

Hanover

Engineering Associates Inc



January 27, 2016

Ms. Leslie Huhn, Acting Township Manager RE: IESI Bethlehem Landfill
Lower Saucon Township Southeastern Realignment
3700 Old Philadelphia Pike Phase I – EAP Review
Bethlehem, PA 18015 Hanover Project LS15-19

Dear Ms. Huhn:

In response to the questions/comments in the Township letter dated July 7, 2015 with the attached letter from Hanover Engineering dated July 6, 2015 and IESI response letter of December 28, 2015, we submit the following responses. Please refer to the full July 6 and July 7, 2015 letters for the general limitations and assumptions used for the Township Technical Consultant Committee review.

The comments generated by the Technical Consultant Committee review are presented in this letter for your consideration. While these comments primarily concern the First Environmental Assessment Process (EAP), we will also mention our concerns and questions about issues we may have noticed in other documents.

This initial Environmental Assessment review does not cover all potential concerns with the proposed application, as ongoing review by Lower Saucon Township consultants of the proposed expansion design will continue through the Phase 1 Environmental Assessment, the public hearing process and through the PA DEP technical Phase 2 review period. These initial concerns are brought forward at this early stage so that the PA DEP can be made fully aware of the Township and resident concerns, and determine if the IESI application demonstrates adequate mitigation of these concerns in its Harm Benefit Analysis, in the proposed design, in ongoing operations, and in new construction proposed for this expansion.

It is noted that due to the volume of materials submitted, some of the application documents which bear on known or potential harms of the expansion have not yet been fully reviewed, including the MSE wall stability analysis and design, the Leachate Management (Form 25) and Liner System (Form 24), although the narrative portions of those technical documents have been reviewed.

We have repeated the questions, and provided new responses in Red type.

SPECIFIC REVIEW COMMENTS FOR FORM D

- S
- ROUTING
- Council
- Manager
- Asst. Mgr.
- Zoning
- Finance
- Police
- P. Works
- P/C
- P & R
- EAC
- Engineer
- Solicitor
- Planner
- Landfill
- EMC
- Other

The review comments and questions for Form D will be provided in an outline form that follows the numbering system of major "Environment Assessment Criteria" described in Form D.1.

1. Geologic (Attachment 1)

Form 7, Attachment 7-1 Monitoring Well Decommissioning Plan

The provided narrative indicates that a fracture trace analysis was performed, but no fracture traces were identified and, therefore, fracture trace locations may not have been used to aid in the location of proposed replacement abatement wells. This provides little assurance that the proposed abatement wells will perform as needed. Abatement wells need to provide hydraulic control on the fractured bedrock aquifer in a manner that will establish a capture zone for potentially impacted groundwater migrating from the landfill area. An established groundwater capture zone is particularly important with the proposed disturbance of in place waste located above portions of the landfill with either no liner system or a non-compliant liner system. It is recommended that the applicant propose a method of evaluating the performance of the replacement abatement wells to demonstrate that the wells will exert sufficient hydraulic control to establish an effective capture zone down gradient of the proposed cell construction. Such a demonstration might include aquifer testing and groundwater modeling. The applicant is proposing to eliminate three abatement wells and install two. If the eastern most well were to fail or go offline a large gap in coverage would result. A third abatement well would not only cover that area more completely, it would also provide redundancy in the event of a well malfunction.

CONSTANT RATE PUMPING TESTS WILL BE PERFORMED ON THE NEWLY CONSTRUCTED ABATEMENT WELLS, AB-1R AND AB-2R, WHILE MONITORING WATER LEVELS IN NEARBY WELLS TO DETERMINE THE INFLUENCE PUMPING HAS ON THE GROUNDWATER SYSTEM. THESE DATA WILL BE USED TO EVALUATE THE EFFECTIVENESS OF THE NEWLY CONSTRUCTED ABATEMENT WELLS FOR GROUNDWATER RECOVERY. IF IT IS DETERMINED THAT AN ADDITIONAL ABATEMENT WELL IS NECESSARY, THEN IESI WILL PROPOSE A LOCATION TO THE PA DEP FOR APPROVAL BEFORE THE NEW WELL IS CONSTRUCTED. THE CONTINUING EFFECTIVENESS OF THE GROUNDWATER ABATEMENT SYSTEM AND IMPROVING GROUNDWATER QUALITY

HAS BEEN AND WILL CONTINUE TO BE MONITORED AND EVALUATED BY IESI.

AS AGREED TO BY THE PA DEP, ABATEMENT WELL TW-1 WAS NO LONGER PUMPED AFTER THE THIRD QUARTER SAMPLING ON SEPTEMBER 21, 2009, AND THERE HAS BEEN NO OBSERVABLE ADVERSE IMPACT ON THE GROUNDWATER QUALITY SINCE TERMINATION OF TW-1 PUMPING. THEREFORE, IESI IS PROPOSING TO REPLACE TWO ACTIVE ABATEMENT WELLS WITH TWO NEW ABATEMENT WELLS.

No comment.

Well decommissioning notes (LF-5) should state that the decommissioning will be performed by a Pennsylvania licensed driller and documentation of the proper closure should be provided to the DEP and the Township.

THE NOTES ON LF-5 HAVE BEEN REVISED TO INCLUDE THE FOLLOWING NOTE #7 – “DECOMMISSIONING WILL BE PERFORMED BY A PENNSYLVANIA LICENSED DRILLER AND DOCUMENTED AS REQUIRED BY REGULATIONS”.

No comment.

The dimensions listed in Decommissioning note #6 should be reviewed.

IESI HAS REVIEWED AND IS COMFORTABLE WITH THE DIMENSIONS LISTED IN NOTE #6.

No comment.

For any casing that cannot be removed the cut off depth below the liner elevation should be sufficient to protect the liner. A protective concrete slab of adequate thickness should be considered.

PER THE DETAIL ON LF-5, A PROTECTIVE CONCRETE SLAB IS PROPOSED.

No comment.

The applicant should provide the information documenting their location of the limit of the Non-Carbonate area (LF-6).

THE DRAWING AND DRILL LOGS WHICH FORM THE BASIS FOR THE “NON-CARBONATE LINE” ON LF-6 ARE ATTACHED AS EXHIBIT 1. AS DESCRIBED THEREIN, WELLS MP-1, 2 AND 3 EACH ENCOUNTERED GRANITIC GNEISS, AND FORM THE BASIS FOR THE NON-CARBONATE BEDROCK LINE IN THE AREA OF THE PROPOSED PROJECT.

No comment.

2. Scenic Rivers (Attachment 2)

Section 11 includes the statement that the Stormwater Management Plan “is designed to dampen discharges to predevelopment rates per the Saucon Creek Watershed Act 167 Plan.” The review of the Stormwater Management Plan has not been undertaken as part of this EAP review.

Section 12 further describes that the Stormwater Management Plan “is designed to dampen discharges to predevelopment rates per the Saucon Creek Watershed Act 537 Plan and the Lower Saucon Township ordinances.” The review of the Stormwater Management Plan has not been undertaken as part of this EAP review, but based upon general reviews of the plans, we raise a concern that the Stormwater Management Plan may not meet the criteria of Lower Saucon Township ordinances. Among the concerns are lack of water quality volume and/or recharge as Best Management Practices and the steep side slopes of Stormwater Management basins.

IESI HAS MADE EVERY EFFORT TO DESIGN PROPOSED REVISIONS TO THE STORMWATER MANAGEMENT SYSTEM TO COMPLY WITH APPLICABLE CURRENT STORMWATER REGULATIONS THAT WERE ENACTED AFTER INITIAL DEVELOPMENT OF THOSE FEATURES SERVING THE LANDFILL. IN THOSE INSTANCES WHERE IESI CANNOT MEET APPLICABLE REQUIREMENTS OF THE CURRENT STORMWATER REGULATIONS, IESI HAS REQUESTED WAIVERS IN CONNECTION WITH THE LAND DEVELOPMENT PLAN IT HAS SUBMITTED TO THE TOWNSHIP IN SUPPORT OF THE PROPOSED SOUTHEASTERN REALIGNMENT PROJECT. DISCUSSIONS WITH TOWNSHIP STAFF CONFIRMED THAT THE NEW STORMWATER REGULATIONS ARE ONLY APPLICABLE TO THOSE FEATURES OF

THE STORMWATER MANAGEMENT SYSTEM THAT ARE BEING CHANGED, AND THAT EXISTING FACILITIES THAT WERE PREVIOUSLY ANALYZED FOR DRAINAGE AREAS THAT STAY THE SAME OR ARE BEING REDUCED IN SIZE ARE NOT SUBJECT TO REVIEW UNDER THE CURRENT STORMWATER REGULATIONS. WHILE THE SOUTHEASTERN REALIGNMENT PROPOSES RECONFIGURATION OF BASIN #2, THE DESIGN GENERALLY KEEPS IN PLACE THE BASIN BERM, INCLUDING THE OUTLET STRUCTURE AND EMERGENCY SPILLWAY. BASIN OUTLET LOCATIONS ARE ESSENTIALLY UNCHANGED AND REMAIN IN COMPLIANCE WITH THE APPLICABLE STORMWATER MANAGEMENT ORDINANCE. STORMWATER BASIN #2 PROVIDES ADEQUATE DETENTION VOLUME TO ATTENUATE PEAK RATES OF DISCHARGE IN ACCORDANCE WITH THE SAUCON CREEK ACT 167 PLAN, THEREBY PROTECTING DOWNSTREAM WATERWAYS AND STREAMS FROM ACCELERATED EROSION AND FLOODING. THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN, SUBMITTED TO THE TOWNSHIP WITH THE LAND DEVELOPMENT PLAN APPLICATION, HAS BEEN PREPARED CONSISTENT WITH BOTH TOWNSHIP AND CHAPTER 102 REQUIREMENTS.

No comment.

3. Wetlands (Attachment 3)
 - a. The response indicates that wetlands were delineated in 1991 and again in 2014, with a decrease in total wetlands from 3.74 acres to 1.32 acres, over that period. While this may have occurred, this is a sizeable change that is uncommon. Therefore, it is recommended that the most recent delineation be verified by the United States Army Corps of Engineers through a Jurisdictional Determination prior to issuing any approvals or permits for the proposed project. It should also be noted that the applicant does not identify in their response whether or not the wetlands identified and delineated are listed as Exceptional Value (EV). The wetland report for 2014 explains that nothing was observed onsite which would indicate that the wetlands are EV. Note, however, that the onsite wetlands are shown to be connected to the unnamed tributary to East Branch Saucon Creek.

If a connection exists the wetland may be designated as EV due to the listing of East Branch Saucon Creek (and Saucon Creek) to support wild trout reproduction by the Pennsylvania Fish and Boat Commission.

WHETHER THE WETLANDS ARE TECHNICALLY CLASSIFIED AS EV DUE TO THE MORE RECENT LISTING OF THE RECEIVING STREAM, THE FUNCTIONS AND QUALITY OF THESE WETLANDS ARE NOT EXCEPTIONAL. SEE ATTACHED LETTER FROM ROEMER ECOLOGICAL SERVICES, INC., EXHIBIT 2. AS DISCUSSED IN THE LETTER FROM ROEMER ECOLOGICAL SERVICES, THE REDUCED SIZE OF THE WETLANDS AREA IS BELIEVED TO RELATE ENTIRELY TO THE INTERVENING INSTALLATION OF THE PUBLIC STORAGE STRUCTURE AND THE GRADING WORK DONE ON THAT PARCEL AND TO THE STREAM CHANNEL ASSOCIATED THEREWITH. NONETHELESS, IESI HAS SUBMITTED THE WETLANDS DELINEATION TO THE CORPS FOR A NEW JURISDICTIONAL DETERMINATION.

While the “functions and quality” of the wetlands are considered by Roemer not to be “exceptional”, the regulatory status of the wetlands as EV may depend on other criteria. For purposes of the regulations that govern water obstructions and encroachment (which include an activity which changes, expands or diminishes the course, current or cross section of a waterbody, including a wetland), exceptional value wetlands include:

105.17(1)

(iii) Wetlands that are located in or along the floodplain of the reach of a wild trout stream or waters listed as exceptional value under Chapter 93 (relating to water quality standards) and the floodplain of streams tributary thereto, or wetlands within the corridor of a watercourse or body of water that has been designated as a National wild or scenic river in accordance with the Wild and Scenic Rivers Act of 1968 (16 U.S.C.A. § § 1271—1287) or designated as wild or scenic under the Pennsylvania Scenic Rivers Act (32 P. S. § § 820.21—820.29).

The current water quality regulatory status of the Saucon Creek and its tributaries should be confirmed, and consideration given to evaluating the potential for site activities and disturbance to further diminish the wetlands, if it is not obvious that there will be no impact.

- b. An environmental assessment “evaluating the wetland’s functions and values” was not included with the submission, as required. Note that there is no specific

discussion in Attachment 3 – Exhibit 1 which addresses each of the seven (7) sub-parts listed for such discussion as part of this required response.

SEE ATTACHED LETTER FROM ROEMER ECOLOGICAL SERVICES, INC., EXHIBIT 2.

No comment.

