pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

October 13, 2015

Keystone Sanitary Landfill, Inc.
c/o Mr. Joseph Dexter, Site Manager
249 Dunham Drive
Dunmore, PA 18512-0249

Re: First Environmental Assessment Review
Keystone Sanitary Landfill
Major Permit Modification – Phase III Site Development
Application No. 101247-A142
Dunmore and Throop Boroughs, Lackawanna County
APS#860390 AUTH#1057908

Dear Mr. Dexter:

On March 20, 2014, the Department of Environmental Protection (DEP) received an application for the Phase III expansion of the Keystone Sanitary Landfill (KSL). The expansion area is to be located within the current permit boundary and involves expanding over and between existing fill areas. The expansion would increase the facility's disposal capacity by approximately 145 million cubic yards and increase the overall height of the landfill by approximately 165 feet above the currently permitted elevation. The Local Municipality Involvement Process meeting was held on May 20, 2014. The application was found to be incomplete and a letter was issued on June 24, 2014. After receipt of additional information on September 9, 2014, October 2, 2014, October 27, 2014 and November 7, 2014, the application was found to be complete and officially accepted on December 17, 2014. A public meeting was held on February 25, 2015 at the Dunmore High School, an open house was held on April 27, 2015 at the Dunmore Community Center and a second public meeting was held on June 15, 2015 at Mid Valley High School. There has been public interest in the application and 430 comment letters have been received from 350 people/entities both for and against the landfill as of July 31, 2015. A petition in favor of the landfill has been received as well. The following comments are the result of DEP's first Environmental Assessment review of the application.

Environmental Assessment Harms vs. Benefits analysis required by §271.126-127

The KSL application is subject to the Environmental Assessment Process regulations and as such, the application included an analysis of the potential impact of the proposed facility on the environment, public health and public safety including a description of the known and potential harms of the proposed project and mitigation plans that explain how each known or potential harm will be mitigated and the extent to which any known or potential harms remain after mitigation. The application also included a description of the benefits of the proposed project. The following summarizes DEP's review of the Environmental Assessment Harms/Benefits

Analysis of the KSL Phase III Expansion application. The Phase II Development approved in 1997, and the Daily Volume Increases approved in 2011 (ADV to 7,250 and MDV to 7,500 tpd) were subject to an environmental assessment during the review of those applications. The scope of this review is limited to harms and benefits of the Phase III proposal and does not consider harms and benefits associated with the Phase II Area as permitted other than to the extent that past performance can be used as an indicator future performance.

General Comments

1. **Separation distance of subbase of liner system and Upper Aquifer System:** §273.252 The bottom of the subbase of the liner system cannot be in contact with the seasonal high water or perched water table and at least eight feet shall be maintained between the bottom of the subbase of the liner system and the regional groundwater table in an unconfined aquifer. In a confined aquifer, at least eight feet shall be maintained between the bottom of the subbase of the liner system and the top of the confining layer. The upper aquifer system is influenced by a withdrawal well for the quarry operation. The *Hydrogeologic Assessment and Constant Rate Aquifer Test of Quarry Well No. 1* by KSL was conducted during the winter and may not be representative of conditions when water levels are higher. Therefore, the effect on the water level of the upper aquifer system when pumping of Quarry Well No. 1 ceases is unknown. There is the potential for the groundwater level to be in contact with the proposed subbase of the liner system. KSL should conduct a study of groundwater levels with the quarry well not in operation for a duration long enough to determine what the water levels will be and their distance from the proposed subbase of the liner system.

2. **Lack of design details for the full proposed life of the facility:** KSL has only provided design details for the first ten years of the proposed expansion. It is not possible to evaluate the effect of filling sequences, capping, erosion and sedimentation (E&S) controls, and mitigation measures, without complete design details. KSL must provide phased construction plans and narratives including, but not limited to drawings for the life of the proposed expansion that connect the narrative, drawings, E&S control plans, gas management, erosion controls, leachate collection, material balance, mitigation measures, capping, etc. tied to the projected construction timetable. The plans should be consistent with the Form 1 narrative and bonding worksheets.

3. **February 2015 Third Party Review on behalf of Throop and Dunmore Boroughs:** Please address the concerns raised in this third party review of the KSL Phase III expansion application in your response to this letter.

4. **General Information Form – Land Use Information:** KSL did not answer the land use questions on the General Information Form included in the application. Please complete these questions.

Comments related to the Form D – Environmental Assessment

1. **Exclusionary Criteria – Airports:** KSL has not demonstrated that the proposed expansion meets the exclusionary criteria defined in §273.202(16) "*Obstruction. For areas permitted on or after December 23, 2000, in a manner in which any portion of the landfill would be an obstruction to air navigation under 14 CFR § 77 Subpart C (relating to standards for determining obstructions).*"

   The Federal Aviation Administration (FAA) "Determination of No Hazard to Air Navigation" indicates that the proposed expansion will not exceed obstruction standards and is not a hazard to air navigation if the listed conditions are met. This determination does not include the height of any temporary equipment necessary to construct and operate the landfill. KSL must resubmit the determination request to FAA considering the height of heavy equipment, tippers, etc., as well as to the PA Department of Transportation (DOT) Bureau of Aviation to confirm that the expansion will meet the exclusionary criteria.

2. **Form D, Section B - Scenic Rivers:**

   Question 6: The application references incorporation of rail access to KSL; this should be removed as it is not proposed.

   Question 11: KSL's use of terraces will increase the time of concentration of stormwater and assist in controlling the peak stormwater discharge. Absent control measures, the increased time of concentration alone may not be sufficient to ensure the post development stormwater flows associated with the Phase III Expansion will be less than those associated with the currently approved development plan.

   KSL should provide the required post construction stormwater management (PCSM) Best Management Practices (BMPs) to mitigate potential volume and water quality impacts consistent with the requirements of DEP's Chapter 102 regulations. The PCSM plan must be accompanied with a schedule to install any post construction stormwater BMPs.

3. **Form D, Section C – Wetlands:** The Phase III expansion does not include areas that have not already been permitted or subject to a previous wetland study. The most recent study was conducted in 1995, it should be updated to reflect current site conditions.

4. **Form D, Section D – Parks:**

   Question 1: Sherwood Park, in Dunmore is located .5 mile west of KSL. KSL states that they will continue to use current traffic routes and would not impact the park. Potentially there could be visual or other impacts associated with the landfill operations to those who use the park. KSL should provide an analysis that considers potential impacts other than traffic to those who would use the park.

5. **Form D, Section E - Fish, Game, and Plants:** The letters provided by KSL from the PA Game Commission and U.S. Fish and Wildlife Service are from 1995. Although the footprint of the landfill is not increasing, KSL should provide current notification and response letters.

   Question 3: Although the project is within the already permitted boundary, the correspondence KSL provided related to endangered, threatened, rare plant or animal species is from 1995. Pennsylvania Natural Diversity Inventory (PNDI) search results are only valid for one year. On April 1, 2014, the U.S. Fish and Wildlife Service announced it is protecting the northern long-eared bat (*Myotis septentrionalis*) as a threatened species under the Endangered Species Act requiring new PNDI searches for all pending applications. KSL should provide current correspondence and current PNDI search results.

