BETHLEHEM LANDFILL PHASE V EXPANSION CONDITIONAL USE APPLICATION PLAN Bethlehem Landfill Company "Exhibit A"

PLAN PURPOSE:

THE PURPOSE OF THIS PLAN IS TO SERVE AS AN EXHIBIT (EXHIBIT A) TO THE CONDITIONAL USE APPLICATION FOR THE PHASE V EXPANSION AT THE BETHLEHEM LANDFILL. THE PHASE V EXPANSION ENCOMPASSES THE FOLLOWING:

117.4 ACRES OF LATERAL EXPANSION (NEW DISPOSAL FOOTPRINT / NEWLY LINED AREA) AND 26.74 ACRES ATOP PREVIOUSLY PERMITTED LINED DISPOSAL AREA. THE TOTAL PHASE V DEVELOPMENT AREA, WHICH INCLUDES THE PROPOSED DISPOSAL AREA AS WELL AS ASSOCIATED NEW OR ALTERNATIVE LANDFILL SUPPORT ACTIVITIES AND STRUCTURES, IS 189.0 ACRES, ALL TO BE LOCATED WITHIN WHAT WILL ULTIMATELY BE A CONSOLIDATED 503.4595 ACRE PARCEL (SAID CONSOLIDATION TO BE SOUGHT AS PART OF THE FUTURE LAND DEVELOPMENT APPROVAL PROCESS).

ZONING APPROVAL:

IN 1993, 2001, 2016, AND 2020 THE LOWER SAUCON TOWNSHIP ZONING HEARING BOARD GRANTED SPECIAL EXCEPTION APPROVAL TO UTILIZE 206 ACRES OF THE SUBJECT PARCEL FOR LANDFILL USE.

THE PHASE V EXPANSION EXTENDS BEYOND THE 206 ACRE LANDFILL USE PREVIOUSLY GRANTED. THE LOWER SAUCON TOWNSHIP ZONING ORDINANCE HAS BEEN AMENDED TO INCLUDE WASTE DISPOSAL FACILITIES AS CONDITIONAL USES WITHIN THE LIGHT INDUSTRIAL ZONING DISTRICT. THUS BETHLEHEM LANDFILL CORPORATION IS SEEKING CONDITIONAL USE APPROVAL FOR THE PHASE V EXPANSION DEPICTED HEREIN.

GENERAL NOTES:

- 1. DEVELOPMENT PROPOSED HEREIN IS WITHIN A TO BE CONSOLIDATED 503.4595 ACRE TRACT COMPRISED OF SEVEN (7) TRACTS. A LOT CONSOLIDATION AND SUBDIVISION PLAN SHALL BE FILED WITH LOWER SAUCON TOWNSHIP TO CREATE THE SUBJECT PARCEL.
- 2. THE PHASE V EXPANSION INCLUDES ADDITIONAL DISPOSAL CAPACITY AND PROPOSES LANDFILL OPERATIONS BEYOND THE EXISTING PADEP PERMIT BOUNDARY FOR BETHLEHEM LANDFILL. AS SUCH, A PADEP SOLID WASTE PERMIT MAJOR MODIFICATION IS REQUIRED PRIOR TO COMMENCEMENT OF DEVELOPMENT.
- 3. UTILITY LOCATIONS SHOWN ON ALL PLAN SHEETS SHALL BE FIELD VERIFIED IN ACCORDANCE WITH PA ACT 187 PRIOR TO ANY
- 4. NO DEVELOPMENT IS PROPOSED WITHIN OR DIRECTLY ADJACENT TO PUBLIC RIGHTS OF WAY OF SKYLINE DRIVE, RIVERSIDE DRIVE AND APPLEBUTTER ROAD.
- 5. SOME SITE INFORMATION FOR THESE PLANS HAS BEEN COMPILED FROM DRAWINGS FURNISHED BY GANNETT FLEMING, INC. OF HARRISBURG, PENNSYLVANIA AND AMERICAN RESOURCE CONSULTANTS, INC. OF DOYLESTOWN, PENNSYLVANIA.
- 6. BASE MAPPING CREATED BY COMPILING TOPOGRAPHY FROM LOCKWOOD MAPPING CO. DATED 2-2-99 & TVGA ENGINEERING, SURVEYING, P.C. DATED APRIL 1998. MAPPING HAS BEEN FIELD VERIFIED. DISPOSAL AREA INFORMATION TAKEN FROM PHASE III PERMIT DWGS. BY GANNETT FLEMING. DATED NOV. 9, 1993. EXISTING PROPERTY LINE DATA TAKEN FROM PLAN BY KEYSTONE CONSULTING ENGINEERS, INC. REVISED THRU 12-13-00 AND A BOUNDARY SURVEY BY BYERS AND RUNYON SURVEYING, CHAMBERSBURG, PA.
- 7. "EXISTING CONDITIONS" AS DEPICTED HEREIN CONSIST OF EITHER ACTUAL FIELD CONDITIONS TAKEN FROM THE REFERENCED AERIAL PHOTOGRAPHY OR THOSE PREVIOUSLY APPROVED CONDITIONS AS OUTLINED WITHIN THE SOUTHEASTERN REALIGNMENT, RNG FACILITY, AND THE NORTHERN REALIGNMENT LAND DEVELOPMENT PLANS.

UTILITY CONTACTS:

WATER / SEWER:
LOWER SAUCON AUTHORITY
3706 OLD PHILADELPHIA PIKE
BETHLEHEM, PENNSYLVANIA 18015
PH: (610) 317-3212
EMAIL: administrator@lowersauconauthority.org

CALPINE ENERGY CENTER
2254 APPLEBUTTER ROAD
BETHLEHEM, PENNSYLVANIA 18015
PH: (601) 861-6130

UGI UTILITIES, INC
P.O. BOX 13009
READING, PA 19612
PH: (800) 276-2722
EMAIL: customerservice@ugi.com

STORM SEWER:
LOWER SAUCON TOWNSHIP - PUBLIC WORKS
CONTACT: ROGER RASICH
3700 OLD PHILADELPHIA PIKE
BETHLEHEM, PENNSYLVANIA 18015
PH: (610) 865-3291
EMAIL: dirpw@lowersaucontownship.org
SANITARY SEWER:
WASTE CONNECTIONS
CONTACT: DAVID PANNUCCI

2335 APPLEBUTTER ROAD

PH: (610) 317-3200

BETHLEHEM, PENNSYLVANIA 18015

david.pannucci@wasteconnections.com

827 HAUSMAN ROAD

PH: (888) 220-9991

ALLENTOWN, PA 18104

NEIGHBORHOOD PROTECTION:

BETHLEHEM LANDFILL COMPANY SHALL COMPLY WITH THE REQUIREMENTS OF ZONING ORDINANCE SECTION 180-96 OF THE LOWER SAUCON TOWNSHIP ZONING ORDINANCE AS IT PERTAINS TO GENERAL PERFORMANCE STANDARDS REGARDING NEIGHBORHOOD PROTECTION IN SO FAR AS THESE STANDARDS ARE WITHIN THE LIMITATIONS OF NORMAL LANDFILL OPERATIONS AND PROCEDURES.

PENNDOT OCCUPANCY PERMITS:

1) DRIVEWAY ACCESS IMPROVEMENTS TO A STATE HIGHWAY SHALL BE AUTHORIZED ONLY BY HIGHWAY OCCUPANCY PERMIT ISSUED BY THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION, AS REQUIRED PURSUANT TO SECTION 420 OF THE ACT OF JUNE 1, 1945, P.L. 1242, NO. 428, KNOWN AS THE "STATE HIGHWAY LAW" (36 P.S. 670-420).

2) BUILDING PERMITS SHALL NOT BE ISSUED UNTIL OR AFTER SAID HIGHWAY OCCUPANCY PERMIT HAS BEEN ISSUED.

3) APPROVAL OF THIS PLAN DOES NOT REPRESENT ANY GUARANTY OR ASSURANCE BY LOWER SAUCON TOWNSHIP THAT A HIGHWAY OCCUPANCY WILL BE ISSUED BY THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION.

4) NO MODIFICATIONS ARE PROPOSED TO THE EXISTING LANDFILL ACCESS FROM APPLEBUTTER ROAD.

5) ALL CURRENT AND FUTURE OWNERS ARE HEREBY NOTIFIED OF THE REQUIREMENT THAT THEY INSTALL, AT THEIR SOLE COST AND EXPENSE, CURBING IN ACCORDANCE WITH TOWNSHIP SPECIFICATIONS IF AND WHEN LOWER SAUCON TOWNSHIP OR PENNDOT INSTALLS CURBING ALONG APPLEBUTTER ROAD.

RIPARIAN CORRIDOR BUFFER, WETLANDS, FLOODPLAIN:

1) THE RIPARIAN CORRIDOR BUFFERS AS ILLUSTRATED HEREIN ARE SUBJECT TO THE RESTRICTIONS OUTLINED IN SECTION 180-95(F) OF THE LOWER SAUCON TOWNSHIP CODE. THE RIPARIAN BUFFERS DEPICTED WERE TAKEN FROM PHASE IV, SOUTHEASTERN REALIGNMENT AND NORTHERN REALIGNMENT LAND DEVELOPMENT PLANS PREPARED BY MARTIN AND MARTIN.