4. Parks (Attachment 4)

This section describes that the project is located within one (1) mile of the Delaware and Lehigh National Heritage Corridor, a unit of the National Parks System. The report offers the opinion that the Corridor is “not impacted” by the proposed expansion and, further, that the mountain ridge obstructs the view of the Landfill and the proposed expansion from the parks and trails along the Lehigh River Corridor. The applicant is proposing significant increases in the height of major portions of the Landfill, but has not presented any technical information to confirm the validity of the above-referenced statement. We recommend that this statement be verified by way of onsite observations using either a crane and flag or balloon raised to the elevation of the proposed cap at several locations along the cap and that observations be made from various locations along the Delaware and Lehigh National Heritage Corridor. During the review of the 2003 Permit Application, right angle cross-sections were provided to confirm “non-observation” but these cross-sections did not take into account views of the Landfill from angles either east or west of the location of the cross-section.

THE PROPOSED FINAL CONTOURS OF THE SOUTHEASTERN REALIGNMENT DO NOT EXCEED THE TOP ELEVATION (725 FEET ABOVE SEA LEVEL) THAT WAS APPROVED WITH THE PHASE IV PERMIT IN 2003. NONETHELESS, IESI HAS PERFORMED AN UPDATED AND EXPANDED VISUAL IMPACT ANALYSIS IN CONNECTION WITH THE PROPOSED SOUTHEASTERN REALIGNMENT APPLICATION. SPECIFICALLY, LINES OF SIGHT PROJECTIONS AND PHOTOGRAPHS HAVE BEEN ASSEMBLED TO EVALUATE THE POTENTIAL VISUAL IMPACTS OF THE PROPOSAL FROM LOCATIONS ALONG THE RIVER CORRIDOR, FROM LOCATIONS WITH STEEL CITY, FROM A LOCATION IN FREEMANSBURG. AND FROM APPLEBUTTER ROAD AT THE EAST END OF THE LANDFILL PROPERTY.

AS DEPICTED IN EXHIBIT 3, WITH EXCAVATOR BOOMS RAISED TO THE 725 AND 717 ELEVATIONS AT THE PROPOSED HIGH POINTS OF THE PROJECT, THE LINES OF SIGHT AND PHOTOGRAPHS CONFIRM THAT THE LANDFILL WILL NOT BE VISIBLE FROM THE NORTH, ABOVE THE EXISTING TREE LINE ALONG THE RIDGE, FROM THESE LOCATIONS.

The maximum height of topsoil stockpiles on Cell 4B and 4D should be provided and checked for compliance.

This section also describes the location of the Lutz Franklin Schoolhouse near Applebutter Road. If trucks delivering cover soil material approach from the east, those trucks would pass close to the Lutz Franklin Schoolhouse and adjacent Kingston Park. If this impact is proposed, it should be documented and mitigated. The travel path bringing soil cover potential to the Landfill should be identified in the traffic section.

SOIL DELIVERY TRUCKS WILL BE RESTRICTED TO USE OF THE SAME ROUTE (NORTH ON SHIMERSVILLE ROAD, THEN EASTERLY ON APPLEBUTTER ROAD) AS IS APPROVED FOR THE WASTE DELIVERY VEHICLES. THIS ROUTE DOES NOT PASS BY THE LUTZ FRANKLIN SCHOOLHOUSE AND ADJACENT KINGSTON PARK.

No comment.

5. Fish, Game and Plants (Attachment 5)
 - a. Section 1: The response to this question is "No. See Attachment 5, Exhibit 1." The supporting information in Attachment 5, Exhibit 1, is from 2001. Given this reference, the response is insufficient, as the supporting information is outdated. Sub-parts a.-d. should be addressed, accordingly, based on updated information which sufficiently addresses this question.

THE ANSWER TO QUESTION 5 – 1 REMAINS "NO", PURSUANT TO THE ADDITIONAL PNDI SEARCH AND CORRESPONDENCE DESCRIBED BELOW.

ON JULY 17, 2015, IESI CONDUCTED A NEW PNDI SEARCH FOR THE PROPOSED SOUTHEASTERN REALIGNMENT PROJECT, THE RESULTS OF WHICH STATE THAT NO FURTHER REVIEW IS

REQUIRED FOR EITHER THE PA FISH AND BOAT COMMISSION OR THE U.S. FISH & WILDLIFE SERVICE. (SEE EXHIBIT J-1.) THE PREVIOUSLY EXECUTED PNDI (DATED AUGUST 15, 2014 EXHIBIT J-9), THAT WAS SUBMITTED WITH THE PROJECT APPLICATION (Southeastern Realignment, Volume 2 of 3, Form D hereafter known as [SEFormD]), RETURNED THE SAME RESULTS.

IN ADDITION, EXHIBIT J-2 CONTAINS A COPY OF AN AUGUST 4, 2014 LETTER (previously submitted w/ SEFormD) TO THE U.S. FISH & WILDLIFE SERVICE REQUESTING THAT THE SERVICE RESPOND TO TWO QUESTIONS TAKEN DIRECTLY FROM THE ENVIRONMENTAL ASSESSMENT FORM RELATING TO NATIONAL WILDLIFE REFUGES, HATCHERIES AND ENVIRONMENTAL CENTERS, AND TO ENDANGERED, THREATENED, RARE PLANTS OR ANIMALS.

EXHIBIT J-3 CONTAINS A COPY OF A SEPTEMBER 29, 2014 FACSIMILE (previously submitted w/ SEFormD) FROM THE SERVICE RESPONDING TO THE AUGUST 4TH LETTER, AND STATING THAT THEIR COMMENTS ON THESE MATTERS REMAIN UNCHANGED FROM THEIR MAY 20, 2011 LETTER.

EXHIBIT J-4 CONTAINS A COPY OF THE REFERENCED MAY 20, 2011 LETTER, IN WHICH THE SERVICE STATES THAT THE ONLY POTENTIAL CONCERNS IT HAS IS THAT THE PROJECT IS WITHIN THE KNOWN RANGE OF BOG TURTLES AND RECOMMENDS THAT THE APPLICANT CONDUCT A WETLANDS SURVEY TO ASSESS THE POTENTIAL SUITABILITY OF ANY WETLAND AREAS AS BOG TURTLE HABITAT.

EXHIBIT J-5 CONTAINS THE COVER PAGE FOR THE BOG TURTLE SURVEY REPORT CONDUCTED BY ROMER ENVIRONMENTAL SERVICES IN 2011, A SURVEY IN WHICH NO BOG TURTLE HABITATS WERE FOUND TO EXIST ON OR NEAR THE PROPOSED PROJECT SITE. EXHIBIT J-6 CONTAINS A JUNE 14, 2014 UPDATE OF

THE BOG TURTLE SURVEY REPORT PREPARED BY ROEMER ENVIRONMENTAL SERVICES (previously submitted w/ SE Form D) CONFIRMING THE LACK OF BOG TURTLE HABITAT IN THE SOUTHEASTERN REALIGNMENT PROJECT AREA. SEE ALSO THE ROMER LETTER DATED JULY 28, 2015 (EXHIBIT 2) RESPONDING TO THE TOWNSHIP'S COMMENTS AND REITERATING SPECIFICALLY THAT "POTENTIAL BOG TURTLE HABITAT IS CONSPICUOUSLY ABSENT." BOTH THE 2011 AND 2014 REPORTS AND MR. ROEMER'S LETTER ADDRESS THE ONLY POTENTIAL CONCERN IDENTIFIED BY THE U.S. FISH & WILDLIFE SERVICE.

AS THE RESPONSE TO QUESTION 5-1 REMAINS NO, QUESTION 5 SUB-PARTS A – D NEED NOT BE ADDRESSED.

No comment.

b. Section 2: The response provided is acceptable.

NO COMMENT REQUIRED.

No comment.

c. Section 3: The response does not sufficiently address this item, specifically with regard to adequate correspondence with the U.S. Fish & Wildlife Service, Pennsylvania Game Commission, and the Pennsylvania Department of Conservation and Natural Resources.

AS DISCUSSED IN THE SEFormD APPLICATION AND HEREIN, ALL APPROPRIATE AND ADEQUATE CORRESPONDENCE HAS BEEN EXCHANGED WITH THE U.S. FISH & WILDLIFE SERVICE (SEE EXHIBITS J-2 THROUGH J-7), THE PENNSYLVANIA GAME COMMISSION (SEE EXHIBITS J-8 THROUGH J-11) AND PA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES (SEE EXHIBITS J-12 THROUGH J-14) RELATIVE TO THE PROPOSED

SOUTHEASTERN REALIGNMENT PROJECT.

No comment.

U.S. Fish & Wildlife Service

Attachment 5, Exhibit 4, states: "Per the U.S. Fish & Wildlife Service response faxed to Martin and Martin, Inc. on 09-29-2014 [date error], we note the following; Although this is a slightly different project (different location) from the 2011 area, Attachment 3, Exhibit 1 indicates that bog turtles are not present in this location." Therefore, the response issued by the U.S. Fish & Wildlife Service is not for the current project location. Further, Attachment 3, Exhibit 1 is merely the professional opinion of John Roemer, the private consultant that performed the wetland evaluation. Mr. Roemer is not a representative of the U.S. Fish & Wildlife Service.

THE CORRECT DATE OF THE FACSIMILE FROM THE U.S. FISH & WILDLIFE SERVICE IS 09-29-2014. AS DISCUSSED ABOVE, MR. ROEMER DID EVALUATE ALL WETLAND AREAS ON AND NEAR THE SOUTHEASTERN REALIGNMENT PROJECT FOR BOG TURTLE HABITAT AND CONCLUDED THAT NONE WAS PRESENT. SEE EXHIBITS J-5 AND J-6, AND JULY 28, 2015 LETTER (EXHIBIT 2), AS DISCUSSED ABOVE.

THE ANSWER TO QUESTION 5 – 3 REMAINS "NO". AS DISCUSSED ABOVE, EXHIBIT J-1 CONTAINS THE RESULTS OF A JULY 17, 2015 PNDI SEARCH, WHICH INDICATES THAT NO FURTHER REVIEW IS REQUIRED FOR THE PA FISH AND BOAT COMMISSION, THE US FISH AND WILDLIFE SERVICE, AND THE PA GAME COMMISSION. THE PNDI RECEIPT INDICATED A POTENTIAL IMPACT NOTED BY THE PA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES (DCNR) REGARDING ELLISIA NYCLELEA (AS HAD BEEN IDENTIFIED BY THE AUGUST 15, 2014 PNDI SEARCH. SEE EXHIBIT J-9 (previously submitted w/ SEFormD).)

FURTHER REVIEW/COMMUNICATION WITH THE DCNR REGARDING ELLISIA WAS UNDERTAKEN PURSUANT TO THE AUGUST 15, 2014 PNDI RESULTS. SPECIFICALLY EXHIBIT J-12

CONTAINS THE SUPPLEMENTAL INFORMATION (previously submitted w/ SEFormD) THAT WAS PROVIDED TO DCNR PER THE INSTRUCTIONS ON THE PNDI. EXHIBIT J-13 CONTAINS THE DCNR'S AUGUST 27, 2014 RESPONSE WHICH CONCLUDES THAT NO IMPACT IS ANTICIPATED.

EXHIBIT J-14 CONTAINS TWO ITEMS; ADDITIONAL DCNR CORRESPONDENCE DATED AUGUST 13, 2014 (submitted w/ SEFormD), WHICH WAS PROMPTED BY THE MARTIN AND MARTIN INC. CORRESPONDENCE DATED AUGUST 4, 2014 (submitted w/ SEFormD) ASKING DCNR TEN (10) ENVIRONMENTAL IMPACT STATEMENT QUESTIONS TAKEN DIRECTLY FROM THE FORM D ENVIRONMENTAL ASSESSMENT. IN THE AUGUST 13TH REPLY, DCNR STATES EXPLICITLY THE AGENCY'S POSITION THAT THE PROJECT DOES NOT NEGATIVELY IMPACT THE SURROUNDING RECREATION AND CONSERVATION ATTRIBUTES.

No comment.

Pennsylvania Game Commission

The response provided by the Pennsylvania Game Commission regarding the potential conflict with northern myotis (*Myotis septentrionalis*) is also unacceptable or incomplete. The PGC responded that a Potential Impact (is) Anticipated and listed a required Conservation Measure, which is not discussed in the applicant's response. The Conservation Measure addresses a "seasonal restriction (which) is suggested to avoid potential impacts to *Myotis septentrionalis* and other tree roosting bats within the area: All trees or dead snags greater than 5 inches in diameter at breast height that need to be harvested to facilitate the project shall be cut between November 1 and March 31." There is no indication in the response that this Conservation Measure will be implemented by the applicant.

Based on recently released regulatory guidance by the U.S. Fish & Wildlife Service and the U.S. Army Corps of Engineers, all searches of the Pennsylvania Natural Diversity Inventory (PNDI) conducted prior to May 4, 2015, are no longer acceptable and must be renewed to address potential conflicts with the long-eared bat (*Myotis septentrionalis*). Therefore, the application which is currently under review by the Township should address this new requirement. Presumably, this will only require the applicant to provide an updated PNDI Project Environmental Review Receipt. It will be the applicant's responsibility, however,

to fully address any additional requirements related to *Myotis septentrionalis*, as well as any additional Potential Conflicts listed on the updated PNDI Project Environmental Review Receipt.

