from the property owners to plant the trees on the property owners' property to further shield the landfill from view. In addition, no landfill activities will occur on Sundays during church service.

DEP Comments on Potential Harm and Proposed Mitigation

The Department believes that the recreational value and quality of life in a community can be harmed by the unpleasing aesthetics of a landfill. Although the Department concurs with the applicant that this harm would be substantially mitigated for the majority of the surrounding area, drawing EXH D-14.6-2 indicates the top of the landfill may still be visible from the Center Presbyterian Church under Option 1 where the maximum elevation is 1360'. Therefore, the Department must conclude some potential social and economic harm remains.

2. Property Values

The local citizens are generally concerned the proposed landfill will decrease property values for residents in the vicinity of the landfill. The Department shares this concern. As a result of these concerns, the applicant cited a few studies and articles on the subject of property values and landfills. They also had a report prepared titled "The Property Value Impact Evaluation Report" which compared the values and appreciation rates of homes near seven other landfills in western Pennsylvania. Five of these landfills are located in Allegheny County and two are located in Butler County.

Tri-County's Proposed Mitigation

Based on the above-mentioned report, cited studies, and various articles the applicant did not propose any mitigation measures. The application concluded, " that properties close to landfills appreciates in values greater than other properties in the surrounding area, thereby, providing a benefit impact."

DEP Comments on Potential Harm and Proposed Mitigation

The Department reviewed The Property Value Impact Evaluation Report and other information submitted in the Application and has some concerns with the adequacy of the report. Some items of concern are possible selection bias of the properties studied, and a lack of a control group for the study. The Department has also seen a number of studies that do not support the conclusions stated in the Application.

The Department believes that the potential negative impact of the Landfill on property values is a legitimate concern with respect to property value, as indicted in the Journal of Real Estate Research article entitled, 'The Impact of Landfills on Residential Property Values,' Volume 7, Number 3 pages 297 - 314.

The Department considers the impact on property values to be a potential social and economic harm that remains for the purposes of this EAP evaluation.

B. Environmental Harms

1. Odor / Dust / Air Quality Impacts

Odors, dust, and landfill gas emissions are generally recognized as potential harms associated with the operation of a landfill. As such, the applicant has identified some of the following areas as potential sources of odor: waste collection and hauling vehicles, disposal area working face, and relocation of existing waste. Potential sources of dust include unpaved roads; waste placement, soil cover placement, and operation of borrow areas.

Proposed Mitigation

The Application outlines some specific items that would be used to mitigate or control each different type of potential odor and dust sources. Some of these include but are not limited to proper covering of waste, limiting disposal area working face size, optimizing collection and hauling routes, use of neutralizing agents, watering and sweeping of roads, and use of a truck wash station. In order to control landfill gas emissions, the applicant has identified the type of active gas collection systems that would be installed at the landfill. This may consist of vertical gas extraction wells, horizontal collection trenches and a permanent destruction flare/co generation system to control the generation of gas at the facility. Gas monitoring probes will be installed around the perimeter of the site to monitor the effectiveness of the gas collection system.

DEP Comments on Proposed Mitigation

Many of the control plans and features identified in the proposed mitigation measures are typical and common to the solid waste industry and have been employed in one fashion or another at various active landfills in the Commonwealth. Although dust control measures can be effective at a landfill, based on past experience, the Department believes that odors may not be completely mitigated at all times. In addition, the use of flares and cogeneration systems control landfill gas migration, but even these systems do not achieve one hundred percent destruction of all contaminants. Some emissions are still generated by the landfill. Based on this general history of landfill operations in the Commonwealth, some minimal level of environmental harm remains for the proposed landfill.

2. Noise

Tri-County recognizes noise as a potential harm associated with the operation of a landfill. The company identified sources of noise generation such as truck traffic, operation of heavy earthmoving and waste equipment, and some environmental control systems (i.e. landfill gas blower or vacuum units).