   Question 8: Eddy Creek is hydraulically connected to the project as it receives stormwater runoff from KSL. KSL properly located and identified fish species present, and receiving stream designations. There is potential for stormwater runoff laden with sediment pollution to impact the stream. KSL has proposed stormwater management controls. The stormwater management plan was reviewed by DEP's Waterways and Wetlands program and comments are identified in the Harms section below. KSL may need to modify this response based on response to the comments in the Harms section and further review.

   Question 9: KSL states that they are not located within one mile of a stream that is navigable by a canoe; however they did not consider any other recreational uses (such as but not limited to fishing) of streams within one mile. KSL should consider other activities.

6. **Form D, Section F – Water Uses:**

   Question 1: The proposed Phase III disposal boundary is approximately 1,175 feet from the PA American Water Company Dunmore No.1 reservoir. The reservoir is a standby facility that could supply water to the Lake Scranton Treatment Plant. KSL did not identify the population that could be served by this water supply.

7. **Form D, Section G – Recreation:** KSL identified the Dunmore No. 1 reservoir hiking trail as being within 1 mile of the landfill. KSL has not identified any impacts to those using the hiking trail and should identify whether visual, odors or other impacts will affect this recreational use.

8. **Form D, Section H – Historic:** KSL referenced use of Pennsylvania Historic and Museum Commission (PHMC) mapping tool to verify locations of historic sites in the area of the landfill and determine distances. The Dunmore No. 1 reservoir is within ¼ mile and noted as being eligible for inclusion in the National Historic Listing. The letters provided by KSL from the PHMC are from 1996. Although the footprint of the landfill is not increasing, KSL should provide current notification and response letters to confirm

that there are no PHMC concerns. PHMC may identify locations that would be appropriate for KSL to include as part of a visual analysis.

9. **Form D, Section I – Airports:** KSL is not located within 6 miles of a public airport or airport runway. Although the landfill exceeds this distance, the application states a Notice of Proposed Construction or Alteration was filed with the FAA. The FAA's "Determination of Hazard to Air Navigation" only addresses marking and lighting. KSL should provide information/verification to confirm that the increased height of the landfill including permanent and temporary operations will not impact aviation safety.

10. **Form D, Section J – Traffic:** A traffic study was conducted in 2011 for the then pending increase in daily volume application. Pennsylvania Department of Transportation (PADOT) evaluated the study and concurred that the road network as existing can handle the volume of traffic associated with the landfill. Although there is no proposal to increase the volume of waste coming to the KSL facility, KSL indicates that they will bring soils from off-site. No materials balance information was provided for the life of the landfill to assess the volume of soils that would be trucked into the facility. This volume may impact the validity of the traffic study.

11. **Form D, Section M - Air Quality Impacts:**

Question 2: KSL described the prevailing wind direction as West to East and speed as 6 m.p.h., with the potential adverse impacts to the surrounding community as odors. KSL did not discuss how the height of the landfill may affect potential odors and did not describe potential impacts from dust. KSL should provide an evaluation based on wind speed and direction for potential particulates from the proposed expansion. Currently the meteorological data is collected from the top of the office building at KSL which is at an elevation approximately 700 feet lower than the proposed expansion final grade. KSL should collect and utilize data from a location more representative of weather conditions at the landfill at the proposed elevation.

Question 3: KSL describes the control measures as water application and if necessary chemical dust suppressants. The landfill gas collection system is the main odor control measure. In addition, KSL monitors incoming vehicles for excessive odors, controls the size of the working face, applies cover soils, uses odor neutralizers, uses temporary cap, aerates wastewater lagoons and installs the gas collection system and capping in a timely manner. It is unclear if the dust control methods are used at the working face or are effective at preventing dust from being dispersed as trucks are unloading and the waste is being deposited. KSL should clarify the effectiveness of these measures.

HARMS/BENEFITS REVIEW COMMENTS

(E) = Environmental, (SE) = Social & Economic

Harms

1. **Property Values: (SE)** KSL has identified and public comment indicates that potential harm to the value of properties is a concern of those living in the vicinity of the landfill.

   Proposed mitigation: KSL identifies the project area as properly zoned and that the landfill has been operating since the 1960's. KSL concludes that due to the historical usage of the KSL property along with no lateral expansion of the landfill, it is unlikely that the continued operation of the landfill will result in a decrease in property values.

   DEP review: KSL concluded that there is no potential harm to property values and proposed no mitigation measures. No factual information was provided to support this conclusion. Property devaluation is difficult to prove because of the many factors that affect the value of a property, perception being one of those factors. It is clear that there is a widespread belief among local residents that property values would decrease if the landfill were expanded; however, as described above, the landfill has been in existence since the 1960's. Much of the residential development around the landfill has occurred despite the presence of the landfill, demonstrating that the landfill did not deter the sale of existing homes, or the construction of new residential development nearby. Because the landfill is proposed to be significantly higher and that the lateral extent of expanded height will be closer and more visible to some residences in nearby developments, the expansion may impact property values. KSL must consider and define the potential impact that the increased visibility of the operation and expansion of active operations into previously closed portions of the site may have on property values and propose appropriate mitigation measures if necessary.

2. **Visual: (SE)** KSL has identified visual impacts as a potential harm and public comment indicates that those surrounding the landfill are particularly sensitive to the visual impact of the proposed Phase III expansion. The issue is not just the increased height but the horizontal extent of the increased height that extends to the southwest of the permitted Phase II development. The proposed expansion will be 165 feet higher than the final elevation of the currently permitted landfill, but the expansion to the southwest of Phase II calls for an increase in height of approximately 100 feet over existing final grades in presently closed areas of the site. In this area, the daily landfill operations will be readily visible to some of the closest residents to the landfill (Swinick development).

   Proposed mitigation: KSL puts forth that the proposed expansion will not be significantly more visible than the currently permitted Phase II development. KSL plans to maintain and enhance its current program of vegetative plantings along public roadways contiguous to the site to minimize visual impacts. KSL states that if approved by DEP in the closure plan, KSL will plant shallow root trees and plantings along the top and berms of the site. KSL concludes that the visual impact will not be a significant harm when compared to the final elevations of Phase II.

   DEP review: Although KSL plans to continue current mitigation practices, they have not implemented or proposed measures to mitigate the future visual impacts related to the height of the landfill. Plantings along adjacent roadways will do little to screen the

operation of the landfill from the view of those not driving on those roadways. The additional height and widening of the landfill will make it 40-231 feet higher than five of the six mountains within 2 miles of the facility and may block the view of the natural horizon in some locations. Aesthetic impacts, particularly visibility of the expansion have been a concern to many surrounding residents.