THE PENNSYLVANIA GAME COMMISSION HAS RECOMMENDED CERTAIN CONSERVATION MEASURES TO AVOID POTENTIAL IMPACTS TO THE NORTHERN MYOTIS. SPECIFICALLY, PGC SUGGESTS HARVESTING ALL TREES OR DEAD SNAGS GREATER THAN 5 INCHES IN DIAMETER AT BREAST HEIGHT BETWEEN NOVEMBER 1 AND MARCH 31. THE APPLICANT WILL MAKE EVERY EFFORT TO IMPLEMENT THE RECOMMENDED CONSERVATION MEASURES.

AS DISCUSSED ABOVE, THE PNDI SEARCH WAS UPDATED ON JULY 17, 2015 AND THE RESULTS DID NOT IDENTIFY ANY NEW CONFLICTS. (SEE EXHIBIT J-1).

Does the applicant agree to follow this recommendation?

Pennsylvania Department of Conservation and Natural Resources

The applicant provided materials sent to the Pennsylvania Department of Conservation and Natural Resources to address a Potential Impact to *Ellisia* (*Ellisia nyctelea*), as listed on the PNDI Project Environmental Review Receipt. No return correspondence or the required resolution was provided by the applicant.

AS DISCUSSED ABOVE, EXHIBIT J-1 CONTAINS THE RESULTS OF A JULY 17, 2015 PNDI SEARCH, WHICH INDICATES A POTENTIAL IMPACT NOTED BY THE PA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES (DCNR) REGARDING ELLISIA NYCLELEA (AS HAD BEEN IDENTIFIED BY THE AUGUST 15, 2014 PNDI SEARCH. SEE EXHIBIT J-9 (previously submitted w/ SE Form D).) FURTHER REVIEW/COMMUNICATION WITH THE DCNR REGARDING ELLISIA WAS UNDERTAKEN PURSUANT TO THE AUGUST 15, 2014 PNDI RESULTS. SPECIFICALLY, EXHIBIT J-12 CONTAINS THE SUPPLEMENTAL INFORMATION (previously submitted w/SE Form D) THAT WAS PROVIDED TO DCNR PER THE

INSTRUCTIONS ON THE PNDI. EXHIBIT J-13 CONTAINS THE DCNR'S AUGUST 27, 2014 RESPONSE, WHICH CONCLUDES THAT NO IMPACT IS ANTICIPATED.

EXHIBIT J-14 CONTAINS TWO ITEMS; ADDITIONAL DCNR CORRESPONDENCE DATED AUGUST 13, 2014 (submitted w/ SE Form D), WHICH WAS PROMPTED BY THE MARTIN AND MARTIN INC. CORRESPONDENCE DATED AUGUST 4, 2014 (submitted w/ SE Form D) ASKING DCNR TEN ENVIRONMENTAL IMPACT STATEMENT QUESTIONS TAKEN DIRECTLY FROM THE FORM D ENVIRONMENTAL ASSESSMENT. IN THE AUGUST 13TH REPLY, DCNR STATES EXPLICITLY THE AGENCY'S POSITION THAT THE PROJECT DOES NOT NEGATIVELY IMPACT THE SURROUNDING RECREATION AND CONSERVATION ATTRIBUTES.

No comment.

- d. Section 4: The response provided may be acceptable, if all issues noted above in Item 3 are fully addressed as required by the respective regulatory agencies.

NO RESPONSE REQUIRED

No comment.

- e. Section 5: The response provided is acceptable, based on a review of available data from the Pennsylvania Fish and Boat Commission (PFBC), noting that the correspondence provided in the application is not directly from the PFBC but rather an e-mail describing a telephone conversation with Tom Green, a PFBC representative.

NO RESPONSE REQUIRED

No comment.

- f. Section 6: The response provided is acceptable, based on a review of available data from the Pennsylvania Fish and Boat Commission (PFBC), noting that the correspondence provided in the application is not directly from the PFBC but rather an e-mail describing a telephone conversation with Tom Green, a PFBC representative.

NO RESPONSE REQUIRED

No comment.

g. Section 7: The response provided is acceptable.

NO RESPONSE REQUIRED

No comment.

h. Section 8: The response provided is incomplete, as follows by sub-item:

- (1) a. The response identifies the stream on site, but does not identify “the location of the stream(s) in relation to the project.”

AN UNNAMED TRIBUTARY (UNT) TO THE EAST BRANCH OF SAUCON CREEK IS LOCATED ADJACENT TO THE PROJECT. THE STREAMS AND WATERSHED INCLUDE THE UNT, EAST BRANCH OF SAUCON CREEK, SAUCON CREEK, AND THE LEHIGH RIVER. THE UNT IS LOCATED APPROXIMATELY 20 FEET SOUTH OF THE EXISTING BASIN 2 OUTFALL STRUCTURE AND APPROXIMATELY 100 FEET FROM THE PROPOSED LIMIT OF DISTURBANCE AS SHOWN BY THE PROPOSED GRADING CONTAINED WITHIN THE PERMIT APPLICATION DRAWING PACKAGE. SAID UNT MEANDERS ALONG THE SOUTHERN EDGE OF THE BETHLEHEM LANDFILL PROPERTY FOR APPROXIMATELY 1000 FEET PRIOR TO EXITING THE SITE AND FLOWING UNDER APPLEBUTTER ROAD BY WAY OF A DRAINAGE FEATURE THAT IS APPROXIMATELY 175 FEET WEST OF THE APPLEBUTTER / RINGHOFFER ROAD INTERSECTION.

No comment.

- (2) b. The response does not identify the fish species present within the stream on-site, but rather simply lists “unknown.”

NORMANDEAU ASSOCIATES HAS CONDUCTED AN INVESTIGATION OF FISH SPECIES IN THE UNT; IDENTIFYING 2, THE CREEK CHUB AND THEBLACKNOSE DACE (SEE EXHIBIT 9).

No comment.

- (3) c. The response provided is acceptable.

NO RESPONSE REQUIRED

No comment.

- (4) d. The response provided is not acceptable, as there is nothing offered as support for the finding of “None Anticipated” for what is generally accepted as a high impact land-use.

DUE TO THE HOST OF MANDATORY E&S MEASURES AND CONTROLS THAT MUST BE IN PLACE PRIOR TO COMMENCEMENT OF THE PROPOSED PROJECT (SEE, FOR EXAMPLE, THE MEASURES DESCRIBED IN FORM I), NO CHARACTERISTICS OF THIS PROJECT ARE CONSIDERED LIKELY TO RESULT IN AN ADVERSE IMPACT TO THE UNT. TO THE EXTENT THE DISCHARGE OF SEDIMENT-LADEN WATER FROM THE BASIN(S) FOLLOWING AN EXCESSIVE RAINFALL EVENT ON THE ORDER OF A 100+ YEAR STORM MIGHT BE CONSIDERED A POTENTIAL ADVERSE IMPACT, NOTE THAT A STORM OF THAT MAGNITUDE WOULD IMPACT ALL LAND IN THE REGION, MUCH OF WHICH LACKS THE EXTENSIVE EROSION AND SEDIMENTATION CONTROL MEASURES OF THE IESI PA. BETHLEHEM LANDFILL.

The bend in Swale “N” at the east end of the proposed MSE wall should be checked for stability in times of high flow velocities.

- (5) e. The response provided is not acceptable. The response notes that “The Project will conform to all stormwater rules and regulations of the PA DEP, Northampton County, and Lower Saucon Township.” The response does not include any supporting information regarding the measures to be taken to minimize adverse impacts to groundwater inputs that support the stream channel. This is of particular concern, noting the reported decrease in wetlands on the site by 50% between the period from 1991 through 2014, which may be attributable to ongoing on-site activities and associated impacts.

THE SOUTHEASTERN REALIGNMENT PROPOSES THE RECONFIGURATION OF BASIN #2 WHILE MAINTAINING THE

EXISTING BASIN AND EMERGENCY SPILLWAY DISCHARGE LOCATIONS. NO NEW BASINS ARE PROPOSED. AS SUCH, ALL EXISTING POINTS OF DISCHARGE TO OFFSITE STREAMS AND WATERWAYS REMAIN THE SAME. SINCE NO CHANGES TO EXISTING POINTS OF DISCHARGE ARE PROPOSED, THERE ARE NO ANTICIPATED ADVERSE IMPACTS TO TRIBUTARY STREAMS AND WATERWAYS. FURTHER, THERE ARE NO PROPOSED IMPACTS TO EXISTING CONSERVATION EASEMENTS OR WETLANDS AS A RESULT OF THE PROJECT. THE PROJECT PROPOSES THE CONTINUED IMPLEMENTATION OF A STORMWATER MANAGEMENT PLAN TO ATTENUATE PEAK DISCHARGE RATES IN CONFORMANCE WITH THE APPLICABLE ACT 167 PLAN. MEASURES WITHIN THE STORMWATER MANAGEMENT PLAN INCLUDE BUT ARE NOT LIMITED TO VEGETATED SWALES, RIPRAP CHANNELS, SLOPE DRAINS AND STORMWATER MANAGEMENT BASINS.

IN TERMS OF GROUNDWATER RECHARGE, THE PROPOSED PROJECT IS NOT EXPECTED TO CHANGE THE CURRENT FLOW IN OR TO THE UNIT, AS THE EXISTING GROUNDWATER ABATEMENT SYSTEM WILL BE MAINTAINED (INCLUDING THE REPLACEMENT OF TWO ACTIVE ABATEMENT WELLS). NOTE THAT THE REFERENCED DECREASE IN WETLANDS AREAS IS BELIEVED TO BE ATTRIBUTABLE TO THE DEVELOPMENT AND GRADING ACTIVITIES ASSOCIATED WITH THE PUBLIC STORAGE FACILITY BY THE PROPERTY OWNER WHICH WAS CONSTRUCTED IN THE PREVIOUSLY IDENTIFIED WETLAND AREA DURING THE INTERIM PERIOD, NOT DUE TO THE OPERATION OF THE LANDFILL. SEE, LETTER FROM ROEMER ECOLOGICAL SERVICES, INC. ATTACHED AS EXHIBIT 2.

No comment.

- i. Section 9: The response provided is acceptable.
 - (1) a. The response provided is acceptable.
 - (2) b. The response provided is acceptable.

NO RESPONSE REQUIRED

No comment.

Section 8 Subsection E of this attachment repeats the statement that the project will “conform to all stormwater rules and regulations of the DEP, Northampton County and Lower Saucon Township.” As mentioned above, we have not yet reviewed the Stormwater Management Plans for this project.

NO RESPONSE REQUIRED

No comment.

Section 9.a describes that Landfill truck traffic will turn left onto Shimersville Road and will, therefore, “not present any impact to the river corridor.” This statement does not provide any information with regard to trucks bringing soil cover onto the site from off-site sources. Depending upon the route taken for soil delivery trucks (arriving and leaving), the areas of impact for new truck traffic may be substantially larger than the areas of impact for landfill trucks.

AS NOTED PREVIOUSLY HEREIN, SOIL DELIVERY TRUCKS WILL BE RESTRICTED TO USE OF THE SAME ROUTE AS IS APPROVED FOR THE WASTE DELIVERY VEHICLES.

PennDOT should provide comments on the adequacy of Applebutter Road. Specifically, it is requested that accident histories be reviewed to determine any crash patterns attributable to truck traffic. Also, the adequacy of roadway signage, particularly advance warning signs for roadway curvature, should be evaluated for truck traffic.

6. Water Uses (Attachment 6)

Exhibit 3 for this report is a letter identifying off-site public water well supplies in the area of the Landfill. It is stated August 30, 2001, and we recommend that this evaluation be updated.

BY LETTER DATED AUGUST 11, 2014, PA DEP HAS CONFIRMED THAT THERE ARE NO ACTIVE PUBLIC WATER SUPPLIES (PWS) GROUNDWATER SOURCES WITHIN 1 MILE OF THE SITE

**BOUNDARIES AND NO ACTIVE PWS SURFACE WATER SOURCES
WITHIN 3 MILES OF THE SITE BOUNDARIES. SEE EXHIBIT J-15.**

No comment.

7. Recreation (Attachment 7)

This report indicates that the parks and trails along the Lehigh River Corridor are obstructed from view of the Landfill. It is requested that this be verified by field inspections as described above and that, if the Landfill is visible from these locations, mitigation be provided to minimize any adverse impacts.

**AS DISCUSSED ABOVE, IESI HAS PERFORMED AN UPDATED AND
EXPANDED VISUAL IMPACT ANALYSIS IN CONNECTION WITH
THE PROPOSED SOUTHEASTERN REALIGNMENT APPLICATION.
SEE EXHIBIT 3.**

See comment above regarding the proposed topsoil stockpile height.

Report indicates that the Lutz Franklin Schoolhouse will not be affected by the project. The applicant should identify the travel routes of trucks bringing offsite soil cover to the Landfill in order to determine whether or not these trucks would create an impact on the Lutz Franklin Schoolhouse and adjacent Kingston Park.

**SOIL DELIVERY TRUCKS WILL BE RESTRICTED TO USE OF THE
SAME ROUTE AS IS APPROVED FOR THE WASTE DELIVERY
VEHICLES. THIS ROUTE DOES NOT PASS BY THE LUTZ
FRANKLIN SCHOOLHOUSE AND ADJACENT KINGSTON PARK.**

No comment.