Proposed Mitigation

Tri-County conducted a noise level study to evaluate the impact of additional noise on the area surrounding the proposed landfill operation and included the results of the study with

the Application. The study concluded that the intensity of the noise that the landfill will generate will diminish sufficiently before it reaches the surrounding community and, therefore, will not impact ambient conditions in the surrounding community. The study indicates that the noise levels at the monitoring points will be similar to the existing ambient background levels.

To minimize the noise generated by the landfill equipment, the applicant will perform routine maintenance on the equipment. The applicant proposes to monitor all equipment with a hand-held decibel meter, to maintain equipment to operate at 85 decibels or less at all times. Also, during nighttime operations, landfill equipment and refuse hauling trucks will have their reverse warning sound systems (backup horns) turned off to reduce noise levels. Instead, the trucks and equipment will be equipped with a flashing strobe light system.

DEP Comments on Potential Harm and Proposed Mitigation

The study is based upon landfill operations occurring at current ground elevations. If permitted, the landfill operations would eventually occur at elevations substantially higher than the current ground elevations, which could allow the operational noise to be more easily detected in the vicinity surrounding the landfill.

Also, as explained in the technical information provided in the application, people are more sensitive to sounds at night when background sound levels are normally lower because of decreased human activity. This is an important factor since landfill operations will occur during nighttime hours.

The Department agrees that the distance to receptors, natural barriers and mitigation measures will reduce noise impacts. However, the proposed landfill operations will create some additional noise in the vicinity of the landfill, which would not be experienced if the landfill project did not move forward. For the purposes of the Environmental Assessment Process (EAP) an environmental harm remains.

3. Litter

Litter was identified as a potential harm which typically is generated in two areas: escaping off of waste collection and hauling vehicles traveling to and entering the landfill and blowing from the working face during disposal operations.

Proposed Mitigation

The applicant is proposing to implement a litter control plan which will include tarping of vehicles, sweeping and cleaning vehicles, litter control fences, minimal working face area, application of daily and intermediate cover and routine inspections of landfill perimeter and adjacent areas.

DEP Comments on Potential Harm and Proposed Mitigation

The proposed mitigation measures should adequately control the litter. However, the Department has found even the best of control plans cannot account for every possible

situation and minor litter events may occur once or twice a year. Based on this general history of landfill operations in the Commonwealth, some minimal level of environmental harm remains for the proposed Landfill.

4. Vectors

The applicant identified vectors as a potential harm. Some of the possible vectors identified were rodents, wild animals, and mosquitoes. Potential environmental impacts from vectors include, nuisances associated with infestation, spreading disease and damage to environmental control systems.

Proposed Mitigation

Tri-County proposes in the Application to mitigate vectors by using environmental management practices and pest control programs to prevent vector infestations. Practices include daily cover and intermediate cover applications, geosynthetic capping, proper grading to prevent standing water, and a professional pest control program.

DEP Comments on Potential Harm and Proposed Mitigation

The identified vector control plan should effectively control most vectors from being a problem. However, the Department has found even the best of control plans cannot account for every possible situation and minor occurrences of vector problems may occur at some point during the life of the facility. Based on this general history of landfill operations in the Commonwealth, some minimal level of potential for an environmental harm remains for the proposed Landfill.

5. Traffic - Safety and Environmental

Potential harms associated with truck traffic usually fall into two categories: Vehicle & roadway safety, and environmental (e.g., leaking loads, litter, noise, odor). Some of the environmental issues associated with traffic have also been touched on or addressed in other sections of this evaluation.

Proposed Mitigation

A Traffic Study was prepared by the applicant to assess the impact of traffic at the proposed landfill. At a waste intake rate of 4,000 tons/day, 332 truck trips will be generated. This equates to an additional 218 truck trips when compared to the truck traffic currently entering the site for the existing waste transfer station. The transfer station generates 114 truck trips per day based upon the maximum waste intake rate of 800 tons/day. The worst-case scenario for facility truck traffic for the proposed operation is 4,000 tons/day. This is the landfill operating at 3,000 tons/day and the transfer station operating at 800 tons/day and an outtake rate of 200 tons/day for a total site operation of 4,000 tons/day. The landfill will operate at a maximum waste intake rate of 3,000 tons/day until such time that Tri-County Transfer Station ceases to accept waste for transfer to another facility. At such time, Tri-

County Landfill will commence receiving waste at an average waste intake rate of 4,000 tons per day. The applicant proposes no mitigation based on traffic safety.