2 TEN (10) WETLANDS HAVE BEEN DELINEATED WITHIN THE SUBJECT PROPERTY. THESE WETLANDS ARE IDENTIFIED AS WETLANDS A THRU J. WETLANDS A AND B WERE ARE TAKEN FROM THE PHASE III CITY OF BETHLEHEM LANDFILL PADER PERMIT APPLICATION. WETLANDS A AND B WERE REVIEWED AND CONFIRMED BY THE USACE AS PART OF THE PHASE IV BETHLEHEM LANDFILL EXPANSION. WETLAND C DELINEATED BY ROEMER ECOLOGICAL SERVICES AS SHOWN HEREIN WAS REVIEWED AND CONFIRMED BY THE USACE IN 2014 AS PART OF THE SOUTHEASTERN REALIGNMENT. WETLANDS D THRU J WERE DELINEATED BY TRIAD ENGINEERING INC, HAGERSTOWN, MD. IN 2020 AND HAVE NOT BEEN REVIEWED OR CONFIRMED BY USACE. USACE REVIEW AND CONFIRMATION WILL BE MADE IN CONJUCTION WITH THE PHASE V EXPANSION PADEP SOLID WASTE PERMIT APPLICATION.

3) BASED UPON AN EXAMINATION OF THE LOWER SAUCON TOWNSHIP FLOOD INSURANCE RATE MAPPING AS PREPARED BY FEMA, THERE IS IDENTIFIED FLOOD PLAIN ASSOCIATED WITH THE SUBJECT PROPERTY WHICH LIES ENTIRELY IN ZONE X. SAID FLOODPLAIN IS IDENTIFIED ON THESE PLANS BEING LOCATED ON THE FORMER REDDINGTON PARCEL. NO DEVELOPMENT IS PROPOSED WITHIN THE FLOODPLAIN.

4) THE GRANT OF A PERMIT OR APPROVAL OF A SUBDIVISION AND/OR LAND DEVELOPMENT PLAN IN OR NEAR FLOODPLAIN AREAS SHALL NOT CONSTITUTE A REPRESENTATION, GUARANTY OR WARRANTY OF ANY KIND BY THE TOWNSHIP OR AN OFFICIAL, CONSULTANT OR EMPLOYEE THEREOF OF THE PRACTICABILITY OR SAFETY OF THE PROPOSED USE, AND THE OWNERS HEREBY AGREE AND ACKNOWLEDGE THAT SUCH PERMITS OR APPROVALS SHALL NOT CREATE ANY LIABILITY UPON THE TOWNSHIP, ITS OFFICIAL, EMPLOYEES OR CONSULTANTS.

JANUARY 6, 2023

LOWER SAUCON TWP.

OWNER / APPLICANT

BETHLEHEM LANDFILL COMPANY 2335 APPLEBUTTER ROAD BETHLEHEM, PA 18015 MR. DAVID PANUCCI PHONE: (610) 317-3200

OWNER / APPLICANT

DENNIS M. AND CHRISTINE HAHN 2396 RIVERSIDE DRIVE BETHLEHEM, PA 18015

PREPARED BY:



phone: (717) 37 South Main Street • Suite A 264-6759 Chambersburg, Pennsylvania 17201

THEM Bayers Schools To Steel City Nazareth, PA Quad Nazareth, PA Quad LOCATION MAP SCALE: 1" = 2,000'

REV. FEBRUARY 23, 2023

NORTHAMPTON COUNTY

TABLE OF CONTENTS

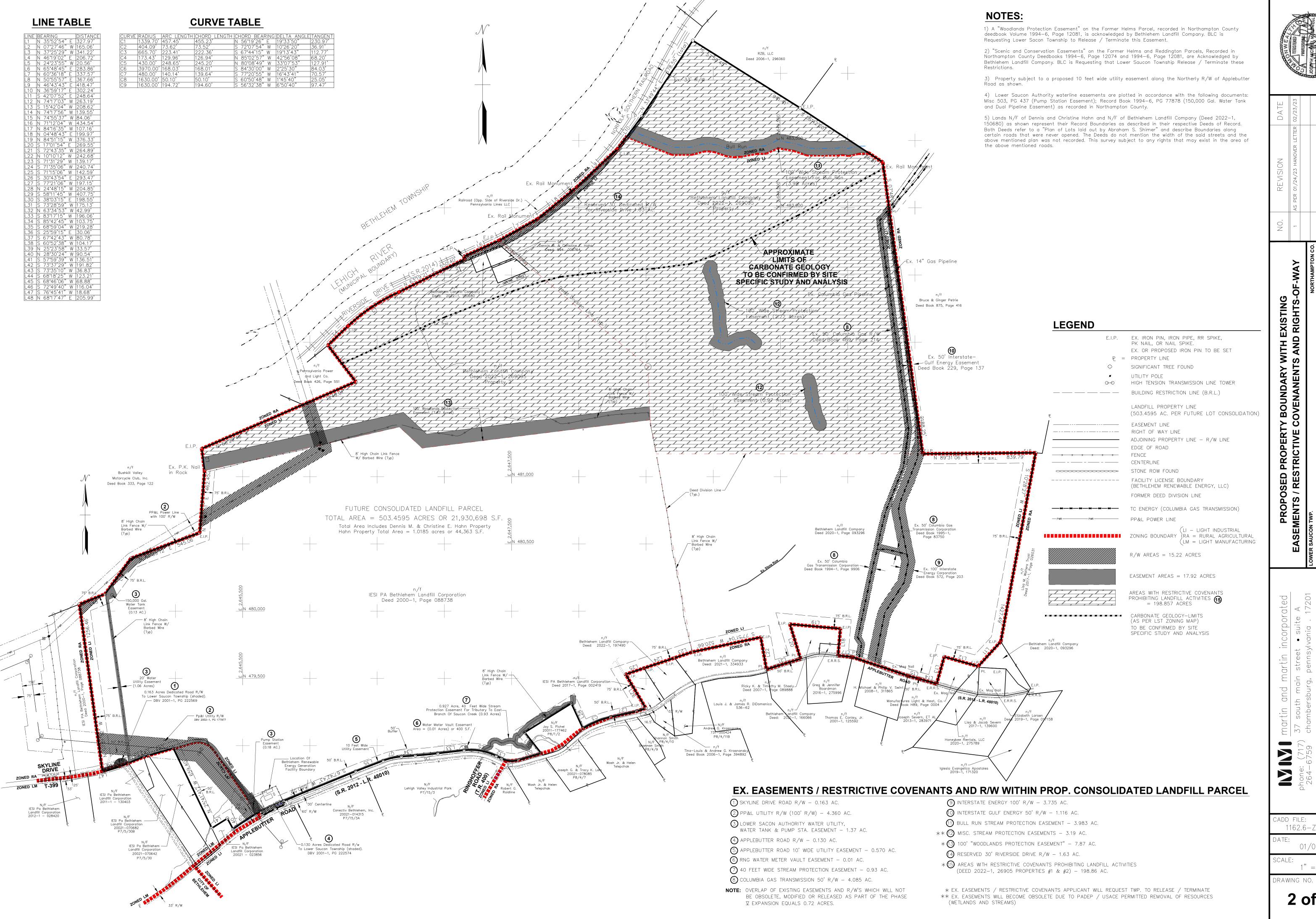
SHEET	NAME
1	COVER SHEET
2	PROPOSED PROPERTY BOUNDARY WITH EXISTING EASEMENTS / RESTRICTIVE COVENANTS AND RIGHTS-OF-WAY
3	OVERALL EXISTING CONDITIONS / APPROVED DEVELOPMENT PLANS
4	EXISTING CONDITIONS - APPLEBUTTER ROAD / SKYLINE DRIVE
5	EXISTING CONDITIONS - APPLEBUTTER ROAD

6 EXISTING CONDITIONS - APPLEBUTTER ROAD
7 EXISTING NATURAL RESOURCES PLAN
8 WOODLAND NATURAL RESOURCES PLAN
9 STEEP SLOPE NATURAL RESOURCES PLAN