The applicant has not identified whether or not the Landfill expansion will have any impacts on the historic and archeological features of the area including; the Applebutter Road Historic Area.

**THE LANDFILL WILL NOT IMPACT THE APPLEBUTTER ROAD
HISTORIC AREA. THE EXISTING PERMIT LIMIT OF THE
LANDFILL WILL REMAIN AS IS CURRENTLY APPROVED, AND THE
HAUL ROUTE WILL SIMILARLY REMAIN AS IS CURRENTLY
APPROVED.**

No comment.

The applicant has not identified whether or not odors from the proposed expansion will adversely affect citizens utilizing the Steel City Park, the Delaware and Lehigh National Corridor, and/or the Kingston Park.

THE SOUTHEASTERN REALIGNMENT PLAN APPROVAL APPLICATION SUBMITTED JULY 8, 2015 TO PA DEP'S BUREAU OF AIR QUALITY HAS BEEN PREPARED TO ENSURE THAT THE BETHLEHEM LANDFILL SOUTHEASTERN REALIGNMENT PROJECT WILL BE SUBJECT TO STATE AND FEDERAL REQUIREMENTS RELATING TO POTENTIAL AIR EMISSIONS, INCLUDING ODORS. THESE REQUIREMENTS INCLUDE 40 CFR PART 60; SUBPART WWW, 40 CFR PART 63, SUBPART AAAA; THE FACILITY'S TITLE V OPERATING PERMIT; A PLAN APPROVAL TO BE ISSUED BY PA DEP (APPLICATION PENDING) WHICH WILL MANDATE INSTALLATION AND OPERATION OF EQUIPMENT, DEVICES, METHODS OR TECHNIQUES WHICH PA DEP DETERMINES WILL PREVENT, REDUCE OR CONTROL EMISSIONS OF AIR CONTAMINANTS, INCLUDING ODORS, TO THE MAXIMUM DEGREE POSSIBLE; APPLICABLE REGULATIONS PROHIBITING CERTAIN OFF-SITE IMPACTS, SUCH AS MALODORS, AS SET FORTH IN 25 PA CODE, CHAPTER 123; AND THE FACILITY'S NUISANCE MINIMIZATION AND CONTROL PLAN. MOREOVER, THE UPDATED NUISANCE MINIMIZATION AND CONTROL PLAN (EXHIBIT 10) WILL CONTINUE TO BE IMPLEMENTED TO MINIMIZE ODORS AND OTHER POTENTIAL NUISANCES. THESE REQUIREMENTS FUNCTION TO ESTABLISH SPECIFIC REQUIREMENTS FOR THE COLLECTION AND CONTROL OF AIR CONTAMINANTS, AS WELL AS ESTABLISHING MONITORING AND RECORDKEEPING REQUIREMENTS TO ENSURE THAT THERE WILL BE NO IMPACTS TO THE STEEL CITY PARK, THE DELAWARE AND LEHIGH NATIONAL CORRIDOR, AND/OR THE KINGSTON PARK FROM ODORS GENERALLY AND MALODORS SPECIFICALLY.

No comment.

8. Historic and Archeologic impacts (Attachment 8)

This report indicates that the proposed expansion will not have any negative impact on the Applebutter Road Historic Area. If trucks carrying offsite cover soil material to the Landfill travel through or past this area, there may be noise, odor, and vibration impacts.

SOIL DELIVERY TRUCKS WILL BE RESTRICTED TO USE OF THE SAME ROUTE AS IS APPROVED FOR THE WASTE DELIVERY VEHICLES. THE LIMITED AMOUNT OF SOIL DELIVERY TRUCKS WILL NOT RESULT IN A MEANINGFUL INCREASE IN NOISE, ODOR AND VIBRATION IMPACTS.

No comment.

This section did not include a response from the Pennsylvania Historical and Museum Commission to a letter from Martin and Martin, dated August 4, 2014. If a response was provided, it should be included in this section.

THERE ARE NO HISTORIC PROPERTIES OWNED BY THE PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION (PHMC) WITHIN ONE MILE OF THE PROPOSED SOUTHEASTERN REALIGNMENT, NOR ARE THERE ANY HISTORIC SITES LISTED IN THE NATIONAL REGISTER OF HISTORIC PLACES OR ARCHAEOLOGICAL SITES LISTED IN THE PENNSYLVANIA ARCHAEOLOGICAL SITE SURVEY WITHIN ¼ MILE OF THE PROPOSED PROJECT. SEE AUGUST 7, 2014 RESPONSE FROM THE PHMC ATTACHED AS EXHIBIT J-16.

No comment.

9. Airports (Attachment 9)

No Comments

NO RESPONSE REQUIRED

No comment.

10. Traffic (Attachment 10)

This section of the report provides the opinion that “the existing traffic route will not be impacted by this project”. This opinion is based upon the presumption that the current number of waste disposal trucks will continue and the current access and departure routes for these trucks will not be changing.

This opinion and justification do not take into account the new traffic that will be resulting from the transportation of off-site cover soil material to the landfill site. The impact of these additional trucks should be identified and mitigated. The number of trucks, time of day of deliveries, truck routes, and impacts associated with intersection congestion, noise and vibrations should be identified.

GIVEN THE LIMITED NUMBER OF VEHICLES AND LIMITED DURATION OF THE DELIVERIES OF COVER SOIL EACH MONTH, COUPLED WITH THE DELAYED TIMING AND CORRESPONDING REDUCED TRAFFIC IMPACTS ASSOCIATED WITH THE MAJESTIC AND LVIP VII DEVELOPMENTS, THE ADDITIONAL COVER SOIL TRUCKS ASSOCIATED WITH THE SOUTHEASTERN REALIGNMENT PROJECT WILL HAVE LITTLE TO NO IMPACT ON THE TRAFFIC ROUTE AND STUDY INTERSECTIONS RELATIVE TO CONGESTION, NOISE AND VIBRATIONS. SEE AUGUST 18, 2015 LETTER FROM PENNONI ASSOCIATES, EXHIBIT 4. PENNONI IS CURRENTLY EVALUATING THE IMPACT, IF ANY, FROM THE CONSTRUCTION SOILS DELIVERIES.

See Traffic comment above.

Reference is made to Form F - Soils information, Phase 1. All cell construction, daily, intermediate, and final cover is proposed to be obtained off site. The air quality form G(A), identifies dust emissions, but does not appear to account for all the trucks that will deliver the subbase, liner or protective cover materials, MSE wall construction materials, or deliveries of materials for leachate collection, gas control, or stormwater management construction and cover soil over the life of the requested permit. The staging and construction of the various new cell developments, as well as mandatory closure and capping of completed site areas, indicate this property will be a continuous heavy construction project with near continuous construction and soil hauling truck traffic for the next 5.5 years of projected lifetime. Noise, traffic and fugitive dust emissions from this increased heavy truck traffic flow has not been addressed in the application.

THE LANDFILL TAKES ALL REASONABLE ACTIONS TO PREVENT PARTICULATE MATTER FROM BECOMING AIRBORNE, AS

MANDATED BY ITS TITLE V OPERATING PERMIT, SECTION C, CONDITION #016 and THE FACILITY'S NUISANCE MINIMIZATION AND CONTROL PLAN, MANDATED BY STATE AND FEDERAL LAW. THE LANDFILL WILL CONTINUE IMPLEMENTING THESE ACTIONS IN ACCORDANCE WITH ITS TITLE V OPERATING PERMIT IN CONJUNCTION WITH THE PROPOSED SOUTHEASTERN REALIGNMENT. MOREOVER, THE NUISANCE MINIMIZATION AND CONTROL PLAN AND THE TRANSPORTATION COMPLIANCE PLAN FOR THE SITE WILL CONTINUE TO BE IMPLEMENTED TO MINIMIZE ODORS, NOISE, DUST, TRAFFIC AND OTHER POTENTIAL NUISANCES ASSOCIATED WITH TRUCK TRAFFIC.

No comment.

This type of truck traffic was not considered in previous traffic studies for the Phase IV permit, and will be a significant impact in this proposed expansion. The current practice of importing daily and intermediate cover was also never required to undergo traffic impact analysis by PA DEP when the site ran out of available cover dirt on site approximately two years ago. Current soil hauling truck traffic is a current unmitigated harm never identified in the past Phase IV traffic study review.

Traffic impacts and patterns (including proposed and/or restricted use of certain public roads in the Township) associated with operating and construction materials delivery to the site, storing at the site, and haul road movement of construction materials within the site, should be explained.

Although a Traffic Control Plan is in place and implemented, it has been only partially effective in making a lasting reduction in overweight vehicles entering the site. The latest PA DEP engineer's report of March, 2015 reported 50 overweight vehicles with no citations issued. Additional construction and soil hauling trucks which will be entering the site on a continuous basis, are not monitored under this plan, but should be.

Based on the comments above, traffic increase and control is an existing known harm not fully mitigated and an increased known environmental harm of the expansion based on high intensity, frequency and duration of the increased traffic needed to develop, fill and close the expansion area. The applicant refers to certain impacts as a "short duration." Five or six years of ongoing daily impacts is not considered a short duration for those who are affected by these impacts.

The Traffic Impact Evaluation prepared by Pennoni Associates, Inc., dated December 8, 2014 indicates that the waste transportation vehicles approaching and leaving the IESI site have insignificant impacts on the traffic volumes along Route 412 and/or at the intersections of Route 412 and I-78. However, there did not appear to be any information on the more local impacts of waste vehicles and offsite cover soil trucks as they relate to the ongoing and increasing usage of Applebutter Road and Shimersville Road. Form D, Section J-Entitled Traffic-requires certain information to be provided as specifically related to traffic impacts on the approach roads. Specifically J2, J6-10, J12-14, and J16 information should be provided.

Any deficiencies identified during this additional investigation should be mitigated. The traffic studies prepared in 2003 should not be relied upon since road conditions may have changed in the intervening years.

GIVEN THE LIMITED NUMBER OF VEHICLES AND LIMITED DURATION OF THE DELIVERIES OF COVER SOILS EACH MONTH, COUPLED WITH DELAYED TIMING AND CORRESPONDING REDUCED TRAFFIC IMPACTS ASSOCIATED WITH THE MAJESTIC AND LVIP VII DEVELOPMENTS, THE ADDITIONAL SOIL TRUCKS ASSOCIATED WITH THE SOUTHEASTERN REALIGNMENT PROJECT WILL HAVE LITTLE TO NO IMPACT ON THE TRAFFIC ROUTE AND STUDY INTERSECTIONS. SEE AUGUST 18, 2015 LETTER FROM PENNONI ASSOCIATES, EXHIBIT 4. PENNONI IS CURRENTLY EVALUATING THE IMPACT, IF ANY, FROM THE CONSTRUCTION SOILS DELIVERIES.

See Traffic comment above.

11. Zoning and Land Use (Attachment 11)

In this section of the report, the applicant is to identify possible conflicts between the “new facility” and local zoning and land use plans. They are also required to identify the measures that have been or will be taken to obtain Municipal approvals, or in the alternative provide copies of information documenting such approvals. This information has not been provided and should be provided to identify whether or not the proposed expansion and changes meet zoning, subdivision, stormwater management, and land disturbance criteria of the Township.

THE LANDFILL IS LOCATED IN THE LIGHT INDUSTRIAL DISTRICT OF LOWER SAUCON TOWNSHIP, IN WHICH LANDFILLS AND WASTE DISPOSAL FACILITIES ARE PERMITTED WHEN

AUTHORIZED AS A SPECIAL EXCEPTION BY THE LOWER SAUCON TOWNSHIP ZONING BOARD (LST ZHB). IN 1993 AND 2001, THE LST ZHB GRANTED SPECIAL EXCEPTION APPROVAL TO UTILIZE 206 ACRES OF THE LANDFILL PARCEL FOR LANDFILL USE. THE SOUTHEASTERN REALIGNMENT IS LOCATED WHOLLY WITHIN THAT 206 ACRES FOR WHICH SPECIAL EXCEPTION APPROVAL WAS GRANTED. ALTHOUGH IESI MAINTAINS THAT NO SPECIAL EXCEPTION APPROVAL IS REQUIRED FOR THE PROPOSED PROJECT, IN SEPTEMBER 2015 IESI FILED A PROTECTIVE APPLICATION FOR SPECIAL EXCEPTION APPROVAL SPECIFIC TO THE SOUTHEASTERN REALIGNMENT. THAT APPLICATION IS EXPECTED TO BE CONSIDERED BY THE LST ZHB ON DECEMBER 17, 2015.

IN ADDITION, IN JULY 2015, IESI FILED AN APPLICATION FOR PRELIMINARY/FINAL LAND DEVELOPMENT AND SITE PLAN APPROVAL FOR THE SOUTHEASTERN REALIGNMENT. THAT APPLICATION IS CURRENTLY BEING REVIEWED BY THE TOWNSHIP, AND ITS STAFF AND CONSULTANTS.

The Township is on record as disagreeing with this claim. Consistent with the Township's previous position before the Zoning Hearing Board, the Township Solicitor does not agree that Special Exception approval was granted for landfill uses upon 206 acres.