For the environmental harms associated with the truck traffic, mitigation measures include expeditious collection and transportation to the disposal facility, tarping and sweeping vehicles to minimize odors emanating from the collection vehicles. Traffic noise generated by refuse vehicles will be controlled by routine vehicle inspections. Muffler systems will be routinely inspected and maintained/replaced as needed. Also, the applicant is proposing to distribute site traffic over a 24-hour operating period to help alleviate congestion during periods of rush hour and school traffic.

DEP Comments on Potential Harm and Proposed Mitigation

The pending permit application to increase the daily volume of waste to the Tri-County Transfer Station from 800 tons/day to 1,200 tons/day was not mentioned in the above mitigation measures however, the total site operation will not exceed 4,000 tons/day should the daily volume increase at the transfer station be approved or not. The Pennsylvania Department of Transportation (PaDOT) reviewed the June 2019 Traffic Impact Study accounting for 4,000 tons/day and approved of the study. The study concluded that the additional traffic volumes projected will have no significant impact to the intersection of SR 0208 and TCI Park Drive. The Department agrees with this conclusion.

The measures outlined above for the environmental harms associated with truck traffic should help to lessen the above-identified environmental impacts. However, as indicated in some of the other sections of this analysis, the Department has determined that, based on its historical knowledge regarding general landfill operations, even the best mitigation plans do not always completely eliminate all environmental harms 100% of the time. The applicant acknowledges this and has indicated some minor environmental harm remains.

6. Wetlands

The impact to existing wetlands is a harm identified by the Department. The application identified approximately 2.5 acres of wetland areas that would be impacted by development of the landfill. The wetland delineation study in the Application completed by Environmental Consulting and Planning Services claims that none of the wetlands are exceptional value based on the functions of each wetland.

Proposed Mitigation

In conjunction with the Application, the applicant will be seeking a permit from the Department to remove and replace these wetlands. The project will combine several small wetlands into one area connected to the most significant wetland (Wetland P) near the site. Tri-County asserts this combination of wetlands will "effectively mitigate the loss of wetland areas since the result will be an overall improvement in the quality of the wetland areas."

DEP comments on potential harm and the proposed mitigation

The wetlands that are impacted will be replaced with constructed wetlands of a size and quality approved by the Department. This will be accepted appropriate mitigation. While the Department does not totally agree with Tri-County's claim of a significant benefit associated with this mitigation, the Department does recognize this project would combine several small isolated wetlands that do not have any direct surface water connections to other bodies of water into one area connected to the most significant wetland near this site. The current stormwater detention, filtering, and sediment removal ability of these isolated wetlands is limited.

The additional acreage created under this project should enhance existing wetland benefits and functions and would create additional habitat that does not currently exist in this area. Therefore, a minor benefit will be realized in the combination of the wetlands.

7. Storm water run-off

Storm water run-off has been identified by the Department as a potential harm. Absent control measures, construction and operation of the landfill would create addition storm water run-off and potentially additional sedimentation.

Proposed Mitigation

The applicant contends that the proposed landfill design, which consist of collection and conveyance channels, sedimentation basins and other engineered controls, will effectively control erosion and sedimentation.

DEP comments on potential harm and the proposed mitigation

The proposed Landfill design incorporates appropriate erosion and sedimentation controls that would comply with Departmental regulations and effectively mitigate any impact. However, the Department has found even the best of control plans cannot account for every possible situation and minor occurrences of erosion problems may occur at some point during the life of the facility. Based on this general history of Landfill operations in the Commonwealth, some minimal level of potential environmental harm remains for the proposed landfill.