KSL states that "if approved by DEP in the closure plan, they will plant shallow root trees and plantings along the top and berms of the site" however, this conflicts with the Form H – Revegetation and the Form 28 – Closure/Post-Closure Land Use. This mitigation would only address the engineered appearance of the landfill once completed, but not address its prominence in the landscape or obstruction of views. No construction sequence has been provided beyond the first 10 years of the project therefore it is impossible to determine if the construction sequence minimizes the visibility of working face or landfill operations. Accelerated capping, vegetation or details on other measures to minimize the view of the operations are not provided. A landscaping plan showing plantings existing and proposed that are intended to buffer the operation should be provided. KSL has not proposed mitigation to address the visual impacts of the landfill for the elevation that is proposed which will affect a greater number of people than those driving on the adjacent roads.

3. **Odors: (E)** The potential for off-site odors is a known potential harm of a landfill operation. Public comment indicates that this is an issue/concern for those in the area of the landfill. Public comments state that there are daily or frequent odors.

Proposed mitigation: KSL will continue to follow their Nuisance Minimization and Control Plan (NMCP) to address the potential for odors including employing the following: odor patrols, gas detection equipment, odor neutralizers, portable flares, horizontal gas collectors, temporary gas wells, stone columns to promote leachate drainage, temporary liner, vacuum equipment installation, limiting size of the working face, immediate disposal of odorous waste, daily monitoring of gas collection system, and aeration systems within leachate lagoons. KSL also indicates that the protocols in place from the landfill's ISO 14001 certification aid in the mitigation of off-site odor concerns and reduce potential by maximizing awareness among employees and establishing procedures for monitoring the landfill in this regard.

DEP review: Odors are a potential harm for any landfill facility, particularly where the landfill is situated in close proximity to residential areas. DEP's experience based on inspections and complaint investigations at KSL is that the proposed mitigation has generally been successful; however, there have been occasions when there were odors. DEP staff has noted odors when in the vicinity of the landfill. Public comment indicates that there are frequent, even daily odors; however, the DEP has not received odor complaints as would be expected if the landfill had off-site odors on such a daily basis.

In 2012-13, odors were occurring as KSL increased their average daily volume from 5,000 tons per day (tpd) to 7,500 tpd and KSL made significant adjustments to their gas controls and monitoring protocols. Since that time, DEP finds that the adjustments and

current operational controls have been adequate to minimize odors from the landfill. According to DEP's records, there were 75 odor complaints in 2011, 158 in 2012, 37 in 2013, 6 in 2014 and 16 in 2015 (as of September 18, 2015). The potential for odors will remain for the life of the facility and into the post-closure period however; DEP will not be able to fully assess this potential until the full design and construction sequence of the proposed expansion is reviewed.

4. **Litter: (E)** The potential for on and off-site litter is a known potential harm of a landfill operation.

Proposed mitigation: KSL follows their litter control plan that includes: vehicles are tarped and swept out, portable litter fencing, prompt compaction of waste and application of daily cover, placement of top liner within 1 year, limit size of working face, litter collection crews, permanent litter fence along the Casey Highway, daily monitoring, monitoring weather conditions and adjusting operations accordingly.

DEP review: The proposed mitigation is to follow current mitigation plans; however there appears to be no consideration of potential conditions that may exist as the height of the landfill increases. Litter does not appear to be a significant issue based on current operations; however, Phase II has not reached its final permitted height. KSL does not define the weather conditions that trigger operational adjustments or what those adjustments are. For example, will the permanent litter fence along the Casey Highway be effective once the landfill reaches its permitted height or the proposed height? Similarly, KSL should include alternative mitigation plans in the event that current mitigation measures are ineffective at higher elevations and define the weather conditions that require adjusted operations. KSL should provide an evaluation of the effectiveness of the proposed mitigation measures as the elevation of the landfill increases.

5. **Noise: (E)** The potential for off-site noise is a known potential harm of a landfill operation.

Proposed mitigation: KSL has identified that the use of existing horizontal buffers such as nearby limited access highways, the industrial park, and forested areas will maintain the horizontal separation of over ¼ mile from the closest residential areas. KSL indicates that it will maintain and enhance vegetative planting along public roadways. KSL also employs the following measures to control potential off-site noise: prohibit use of "jake brakes", vegetative plantings, and annual noise monitoring inspections.

DEP review: A landscaping plan showing existing and proposed plantings intended to buffer the operation should be provided by KSL. DEP would expect as active operations move closer to populated areas and increase in height that off-site noise may become more discernable by the public. KSL should describe their annual noise monitoring inspection and what measures would be undertaken if noise becomes an issue as the height of the landfill exceeds the height of the above mentioned buffers.

6. **Vectors/Birds: (E)** The potential for attraction of vectors and birds is a known potential harm of a landfill operation. Public comments indicate that there is a concern about birds that visit the landfill contaminating the Dunmore No. 1 reservoir.

Proposed mitigation: KSL's vector controls include: compact and cover waste daily; limit the acceptance of wastewater sludge to certain times to limit attraction of insects; limit size of working face; maintain a compact working face to disrupt congregation of birds; use of decoys or noisemakers to limit attraction of birds; and retaining outside vector control professionals as needed. KSL indicates that they will utilize daily monitoring to determine if their current mitigation measures are adequate or if KSL needs to employ additional vector controls.

DEP review: DEP has observed populations of birds frequenting the landfill. In addition to gulls, DEP has received comment about black birds and turkey vultures also frequenting the landfill. DEP is aware that KSL has consulted with an outside professional regarding this issue and should provide more information.

PA American Water tests the Dunmore No. 1 reservoir periodically for the bacterial contaminants that would likely be caused by bird or other feces in the reservoir. PA American Water has not seen any results with the quality of the water in the Dunmore No. 1 reservoir that would suggest that there is a contamination problem.

7. **Unsafe Vehicles: (SE)** The potential for unsafe vehicles is a known potential harm of a landfill operation.

Proposed mitigation: KSL will continue to implement their Transportation Compliance and Vehicle Safety Action Plan which incorporates six formal compliance checks per year on vehicles accessing the site in conjunction with State or local police. These compliance checks include: inspection of tarps, leaking loads, signage, fire extinguishers, daily logs, weight and presence of radioactive materials and contingency plans for residual waste haulers, gamma radiation detection monitoring devices and Radiation Action Plan (RAP).

DEP review: Even without a proposed increase in daily tonnage, a large number of vehicles access the site daily increasing the likelihood of unsafe vehicles using the landfill. DEP has observed that KSL's implementation of the Transportation Compliance and Vehicle Safety Action Plan has been generally successful.

During the most recent DEP unannounced Waste Hauler Inspection Program inspection on May 19, 2015, the DEP found that 10 of the 293 trucks had a total of 12 violations. Of those, none were related to vehicle safety, 2 were related to the Waste Transportation Safety Act, Act 90 of 2002 (Act 90), 3 were related to signage, 2 were for discharged fire extinguishers, 1 for lack of Pollution Prevention and Contingency (PPC) plan, and 4 were related to tarps or improper enclosure. DEP believes that KSL's Transportation Compliance and Vehicle Safety Action Plan has been effective at minimizing the number

of unsafe vehicles that come to the site and ensuring the drivers are in compliance with applicable rules and regulations.