9 STEEP SLOPE NATURAL RESOURCES PLAN
10 CONDITIONAL USE DEVELOPMENT PLAN
11 ACCESS ROAD DETAILS

2 NEIGHBORHOOD PROTECTION ANALYSIS

FILE: 1162.6—(Phase 5 Zoning Plan) 1162.6—ZP—01



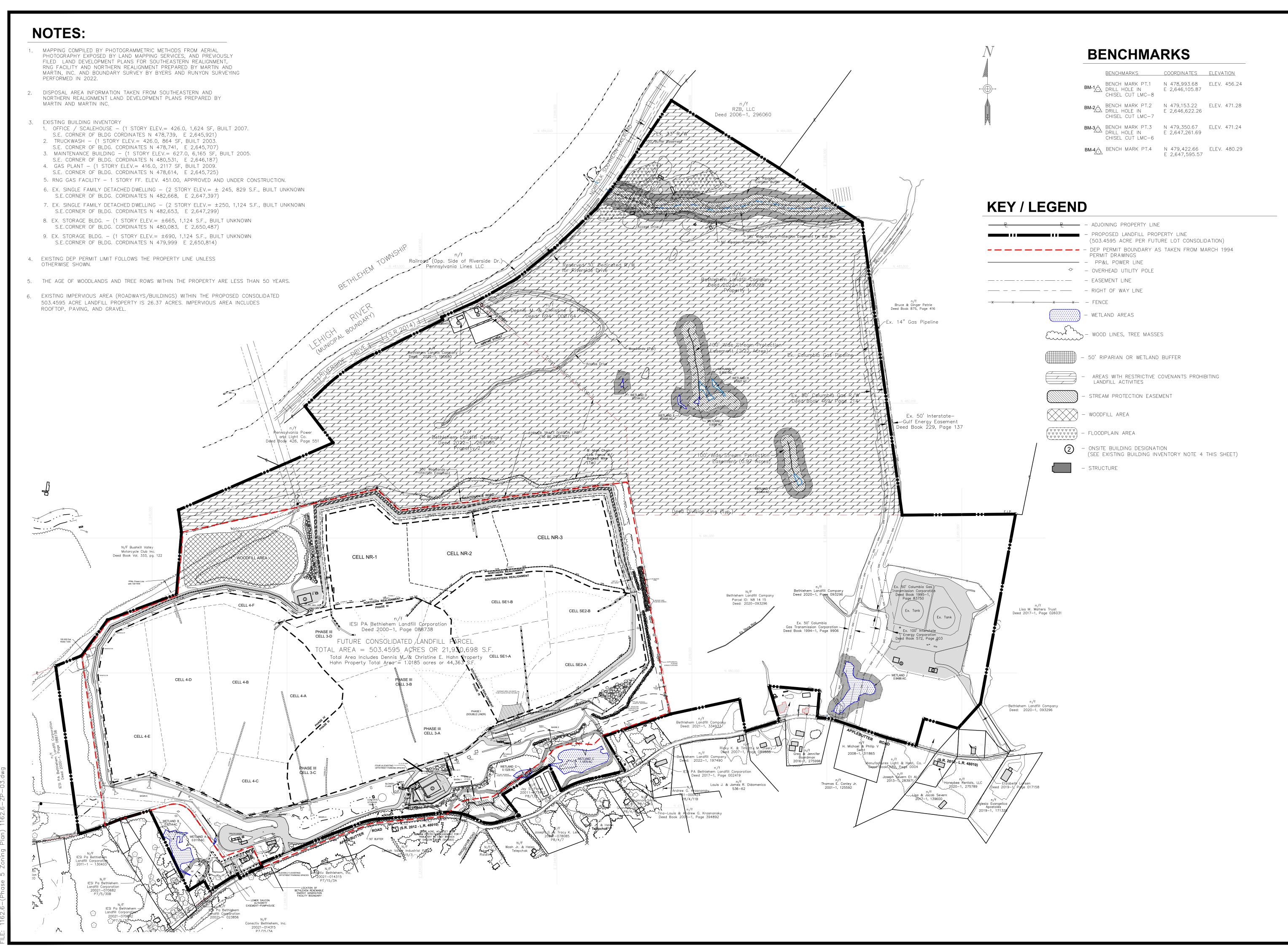
DATE	02/23/23			
REVISION	AS PER 01/24/23 HANOVER LETTER 02/23/23			
ON	-			

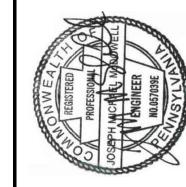
1162.6-ZP-02.dw

j M

01/06/23

1" = 300'





SIV	.0N	REVISION	DATE	
	F	AS PER 01/24/23 HANOVER LETTER 02/23/23	02/23/23	
MPTON CO.				

NERALL EXISTING CONDITIONS / APPROVED DEVELOPMENT PLANS

INDITION TO NORTHAMPTON CO.

BETHLEHEM LANDFILL PHASE V EXPANSION CONDITIONAL USE APPLICATION PLAN

BETHLEHEM LANDFILL PHASE V EXPANSION CONDITIONAL USE APPLICATION PLAN

BETHLEHEM LANDFILL PHASE V EXPANSION CONDITIONAL USE APPLICATION PLAN

Bethlehem Landfill Company

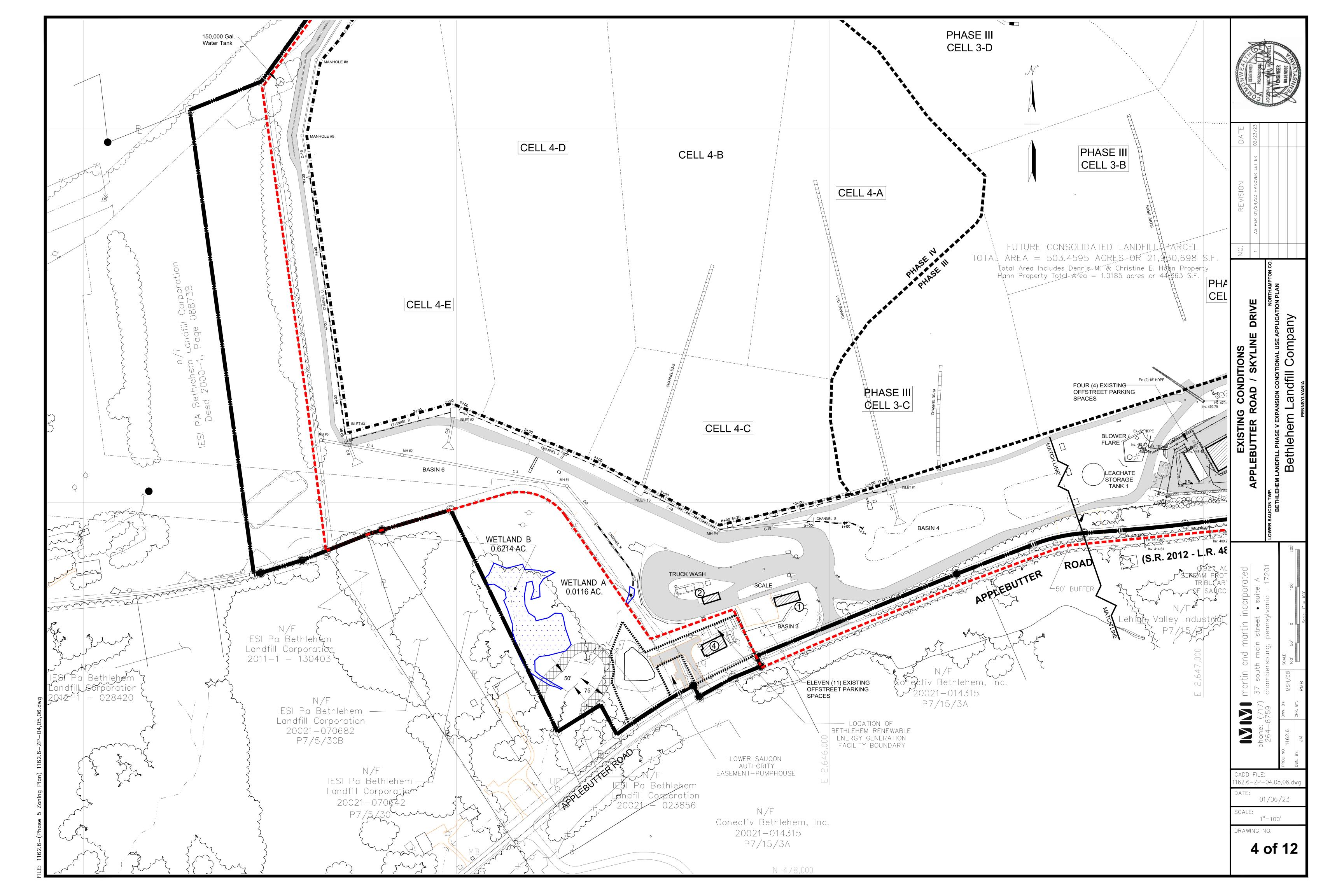
martin and martin incorporate (717) 37 south main street • suite A (717) chambersburg, pennsylvania . 17