8. Aircraft Safety

The proposed landfill (as well as the existing closed landfill) is located within 10,000 feet of the Grove City Airport. Even though the facility would not be prohibited based on the exclusionary criteria listed in 25 Pa. Code §273.202, airport safety is a great concern of the Department with respect to this Application. The airport safety issue is subject to the benefits and harms analysis because of the potential for an increase in the number of birds in the navigable airspace of the Grove City Airport, which may increase the likelihood of

bird/aircraft strikes that cause damage to aircraft or its occupants. A prior application by Tri-County to reopen this facility was denied in 2001 largely based on this subject.

The Department's previous comments regarding the harm remaining following air safety mitigation measures were central to Tri-County's appeal following issuance of the Department's November 1, 2006 denial letter. During the litigation of the appeal, Tri-County provided supplemental and expert information further explaining the effectiveness of the proposed mitigation measures. Based on the Department's review and analysis of the supplemental information, they concluded the bird/aircraft strike mitigation measures would sufficiently mitigate the hazard. The September 9, 2008 Settlement Agreement was the culmination of the appeals process. As a result, the weight of the harm remains essentially identical in this Replacement Application but for the duration.

Proposed Mitigation

In an effort to address the concerns stated by the Department in the October 4, 2001 denial of a previous application, Tri-County modified its proposed operating plan for this Application. The company has proposed that putrescible waste will only be disposed during nighttime hours. All putrescible waste arriving at the facility during daylight hours will be stored in the trucks or inside the transfer station until nighttime. The putrescible waste will then be covered with daily cover before dawn each day. The applicant believes this course of action will ensure that birds cannot see or have access to the waste, which can act as a food source. As a way of proving this concept, the applicant hired Dr. Rolf Davis of LGL Limited to study the effectiveness of nighttime operations at a landfill in New Jersey located just over 10,000 feet from the Atlantic City International Airport. Included with the Application are materials prepared by Dr. Davis and Tri-County as support for his abilities to evaluate safety issues surrounding landfill operations near an airport. The Department is not making a judgment on his credentials to address this issue but is evaluating his conclusions contained in the materials presented in the Application.

Dr. Davis also developed a "Wildlife Hazard Management Plan" (bird control plan) that Tri-County would implement to help prevent potential bird/aircraft strike hazards due to the location of the airport with respect to the landfill. As a final measure, Tri-County Landfill, Inc. indicated a bird depredation permit would be obtained from the U.S. Fish and Wildlife Service to control birds at the landfill, if they believed it becomes necessary to take that measure.

DEP comments on potential harm and the proposed mitigation

As discussed above in Tri-County's comments, Airport safety was the central reason for the denial of a previous application in 2001. Following that denial Tri-County submitted another application in 2004 that involved the disposal of putrescible waste at night, which the Department also denied in 2006 based largely on the remaining harm to aircraft due to the potential for bird strikes. As described above, Tri-County appealed that decision and on September 9, 2008, the Department and Tri-County entered into a Settlement Agreement to establish bird/aircraft strike mitigation measures that would sufficiently mitigate the hazard. The exact same plan, supplemental information, and mitigation measures submitted with

that application were submitted with this Application. Included with the application is a signed letter from Dr. Davis stating the filed material is still relevant and represents the state-of-the-art bird hazard assessment and bird mitigation for landfills of this type. Therefore, the Department finds the potential harm to aircraft to be sufficiently mitigated.

IV. Benefits

Below is a list of proposed benefits submitted by the applicant. Each benefit is identified and discussed using narrative pulled from the submitted application.

A. Accepted Environmental Benefits

1. **Relocation of Old Landfill**

The Application provides for excavating the waste disposed at the old landfill between 1950 and 1990. This waste was disposed in the unlined landfill and is believed to be hydro-geologically connected to the local groundwater aquifer beneath the landfill. The waste would be relocated onto new synthetically lined landfill cells. This action would reduce the potential for groundwater contamination in the immediate area. This is an environmental benefit associated with the proposed project.