PA State Police periodically inspect vehicles entering KSL. A DEP review of the results of these inspections indicates that KSL's mitigation has been effective to limit the number of unsafe vehicles.

8. **Overweight Vehicles: (SE)** The potential for overweight vehicles is a known potential harm of a landfill operation.

Proposed mitigation: KSL's Transportation Compliance and Vehicle Safety Action Plan includes a notification and warning, delay the driver, and a 60 day ban from the site for overweight vehicles/repeat offenders. Keystone tracks all overweight vehicles and provides this information to DEP.

DEP review: Based on DEP's review of KSL's records, KSL's mitigation has been effective at reducing the number of significantly overweight trucks that arrive at the site; however, there are still a number of trucks that are moderately overweight. KSL should propose additional measures to reduce the number of overweight trucks.

9. **Dirt/Mud: (E)** The potential for tracking dirt and mud off-site is a known potential harm of a landfill operation. Public comment indicates that use of water trucks to wash the roads does not eliminate the problem.

Proposed mitigation: KSL proposes current practices of using water trucks to wash down roadways of accumulated dirt and mud from waste hauling vehicles, inspections, focused site access roadway usage plan, on-site speed limit, water application during waste unloading (residual or construction and demolition waste) as needed. The KSL NMCP states "Keystone uses a 5000-gallon water truck on a continuous cycle to clean the site entrance road to ensure no mud or dirt leaves the site."

DEP review: It is DEP's observation that dirt and mud is not prevented from leaving the site by the current mitigation measures. KSL's mitigation, rather than preventing the tracking of dirt and mud off-site is to wash it from the roads once it has been tracked off-site. DEP has received comment about the dirt and mud on local roads. For these reasons, KSL should propose mitigation measures that will prevent the tracking of dirt and mud off-site. Dust is addressed below under Air Quality impacts.

10. **Environmental Justice Community Impacts:** KSL has identified impacts to Environmental Justice (EJ) communities as a potential harm of the proposed expansion.

Proposed mitigation: KSL's proposed mitigation is to minimize traffic impacts, create a trust fund for Dunmore for road repair, provide the host municipality fees, and maintain over 1/4 mile separation from the disposal area to the closest homes.

DEP review: According to DEP's EJ Policy a portion of Dunmore Borough is designated as an EJ community. The fact that a portion of Dunmore is an EJ community is not a "harm" in and of itself. The EJ designation is an internal DEP policy to address education of these communities about pending projects in their vicinity. DEP followed its policy by conducting additional outreach and public meetings. Potential impacts from the landfill are discussed individually.

11. **Uncompensated losses to local government: (SE)** KSL identified that the landfill operation may cause a portion of Dunham Drive and Tigue Street to require more frequent paving due to traffic accessing the landfill.

Proposed mitigation: KSL has committed to establishing a trust fund dedicated to pay for necessary improvements to Dunham Drive and Tigue Street.

DEP review: DEP has no information to evaluate the adequacy of the proposed mitigation. KSL should provide the frequency and scope of work/repair that that Dunmore Borough must undertake to maintain these two roads and the cost of this maintenance.

12. **Local Economy: (SE)** KSL identified impacts to the local economy as a potential harm. Public comment indicates the belief that the landfill has already had a negative impact on the local economy and has highlighted vacancies within the Keystone Industrial Park as an example of this impact.

Proposed mitigation: KSL states that the approval of the Phase III will not result in economic harm to the local economy. KSL states that the Phase III modification will result in the continuation and increase in waste disposal fees and continued and increased employment, wage, sales and real estate taxes, and substantial purchases from local vendors.

DEP review: KSL's application is confusing in that it says there will be no economic harm from the proposed expansion but then appears to describe mitigation in the form of continuation and increase in waste disposal fees, continued and increased employment, wage, sales and real estate taxes, and substantial purchases from local vendors. KSL must clarify if economic harms will be realized as a result of the expansion or not. If harms are identified KSL must define the harms and describe how those harms will be mitigated.

13. **Stormwater/surface water run off: (E)** KSL identified that the continued construction and operation of KSL will require the disturbance of earthen materials which has the potential to result in release of sediment laden stormwater.

Proposed mitigation: KSL will continue to design, install and maintain E&S controls in accordance with DEP Chapter 102 regulations. KSL addressed the potential for an increase in in stormwater runoff, by increasing the surface water runoff time of

concentration by constructing terraces on disposal areas. The sedimentation/detention basins will control the rate of stormwater release in order to ensure post-development flows from the project will not exceed pre-development flows. Stormwater controls have been designed for a 100 year storm event.

DEP review: It appears that the application does not address the volume increases and water quality impacts that may be encountered as a result of the proposed landfill expansion. A volume control requirement is essential to mitigate the consequences of increased stormwater runoff.

KSL should provide PCSM BMPs to mitigate potential volume and water quality impacts consistent with the requirements of DEP's Chapter 102 regulations. The PCSM plan must be accompanied with a schedule to install any post construction stormwater BMPs.

14. **Air Quality: (E)** KSL has identified migration of particulate matter and methane gas as a potential harm. Public comment indicates that air quality is an important issue to those in the vicinity of the landfill.

Proposed mitigation: KSL's proposed mitigation includes continued expansion of the landfill gas control system, final liner capping within one year of any pad or segments of any pad achieving final elevation, use of water trucks to control dust, enforce site speed limit, and to apply water to certain residual wastes or construction and demolition waste to minimize dust. KSL is actively seeking to beneficially use all methane gas generated on site.

DEP review: The proposed mitigation does not define or address potential migration of particulate matter from the landfill operation or how that potential may change with the height of the landfill. The PA Department of Health and Agency for Toxic Substances and Disease Registry (ATSDR) are in the process of conducting a study that may identify if particulates are currently migrating from the landfill operation. KSL should evaluate the potential for off-site migration of particulate matter from the working face of the landfill.

KSL should quantify the air emissions from the leachate lagoon and determine any increase in air emissions from additional leachate production from the proposed Phase III expansion.

15. **Groundwater Impacts: (E)** KSL has identified groundwater impacts as a potential harm. Public comment indicates that groundwater impacts are a concern of those living in the vicinity of the landfill. Currently there are impacts seen in MW-15, which is a well that monitors a low volume of drainage in the Dunmore #3 coal vein. The parameters that are elevated in this well indicate that there may have been a release of treated leachate.

Proposed mitigation: The Phase III expansion will be a double lined landfill that will contain waste and waste constituents within the landfill. KSL states that they have 6 up gradient and 27 down gradient monitoring wells that show that the liner system is

effective at preventing release of contaminants into the groundwater. KSL will continue to pretreat leachate from the landfill prior to discharge to the Scranton Sewer Authority for final treatment. KSL is in the process of replacing their leachate treatment plant with a new facility capable of treating 150,000 gallons per day to the effluent limits required by the Scranton Sewer Authority. KSL states they will promptly install their liner cap system in a phased approach which will aid in reducing the potential development of leachate.