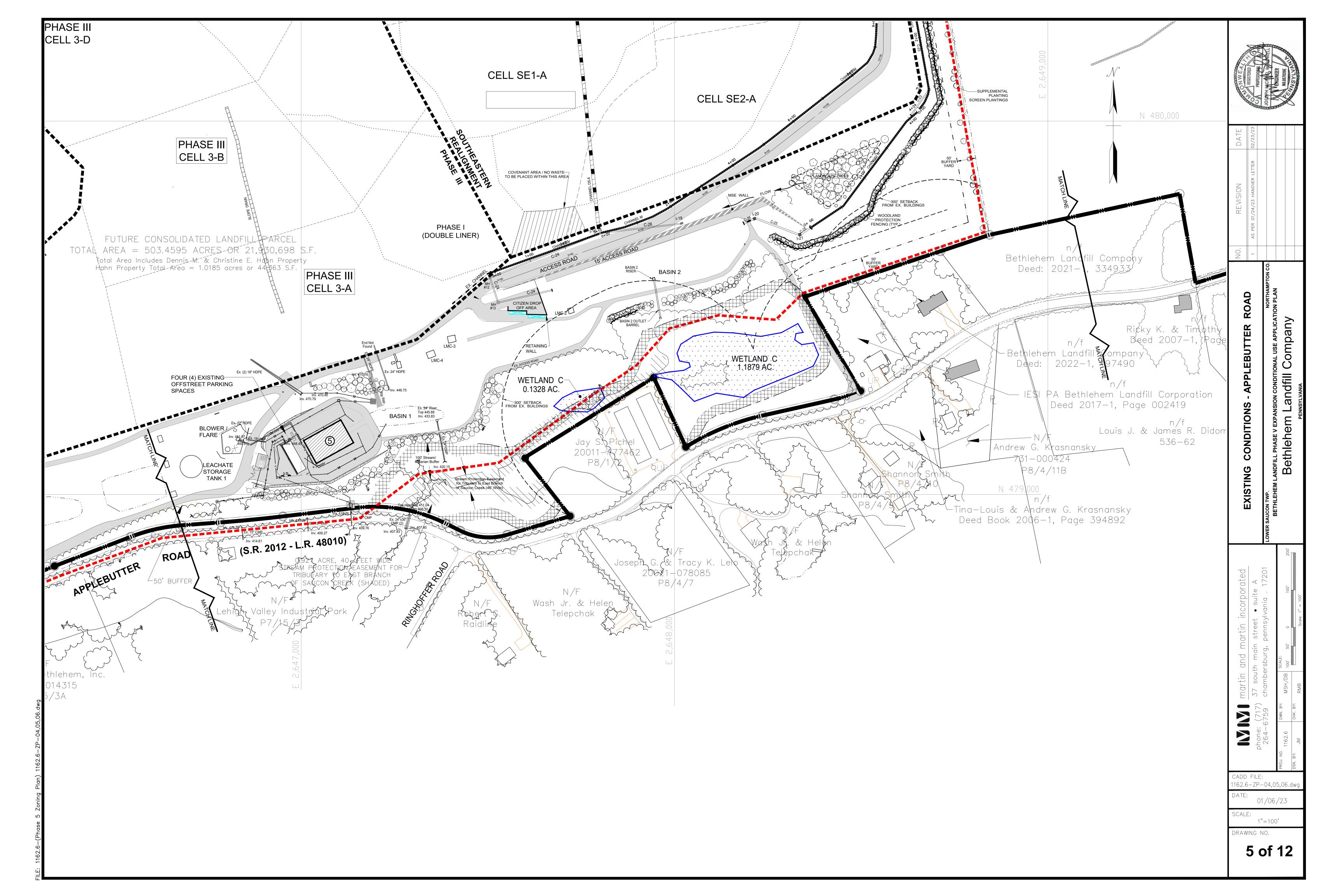
phone: (7 264-67; PROJ. NO. 1162.6 DM

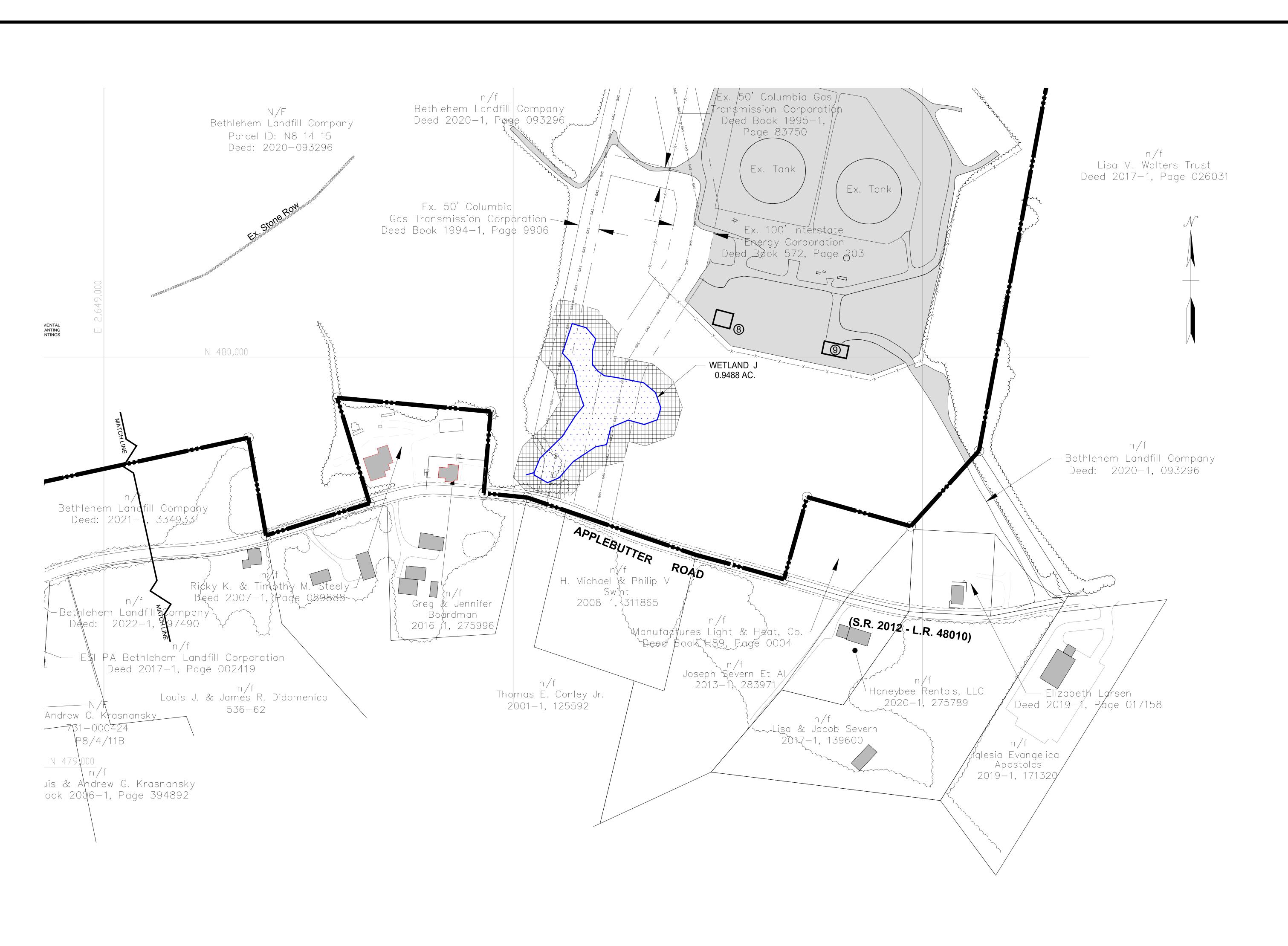
ADD FILE: 1162.6-ZP-03.dw

01/06/23

1" = 300'DRAWING NO.









nd martin incorporated	CACO CATTIGAL ABBI EBITTED DOAD	O Z	REVISION	DATE
main street • suite A	EXISTING CONDITIONS - APPLEBOLLEN NOAD	—	AS PER 01/24/23 HANOVER LETTER	02/23/23
burg, pennsylvania . 17201	LOWER SAUCON TWP. NORTHAMPTON CO.			
	DETUI FUEM I ANDEIL I BUAGE V EVBANCION CONDITIONAL LIGE ABBI ICATION BLAN			
LE:	DETRICATION PLANS VENTANS ON CONDITIONAL OSE APPLICATION PLANS			
, 50, 0 100' 200'	Betnienem Landfill Company			
Scale: 1" = 100'	PENNSYLVANIA			

 \geq \geq

martin and
37 south mo

CADD FILE: 1162.6-ZP-04,05,06.dwg 01/06/23

SCALE: 1"=100'

DRAWING NO.

GENERAL NOTES:

The Bethlehem Landfill site is an existing permitted landfill proposing a Phase V Expansion on a to be consolidated parcel containing 503.4595 acres. As shown on the Natural Resources Delineation Plan and per discussions with Township staff and consultants, the site capacity/buildable area analysis and environmental resource protection analysis following includes only those new properties to be added to the existing Landfill lot which have a gross area of 286.00 acres

BLC is proposing to develop the Phase V Expansion in accordance with Section 180-109(G) of the Lower Saucon Township Zoning Ordinance (Natural Resource Mitigation Alternative) and has provided the information and calculations required by that section on this Sheet 7 of 12. BLC requests, as part of this Conditional Use Application, that Lower Saucon Township Council provide written approval for BLC to exceed the net buildable site area permitted by Section 180-95(C)(2)(c)("Permitted Net Buildable Site Area"), utilizing a greater area of natural resource protection land than would otherwise be permitted by the Resource Protection Standards contained in Section 180-95 ("Excess Resource Utilization"), as is proposed on this Sheet 7 of 12. Per Section 180-109(G) of the Lower Saucon Township Zoning Ordinance, BLC will demonstrate and make the required dedication and/or fee-in-lieu of dedication payment prior to final land

BASE SITE AREA

development approval.

In accordance with the Zoning Ordinance, the base site area (excluding the existing Landfill lot) is calculated by taking the gross property area from survey minus those rights-of-way and easements within the properties analyzed as shown on plan Sheet 2 of 12. Where easements or rights-of-way overlap, only one easement or right-of-way is subtracted from the gross area. The easements/restrictive covenants and rights-of-way that are included within this calculation are only those existing easements/restrictive covenants and rights-of-way that will not either become obsolete as a result of PADEP/USACE permitted removal of the corresponding resource or be released/terminated by Lower Saucon Township in conjunction with the Phase V project. The calculation is as follows:

Existing Rights-of-Way: (11.32 ac.) (2(0.75ac.),8,9,10 & 14 See Sheet 2 of 12 (3.98 ac.) (11See Sheet 2 of 12) Easement & Rights-of-Way Overlap: 0.02 ac. Base Site Area:

RESOURCE PROTECTION

As calculated above, the Base Site Area is 270.72 acres. Within this base site area the resources described in the table below have been delineated along with the required resource protection area for each. As required where two (2) or more resources overlan. the one with the highest reservation was delineated hereon (Exhibit #1).