12. Planning (Attachment 12)

This section describes compatibility between the IESI proposed expansion and the Northampton and Lehigh Counties solid waste management plans. While it is recognized that the IESI facility currently provides waste disposal serves for waste generated in both Counties, it is noted that Northampton County and IESI do not have any agreement for this disposal and use. As a result, IESI is not "included" in the ten (10) year County Solid Waste Disposal Plan. It is further noted that IESI does not make any voluntary payments or contributions to help fund any of the Northampton County Waste Management activity or the Hazardous Household Waste Program.

IESI IS INCLUDED IN THE NORTHAMPTON COUNTY SOLID WASTE MANAGEMENT PLAN. SEE LETTER DATED DECEMBER 2, 2011 FROM THOMAS DITMER, ENVIRONMENTAL SERVICES & RECYCLING COORDINATOR, COUNTY OF NORTHAMPTON, EXHIBIT 5.

No comment.

13. Air Quality Impact (Attachment 13)

This section of the report indicates that IESI will be amending their Title V operation permit. This section also indicates that IESI has submitted a request for “Air Plan approval.”

This section also provides the opinion that “no adverse air impacts to the surrounding community are anticipated.”

A full evaluation of this statement and the above-referenced permit documents and plans are one of the most important aspects of the evaluation of the proposed capacity expansion. The Township should be provided with copies of any proposed amendment to the existing Title V Operating Permit and proposed “air plan” that has been submitted to the Department. The Township should request that DEP provide permit coordination so that any questions with regards to air quality or odor can be identified and satisfactorily addressed prior to the issuance of any air quality permit or solid waste permit.

THE SOUTHEASTERN REALIGNMENT PLAN APPROVAL APPLICATION WAS SUBMITTED TO PA DEP’S BUREAU OF AIR QUALITY ON JULY 8, 2015. LOWER SAUCON TOWNSHIP RECEIVED NOTIFICATION VIA LETTER OF THE PLAN APPROVAL APPLICATION ON JUNE 3, 2015, AS VERIFIED BY US POSTAL SERVICE CERTIFIED RETURN-RECEIPT AND ONE HARD COPY AND THREE ELECTRONIC COPIES OF THE PLAN APPROVAL APPLICATION WERE DELIVERED TO THE TOWNSHIP ON MONDAY, JULY 13, 2015. PURSUANT TO THE AIR PROGRAM, (NOTE THAT ONLY AFTER THE PLAN APPROVAL HAS BEEN ISSUED BY PA DEP AND THE PERMITTEE HAS SATISFIED ANY TESTING OR SIMILAR CONDITIONS MAY THE PERMITTEE PREPARE AND SUBMIT AN APPLICATION TO AMEND ITS TITLE V

OPERATING PERMIT, AND THAT ALL RELEVANT TERMS AND CONDITIONS OF THE PLAN APPROVAL WILL BE DIRECTLY INCORPORATED INTO THE TITLE V OPERATING PERMIT.) AS SUCH, NO TITLE V OPERATING PERMIT AMENDMENT APPLICATION HAS BEEN SUBMITTED TO PA DEP AT THIS TIME.

PLEASE NOTE THAT BASED ON POTENTIAL-TO-EMIT, THE FACILITY IS A MINOR SOURCE OF AIR EMISSIONS AS DEFINED BY BOTH STATE AND FEDERAL LAW, AND WILL REMAIN SO EVEN WHEN THE PROPOSED PROJECT IS APPROVED. THE FACILITY IS A MINOR SOURCE BECAUSE ITS POTENTIAL TO EMIT IS BELOW THE MAJOR SOURCE THRESHOLDS SET FORTH IN 25 PA. CODE 121.1 DEFINITIONS "MAJOR FACILITY", INCLUDING EMISSIONS OF VOLATILE ORGANIC COMPOUNDS ("VOC"), TOXIC AIR COMPOUNDS ("HAPS"), FUGITIVE PARTICULATE EMISSIONS AND ALL OTHER REGULATED AIR POLLUTANTS. ALTHOUGH ONLY A MINOR SOURCE OF AIR EMISSIONS, THE FACILITY NEVERTHELESS OPERATES UNDER TITLE V OPERATING PERMIT NO. 48-00037 (PURSUANT TO 25 PA. CODE 121.1 DEFINITIONS "TITLE V FACILITY", SUBSECTION IV.)

MINOR FACILITIES, BY THEIR VERY DEFINITION, HAVE LIMITED TO NO IMPACT ON AMBIENT AIR QUALITY. POTENTIAL EMISSIONS FROM THE FACILITY, INCLUDING THE PROPOSED PROJECT, ARE AS SET FORTH IN THE PLAN APPROVAL APPLICATION SUBMITTED TO THE DEPARTMENT.

BASED ON THE PA DEP'S MANDATORY DUTIES AS SET FORTH IN 25 Pa. Code 127.1, ANY POTENTIAL IMPACTS FROM AIR EMISSIONS WILL BE, AND MUST BE, NEGLIGIBLE AND THOSE POTENTIAL IMPACTS WILL ONLY OCCUR AFTER INSTALLATION OR

IMPLEMENTATION OF EQUIPMENT, DEVICES, METHODS OR TECHNIQUES, WHICH ARE DETERMINED BY PA DEP, THAT WILL PREVENT, REDUCE OR CONTROL EMISSIONS OF AIR CONTAMINANTS TO THE MAXIMUM DEGREE POSSIBLE.

See Odor Control comments below.

The fugitive dust emission estimates from vehicles listed on Page 1 of Form G(A) do not appear to include all the trucks required to deliver daily, intermediate and final cover, sub-base and protective cover materials based on the capacity and number of trucks listed versus quantities of materials needed as presented in the various narratives, plan sheets and closure plan documents. The emissions estimate also accounts for only one bulldozer daily and no other earth moving equipment during this 5.5 year extensive operating/new construction/closure operation. Earth moving equipment has the highest dust emission factor of any of the other activities listed (Page 4 of 7, Form G(A)). As noted elsewhere in these comments, significantly more truck traffic will contribute to fugitive dust emissions, noise, and traffic increases, which have not been identified as harms or proposed to be mitigated.

Based on comments under the FORM D, traffic, the air quality form G(A), does not identify dust emissions from all construction and soil delivery traffic. Emissions estimates should include truck deliveries for the subbase, liner or protective cover materials, MSE wall construction materials, or deliveries of materials for leachate collection, gas control, or storm water management construction and cover soil over this period. All construction, operations and refuse truck traffic will be traveling the interior roads and creating fugitive dust emissions.

Profile plan sheets show the removal of the top cap material in already capped and closed areas of the old Phases 1, 2, original landfill area and Phase III. In addition, the Landfill drawings, Sheets LFG 1 through 5, demonstrate the exposure of old waste leaving only a remaining 6 inches of anticipated existing daily cover. While then uncapped, waste will be excavated for cutting and sealing of old gas wells and installation of old fill gas collection trenches. How will odors and gas be controlled during this activity?

REGARDING FUGITIVE DUST EMISSIONS COMMENTS, PLEASE SEE RESPONSE TO PRIOR COMMENTS. REGARDING THE CONTROL OF GAS AND ODORS FOLLOWING THE REMOVAL OF THE EXISTING CAP, VARIOUS MEASURES ARE PLANNED DURING THE COURSE OF THE PROPOSED WORK TO ADDRESS THE SAME.

SPECIFICALLY, THE FOLLOWING ITEMS HAVE BEEN CONSIDERED TO THIS END:

1. **THE WASTE IN THIS AREA IS SOME OF THE OLDEST WASTE IN THE LANDFILL AND EXISTING GAS EXTRACTION WELLS IN THE AFFECTED AREA HAVE LOW FLOWS AND/OR POOR QUALITY GAS. SUCH OPERATIONAL DATA INDICATE THAT THE WASTE IS MOSTLY DECOMPOSED AND GENERATING RELATIVELY LOW QUANTITIES OF GAS (COMPARED TO NEWER WASTE). SINCE LFG IS BOTH A PRIMARY SOURCE OF LANDFILL ODORS AND THE TRANSPORT MECHANISM (VIA FUGITIVE EMISSIONS) FOR OFFSITE ODORS, THE RELATIVE LACK OF GAS GENERATION POTENTIAL IN THIS AREA REDUCES THE POTENTIAL FOR ODORS.**

2. **THE EXCAVATIONS REQUIRED TO ABANDON THE EXISTING GAS WELLS IN THIS AREA WILL BE ACCOMPLISHED ONE AT A TIME TO REDUCE THE AREA OF EXPOSED WASTE. AS NOTED ABOVE, MOST OF THESE WELLS HAVE LITTLE TO NO GAS PRODUCTION; THEREFORE, THE WASTE AROUND THEM SHOULD BE MOSTLY DECOMPOSED. TO REDUCE THE TIME THAT WASTE IS EXPOSED DURING THESE ACTIVITIES, EARTH WILL BE STOCKPILED ADJACENT TO THE EXCAVATION TO FACILITATE BACKFILLING.**

3. **TWO OPTIONS ARE PROPOSED FOR COLLECTION OF LFG BENEATH THE NEW LINER TO GO ABOVE THE OLD WASTE. ONE OPTION INVOLVES HORIZONTAL COLLECTORS THAT WILL BE TRENCHED INTO THE WASTE. THIS IS COMMONLY DONE WITH MOST LFG SYSTEM INSTALLATIONS (WHETHER NEW SYSTEMS OR EXPANSIONS) DURING INSTALLATION OF GAS HEADERS OR HORIZONTAL COLLECTORS. THE LENGTH OF OPEN TRENCH WILL BE LIMITED TO THAT WHICH CAN BE COMPLETED AND BACKFILLED THE SAME DAY. NO**

TRENCHES WILL BE LEFT OPEN OVERNIGHT. THE SECOND OPTION INVOLVES THE INSTALLATION OF A BLANKET COLLECTOR CONSISTING OF CLOSELY SPACED SMALL DIAMETER TUBES SANDWICHED BETWEEN TWO GEOTEXTILES. THIS BLANKET IS ROLLED OUT ON THE LANDFILL SURFACE AND DIRECTLY COVERED BY THE MEMBRANE LINER. NO EXCAVATION WOULD BE REQUIRED EXCEPT WHERE IT CONNECTS TO THE GAS HEADER.

- 4. IF ODORS ARE DETECTED DURING THE CAP REMOVAL OR GAS SYSTEM CONSTRUCTION ACTIVITIES, THE EXPOSED WASTE SURFACE WILL BE SPRAYED WITH AN ODOR REACTANT CHEMICAL AND/OR COVERED WITH A SPRAY-ON ALTERNATE DAILY COVER MATERIAL SUCH AS POSI-SHELL TO CONTROL GAS EMISSIONS. THE MATERIALS AND EQUIPMENT REQUIRED FOR EITHER OF THESE TECHNIQUES WILL BE POSITIONED ADJACENT TO THE ACTIVE WORK AREA SO THAT THEY CAN BE DEPLOYED RAPIDLY.**

- 5. EXISTING HORIZONTAL COLLECTORS IN THE AREA OF CAP REMOVAL WILL REMAIN OPERATIONAL UNTIL THE NEW LFG SYSTEM COMPONENTS ARE INSTALLED.**

ALL OF THESE EFFORTS ARE IN ADDITION TO THE REQUIREMENTS SET FORTH IN THE FACILITY'S EXISTING TITLE V OPERATING PERMIT, TERMS AND CONDITIONS THAT WILL BE IMPOSED BY PA DEP WHEN IT ISSUES A PLAN APPROVAL, APPLICABLE FEDERAL AND STATE REGULATIONS, AND THE FACILITY'S EXISTING NUISANCE MINIMIZATION AND CONTROL PLAN (SEE RESPONSE TO COMMENT 7 DETAILING PERMIT AND REGULATORY REQUIREMENTS).

See Odor Control comments below.

The application did not include copies of the air quality plan approval or application for Title V permit amendment, as referred to in the application documents. The total air quality control plans, emissions controls and proposed monitoring, especially of the vulnerable-uncapped areas, cannot be reviewed without those documents. It is highly recommended that the Forms G(A), G(B) and FORM K be closely reviewed by the PA DEP Air Quality personnel most familiar with the odor and SEM exceedance issues at the site. These forms do not appear to acknowledge any current odor or gas control issues, nor do they indicate any types of different controls proposed for an expansion project that will create new additional sources of emissions.

FORMS G(A), G(B) AND FORM K ARE NECESSARY FOR PA DEP'S BUREAU OF WASTE MANAGEMENT APPLICATION PROCESS. AS NOTED PREVIOUSLY, AN AIR QUALITY PLAN APPROVAL APPLICATION HAS BEEN SUBMITTED FOR THE PROJECT, AND PA DEP CAN ONLY ISSUE THAT PERMIT AFTER IT DETERMINES THAT ALL POTENTIAL AIR CONTAMINANTS WILL BE CONTROLLED TO THE MAXIMUM DEGREE POSSIBLE AND WHICH ARE OR MAY BE MADE AVAILABLE. PLEASE SEE RESPONSES TO COMMENTS ABOVE.

See Odor Control comments below.