DEP review: MW-15A groundwater issues began in August 2002 with increases in the indicator parameters. Assessment was required in July 2003. Cracks in the treatment plant's concrete floor were identified as a likely source. During the investigation it was discovered that during process tank/equipment repairs tank(s) were drained to the floor and material was allowed to flow to the floor drains within the building. Repairs were made around the tank base, although cracks remain in the building. Interior soil samples, dye tracing (no determination), drain line televising and smoke testing investigations were also performed in this phase. In subsequent years additional or new potential sources occurred; clogged/broken sewer with overflowing manhole (December 2004), leachate outbreak on the down ditch from Tabor (June 2005), manhole overflow in 2010. The lagoon liner was patched in 2007 and replaced in 2010. Tank leakage continued to occur sporadically. The 2011 record rainfall and 2012 hurricane event were thought to increase flushing with the soil overburden; however increases continued to be shown. KSL is continuing to investigate possible causes and the extent of the groundwater impacts. KSL needs to describe the historic/ongoing problems with the leachate management system (groundwater impacts to MW-15A) and KSL's ongoing mitigation efforts.

KSL is not proposing to remove all of the waste in the unlined Keystone/Dunmore area. Although approximately 8 million tons is to be removed, approximately 2 million cubic yards of waste will remain in pits of unknown depth. The potential for unknown waste constituents to cause ground water contamination with the compaction of this waste and construction of Phase III on top of it will not be eliminated. KSL should define the potential for leachate to be expelled from the remaining waste and address how they will mitigate the potential for contamination of groundwater.

16. **Fire Risk: (E)** The risk of subsurface fires is a known potential harm of a landfill operation. Public comment has also raised this as a concern. Landfill operations have the potential for subsurface fires and reactions. KSL has had four subsurface fire incidents (2009, 2011, 2014 and 2015) in its recent history.

Proposed mitigation: KSL did not identify this as a harm and has not proposed mitigation.

DEP review: There is no information in the PPC plan as to how KSL would respond to a subsurface fire or reaction at the landfill. DEP believes that KSL has protocols in place and has responded appropriately to the fires that have occurred at the landfill. These incidents were determined to be caused by gas wells rather than a waste stream that was

disposed of. KSL should define the potential for these incidents, KSL's measures to monitor for and to minimize this risk, and the actions KSL would employ to mitigate a subsurface fire or reaction should one occur.

17. **Health Impacts: (E)** The public has requested that a health study be done to evaluate the current potential for health impacts from the KSL operation.

Proposed mitigation: KSL did not identify or propose mitigation specifically to address health concerns; however, KSL has mitigation plans for harms that could contribute to health concerns.

DEP review: The DEP will incorporate into its review the findings of the Department of Health/ATSDR health study to determine if potential health impacts are adequately mitigated.

18. **Receipt/Disposal of Radioactive Waste: (E)** The public has raised concerns that radioactive waste has been and will be accepted at KSL.

Proposed mitigation: KSL has not identified this as a potential harm; however this concern is addressed as part of KSL's Transportation Compliance and Vehicle Safety Action Plan and RAP mitigation plans. All vehicles delivering waste and gas well drilling materials must pass through gamma radiation detection monitoring devices installed at the entrance scales of the landfill. The monitors are set to detect radiation levels no more than 10 μR/hr over background radiation levels. Vehicles that trigger the monitors are secured in an isolation area for further investigation as to the source and level of the radiation. DEP is notified and KSL maintains daily records of all incidents where radioactive materials have been detected with levels above DEP requirements.

DEP review: DEP's Bureau of Radiation Protection reviewed and approved the Radiation Protection Action Plan that KSL has implemented since 2002. DEP believes that KSL has adequate measures in place to prevent the inappropriate disposal of radioactive materials.

19. **Discharge of Treated Leachate to the Lackawanna River: (E)** KSL discharges its treated leachate to the sewer lines of the Scranton Sewer Authority. These lines are a combined sewer system. Most of the time, combined sewer systems transport all of their wastewater to a sewage treatment plant, where it is treated and then discharged to a water body. During periods of heavy rainfall or snowmelt, however, the wastewater volume in a combined sewer system can exceed the capacity of the sewer system or treatment plant. For this reason, combined sewer systems are designed to overflow occasionally and discharge excess wastewater directly to nearby streams, rivers, or other water bodies. As such, there is the potential for treated leachate to discharge to the Lackawanna River.

Proposed mitigation: KSL has not identified this as a potential harm or proposed mitigation measures.

DEP review: DEP has evaluated this harm and agrees that there is the potential for treated leachate to be discharged to the Lackawanna River with untreated sewage during heavy rain events. KSL should define the potential for the discharge of treated leachate into the Lackawanna River and propose appropriate mitigation measures.

20. **Regional Reputation, Public Perception, Civic Pride: (SE)** This harm was raised by public comment. The public comments highlight the amount of public opposition to the expansion and what they indicate as the stigma of the landfill being the dominant feature in the community.

Proposed mitigation: KSL has not identified this harm or proposed mitigation.

DEP review: KSL should address this potential harm.

21. **Subsidence Potential: (E)** Most of the proposed Phase III disposal area is underlain by deep coal mines beneath the surface. There is potential that remaining mine passages could collapse causing a subsidence that could affect the integrity of the liner or other systems at the landfill. The public has also raised subsidence as a concern.

Proposed mitigation: The subsidence potential for portions of the KSL site that were permitted after 1990 has already been defined. This potential has already been mitigated in some areas of the proposed Phase III area in the Logan, Tabor, and parts of the Phase II disposal area by measures taken during the construction of these areas. Eventually mitigation measures will be completed for all of the Phase II disposal area, though to date it has not yet been completed for some disposal pads in the Phase II area. For the areas that had not yet been subjected to a study or mitigation, KSL provided the results of a geologic investigation to define the potential for mine subsidence and proposed mitigation measures. In addition, KSL will be conducting a more detailed borehole survey in these areas during the construction of the disposal pads of the Phase III area. This detailed survey will involve drilling boreholes at a closer spacing to search for additional void spaces that were not intercepted during the initial subsidence evaluation. If this detailed survey finds additional significant voids (voids with heights greater than one foot) within 70 feet of the proposed Phase III liner subgrade, these voids will be filled and grouted to address open voids that remain.

DEP review: KSL has submitted an appropriate geologic investigation and proposed mitigation measures. This information will be fully evaluated during the technical review to determine if any additional mitigation measures or modifications are necessary.

22. **Receipt of Residual Wastes and Marcellus Gas Industry Waste and Drill Cuttings:** The public has identified the fact that KSL receives quantities of residual wastes including both drill cuttings and drilling fluids from the Marcellus gas industry as a potential harm.

Proposed mitigation: KSL has not identified this as a potential harm or proposed mitigation.