RESOURCE	REQUIRED RESERVATION	LAND IN RESOURCE	RESOURCE PROTECTION = LAND
Floodplains	100%	2.26 ac.	2.26 ac.
Wetlands	100%	0.75 ac.	0.75 ac.
Waters of the Commonwealth*	100%	10.85 ac.	10.85 ac.
Env. Sensitive Woodlands	85%	213.61 ac.	181.57 ac.
Steep Slopes >25%	85%	0.10 ac.	0.09 ac.
Woodlands	80%	21.83 ac.	17.46 ac.
Steep Slopes (15% to 25%)	70%	0.58 ac.	0.41 ac.
Steep Slopes (8% to 15%)	60%	0.26 ac.	0.16 ac.
	TOTALS	250.24 ac.	213.55 ac.

* Waters of the Commonwealth include wetland buffers, riparian buffers and existing stream easements to be removed as a result of PADEP/USACE Permits.

BUILDABLE AREA

Utilizing the base site area and the total resource protected land on those new parcels to be consolidated with the exiting landfill lot, the net buildable area within the new parcels (excluding the existing landfill lot) is calculated as

Upon development of the Phase V Expansion, the total area of development on the parcels to be consolidated with the existing Landfill lot will be 180.50 acres, which is 123.33 acres more than the calculated Buildable Site Area of 57.17 acres. Thus, Bethlehem Landfill proposes to utilize 123.33 acres more of protected land than permitted under Section 180-95 for the Phase V Expansion.

Per Section 180-109(G)(8) of the Zoning Ordinance, prior to receiving final land development approval for the Phase V Expansion, BLC will be required to dedicate 123.33 acres to the Township for preservation or, if it demonstrates to the satisfaction of the Township Council, that it was unable to obtain any or enough property for said dedication, pay a fee in lieu of dedication on that

MAXIMUM IMPERVIOUS AREA

Calculation of the maximum impervious area is determined by multiplying the calculated buildable site area times the maximum permitted impervious surfaces ratio. The properties analyzed for site capacity are located in two (2) zoning districts. Those districts are Light Industrial (LI) and Rural Agricultural (RA). The LI district has an allowable impervious ratio of 60% while the RA district maximum impervious ratio is 20%.

Given the entire area of development on the new properties is entirely in the LI District, the 60% impervious ratio was used to calculate the maximum allowable impervious surface for this analysis to document compliance with the ordinance. The maximum allowable impervious surface on the parcels to be consolidated to the existing Landfill lot is calculated as follows:

Buildable Site Area (57.17 ac.) $\times 0.60 = 34.30$ ac.

The proposed impervious area on the new or to be consolidated parcels, upon development of the Phase V Expansion, is 11.77 acres. This includes all proposed paved or gravel surfaces on the 286.0 acre gross site area. Thus, the maximum allowable impervious surface area is not exceeded with the proposed Phase V

SITE CAPACITY CALCULATION SUMMARY

Base Site Area = 270.72 ac.

Allowable Buildable Site Area = 57.17 ac.

Pro. Buildable Site Area = 180.50 ac. Max. Permitted Number of DU's = N/A

Max. Permitted Impervious Surfaces = 34.30 ac.

Pro. Impervious Surfaces = 11.77 ac.

As outlined above, Bethlehem Landfill proposes to utilize more protected lands than permitted by Section 180.95. In accordance with 180-109(G) of the LST Zoning Ordinance, the excess resource utilized is the difference between the allowable buildable site area and the proposed buildable site area, which is 123.33

Thus, per Section 180-109(G)(8) of the Zoning Ordinance, prior to receiving final land development approval for the Phase V Expansion, BLC will be required to dedicate 123.33 acres to the Township for preservation or, if it demonstrates to the satisfaction of the Township Council, that it was unable to obtain any or enough property for said dedication, pay a fee in lieu of dedication on that

WETLANDS AND WETLAND BUFFERS

Based upon wetland determination and study performed onsite, seven (7) wetlands (d thru J) exist within the parcels to be consolidated with the existing Landfill Lot having a total acreage of 1.22 acres. Wetlands will be impacted as a result of the Phase V Expansion. Wetlands D thru I are proposed to be removed and mitigated by benefit of a PADEP/USACE Permit. The Ordinance requires a 100% protection rate for wetlands. Thus, Bethlehem proposes to utilize more protected land (wetlands) than permitted as outlined below.

Wetland buffers are defined by the Ordinance as 50 feet beyond the wetland boundary. Wetland buffers exist within the new parcels to be consolidated to the Landfill Lot. Wetland buffers have a protection rate of 85%. The Phase V Expansion proposes utilization of the wetland buffers. As outlined, Bethlehem Landfill proposes to utilize more protected land (wetland Buffers) than permitted.

Resource	Resource Total Area	Utilized Area	Req. Protection Rate	Pro. Protection Rate
Wetland	1.22 ac.	0.27 ac.	100%	78%
Wetland Buffer	4.09 ac.	2.57 ac.	85%	37%

LAKES AND PONDS

No lakes or ponds exist within the consolidated property of the Landfill. The Phase V Expansion proposes no impacts to lakes or ponds or lake and pond buffers onsite, thus meeting the 100% protection rate for lakes and ponds and the 85% protection rate for buffers as prescribed by the Ordinance. For this analysis, consistent with previous determinations by the Township in connection with approvals of prior expansions of the Landfill, existing sediment/stormwater basins were not considered lakes or ponds.

STEEP SLOPES

Steep slopes are those which exceed 8% having an area greater than 3,000 square feet. A breakdown of steep slopes along with required protection rates are as

 Steep slopes 8% to 15%
 Protection Rate 60% Steep slopes 15% to 25%
 Protection Rate 70% Steep slopes greater than 25% - Protection Rate 85%

The Table below outlines the total amount of steep slopes for each category along with the percentage protection based upon the impacted area as a result of the Phase V Expansion on the parcels to be consolidated with the existing Landfill Lot. Refer to Exhibit #3 (on Sheet 9 of 12).

Steep Slope	Resource Total Area	Utilized Area	Req. Protection Rate	Pro. Protection Rate
8% to 15%	80.8 ac.	54.5 ac.	60%	33%
15% to 25%	95.6 ac.	66.4 ac.	70%	31%
Greater than 25%	68.8 ac.	38.1 ac.	85%	45%

As shown above the required protection rate for each steep slope category is not met and thus Bethlehem Landfill proposes to utilize more protected land (steep slopes) than permitted.

WOODLANDS

Woodlands are defined as all areas of 3,000 square feet or more which contain an average of one or more trees measuring six inches in caliper or greater per 1,000 square feet.

In addition, woodlands meeting the criteria above which also co-exist with other resources (steep slopes, wetlands, floodplains) are considered environmentally sensitive woodlands. For the purposes of defining the limits of woodlands onsite, the 2020 aerial photography was utilized. The required protection rates for Woodland and Environmentally Sensitive Woodlands is 80% and 85% respectively. The table below outlines the total amount of woodlands and environmentally sensitive woodlands, areas of impact and the percentage protection as a result of the Phase V Expansion on the parcels to be consolidated with the existing Landfill Lot. Refer to Exhibit #2 on Sheet 8 of 12.

Woodlands	Resource Total Area	Impacted Area	Req. Protection Rate	Pro. Protection Rate
Woodlands	253.86 ac.	168.37 ac.	80%	34%
Env. Sen. Woodlands	226.97 ac.	151.23 ac.	85%	33%

As outlined above, the required protection rate for all woodlands is not met and thus, Bethlehem Landfill proposes to utilize more protected land (Woodlands) than permitted.

FLOODPLAIN AND FLOODPLAIN SOILS

As per FIRM Map Number 42095C0335E dated July 16, 2014 and a review of soils located within the property against those listed as floodplain soils within the Lower Saucon Township Zoning Ordinance, floodplains exist but floodplain soils do not exist within the property. The floodplain is associated with Bull Run on the former Reddington Property. No development is proposed within the delineated floodplain, thus the 100% protection rate is met.

ROCK OUTCROPS

Upon review of pertinent mapping no rock outcrops were delineated within the

RIPARIAN BUFFERS / WATERS OF THE COMMONWEALTH

Unnamed tributaries to the East Branch of Saucon Creek, Bull Run and unnamed tributaries to the Lehigh River are located within the parcels to be consolidated with the Landfill Lot. Stream protection easements having a total width of 100 feet (50 feet each side of the stream) have been delineated and described by bearing and distance for all identified waterways within the parcels to be consolidated with the Landfill Lot.

These stream protection easements have been established by previous Land Development Plans for expansions and realignments of the Landfill. Two (2) stream protection easements identified as miscellaneous stream protection Easements #12 on Sheet 2 of 12 will become obsolete as a result of PADEP/USACE permitted removal of the stream resource as part of the Phase V Expansion. Thus, Bethlehem proposes to utilize more protected land, (stream easement) than permitted as outlined below.

Riparian buffers are defined as 100 feet from a stream or waterway. Riparian buffers extend beyond the stream protection easements and are identified heron for each tributary. Two (2) riparian buffer areas will be utilized for development of the Phase V Expansion. Riparian buffer areas have a protection rate of 85%. Bethlehem proposes to utilize more protected land (Riparian Buffers) than permitted as outlined below.