There is no indication in the application documents that surface emission monitoring for methane or other waste degradation emissions will be monitored during and directly at locations of cap removal or refuse excavation for gas system trenching in the piggyback areas or during Cell 4E waste excavation. This should be required on a daily basis starting when any cap is first removed and during waste removal and reburial until all areas are sealed. A separate odor control operations plan identifying trigger readings and immediate odor elimination requirements should be developed, to mitigate existing harms and future harms. The readings should be documented and open for inspection by both the PA DEP and the Host Municipal Inspector. Requiring the continual on-site monitoring of emissions will also quickly identify the source area, and ensure that the problem is immediately corrected, instead of relying on continuous odor complaints and once-per-quarter surface emission monitoring. Neither the complaints from area residents nor SEM results has resulted in any continuous operations improvements to eliminate these harms.

Prevention of additional sources of air contaminants and odors released by (1) peeling off the cap of 26 acres of existing in-place refuse; (2) excavation into that old fill for gas system installation; and (3) re-excavation of over 315,000 cubic yards of

waste relocated from Cell 4E in order to properly close the western boundary should be addressed.

Based on the comments above, the known existing and future environmental and health based harms of odor and air emissions from the activities at the site are not mitigated and the application does not address how new sources of odors and emissions will be controlled or eliminated.

OPERATIONS WILL BE IN ACCORDANCE WITH THE FACILITY'S NUISANCE MINIMIZATION AND CONTROL PLAN, INCLUDING ALL PROVISIONS RELATIVE TO ODOR CONTROL AND ODOR MONITORING. AN ODOR CONTROL PLAN SPECIFIC TO THESE ACTIVITIES WILL BE DEVELOPED PRIOR TO IMPLEMENTATION OF THE PROJECT. ADDITIONAL ACTIVITIES WILL INCLUDE MONITORING DURING ACTIVITIES THAT EXPOSE WASTE OR REMOVE EXISTING CAPPING MATERIALS. CONTINUOUS SURFACE EMISSION MONITORING IS NOT APPROPRIATE DUE TO THE ACTIVE NATURE OF THE PROJECT; THE MORE APPROPRIATE TYPE OF MONITORING FOR THIS ACTIVITY WILL UTILIZE A HYDROGEN SULFIDE ANALYZER CAPABLE OF MEASURING IN THE PARTS PER BILLION (PPB) RANGE . THE ODOR CONTROL PLAN WILL INCLUDE USE OF SUCH A MONITOR WITH TRIGGER LEVELS AND RESPONSE ACTIONS BASED ON THE CONCENTRATIONS OF HYDROGEN SULFIDE DETECTED AT THE WORK AREA PERIMETER. THE NUISANCE MINIMIZATION AND CONTROL PLAN WILL BE REVIEWED, AND UPDATED AS NECESSARY, TO ENSURE TIMELY, EFFICIENT AND ACCURATE DATA MANAGEMENT AND COMMUNICATIONS. ALL OPERATIONS WILL BE IN ACCORDANCE WITH THE FACILITY'S TITLE V OPERATING PERMIT, AS WELL AS THE PLAN APPROVAL THAT MUST BE ISSUED BY PA DEP BEFORE OPERATIONS MAY COMMENCE.

The "Odor Control Plan" referenced herein should be provided for review prior to permit issuance. It is recommended that it be as specific as possible and include all

the inspection and identifications, testing, reporting, mitigation methods and timing as now described by IESI in many different supporting documents.

With the expansion of the landfill to the east the applicant and DEP should consider whether or not the single flare and associated blowers at their current location, will create sufficient draw from the western dome and the new proposed eastern dome being created by Cell SE 1-A and SE1-B.

Under a separate Land Use Zoning Special Exception application the TCC had the following comments.

The PPC Attachment #4 entitled the "Waste Relocation Procedures" does include many specific actions that IESI intends to take to protect the environment, but some issues are still a concern. These are listed herein:

- a. Page WRP-2 in "Cap Removal" it states that the "Intermediate Cover beneath the membrane will remain in place". How would this be possible in areas where the old waste is being excavated and relocated?
- b. Page WRP-6 in "Odor Control" it states that the Contractor shall "Minimize the exposed area of refuse during the relocation operations". It is recommended that a maximum area of exposure be identified.
- c. Page WRP-8 in "Suspect Material Encountered during Refuse Excavation" describes the identification and remediation of uncovered waste that may need special care. It is recommended that IESI consider retaining an independent consultant to be on site on a continuous basis during all waste excavation and relocation operations to observe, record and make recommendations on specific safety, testing, odor control, handling care and relocation procedures.

14. Benefits and Harm-Environmental Social and Economic (Attachment 14)

The benefits and harms analysis in the application does not address the level of impact the traffic, noise, visual impacts, air quality and odors have on the surrounding residents. The summarized harms based on this initial review and in many cases discussed above, as well as response to some of the benefits claimed by IESI include:

- a. Existing and increased traffic harms not mitigated
- b. Existing and increased air quality degradation harms not mitigated
- c. Existing and increased odor harms not mitigated
- d. Existing and increased uncontrolled leachate harms not mitigated
- e. Increased visual impacts not studied or mitigated

This section includes a transportation compliance plan as Exhibit B, dated December 2014. No comment.

This section also includes a Nuisance Minimization and Control Plan (Exhibit C) which is undated.

Odors – While IESI proposes minimization and mitigation measures, the measures currently utilized since approximately 2012 have not been adequate to address the odor complaints from residential neighborhoods. More specific information with regard to daily intermediate and final cover and capping should be provided and or improvement to the gas collection system and flare system should be described so that mitigation of odors can be demonstrated.

Noise – The potential nuisance of noise impact on residents immediately to the southeast of the landfill should be identified and specific mitigation measures should be proposed.

Traffic – The hours of operation and location of direction should be identified for cover soil trucks approaching and leaving the site, and the nuisance of this additional traffic should be identified and mitigated.

A reevaluation of road capacity and safety conditions along Applebutter Road and Shimersville Road should be reevaluated and updated to address existing conditions and if deficiencies are found they should be mitigated.

Runoff – Stormwater Management Plans and Soil Erosion Control Plans will be evaluated under the technical reviews.

Leachate – Separate comments will be provided on this (potential nuisance) during the technical review of plans and designs.

AS NOTED, THE TOWNSHIP'S COMMENTS REGARDING POTENTIAL IMPACTS RELATING TO TRAFFIC, AIR QUALITY, ODOR, LEACHATE AND VISUAL ARE DISCUSSED IN GREATER DETAIL ABOVE AND BELOW. SEE, FOR EXAMPLE, RESPONSES AND REFERENCED EXHIBITS TO SECTIONS 4 (PARKS), 8 (HISTORICAL AND ARCHAEOLOGIC) AND 10 (TRAFFIC), AND PENNONI ASSOCIATES LETTER AT EXHIBIT 4 REGARDING TRAFFIC RELATED COMMENTS; SECTION 13 (AIR QUALITY IMPACTS) AND RESPONSE BELOW AT ITEM 1 REGARDING AIR QUALITY AND ODOR POTENTIAL RELATED COMMENTS; ITEM 1 BELOW AND ATTACHED LETTER FROM SMITH-GARDNER ASSOCIATES AT EXHIBIT 6 REGARDING LEACHATE RELATED COMMENTS; AND SECTIONS 4 (PARKS) AND 7 (RECREATION), AND EXHIBIT 3 REGARDING VISUAL IMPACT RELATED COMMENTS.

See specific comments elsewhere in this letter.

OTHER GENERAL COMMENTS AND QUESTIONS REGARDING SUBMITTED APPLICATION

During the review of the Form D and this first Environmental Assessment Process (EAP), the following concerns and questions were developed. These comments and questions do not constitute a full review of any of the technical aspects of this submission but are provided in a way of preliminary comments.

1. GIF (General Information Form):

- a. Samuel Donato - under client and site information. Mr. Donato is no longer employed by IESI to the Township's knowledge. The application and any future application supplements should be certified by the appropriate official, and new certification forms provided if Mr. Donato is no longer the IESI authorized contact, spokesperson or responsible official for this application, future application supplements, or for the proposed construction and performance of the design as submitted.

THE APPLICATION WAS PROPERLY CERTIFIED BY SAM DONATO, WHO WAS THE RESPONSIBLE OFFICIAL AT THE TIME OF APPLICATION. FUTURE SUBMISSIONS WILL BE CERTIFIED BY THE CURRENT RESPONSIBLE OFFICIAL, ON BEHALF OF THE COMPANY, IESI PA BETHLEHEM LANDFILL CORPORATION, A SUBSIDIARY OF PROGRESSIVE WASTE SOLUTIONS LTD. PA DEP HAS BEEN INFORMED OF ALL RELEVANT CHANGES TO FACILITY PERSONAL, AND AN APPLICATION UPDATE IS NOT REQUIRED.

No comment.

Item 1. Existing known environmental harms associated with landfill gas emissions have not been fully mitigated. Offsite odors continue to be a reported problem and concern. Documentation exists as to the numerous odor complaints received by IESI, the Township and PA DEP. The citing of excess methane emission readings by both IESI and PA DEP, and tracked by the Township since 2010 identify methane readings above regulatory limits in every Surface Emission Monitoring (SEM) event. PA DEP attributes these exceedances to lack of adequate cover (either in spot locations or area-wide) during current operations, and IESI then addresses the problem as required by the PA DEP. Lack of adequate cover in many areas of the site was also documented by PA DEP in a site inspection August 27, 2014. Although the documentation confirms known harms of odor and air emissions attributed to

inadequate cover practices, IESI has not been issued any substantive penalty, and the issue is temporarily mitigated by PA DEP directing actions until the next surface emission monitoring again indicates exceedances. The monitoring of emissions on only a quarterly basis by IESI and about twice per year by PA DEP, does not determine if exceedances across the site are continuing between those testing periods. The odor and gas exceedance problems are considered known harms with a long duration of recorded occurrence, a high frequency documented by numerous parties and a high intensity as also reported and documented. These existing harms are not proposed to be mitigated by the application, and several aspects of the proposed design (removal of over 30 acres of cap and excavation of existing waste discussed later in these comments), is expected to exacerbate the gas release and odor harms.

IESI CURRENTLY IMPLEMENTS AIR QUALITY MEASURES PURSUANT TO APPLICABLE APPROVALS, AND AS NOTED, IMPLEMENTS CORRECTIVE MEASURES PURSUANT THERETO AND CONSISTENT WITH PA DEP REQUIREMENTS. IN ADDITION, IESI IMPLEMENTS THE APPROVED NUISANCE MINIMIZATION AND CONTROL PLAN AND OPERATIONAL MEASURES TO REDUCE THE POTENTIAL FOR ALL NUISANCES, INCLUDING ODORS. IESI HAS RECENTLY RECEIVED APPROVAL TO UTILIZE TWO TEMPORARY CAP OPTIONS TO BETTER CONTROL GAS AND POTENTIAL ODORS IN PORTIONS OF CURRENT AND FUTURE TEMPORARILY INACTIVE DISPOSAL AREAS. FURTHER, AS DISCUSSED ABOVE, SPECIFIC MEASURES ARE PROPOSED TO ADDRESS THE CONTROL OF GAS AND THE POTENTIAL FOR ODORS RELATED TO THE PROPOSED CAP REMOVAL AND LINING OF THE OVERLAY AREA ASSOCIATED WITH THE SOUTHEASTERN REALIGNMENT PROJECT. ANY REMAINING POTENTIAL HARMS ASSOCIATED WITH ODORS AND LANDFILL GAS, AFTER TAKING INTO ACCOUNT THE VARIOUS CONTROL AND MITIGATION MEASURES ARE THEREFORE ADEQUATELY AND APPROPRIATELY DESCRIBED IN THE APPLICATION FOR EVALUATION DURING THE HARMS AND BENEFITS ANALYSIS.

THE COMMENT IS INCORRECT IN SEVERAL ASPECTS AS IT RELATES TO SURFACE EMISSION MONITORING. DURING THE INITIAL QUARTERLY SCAN, ANY READINGS ABOVE THE 500 PPM METHANE LEVEL RESULT IN CORRECTIVE ACTION BY FACILITY PERSONNEL—VERIFIED AS PERMANENTLY EFFECTIVE BY ADDITIONAL MONITORING PERFORMED IN 10-DAY AND 30-DAY INTERVALS FROM THE INITIAL QUARTERLY SCAN. ANY POINTS EXCEEDING THE 500 PPM LIMIT ARE NOT “TEMPORARILY MITIGATED” NOR IS PA DEP “DIRECTING ACTIONS” TO PERFORM TEMPORARY MITIGATION. THEY ARE PERMANENTLY REPAIRED AND VERIFIED AT LEAST TWO SEPARATE TIMES AFTER REPAIR PRIOR TO THE NEXT QUARTER’S MONITORING EVENT—AT WHICH TIME THE REPAIRS ARE YET AGAIN RE-VERIFIED. SECOND, AS DOCUMENTED IN PA DEP’S EFACTS’ WEBSITE, THE FACILITY HAS NOT BEEN ISSUED EVEN A SINGLE VIOLATION BY THE DEPARTMENT’S BUREAU OF AIR QUALITY, WHICH IS THE PA DEP BUREAU RESPONSIBLE FOR ENFORCING SURFACE EMISSION REQUIREMENTS, FOR ANY EMISSION OR ODOR RELATED ISSUE, DURING THE FIVE CALENDAR YEARS 2011-2015. IN ADDITION, BOTH FEDERAL AND STATE REQUIREMENTS ALLOW THREE ATTEMPTS AT PERMANENT REPAIR OVER A 30-DAY PERIOD, AND A 180-DAY PERIOD. ALL 3 OF WHICH MUST FAIL, BEFORE CORRECTIVE ACTION IS REQUIRED. AT IESI BETHLEHEM LANDFILL, EVERY SINGLE MONITORED POINT DURING THE LAST FOUR QUARTERLY EVENTS WAS EITHER IN COMPLIANCE INITIALLY, OR PERMANENTLY REPAIRED ON THE FIRST ATTEMPT WITHIN 10-DAYS OF DETECTION, AND VERIFIED AS CORRECTED DURING THE MANDATORY 10-DAY AND 30-DAY FOLLOW-UP MONITORING EVENTS.