2. **Wetlands**

The application cited the proposed replacement wetlands as a significant benefit. While the Department does not totally agree with Tri-County's claim of a significant benefit associated with this mitigation, the Department has concluded that a minor environmental benefit will be realized in the combination of the wetlands.

3. **Free Disposal During Spring Cleanup Programs**

The application identified free disposal for the local community during spring cleanup programs. The Department recognizes this as an environmental benefit.

B. Accepted Social and Economic Benefits

1. **Employment by the landfill**

Tri-County has stated that a minimum of fifteen full-time personnel will be employed by the landfill. The average gross annual payroll for the 15 employees is estimated to be \$810,000. An additional 3-5 jobs associated with the renewable high energy btu natural gas (RNG) facility will also be created. This is considered a social and economic benefit.

2. **Tax Revenue**

Tri-County stated that the proposed project would either generate new or increase tax revenue from several sources. Some of these include: property taxes, employee per capita taxes, and state

and local income taxes. The application estimated yearly total tax revenue for this project as approximately \$186,000. This total figure may be speculative, and no breakdown was given as to how much each type of revenue would provide. Regardless of this, the Department does acknowledge that some additional tax revenue would be provided as a result of the project and should be considered a social and economic benefit.

3. Fees

The fees discussed below are based on the amount of waste received are considered social and economic benefits that result from the proposed project. Below is a summary of the types of fees and amounts claimed by the applicant.

Host Municipality Fees

In accordance with Act 101, fees paid to the host municipalities of Pine and Liberty Townships total \$1.00 per ton split between the townships and therefore can result in \$3,950,250 for Option 1 over the operational life of the proposed landfill.

Recycling Fees

In accordance with Act 101, the Commonwealth's Recycling Fund would receive \$2.00 per ton of waste disposed at the landfill. At \$2.00/ton of waste received at their facility for the Recycling Fee, not including certain categories (e.g. Alternate Daily Cover materials), approval of this expansion will yield an additional \$7,900,500 for Option 1 during the life of the expansion. This is a social and economic benefit to local residents and local government, as well as an environmental benefit to all Pennsylvania residents by providing the continuation of the recycling operations.

Environmental Stewardship Fees

The landfill would be required to pay \$0.25 per ton of waste disposed in the Environmental Stewardship Fund. At \$0.25/ton of total waste received at their facility for the Environmental Stewardship Fund, approval of this expansion will yield an additional \$987,563 for Option 1. As this a dedicated fund used for environmental restoration and conservation and community revitalization projects including farmland preservation, acid mine drainage clean up, support of watershed based conservation efforts, rehabilitation of state parks and forests, and water/wastewater treatment facilities, payment of this fee constitutes an environmental benefit to all Pennsylvania residents in addition to the economic and social benefit to local residents and local government.

Waste Disposal Act 90 Program Fee

In accordance with Pa Act 90, the Commonwealth's Growing Greener Program would receive \$4.00 per ton of waste disposed at the landfill. At \$4.00/ton of waste received at their facility for the Waste Disposal Act 90 Program Fee, approval of this expansion will yield an additional \$15,801,000 for Option 1 during the life of the expansion if Act 90 Program fees remain unchanged. This is a social and economic benefit to all Pennsylvania residents.

4. Purchase of Goods and Services

Tri-County claims that it would purchase various goods and services from many local businesses. The application estimated a total amount of spending on these items as \$7,800,000. This figure is speculative with no breakdown as to the actual goods and services that would be bought. Regardless of this, the Department does acknowledge some additional revenue and increase of local spending by Tri-County would be provided as a result of the project and should be considered a social and economic benefit.

C. Rejected Environmental Benefits

1. Utilization of Landfill Gas

The Department rejected the use of landfill gas to generate electricity as an environmental benefit during a previous environmental assessment. The Department viewed the collection and use of landfill methane gas as a standard or an expected practice at the landfill.