Resource	Resource Total Area	Utilized Area	Req. Protection Rate	Pro. Protection Rate
Stream Protection Easement	7.17 ac.	3.19 ac.	100%	56%
Riparian Buffers	7.89 ac.	3.87 ac.	85%	51%

CONCLUSIONS

PROPOSED

PHASE V

IMPACTED AREA

ON NEW PROPERTIES

(180.5 AC.)

0.163 Acres Dedicated Road R/W To Lower Saucon Township (shaded).

IESI Pa Bethlehem -

20021-070642

DBV 2001-1, PG 222569

N/F Bushkill Valley Motorcycle Club Inc

PP&L Power Line -with 100' R/W

As presented, development of the Phase V Expansion within the parcels to be consolidated with the Landfill Lot having a gross area of 286.0 acres result in an impacted area of 180.50 acres. Bethlehem Landfill proposes to utilize more environmentally protected lands than would otherwise be permitted by Section 180-95 of the LST Zoning Ordinance.

Since Bethlehem Landfill is an industrial use located in a light industrial zoning district, Bethlehem is permitted to and therefore proposes to develop the Phase V Expansion in accordance with Section 180-109(G) of the Lower Saucon Township Zoning Ordinance (Natural Resource Mitigation Alternative). It has provided the information and calculations required by that section on this Sheet 7 of 12. BLC requests, as part of this Conditional Use Application, that Lower Saucon Township Council provide written approval for BLC to exceed the net buildable site area permitted by Section 180-95(C)(2)(c)("Permitted Net Buildable Site Area"), utilizing a greater area of natural resource protection land than would otherwise be permitted by the Resource Protection Standards contained in Section 180-95 ("Excess Resource Utilization"), as is proposed on this Sheet 7 of 12. Per Section 180-109(G) of the Lower Saucon Township Zoning Ordinance, BLC will demonstrate and make the required dedication and/or fee-in-lieu of dedication payment prior to final land development approval.

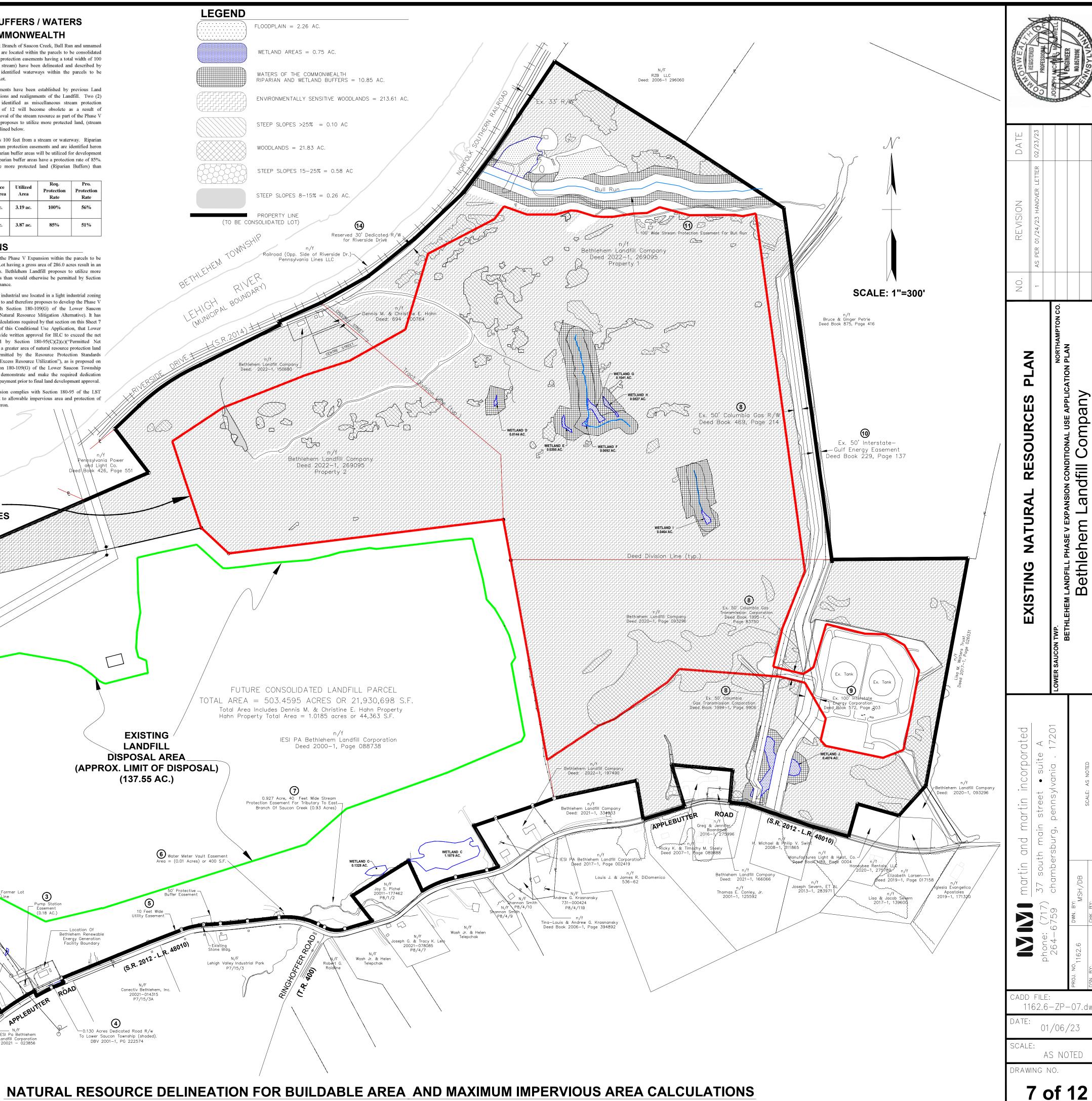
The proposed Phase V Expansion complies with Section 180-95 of the LST Zoning Ordinance with respect to allowable impervious area and protection of existing floodplains as shown heron.

EXISTING

LANDFILL

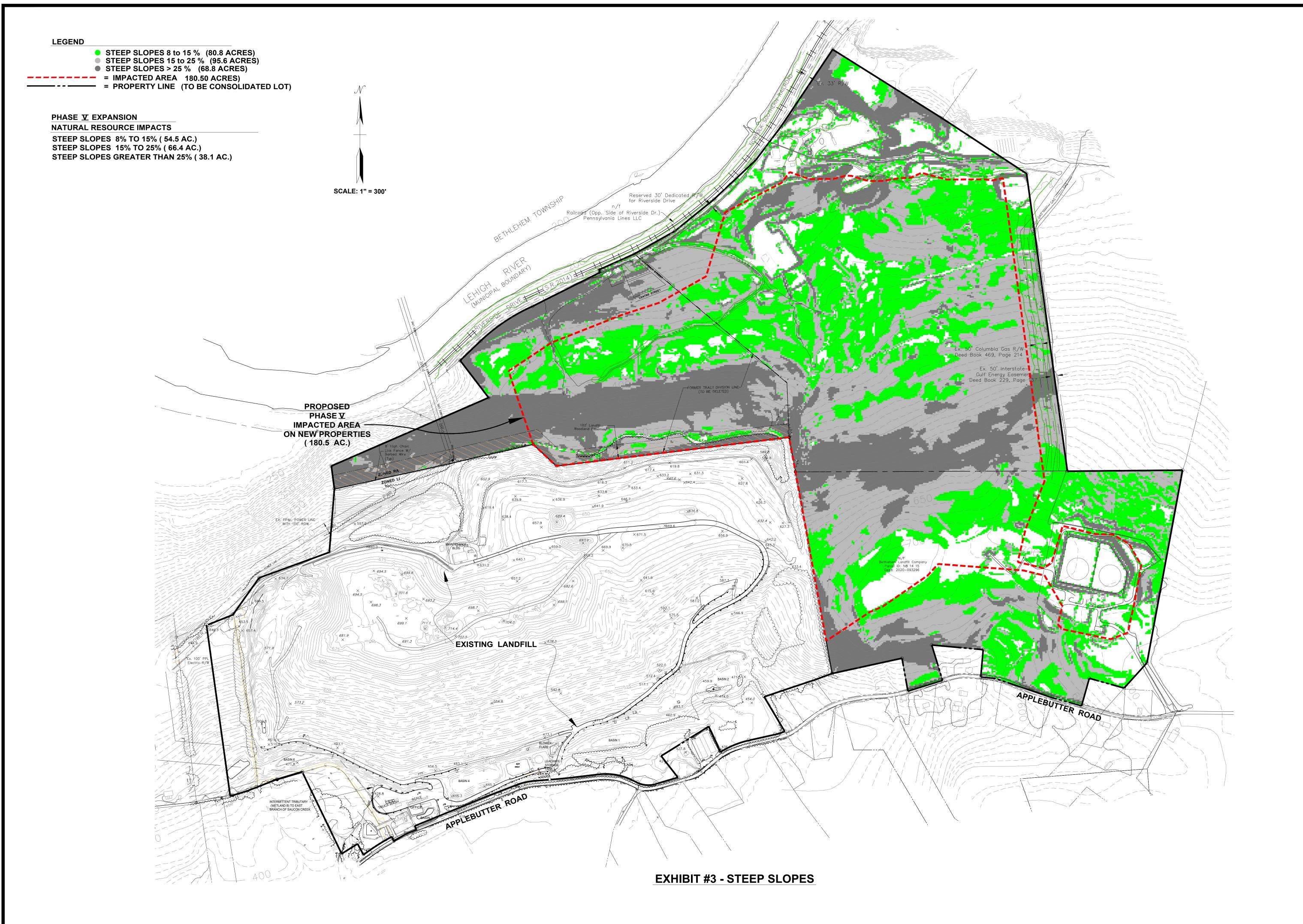
(137.55 AC.)