DEP review: DEP does not consider the receipt of these materials into a lined landfill as a known or potential harm. KSL, as well as other landfills in Pennsylvania are permitted to accept residual wastes, including waste from the Marcellus shale industry. Each landfill has a waste acceptance plan (WAP) that defines the characteristics of wastes that are acceptable for disposal in the landfill. The WAP considers factors such as the chemistry of the wastes and liner compatibility. The approval of all residual waste streams, including Marcellus gas industry waste streams, from each generator is evaluated to ensure that they comply with the WAP and applicable permit requirements. All leachate generated by these waste streams is collected by the leachate collection system and treated, eliminating the potential for environmental harm. The drilling fluids that KSL receives are treated at their permitted treatment facility and the water returned to the drilling companies for reuse. The treatment solids are disposed of in the landfill, as permitted. DEP also does not consider this to be a potential harm.

23. **Potential for gas migration from landfill: (E)** The public has identified the off-site migration of gas from unlined disposal areas at KSL as a potential harm of the Phase III expansion.

Proposed mitigation: KSL has not identified this as a potential harm or proposed mitigation.

DEP review: DEP is aware that consultants to KSL have recently completed an analysis of the studies that were conducted as a result of the 1997 gas migration matter affecting residential areas in Dunmore. DEP believes this information may be useful in addressing the potential harm raised by the public here.

Benefits that will be considered in the analysis

1. **Continuation Recycling and Cleanup Programs: (SE)** KSL has identified, as an Environmental benefit, that KSL has provided service for recycling and area cleanups since 1990. Since 2000, KSL has recycled over 4,000 tons of tires, metals, and plastics. KSL recycled 18,600 tires in 2013 and estimates that they will continue that rate over the life of the expansion. In 2013 KSL, through the Great American Cleanup program accepted 185 tons of litter and debris collected by community and local volunteer groups free of charge.

DEP review: DEP believes that the free disposal of cleanup waste is more appropriately characterized as a Social and Economic benefit because KSL is providing the monetary benefit of free disposal rather than performing the cleanup itself. In addition, DEP notes that 4,000 tons in over 14 years is less than one day's average volume of waste accepted at KSL for disposal. Because this is a service that the local community and volunteer

groups would not continue to receive without the expansion, this is a Social and Economic benefit of limited intensity for the life of the KSL. [Berks County v. Department of Environmental Protection, 894 A.2d 183(Pa. Cmwlth. 2006)]

2. **PA Disposal Fees: (SE)** KSL identified, as a Social and Economic benefit, that they currently pay the Commonwealth of Pennsylvania the following waste disposal fees: $4/ton for the PA Growing Greener Fund, $2/ton for the PA Recycling Fee, and $0.25/ton for the PA Post Closure Fund. Approval of the Phase III permit modification will result in a minimum of 10 years of payments into those funds.

DEP review: All fees identified by KSL are mandated by law. Because the amount of fees paid is dependent on the volume of waste received, this amount is uncertain. These fees will be considered to be a Social and Economic benefit of limited intensity, for all of Pennsylvania for the duration of the Phase III expansion. [Berks County v. Department of Environmental Protection, 894 A.2d 183(Pa. Cmwlth. 2006)]

3. **Participation in the PA DOT Adopt A Highway Program: (E)** KSL identified, as a Social and Economic benefit, that they provide crews to collect litter that is dispersed along a portion of U.S. Route 6 between the Tigue St. and Marshwood Road exits. The litter collected by KSL personnel includes material that was released from waste transport vehicles accessing KSL, but also includes waste released by all other vehicles that utilized that section of U.S. Route 6.

DEP review: The section of highway identified is that most likely to be impacted by litter from KSL itself and perhaps may be considered mitigation by KSL. Picking up additional litter along the adopted highway is a limited benefit for the life of the landfill.

4. **Benefits from Host Agreements: (SE)** KSL identified, as a Social and Economic benefit, that they have an agreement in place to pay Throop Borough $2.02 per ton for waste placed in the KSL site. Based on 2013 waste totals the host fee paid to Throop amounted to $4,797,404. Additionally Throop is not charged for waste that it collects and coveys to the KSL site. In 2013, that was 2,287 tons, or worth $125,785. KSL also pays Throop $90,000 per year for the purpose of "facilitating the safe and efficient management of solid waste generated within the borough." KSL must accept all waste from Throop as long as the site is permitted and in operation. At 2013 disposal rates, KSL estimates the value during the first 10 years to be $40,131,890 and $186,613,289 over the life of Phase III.

KSL has entered into an agreement with Dunmore Borough to pay $1.00 per ton for waste placed in the KSL site. Once KSL starts disposing in Phase III, KSL will increase the host fee by $.05 per ton on each January 1 for ten consecutive years. KSL estimates the benefit to be $33,368,278 for the first 10 years. After 15 years of operation in Phase III, KSL will increase the fee by 1% on each fifth anniversary thereafter during the operational active life of Phase III. Dunmore will not be charged for waste generated in the Borough estimated at $300,685/yr. and KSL shall reserve space for their waste for the

active operational DEP permitted site life. As part of the agreement, KSL forgave a $4,182,141 account receivable from Dunmore Borough for unpaid waste disposal tipping fees from December 1998 through September 2014. KSL estimates the total benefit to Dunmore over the first 10 years to be $42,690,694 and $160,087,055 over the life of Phase III.

DEP review: The host fees are based on tonnage and paid on a quarterly basis and there is no guaranteed minimum amount. This is considered to be a Social and Economic benefit for the life of the Phase III expansion. [Berks County v. Department of Environmental Protection, 894 A.2d 183(Pa. Cmwlth. 2006)]

Benefits that require additional information to be considered in the analysis

1. **Environmental Education: (SE)** KSL has identified, as an Environmental benefit, that they propose to prepare an on-site education program to inform school students of the role a modern landfill plays in protecting the environment. This program will be developed and conducted by Lackawanna College Environmental Program faculty. KSL will also contribute $100,000 annually to Lackawanna College through a partnership agreement with the college to support, enhance, and provide scholarships for its Environmental Education Program.

   DEP review: DEP believes this is more appropriately characterized as a Social and Economic Benefit. KSL should provide more information regarding the partnership with Lackawanna College, correspondence from school districts that KSL intends to target, details on the program, contracts, and other information for these education programs so that DEP can evaluate this proposed benefit.

2. **Reduction of Mine Pool Infiltration: (E)** KSL has identified, as an Environmental benefit, that the Phase III modification will increase the amount of impervious area associated with the KSL permit area by 120 acres. This will aid in reducing the potential contribution of stormwater infiltration into the northern anthracite mine pool which underlies KSL. KSL estimates that this will reduce stormwater infiltration by approximately 60 million gallons per year.

   DEP review: Controlling stormwater from the site is a regulatory obligation; however, the reduction of acid mine drainage is an environmental benefit. The 120 acres of area that KSL claims will become impervious already has E&S controls that direct stormwater to basins that discharge to Eddy Creek. Although this area is not currently impervious, it is not likely that significant infiltration is occurring as run off in these areas is directed into appropriate stormwater controls. Even if water did infiltrate over the entire 120 acres, the volume of water that infiltrates from this area is not significant when compared to the volume of water that enters the mine pool. KSL overlies the Old Forge Borehole mine pool. The average flow of the Old Forge Borehole is approximately 34,000 gallons per minute (gpm). The claimed reduction in flow of 60 million gallons per year is

equivalent to 114 gpm, or .335% of the flow of the borehole. Changes to stormwater management will be considered when the plan is updated.