Tri-County is aware of the Department's previous position. Tri-County no longer proposes to utilize LFG to generate electricity. However, Tri-County Landfill contends that just because something is an expected practice or "good business" does not preclude it from being a benefit. Rather, Tri-County proposes that within one-year of reaching 800 scfm LFG (on a sustained basis) that it will construct a processing facility to generate renewable High Btu Natural Gas (RNG) at the facility. Replacing fossil fuel energy with a recognized renewable energy source is an environmental benefit that would not exist without the landfill. As the Department is aware, an affiliate company of Tri-County Landfill, Seneca Landfill, already employs this conversion technology. Without renewable energy sources, natural gas must be supplied from fossil fuel sources (whether foreign or domestic). RNG is derived from a fuel which would otherwise be controlled in a flare resulting in useless emissions. By processing the gas into RNG, the methane is diverted to an end-user and replaces fossil fuel sources. As a result, emissions from the fossil source are eliminated. This is undeniably an environmental benefit.

RNG is recognized by both the Commonwealth and the U.S. EPA to be a desirable renewable energy source. Both actively promote and encourage the practice of producing and utilizing RNG through their programs and policies. For example, RNG generated from LFG achieves a RIN (Renewable Identification Number) D Code classification of D3 under the federal Renewable Fuel Standards Program since it is considered a cellulosic biofuel. D3 RINs are the most valued category under the Renewable Fuel Standards program since the US EPA believes this category achieves the highest greenhouse gas reduction on a unit basis. It is also important to note that the Department obviously considers these projects to be beneficial as well since it actively promotes these types of projects through its own grant and loan programs.

At 50% methane, 800 scfm translates to approximately 210,000 mmBtu/year. Since the conversion is not 100% efficient, we will estimate the value for illustration purposes based on 170,000 mmBTU/year (80% efficiency in conversion). The use of RNG has a number of renewable energy uses (e.g. pipeline quality renewable natural gas, renewable compressed natural

gas, renewable liquified natural gas). By comparison, the Seneca Landfill converts a portion of their RNG into renewable compressed natural gas (RCNG). If a similar approach would be taken at Tri-County Landfill, the environmental benefit can be calculated in terms of a reduction in need for fossil diesel fuel sources. 170,000 mmBtu/year of RCNG is equivalent to approximately 1,200,000 diesel gallons per year. This volume of renewable energy offsets what would otherwise need to be filled through foreign or domestic fossil fuels. Note this value will increase as the LFG generation rate increases beyond 800 scfm.

Beyond the environmental benefit, the RNG facility will also have a socio-economic benefit. The socio-economic benefits can take various forms but at this early stage, some of the specifics can not be established until the particular nature of the RNG facility is finalized. However, a socio-economic aspect that can be established is the addition of 3-5 jobs. RNG facilities require trained operators, and as a result, these positions will be created. These individuals are in addition to the fifteen individuals outlined in Item IV(B)(1) (Employment by the Landfill) above under Benefits Accepted by the Department.

DEP's Comments on the Proposed Benefit

Using some of the gas produced as a commodity is certainly preferable over simply burning all of the gas produced, this does not change the fact that the production of gas is a harm. The collecting and treating of the gas for any end use is viewed by the Department as a mitigation of that harm. For the purposes of the Environmental Assessment Process, no benefit will be considered for the utilization of landfill gas. A benefit will be given for the additional employment of 3 to 5 people. See Item IV(B)(1) above.

V. Balancing Discussion

The DEP evaluates the harms and benefits individually and collectively taking into account various relevant factors such as duration, frequency, reach, and sensitivity among others when analyzing this information. First, the social and economic benefits are reviewed.