The concern of this original comment is the ongoing exceedances across the site, regardless of the locations where the exceedances occur and the post repair methane readings. It is acknowledged that specific pinpoint locations are repaired and retested on a 10 and 30 day retest. The point is that in all Surface Emission Monitoring events over the last several years, additional, or repeat locations (that were “permanently repaired” in a past quarter) exceed the 500 ppm in the initial monitoring, before repairs. Continual quarterly repair of multiple gas breakthroughs, some at methane emission levels which exceeded 10,000 ppm, and numerous levels over 1,000 ppm, continue to be a significant concern, as well as the odor complaints.

Another known environmental harm that has not been addressed prior to submission of this application, nor mitigated or proposed to be mitigated, is the presence of leachate in the detection zone of one or more leachate management chambers originating from the Phase III lined area. This known harm has not been mitigated and there is no plan for further investigation or mitigation in this application. This condition has been a documented concern of the Township since the Township first brought this to light in the year 2000. This harm is possibly associated with some type of breach in the primary liner system, has increased in frequency (the flow is continuous), of long duration (since 2000), and of high intensity (exceeding the 100 gallons per acre per day triggering additional actions by the PA DEP). The application calls for removal of capped areas in Phase III, and more waste placed in this currently closed and capped area of the landfill. The potential harm of additional leachate generated by these new Phase III activities and resulting in even more leachate not being captured by the primary collection system has not been addressed.

THE FOLLOWING REPRESENTS A SUMMARY OF THE KEY CONCLUSIONS REGARDING THE DZ-6, DZ-7, AND DZ-8 (PHASE III AREA) DETECTION ZONE FLOWS (DZ) THAT HAVE BEEN INVESTIGATED AND EVALUATED IN PREVIOUS REPORTS AND RE-REVIEWED RECENTLY .⁽¹⁾

- 1. THE FLOWS IN DZ-6 AND DZ-7 HAVE BEEN WELL BELOW 100 G/AC/D FOR APPROXIMATELY 6 YEARS AS A RESULT OF THE CAPPING AND OTHER MEASURES PERFORMED IN 2008 AND 2009. PA DEP REQUIRES AN INVESTIGATION WHEN FLOWS EXCEED 100 G/AC/D.**

2. **THE INCREASED PUMPING FROM THE ABATEMENT WELLS BEGINNING IN 2006 HAS CREATED A MORE EFFECTIVE GROUNDWATER TROUGH DOWNGRADIENT OF THE PHASE III AREA.**
3. **WATER SAMPLES FROM THE MONITORING WELLS DOWNGRADIENT OF THE ABATEMENT WELL GROUNDWATER TROUGH CONFIRMS COMPLIANCE WITH MUNICIPAL WASTE LANDFILL GROUNDWATER ABATEMENT STANDARDS.**
4. **AFTER THE IMPROVEMENTS TO THE TOE DRAIN IN THE AREA OF DZ-8 WERE COMPLETED ON APRIL 4, 2010 AND MAY 8, 2011, THE FLOW RATES IN DZ-8 WERE REDUCED, WHICH RESULTED IN A PROPORTIONAL INCREASE IN THE CONCENTRATION OF TOTAL DISSOLVED SOLIDS IN DZ-8.**
5. **THE ELEVATED FLOW RATES IN DZ-8 ARE FROM STORMWATER, NOT FROM LEACHATE IN THE OVERLYING LC-8 SYSTEM.**
6. **THERE IS NO INDICATION THAT THE WATER QUALITY IN THE WELLS DOWNGRADIENT OF DZ-8 HAS BEEN ADVERSELY IMPACTED BY THE FLOW IN DZ-8.**
7. **BETHLEHEM LANDFILL IS CONTINUING TO MANAGE DZ FLOWS IN ACCORDANCE WITH PA DEP REGULATIONS.**

The Township Technical consultants are not able to concur that the flow in the LZ-8 can be confirmed as stormwater, and that there is zero risk of negative future impact. Whether the source of the contaminated water is stormwater, groundwater or leachate, there is evidence of a performance/integrity issue with the liner system in the Phase III which is resulting in flow of a contaminated water from the detection zone. The Owner and DEP should review options for minimizing the possible future negative impact on groundwater quality.

- b. Page 7 of 7 – Final certification should be signed by an authorized representative of the applicant. Mr. Donato is no longer employed by IESI Bethlehem Landfill.

SEE ABOVE RESPONSE – MR. DONATO PROPERLY EXECUTED THE DOCUMENT ON BEHALF OF THE APPLICANT.

No comment.

2. Form A (Application for Municipal Waste Permit) – We recommend that the public notice be issued to every adjacent property owner. The Affidavit should be signed by a current authorized representative.

IN COMPLIANCE WITH REGULATORY REQUIREMENTS, THE APPROPRIATE NOTIFICATION WAS SENT, CERTIFIED MAIL, TO ALL ADJACENT PROPERTY OWNERS - SEE ATTACHMENT A-2 OF FORM A OF THE SOUTHEASTERN REALIGNMENT APPLICATION.

No comment.

3. Form B (Professional Certification) – The soil scientist certification has not been completed.

BECAUSE OF THE LIMITED 'VIRGIN' FOOTPRINT ASSOCIATED WITH THIS PROJECT, THERE WERE NO BACKHOE PITS, ETC ASSOCIATED WITH THIS MODIFICATION, AND ALL SOIL IS BEING PURCHASED FROM OFFSITE SOURCES. AS SUCH, IESI CONTENDS THAT THE RESPONSE “N/A” IS APPROPRIATE FOR THE FORM B SOIL SCIENTIST ENTRY.

No comment.

4. Form C-1 (Compliance History Certification) – The Compliance History Form HW-C of June 10, 2014 (referred to and not included) may name Mr. Samuel Donato within its contents. If that is the case, the HW-C should be updated to identify his replacement.

MR. DONATO WAS THE LANDFILL OPERATIONS MANAGER, AND THUS WAS APPROPRIATELY INCLUDED WITHIN THE APPLICATION DOCUMENTS SUBMITTED. NOTE THAT FORM HW-C (OR C-1) IS SUBMITTED WITH THE ANNUAL REPORT FOR THE LANDFILL, AND THE NEXT SUCH FORM WILL NAME CURRENT PERSONNEL AS REQUIRED.

No comment.

5. Form F (Soil Information) – This section states that soil information is not applicable. If soils are to be imported, it is recommended that detailed soils information be provided.

SOILS SPECIFICATIONS ARE SET FORTH IN THE DEPARTMENT'S CHAPTER 273 MUNICIPAL SOLID WASTE REGULATIONS AT 25 PA CODE §§ 273.232-234, AND PURCHASED SOILS WILL BE REQUIRED TO MEET THESE SPECIFICATIONS.

No comment.

6. It is recommended that the Lower Saucon Municipal Authority provide review comments on proposed changes to the western edge of the landfill near the tower and waterline.

THE WESTERN EDGE OF THE LANDFILL IS BEING RETURNED TO THE CONDITIONS AS WERE APPROVED BY THE TOWNSHIP AND DEP WITH THE PHASE IV PERMIT. NO CHANGES BEYOND THOSE PREVIOUSLY APPROVED ARE BEING PROPOSED.

No comment.

7. Emergency Response – It is recommended that IESI verify that the City of Bethlehem Fire Department will remain available to fight fires at the landfill and that annual training of Emergency and Fire Company groups is still provided in accordance with Host Municipal Agreement.

BETHLEHEM LANDFILL WILL VERIFY THAT THE CITY FIRE DEPARTMENT WILL REMAIN AVAILABLE, AND THAT EMERGENCY TRAINING IS PROVIDED.

Documentation is requested.

8. Industrial Waste Permitting – It is recommended that IESI verify that they will be able to continue utilizing the City of Bethlehem Waste Water Treatment Plant, and as a backup, the Allentown Waste Water Treatment Plant for Leachate Treatment.

IESI BETHLEHEM LANDFILL WILL CONTINUE TO UTILIZE THE CITY OF BETHLEHEM POTW PURSUANT TO THE EXISTING ARRANGEMENTS WITH THE CITY, WITH ALLENTOWN AS THE

BACK-UP TREATMENT FACILITY, PER THE LETTERS (CITY OF BETHLEHEM AND LEHIGH COUNTY AUTHORITY) IN EXHIBIT 7.

No comment.

9. Air Quality Reviews – It is recommended that all Air Quality Permitting (for modifications and extensions of existing permits) be coordinated with the application process for this expansion.

THE AIR PLAN APPROVAL DOCUMENTS ASSOCIATED WITH THE SOUTHEASTERN REALIGNMENT PROJECT HAVE BEEN SUBMITTED TO DEP AND LOWER SAUCON TOWNSHIP.

No comment.

10. Mechanically Stabilized Earth (MSE) – It is recommended that IESI retain a Consulting Engineer to inspect the construction of the wall and provide a certification, upon its completion, that it has been constructed in accordance with certified design plans.

THIRD PARTY INSPECTION AND CERTIFICATION BY A REGISTERED ENGINEER IS REQUIRED FOR ALL SIGNIFICANT CONSTRUCTION ACTIVITIES UNDER THE PERMIT, WHICH INCLUDES THE MSE EMBANKMENT. IN ADDITION TO THE DESIGN PLANS FOR THE MSE EMBANKMENT, THE CONSTRUCTION QUALITY ASSURANCE PLAN INCLUDED IN FORM 24 SPECIFICALLY SETS FORTH THE MATERIAL AND PLACEMENT REQUIREMENTS FOR THE CONSTRUCTION AND CERTIFICATION THEREOF.

No comment.

11. Seismic Stability (Attachment 24) – D.A. Geologic (Seismic)(includes referenced Form 24) – Review continues (these preliminary comments do not yet consider a review of the MSE wall stability analysis or a complete technical review of the liner system Form 24).
 - a. The stability analysis narrative in Attachment 24-8 states that the new landfilling will occur over old Phases 1 and 2 of the site (16.25 acres), where non-compliant liners exist, and also over the area identified as “original landfill area” or “old fill” as designated on various plan sheets (an additional 6.16 acres). This description is different than what was conveyed at the public meeting on March 11, 2015, where the underlying areas were described as having “non-compliant liner

systems.” There is no liner under the “old fill” area. There were statements made during the public meeting regarding the intent to remove the existing cap and/or final cover soils on the Phases 1, 2 and old fill areas in approximately 5 acre sections prior to beginning reconstruction of a new gas collection system for the existing fill, then constructing the new liner on top. There is no construction or operations plan detailing, or even summarizing how the whole process will occur, and in what relative or timing sequence. Exposed, uncapped old fill areas will remain exposed to rainfall and could result in new leachate generation in unlined and non-compliant lined areas. The length of time and amount of area at any time this condition is to exist is not identified. The stability analysis does not seem to address a potentially wet surface of old refuse forming the foundation of sub-base stability for the added piggyback waste. New leachate could be generated in areas of unlined or non-compliant liners where the cap or existing cover is removed. There is no plan to prevent this leachate development or a plan to collect and control it within this application.

- b. The characteristics and compressibility of the decades old waste in Phases 1, 2, and the old original landfill “was assumed based on published values and load tests on waste from studies at other MSW landfills.” (Attachment 24-8, Section 6.1.2) However, the waste buried in the older sections consists of much construction/demolition debris, among potentially unregulated waste during the time period it was filled (1940s to 1980s). The waste was in place before the requirements of the 1988 municipal solid waste regulations which required compaction of the waste in 8 feet lifts, before different handling criteria for construction demolition waste landfills versus municipal waste landfills was enacted, and before RCRA (hazardous waste regulations) of 1976. Although eluded to in various sections of the stability analysis and other narratives, that many borings were taken and analyzed, borings or actual site characterization of the in-place refuse in Phases 1, 2, and the old fill have not been included in this application. There has been available fly over topography taken of the entire permitted area annually during Phases III and IV fill activities. The determination of settlement of the realignment area does not seem to have been evaluated from this available topographic data and used in the design. The geophysical survey is limited in useful data for this proposed operation in that large voids, existing moisture content, and increased moisture content of the old fill once the cap is removed, do not appear to be considered. It appears that full reliance on the stability of the new completed refuse mass is on the manufactured liner system to withstand whatever would happen below it, and no reliance on the stability of the waste mass beneath. This poses a concern with the design and stability of the piggyback waste area under static and seismic conditions.
- c. How many and which other landfills in Pennsylvania with similar age and type of waste that was buried in the 1940s through 1980s have been studied as to waste mass stability under similar new loading conditions as proposed here? Have those sites’ long term history of piggyback waste over decades old uncharacterized waste been studied regarding differential settlement? Where differential settlement should be expected to occur, how is the geogrid evaluated

after surface evidence of settlement to determine if it is holding over the void, thereby verifying the primary liner has not been compromised?