To Lower Saucon Township (shaded) DBV 2001-1, PG 222574



ethl







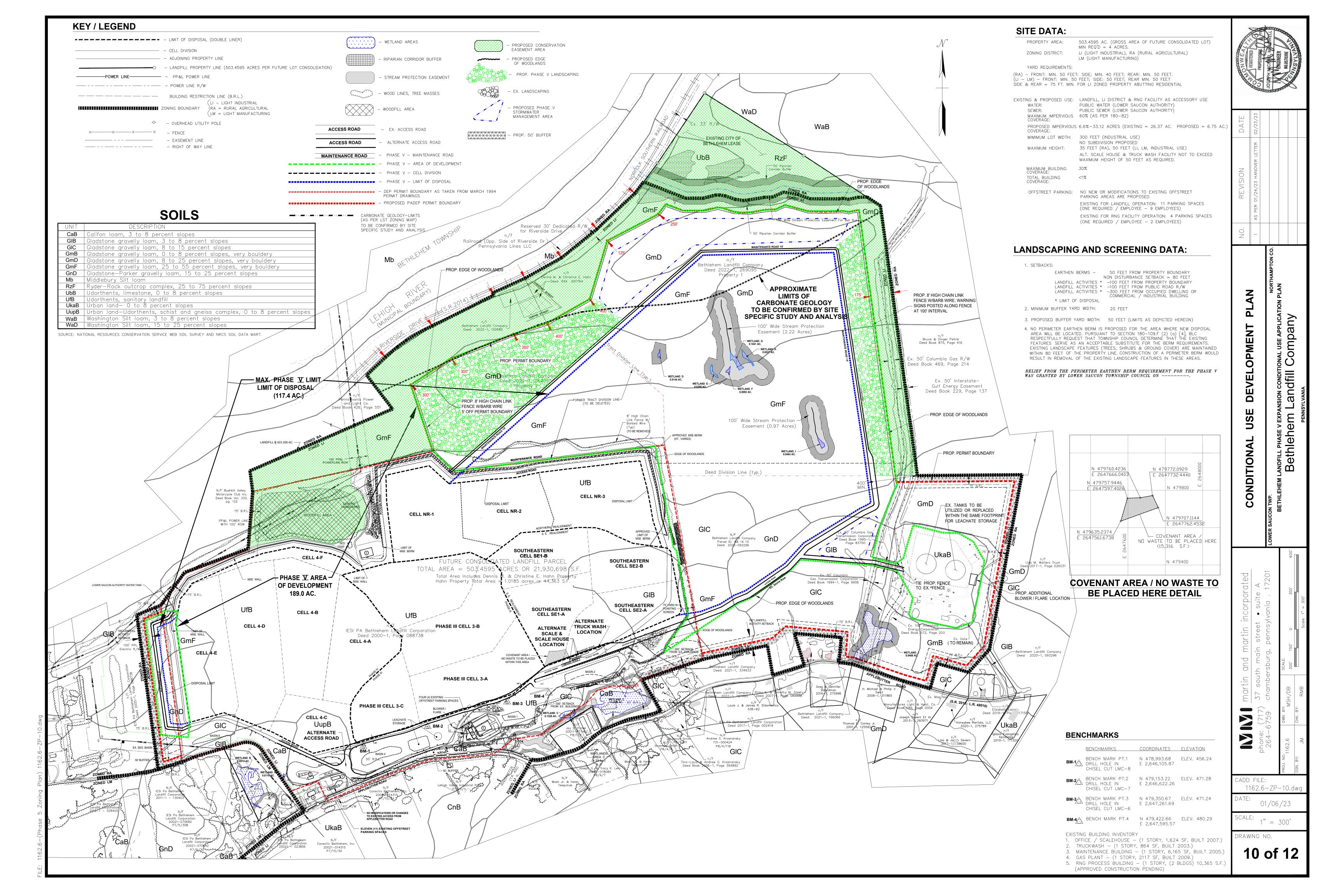
= =	-02	(Careton)		
DATE	TER 02/23/23			
REVISION	AS PER 01/24/23 HANOVER LETTER 02/23/23			
ON	1			
CTEED SI ODE MATHDAL DECOLOCES DI ANI	SIEET SLOFE NATURAL RESOURCES FLAN	LOWER SAUCON TWP. BETHLEHEM LANDFILL PHASE V EXPANSION CONDITIONAL USE APPLICATION PLAN	Bethlehem Landfill Company	PENNSYLVANIA
martin and martin incorporated	37 south main street • suite A	chambersburg, pennsylvania . 17201	SCALE. AS NOTED	SCALE: AS NOTED
martin	37 sou	chambe	ISH/DB	RMB

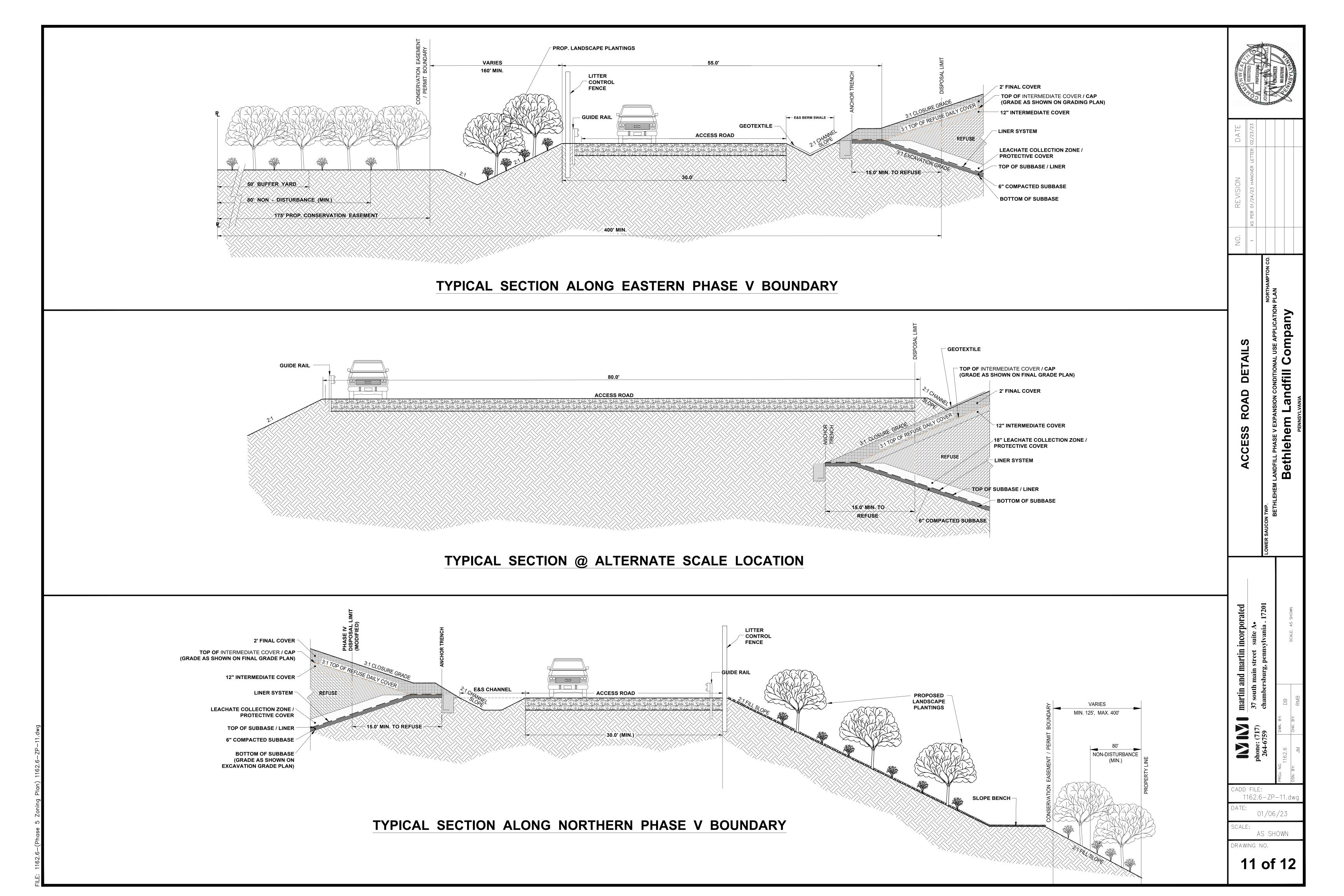
CADD FILE: 1162.6-ZP-09.dwg

01/06/23

AS NOTED

DRAWING NO.





SUBMITTALS FOR PRIOR EXPANSIONS OF THE LANDFILL, NAMELY THE 2001 PHASE IV, 2016 SOUTHEASTERN REALIGNMENT, AND 2020 NORTHERN REALIGNMENT EXPANSION LAND DEVELOPMENT PLANS, PROVIDED A NEIGHBORHOOD PROTECTION ANALYSIS WHICH WAS ACCEPTED BY THE TOWNSHIP. THE FOLLOWING ANALYSIS PROVIDES AN UPDATE AS A RESULT OF THE PHASE V EXPANSION. THOSE SECTIONS REVISED INCLUDE: HEAT, NOISE, AND SMOKE, DUST, ETC. ALL OTHER SECTIONS INCLUDED ARE CONSISTENT WITH THE PREVIOUSLY APPROVED NEIGHBORHOOD PROTECTION ANALYSIS ON FILE WITH THE TOWNSHIP.