3. **Goods and Services: (SE)** KSL has identified, as a Social and Economic benefit that they have secured equipment, materials and services from numerous local vendors to assist in the operation of KSL. According to KSL, through approval of the Phase III permit modification, the following are the major goods and services that will be purchased from local/regional vendors to support the continued operation of the landfill.

   Fuel/Oil/Lubricants: KSL utilizes fuel, oil and lubricants on a regular basis in order to operate their fleet of heavy equipment. KSL purchases off-road diesel fuel, oils and lubricants from local and regional vendors which amounted to $5,348,971 in 2013. KSL estimates that they will purchase a total of $53,489,710 of fuel, oils and lubricants from local and regional vendors over the initial 10 year permit of Phase III, and $248,727,152 over the life of the expansion.

   Machinery, Equipment, Services, Rentals, and Maintenance: KSL procures their heavy equipment from local and regional equipment vendors due to their ability to provide prompt response for maintenance and repairs. In 2013, KSL expended $11,991,287 to purchase goods and services from suppliers and dealers that are local to KSL. Using the 2013 amount, KSL estimates that they would expend $119,912,870 over the initial 10 year permit of Phase III and $557,594,846 over the life of the expansion.

   Miscellaneous Goods and Services: KSL also purchased an additional $7,896,086 of miscellaneous goods and services from vendors within 75 miles of the site. Utility payments amounted to $592,965. The economic benefits associated with these expenses, during the initial 10 year permit amount to $367,767,999 for miscellaneous goods and $27,572,873 for utility payments.

   DEP review: KSL used a 75 mile radius when quantifying this benefit. KSL should define the local expenditures, more specifically within the communities surrounding the landfill that would not occur without the Phase III expansion. The area should be focused on municipalities that were invited to the Local Municipality Process meeting. DEP does not have enough information to determine that utility payments are a benefit as they could include the cost of mitigation measures. KSL should provide more details on these suggested benefits of the Phase III expansion.

4. **Continued Employment: (SE)** KSL identified, as a Social and Economic benefit, that the landfill provides 145 jobs to address the administrative, operational, construction and maintenance aspects associated with the operation of Phase III.

   DEP review: The continued employment of 145 workers will be considered to be a Social and Economic benefit of the project. KSL should better define and quantify this benefit.

5. **Tax Revenue: (SE)** KSL identified, as a Social and Economic benefit, that through continued operation of KSL, additional tax revenues will be generated. The direct payroll and sales taxes paid in 2013, by KSL amount to $1,162,700. Therefore, that translates to $11,627,000 and $54,065,550 of tax revenue over the initial 10 year and life of the Phase III expansion. During 2013, KSL paid $162,513 in municipal, county and school district real estate taxes. During the initial 10 year permit life, the amount to those entities will total $1,625,130 and $7,556,855 over the life of Phase III. KSL suggests that elimination of this tax revenue will result in higher taxes on citizens and property owners.

   DEP review: Payroll/employment totals include payroll taxes and goods and services include sales taxes. Property taxes are paid by any land owner and with or without the expansion KSL would have to pay property taxes based on the value of the acreage of property that KSL owns. KSL should provide information that quantifies the value of the KSL property with and without the Phase III expansion. Only the increased tax revenue caused by the Phase III expansion may be considered as a benefit.

6. **Regional Waste Disposal Services: (SE)** KSL identified, as a Social and Economic benefit that waste disposal volume in Northeastern Pennsylvania will be dramatically reduced or eliminated within the next 5 years. KSL estimates that the transportation costs associated with having to transfer waste and send it to a disposal facility further away will amount to $8,662,425 more per year.

   DEP review: DEP does not agree that there will be a shortage of disposal capacity in the next 5 years. Additional capacity in and of itself is not considered to be a benefit. There has been no demonstration of the need for additional waste capacity in the region. Locations of alternate disposal and hauling operations, the need to transfer waste to more distant facilities, or how the additional cost to Lackawanna and surrounding counties was calculated should the expansion not be approved have not been identified. Records do indicate that KSL currently accepts significant amounts of waste from the counties in the vicinity of the landfill, and that the counties have entered into binding contracts with KSL. KSL should identify if they are required to reserve capacity for waste from the counties with which it has been designated in the county solid waste management plans. In order for this to be considered to be a benefit, KSL must demonstrate that an actual hardship to the local community, considering alternatives to eliminate any hardships, will exist if the Phase III expansion is not permitted.

Benefits that will not be considered in the analysis

1. **Eddy Creek Restoration:** KSL has identified, as an Environmental benefit, that when the Eddy Creek flood control project is initiated KSL will pay the costs associated with obtaining the 2,000 feet required rights of way and utility relocations. KSL indicates these costs are the responsibility of Throop Borough, currently estimated to be $250,000.

   DEP review: DEP does not consider this to be an Environmental benefit as KSL is not in fact restoring Eddy Creek. The Eddy Creek Restoration project is a DEP Bureau of

Abandoned Mine Reclamation (BAMR) funded project that has been on-going for many years. The estimated cost of the project is at least $20 million. KSL's contribution amounts to approximately 1.25% of the projected cost. KSL's contribution is considered to be a charitable contribution and as such, cannot be considered as a benefit of the Phase III expansion. [Berks County v. Department of Environmental Protection, 894 A.2d 183(Pa. Cmwlth. 2006); Eagle Environmental II, L. P. v. Department of Environmental Protection, 884 A.2d 867(Pa. 2005)]

2. **Relocation of Keystone/Dunmore Waste:** KSL has identified, as an Environmental benefit, that they will relocate 8.8 million tons of waste from the unlined Keystone/Dunmore portion of the landfill to lined waste disposal areas associated with the Phase III permit modification project. KSL considers this to be a significant and long term benefit to assist in minimizing the uncontrolled releases of leachate from the waste mass present at KSL to the northern anthracite mine pool.

   DEP review: The relocation of waste from the Keystone/Dunmore site was previously approved by DEP as a separate permit modification for this waste to be placed in the active Phase II disposal area. As such, the relocation of this waste is not a benefit of the Phase III expansion.

3. **Continuation of ISO 14001:** KSL has identified, as an Environmental benefit, that their ISO 14001 certification reinforces the company's commitment to its Environmental Management System (EMS) and thereby its commitment to preventing pollution, meeting its legal and other regulatory requirements. By maintaining this certification, KSL states that it has guided their EMS by reducing the potential for environmental problems through maximizing awareness among the employees, developing environmentally sound work instructions and establishing emergency preparedness and response. Some documented accomplishments of the KSL EMS are: an increase in the waste compaction rate which leads to an increase in airspace utilization, a reduction in water consumption for the operation, and a mitigation of off-site odor concerns. Through approval of the Phase III permit modification, KSL will continue to maintain and implement their ISO 14001 environmental management system during the active operation of the Phase III area.