- d. Soil borings were presented from various historical drill logs. These drill locations are previous or existing monitor well locations, outside the existing waste boundaries proposed for piggyback fill. There were no borings, bearing capacities or subsurface investigation of the Phases 1, 2 or original unlined landfill areas to determine the in-situ characterization of waste that is expected to support a new liner and waste load. The use of book values instead of actual site values for the analyses does not lend confidence to the stability of the proposed expansion.
- e. Because the existing waste has not been characterized for this design, it must be considered that there may be closed metal or plastic containers, drums, or pockets of old wastes which are not even permitted to be buried in the compliant lined portion of the facility. Without documentation to the contrary, the potential for any number of hazardous, flammable, explosive, medical, or radioactive wastes underneath the new liner system and waste pack does exist. The added weight of additional refuse in this expansion could potentially break old containers open creating new mobile sources of contaminants which would be a threat to the groundwater aquifer. How does this design eliminate this risk?
- f. The geophysical survey conducted at the site generally detects metals in the upper 20 or so feet of old refuse. This survey did not discuss voids but did indicate areas of "rubble fill," a berm area that was surveyed, and the suggestion that mining had occurred in some areas in the last century due to piles of rock detected. In addition, it is known that there is much construction/demolition waste in this older landfill area, and stumps and other bulky clearing debris in the area referred to as the "notch" (which is not shown on the landfill drawings). The variability in waste type, placement location, depth, moisture, and level of degradation can be expected to result in differential settlement, and shifting under various load conditions (static and earthquake) much differently than a typical literature-based municipal solid waste pack that is more uniform in nature. How are the assumed values used in the stability analyses considered to be representative of what is actually buried in Phases 1, 2 and the old fill with no actual underlying waste data obtained for the design? The reaction of large potential existing void spaces, and larger area shifting of potential rubble piles in the old landfill areas under earthquake loading conditions does not seem to have been considered in the stability of the new proposed piggyback waste mass. Have this and any other such areas been further investigated?

SEE ATTACHED LETTER DATED AUGUST 17, 2015 FROM SMITH-GARDNER ASSOCIATES, EXHIBIT 6.

No comment.

- g. The gas collection system modifications on Phases 1, 2, and old fill areas call for the cutting off of existing vertical gas collection wells (19) at grade, and backfilling with bentonite (Plan Sheet LFG-1). With the new piggyback waste load further compressing the old in-place waste beneath it and around the old wellheads, how will these permanent and top cut well casings be prevented from becoming puncture points on the new secondary and potentially primary liner system above them? Has the design determined an additional expected settlement of the underlying area that ensures these abandoned in-place gas well casings (to be cut off at existing grade) do not breach the sub-base of the new liner system under a maximum settlement scenario?

THE EXISTING WELLS WILL BE CUT BELOW GRADE AS INDICATED ON THE PERMIT DRAWINGS. THE CALCULATED ADDITIONAL SETTLEMENT OF THE UNDERLYING WASTE IS 5.2 FEET. THE DEPTH OF THE WELL RISER CASING CUT WILL BE 10 FEET BELOW PROPOSED SUBBASE GRADE TO PROTECT AGAINST THE PIPE COMING IN CONTACT WITH THE NEW LINER ABOVE AS WASTE SETTLES AROUND THE EXISTING WELL CASING.

No comment.

- h. It is known that the Landfill slope stability, settlement and bearing capacity evaluation was performed by a different consultant than the MSE wall. It is known that the reaction of the waste mass to failure under static or earthquake load conditions will also have forces against the MSE wall. Has the stability and failure scenarios of the entire waste mass area been considered in the static and seismic stability of the MSE wall?

Based on the comments above, stability of the designed waste mass is of concern under static and earthquake loading conditions. Potential harms of extremely high intensity could result from a failure of this design. The duration of harms in such a case would be lengthy and potentially irreversible by causing damage to neighboring properties, and onsite engineered control systems (liner, cap, leachate collection, gas management, storm water management systems, for example).

SEE ATTACHED LETTER DATED AUGUST 17, 2015 FROM SMITH-GARDNER ASSOCIATES, EXHIBIT 6.

No comment.

12. Form 1 (Facility Plan):

The Facility plan Form 1, Attachment 1-1, Page 3 table shows the Cell 4-E will be the last area to be filled. Given its final grade continuity with the remaining Phases

III and IV, and that the timeframe to fill Cell 4-E is only 4 months, it is unclear why the western half of the facility is not being filled and capped first. The immediate completion and follow-up capping of the western portion of the facility would most certainly better control landfill gases. It is requested that PA DEP require the facility to develop a construction/fill/capping/operations plan, completing to grade and then final capping. The amount of uncapped area should be minimized by developing a staging plan that does not allow uncapped areas across the entire site. By the application mapping, it can be stated that since permitting of Phase IV in 2003, 30 of the 46 acres of the entire Phase IV remains uncapped across the entire hillside, while the remainder of Phase IV and many portions of the previous Phase III (permitted in 1993) have only been capped in recent years. In addition, as part of this application, portions of the capped Phase III will actually be removed. The capping/staging plans, Sheets LF-26, 27, 28 have no schedule for capping, only a general sequence. The acreage of capped versus uncapped area for each stage, and the length of time any active area remains uncapped should be identified. Capping is the single most effective method of containing and control landfill gas emissions and odors. It appears from the information provided that even more area will become uncapped or active during this operation than currently exists. The closure sequence should demonstrate much less uncapped area in each phase depicted on the referenced plan sheets, with committed time frames for the capping.

AS HAS PREVIOUSLY BEEN DISCUSSED WITH THE TOWNSHIP AND DEP, MOST RECENTLY DURING THE REVIEW/APPROVAL OF THE TEMPORARY CAPPING MINOR MODIFICATION (ISSUED SEPTEMBER 15, 2015) THE RATIONALE FOR THE SEQUENCE OF FILLING INCLUDED WITHIN THE APPLICATION WAS EXPLAINED.

THE USE OF SAID TEMPORARY CAPPING WILL HELP MINIMIZE THE AMOUNT OF UNCAPPED AREA ACROSS THE SITE. PLAN SHEETS LF-26 TO LF-28 (EXHIBIT 11) HAVE BEEN REVISED TO REFLECT THE INSTALLATION OF THE APPROVED TEMPORARY CAPPING, INCLUDING ADDITIONAL TEMPORARY CAPPING AS SOUTHEASTERN REALIGNMENT OPERATIONS MOVE INTO THE PROPOSED CELL SE1-A AREA (SEE LF-26).

THE TIME FRAMES ASSOCIATED WITH THE FILLING OF THE CURRENT COMPLIANT LINER FOOTPRINT AND THE 5 NEW CELL AREAS OF OPERATION, AS SHOWN ON LF-26 TO LF-28, AND ON PLAN SHEETS 20 TO 25, ARE TIED TO THE SCHEDULE

(LONGEVITY OF THE AREAS) AS INDICATED ON LF-64, WHICH HAS BEEN REVISED TO INCLUDE THE CAPPING ACTIVITIES ALSO. THE CAPPING SHOWN THEREON IS ASSOCIATED WITH THE OPERATION OF EACH SUCH AREA THUS, THE UNCAPPED ACREAGE, THROUGH THE 6 FILL AREAS IS AS FOLLOWS:

PHASE III/IV	17.9 ACRES
SE1-A	16.5 ACRES
SE1-B	17.0 ACRES
SE2-A	16.1 ACRES
SE2-B	16.5 ACRES
4-E	8.6 ACRES

The Final Cap schedule for each cell should be provided.

13. Site Capacity:

Ability for existing site to support the proposed expansion- Comments on space demonstrated to support the new construction, daily operations, and capping activities simultaneously.

It is stated in the application that there is no change to the existing Phase IV Operations Plan. However, changes in operations will include several items which are significantly different than Phase IV. A detailed operations, construction and staging plan to identify the following items and sequence of activities was not identified, including:

- Stockpiling of soils and construction materials – Soil stockpiling for daily and intermediate cover is indicated on the Erosion and Sedimentation Control Plans in the southeast corner where the new MSE wall is proposed. There are extremely limited remaining areas within the permit boundary that are unfilled. Sufficient non-capped or non-active areas of the site for stockpile of construction materials, including additional sub-base soils, protective layer stone, piping and liner materials area staging should be clearly demonstrated, especially with an aggressive construction, fill, cap and close plan of approximately 6 years total.

AS INDICATED IN THE APPLICATION, CONSTRUCTION AND COVER SOILS WILL BE PURCHASED AND DELIVERED FROM APPROVED OFF-SITE SOURCES, IN THE SAME MANNER AS HAS BEEN DONE OVER THE PAST FEW YEARS OF LANDFILL

OPERATION. AS HAS BEEN THE PRACTICE AT THE LANDFILL, TO THE MAXIMUM EXTENT PRACTICAL, MATERIALS DELIVERIES ARE SEQUENCED TO MINIMIZE ON-SITE STORAGE IN FAVOR OF DIRECT DELIVERY TO THE POINT OF USE, REDUCING DOUBLE HANDLING AND ATTENDANT FUGITIVE EMISSIONS POTENTIAL. ALSO, CONSISTENT WITH CURRENT AND PRIOR SITE CONSTRUCTION PRACTICE, WHEN MATERIALS NEED TO BE STAGED, THIS WILL TAKE PLACE ON THE EXISTING LANDFILL, AGAIN REDUCING VEHICLE AND FUGITIVE EMISSIONS POTENTIAL.

No comment.

- The Phase IV permit does not allow any stockpiling of soils/materials on capped areas due to the potential for cap damage, as demonstrated during that previous permit expansion review. The existing capped areas with the existing gas collection systems that are to remain functional and intact until modified or replaced should be delineated on the site plans and protected from all potentially damaging haul road traffic and staging activities.

CONSISTENT WITH THE 2003 PERMIT AND AS NOTED ON LF-19, NO SOIL IS TO BE STOCKPILED ON THE TOP OF CAPPED AREAS PRIOR TO PLACING SACRIFICIAL GEOTEXTILE OR GEOMEMBRANE ATOP FINAL CAP COVER. FINAL CAPPING IS NOT DEEMED “FINAL” UNTIL ANY STOCKPILED MATERIALS ARE REMOVED, AND THE CAP IS EVALUATED FOR INTEGRITY.

No comment.

- The process of cap removal of existing areas (proposed “piggyback” areas) should identify where and how the removed cap materials will be stored, staged, disposed or reused, without affecting existing capped areas.

CAP MATERIALS THAT ARE REMOVED FROM EXISTING AREAS WILL BE DISCARDED AS WASTE INTO THE ACTIVE LANDFILL AREA, RATHER THAN BEING STAGED AND REUSED.

No comment.

- The method of excavation of existing waste, staging, re-burial and complete odor suppression for both the re-alignment area waste excavated (trenches dug 3½ feet into the waste with additional 6 feet deep by 6 feet wide drainage pits throughout the area), and the excavation and removal of over 315,000 cubic yards of waste from cell 4E should be explained.

THE WASTE EXHUMATION PROGRAM, WHETHER TO INSTALL THE TRENCHES BENEATH THE OLD WASTE PRIOR TO THE INSTALLATION OF THE "PIGGYBACK" LINER OR IN THE CELL 4E AREA, WILL BE AS CURRENTLY APPROVED AND IMPLEMENTED, DATING BACK TO THE CONSTRUCTION OF CELL 3-D.

No comment.

The plans and narratives do not clearly demonstrate the ability for the existing permitted area to support all existing and new activities associated with the expansion without harm to existing on-site systems, nor do they demonstrate how the new harms will be mitigated.

AS NOTED ABOVE, THE SITE HAS BEEN IMPLEMENTING BOTH MATERIALS STORAGE/MANAGEMENT AND AVOIDANCE OF HARMS TO EXISTING ON-SITE SYSTEMS FOR MANY YEARS IN THE SAME MANNER AS WILL BE USED DURING THE CONSTRUCTION OF THIS PHASE OF THE PROJECT. THESE PROCEDURES ARE DETAILED ON DRAWING LF-19.

No comment.

On behalf of the Township Technical Consultant Committee, we recommend that the Township forward these comments and questions to DEP and to the applicant for their use and consideration.

All the comments and questions in this letter are provided to a reasonable degree of engineering certainty. The size and complexity of the application and the short length of the review time may have resulted in our missing some answers to some of our questions or may have resulted in our missing sections of reports that have already addressed concerns we have raised. We look forward to responses to these questions and comments from the applicant as part of the review process.

If you have any comments or questions on this review, please let me know.

Ms. Leslie Huhn, Acting Township Manager
Lower Saucon Township

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January 27, 2016

Respectfully,

HANOVER ENGINEERING ASSOCIATES, INC.



James B. Birdsall, PE
Township Engineering Representative
to the Township Technical Consultant Committee

jbb:lbb

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