For this project there were seven social and economic benefits accepted by the DEP. These include benefits include employment by the landfill, tax revenue, host municipal fees, recycling fees, disposal fees, environmental stewardship fees, and the purchase of goods and services. The applicant has provided monetary values associated with each of these benefits. For some of these benefits the Department has only accepted or factored in a fraction of these dollar figures into the overall balancing. For example, only the profits earned by the selling companies from the sale of goods or services are being considered in this evaluation. Therefore the \$7,800,000 estimate given by the applicant is much larger than what the actual benefit would be. Another example occurs with the use of some waste as alternate daily cover. When waste is used as alternate daily cover by the landfill, fees such as the recycling fee and Environmental Stewardship fee are not paid for the tonnages used. In addition, the applicant also states that some of the waste that would be disposed at the landfill currently is transferred through the Tri-County Transfer Station to other landfills where some of the fees such as recycling, Environmental Stewardship, and disposal fees are already being paid to the Commonwealth for that amount of waste. Therefore, the Department has concluded that

although not equal to the monetary figures given in the application, some positive social and economic benefit to the local region will be associated with these activities. These benefits will last for as long as the facility is accepting waste.

In the next step, the Department offsets any social and economic benefits with any social and economic harm associated with the project then adds any environmental benefits. The following are the social and economic harms considered to be remaining by the Department after reviewing the applicants proposed mitigation measures: visual impact/aesthetics and property value diminution. The harms associated with the visual impact of the landfill will be physically limited to a small geographical area, although a church is located in this area. The duration of this harm will also be limited since wasted disposal activities and disturbed areas should only be visible once the landfill reaches a certain height then will be mitigated when final cover and vegetation is again placed over this area. However, for that time frame people attending the church or living nearby it could be very sensitive to the visual impact. The property values in the area may be affected on a much longer-term basis from the overall detrimental perception of having an active landfill nearby.

The Department has accepted three items as environmental benefits associated with the proposed project. These are the relocation of the old landfill wastes in unlined areas into lined areas, wetlands replacement, and the free disposal during spring cleanups. The relocation of waste in the old landfill could eliminate the potential of groundwater contamination to occur from the existing, unlined areas of the landfill. While the Department agrees this is an environmental benefit, it is given only a moderate amount of weight in the balancing because no current groundwater contamination has been documented leaving the site or affecting nearby drinking water wells. The benefits associated with the waste relocation and wetland replacement are long term benefits, while the free disposal during spring cleanups will last while the landfill is open.

Two proposed environmental benefits, the Act 101 Recycling Fee and Environmental Stewardship Fee were rejected by the Department. These fees were considered social and economic benefits and were accounted for in the above discussion.

The social and economic harms are balanced with the remaining social and economic benefits from above. The Department has determined that the two social and economic harms lessen the amount of impact the social and economic benefits provide but do not eliminate them. Therefore, there remain social and economic benefits associated with the project.

The sum of the social and economic benefits are then balanced against the identified environmental harms that were not fully mitigated. These unmitigated environmental harms are odor/dust/air quality impacts, noise, litter, vectors, stormwater, and traffic. The majority of these environmental harms could be considered nuisance type impacts. They may affect a number of people near the landfill, but for the most part should not be a constant harm. Adjustments in the daily operations or improved practices should help to limit these impacts. Others are only minimal in occurrence and are easily corrected as they arise. These harms have the potential to occur at any point during the operational life of the facility. The

potential harm associated with aircraft safety and this project was the subject of a September 9, 2008 a Settlement Agreement. In that Agreement it was determined that the bird/aircraft strike mitigation measures would sufficiently mitigate the hazard to aircraft.

The environmental harms remaining after mitigation were then balanced against the social and economic and environmental benefits remaining as described above. The Department finds the remaining benefits outweigh the environmental harms.

VI. Conclusion

The Department has concluded its review and balancing of the harms and benefits associated with the opening of Tri-County Landfill at an average daily volume of 4,000 tons per day. The Department has reviewed the assessment and mitigation plans to confirm that all applicable harms were considered and the extent to which the harms are mitigated. The Department evaluated each mitigation measure to establish that, individually and collectively, those measures adequately protect public health, safety, welfare, and the environment. The Department has determined that the proposed landfill will provide benefits to the public and these benefits outweigh the harms. Based on the findings of this assessment, the Department concludes that the requirements of 25 Pa. Code § 271.127 are met and that the pending application for modification of Solid Waste Permit No. 101678 should proceed to technical review.