   DEP review: Although DEP believes that this certification is beneficial to maintaining compliance and ensuring mitigation of environmental impacts from the operation of the landfill are either prevented or minimized, the certification is not a result of the Phase III project nor does it bring about any benefits from the expansion. DEP's Technical Guidance Document No. 254-2100-101 states that an activity or mechanism which reduces or prevents harm created by the facility does not amount to a benefit.

4. **Beneficial use of Methane Gas:** KSL has identified, as an Environmental benefit, that they are in active discussions with PEI Power Corporation and CB&I Government Solutions, Inc. regarding increasing their beneficial use of the methane gas generated at KSL. Both entities are presently processing methane gas generated at KSL for the

purpose of electricity generation. Similar discussions have been conducted with a consortium of Commonwealth Energy Group, LLC, and ET Environmental Corporation to convert all current and future methane gas generated for beneficial use purposes. The end use and products being contemplated include conversion of gas for electrical energy, insertion into the UGI natural gas distribution system for general public or point source consumption and/or processing into compressed natural gas fuel for equipment and vehicle/trucks. KSL quantified this benefit by considering that 64,500 homes could be supplied with electric energy or the production of over 40 million gallons of alternate energy fuels per year when the peak methane gas is generated. KSL has not concluded all the required contracts and agreements, but is agreeable to the inclusion in a Phase III permit modification a condition that would require methane gas beneficial use agreements to be in place no later than 2 years from the date of permit issuance.

DEP review: Landfills are required to control gas that is generated by operation of their facilities. DEP's Technical Guidance Document No. 254-2100-101 states that an activity or mechanism which reduces or prevents harm created by the facility does not amount to a benefit. Beneficial reuse of landfill gas is mitigation of gas that is created by the landfill and an expected business practice and as such is not considered to be a benefit of the Phase III Expansion.

5. **Management of Drill Cuttings and Drilling Fluids from Shale Gas Development:** KSL has identified, as an Environmental benefit, the management of drill cuttings and fluids. Nearly all drill cuttings generated during Marcellus Shale development are disposed in landfills. KSL's ability to separate the solids from the drilling fluids and return the processed fluids for reuse has a positive environmental effect on the ground and surface waters of the Commonwealth. Since the commencement of the centrifuge separation process in 2013, KSL has reclaimed 4,830,000 gallons of water and returned this volume to the well fields for drilling operations. The Phase III permit modification issuance will guarantee the long term continuation of this activity.

DEP review: The processing of drilling fluids by KSL is not dependent on the operation of the landfill and is not dependent upon the Phase III expansion. KSL provides a disposal option for the Marcellus gas industry, however, the management of these waste streams is not considered to be a benefit of the Phase III expansion.

6. **Dunham Drive/Tigue Street Rehabilitation:** KSL identified, as a Social and Economic benefit, that they will establish a trust fund, with an annual contribution of $10,000 to be used to pay for necessary rehabilitation of Tigue Street from Drinker Street to Dunham Drive and Dunham Drive from Tigue Street to Reeves Street. The funds will be released by KSL upon a request from Dunmore and a concurrence as to the scope of work and the cost by KSL consulting engineer. The economic impact of this provision is $100,000 during the first 10 years of the permit term or $465,000 for the active life of the Phase III expansion.

DEP review: This benefit is likely a mitigation of damage to the roads caused by trucks accessing the landfill rather than a benefit of the Phase III expansion. As such this is not

considered to be a benefit. See harms section, "Uncompensated Losses to Local Government."

7. **Local University/College Scholarships:** KSL identified, as a Social and Economic benefit, that they will contribute $10,000 per year to each of the institutions of higher education in Lackawanna County, the University of Scranton, Penn State University (Scranton Campus), Marywood University, Lackawanna College, Keystone College, and Johnson College. These contributions are to be dedicated to scholarships based on need. Preference is to be given to students residing in Dunmore and Throop Boroughs, and secondarily to those enrolled in environmental, social services, teaching and/or health related fields. The value of these amounts to $600,000 over the initial permit term and $2,760,000 over the active life of Phase III.

   DEP review: Scholarships are considered to be charitable contributions and as such are not considered to be benefits of the Phase III expansion. [Berks County v. Department of Environmental Protection, 894 A.2d 183(Pa. Cmwlth. 2006). Eagle Environmental II, L. P. v. Department of Environmental Protection, 884 A.2d 867(Pa. 2005)]

8. **Dunmore Senior Citizens Center:** KSL identified, as a Social and Economic benefit, that they will extend their current contribution of $100,000 per year to the Dunmore Senior Citizens Center for the active life of Phase III. This amounts to $1,000,000 over the initial permit term and $4,600,000 over the life of Phase III.

   DEP review: Charitable contributions and as such are not considered to be benefits of the Phase III expansion. [Berks County v. Department of Environmental Protection, 894 A.2d 183(Pa. Cmwlth. 2006). Eagle Environmental II, L. P. v. Department of Environmental Protection, 884 A.2d 867(Pa. 2005)]

9. **Throop Borough Environmental Fund:** KSL identified, as a Social and Economic benefit, that they will establish a fund, in the amount of $60,000 annually to pay for environmental, social services, recreational, educational and cultural programs offered by Throop Borough. The funds will be released by KSL upon Throop Borough's submission of the scope of the activity to be implemented. KSL will provide DEP on an annual basis a copy of the program undertaken. This amounts to $600,000 over the 10 year permit term or $2,760,000 over the life of Phase III.

   DEP review: Charitable contributions and as such are not considered to be benefits of the Phase III expansion. [Berks County v. Department of Environmental Protection, 894 A.2d 183(Pa. Cmwlth. 2006). Eagle Environmental II, L. P. v. Department of Environmental Protection, 884 A.2d 867(Pa. 2005)]

10. **Benefits Based on Demographics:** KSL identified, as a Social and Economic benefit, that they provide employment for approximately 145 personnel to address the administrative, operational, construction and maintenance needs of KSL. Ninety percent reside in close proximity to the landfill (i.e. Lackawanna and Luzerne Counties). In

addition to continued employment, there will be an economic multiplier effect (i.e. the number of times dollars are circulated in a region associated with KSL employees' purchases of goods and services).

DEP review: The benefits described are indirect/induced benefits and are not considered as benefits of the Phase III expansion.

The Department is requesting KSL to provide a revised application within 90 days. KSL should include additional information as identified and clarify any issues that it feels the Department does not view correctly. A public hearing will be scheduled after receipt of your response to this letter. If you have any questions, please contact me at the above referenced address or telephone number.

Sincerely,

Jeffrey Spaide, P.E.
Environmental Engineer Manager
Waste Management Program

cc: CECO Associates, Inc.
Lackawanna County Regional Planning Commission
Lackawanna County Commissioners
Dunmore Borough
Throop Borough
Senator Robert P. Casey, Jr.
Congressman Matt Cartwright
Senator John Blake
Representative Frank Farina
Representative Marty Flynn
Representative Sid Michaels Kavulich
Olyphant Borough, Lackawanna County
Dickson City Borough, Lackawanna County
City of Scranton, Lackawanna County
Roaring Brook Township, Lackawanna County