- RADIOACTIVITY THE ONLY USE OF EQUIPMENT WHICH EMITS RADIOACTIVITY IS THE OCCASIONAL USE OF A NUCLEAR SOIL DENSITY GAUGE DURING CONSTRUCTION INSPECTION ACTIVITIES. THE EQUIPMENT IS OPERATED ONLY BY A TECHNICIAN CERTIFIED TO USE THE EQUIPMENT. IT IS TRANSPORTED AND OPERATED IN ACCORDANCE WITH THE APPLICABLE REGULATIONS. WASTE CONTAINING RADIOACTIVE MATERIALS ABOVE DEP NORM LEVELS IN THE FORM X ARE NOT PERMITTED AT THE SITE, IF ANY WASTE DELIVERED IS SUSPECTED OF CONTAINING SUCH MATERIAL, THE WASTE WILL BE REJECTED PURSUANT TO THE LANDFILL'S WASTE ACCEPTANCE AND CLASSIFICATION PLAN AND FORM X. IF NECESSARY, EMERGENCY PROCEDURES WILL BE IMPLEMENTED SUCH AS CONTACTING THE ENVIRONMENTAL CLEANUP CONTRACTOR AS DESCRIBED IN THE BETHLEHEM LANDFILL PPC PLAN.
- B. HEAT THE ONLY HEAT SOURCE USED AT THE SITE OTHER THAN NORMAL BUILDING AND VEHICLE HEATERS IS THE LANDFILL GAS FLARE USED TO SAFELY BURN LANDFILL GAS AS PART OF THE LANDFILL'S GAS CONTROL SYSTEM, THE FLARE IS LOCATED AT THE SOUTH CENTRAL PORTION OF THE SITE, IT IS LOCATED APPROXIMATELY 200 FEET FROM THE SOUTHERN PROPERTY LINE AND APPLEBUTTER ROAD. THE FLARE CAUSES NO MEASURABLE INCREASE IN TEMPERATURE AT THE PROPERTY LINE. THE PHASE V EXPANSION WILL RESULT IN AN INCREASE IN METHANE GAS GENERATION DUE TO THE EXPANSION OF DISPOSAL FOOTPRINT. AN ADDITIONAL FLARE SYSTEM IS PROPOSED LOCATED ON THE EASTERN END OF THE PROPERTY. THE NEAREST PROPERTY LINE TO THE PROPOSED FLARE IS 200 FEET CONSISTENT WITH THE EXISTING FLARE.
- C. GLARE NO WALKWAY OR PARKING AREA ILLUMINATION IS PROPOSED AT THIS TIME. IF SUCH LIGHTING IS INSTALLED IN THE FUTURE, IT WILL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE ZONING ORDINANCE. IN THE WINTER MONTHS TEMPORARY LIGHTS ARE ROUTINELY USED ON THE WORKING FACE OF THE LANDFILL DURING OPERATIONAL HOURS BETWEEN 6 AM AND 6PM.
- D. NOISE THERE ARE NO NEARBY (WITHIN 100 FEET) RESIDENTIAL PROPERTY BOUNDARIES TO THE PHASE V EXPANSION DEVELOPMENT AREA. THE LANDFILL RECEIVING HOURS FOR WASTE ARE FROM 7 AM TO 4 PM ON MONDAYS THRU SATURDAYS. THERE WILL BE NO RECEIVING HOURS ON SUNDAYS. SOME EQUIPMENT IS GENERALLY WORKING AT THE SITE FROM ABOUT 30 MINUTES BEFORE THE START OF THE RECEIVING HOURS TO ABOUT 2 HOURS AFTER THE END OF RECEIVING HOURS. THESE TIMES ALLOW FOR START UP, WARMING OF EQUIPMENT, PREPARATION OF THE WORKING FACE TO RECEIVE WASTES BEFORE RECEIVING HOURS, AND COMPACTION OF COVERING OF WASTES AFTER THE END OF RECEIVING HOURS. THE TOWNSHIP ZONING ORDINANCE LISTS LIMITS FOR CONTINUOUS NOISE LEVELS AT THE PROPERTY LINE OF THE ADJACENT PROPERTIES BASED ON THE RECEIVING PROPERTIES LAND USE. THE NEAREST NOISE RECEPTORS TO THE SITE ARE RESIDENTIAL AREAS TO THE SOUTH OF THE PHASE V EXPANSION ALONG APPLEBUTTER ROAD AND TO THE EAST OF THE PHASE V DISPOSAL AREA. FOR RESIDENTIAL PROPERTIES THE LIMITS ARE 60 dBA FROM 7 AM TO 10 PM MONDAY THRU SATURDAY AND 50 dBA AT OTHER HOURS. THE LIMIT IS REDUCED BY 5 dBA FOR "PURE TONES". THE CURRENTLY APPROVED OPERATIONS PLAN FOR THE SITE LISTS THE EQUIPMENT USED FOR OPERATION OF THE FACILITY. NO CHANGE IN EQUIPMENT IS PROPOSED FOR THE PHASE V EXPANSION. THE EQUIPMENT PRODUCING THE MOST NOISE WOULD BE DOZERS, LANDFILI COMPACTORS AND ARTICULATED TRUCKS. THESE OPERATE AT THE WORKING FACE AND ACCESS ROADS. THE ONLY SIGNIFICANT CONTINUOUS NOISE SOURCE IS THE OPERATION OF EQUIPMENT AT THE WORKING FACE. FOLLOWING ARE DATA FROM THE CATERPILLAR EQUIPMENT COMPANY ON THE NOISE LEVELS AT A DISTANCE OF 15 METERS OR (ABOUT 50 FEET) FROM THE EQUIPMENT.

NOISE LEVELS BASED ON OPERATING CONDITIONS AT A DISTANCE OF 15 METERS (± 50 FEET) FROM CATERPILLAR EQUIPMENT - dBA

	(1)	(2)	(3)	(4)	(5)	
826 Compactor	80.0	79.3	74.5	79.8	83.0	
836 Compactor	79.5	79.3	76.8	81.5	81.0	
D4 Dozer	75.9	75.1	76.5	77.1	83.1	
D8 Dozer	81.0	80.0	81.0	81.0	86.0	
D350 Haul Truck	78.5	77.5	79.0	81.0	81.0	

- (1) = Engine at High Idle (max.)
- (2) = Engine at Rated Speed
- (3) = Engine Cycle (Idle-Max-Idle)
- (4) = Hydraulic Cycle Engine at Max.
- (5) = Intermediate Gear Moving

TABLE #1 NOISE LEVELS MEASURED AT IESI BETHLEHEM LANDFILL - JANUARY 8, 2001

		Noise Levels at Intervals at Loca from Main Acce Working Face -	15 sec, ation 50' ess Road to	Noise Levels at Intervals at Side Applebutter Rd a Entrance - Start	15 sec. of at Landfill	Same as Previ Except Excludi Points Affecte Entering Landi	ing 3 data d by Vehicles
	(A)	SOUND		SOUND		SOUND	
DISTANCE		PRESSURE	SOUND	PRESSURE	SOUND	PRESSURE	SOUND
FROM	SOUND	LEVEL	PRESSURE	LEVEL	PRESSURE	LEVEL	PRESSURE
WORKING FACE (1)		(dBA)	(4)	(dBA)	(4)	(dBA)	(4)
•	(dBA)	54.0	501.19	50.9	350.75	50.9	350,75
		56.0	630.96	51.5	375.84	51.5	375.84
50'	87.0	54.3	518.80	49.6	302.00	49.6	302,00
100'	70.5	58.5	841.40	64.0	1584.89	64.0	1584,89
200'	64.0	56.4	560.69	48.8	275,42	48.8	275.42
400' (2)	54.0	53.6	478.63	48.8	275.42	48.8	275.42
550' (3)	51.5	56.0	630.96	49.3	291.74	49.3	291,74
		58.3	822.24	71.3	3672.82	71.3	3672,82
		64.4	1659.59	49.8	309.03	49.8	309.03
		57.6	758.58	48.0	251,19	48.0	251,19
		55.8	616.60	47.6	239,88	47.6	239,88
		54.1	506.99	46.8	218,78	46.8	218,78
		53.8	489.78	63.1	1428.89	63.1	1428.89
		55.4	588.84	55.8	616,60		
		52.7	431.52	49.2	288,40	49.2	288,40
		52.4	416.87	49.1	285.10	49,1	285,10
		54.3	518.80	68.9	2786.12		
		53.5	473.15	61.0	1122.02		
		53.2	457.09	61.9	1244.51	61.9	1244,51
		57.9	785.24	55.3	582.10	55.3	582,10
		65.0	1778.28	60.0	1000,00	60.0	1000,00
		86.5	21134.89 (5)		(2) (3) (3) (3) (3) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4		
	•	63.8	1548.82				
		62.3	1303.17				
		54.9	555,90				
	AVERAGE	63.9	1564.36	58.4	833,41	57.2	720.93

(1) One compactor and one dozer spreading wastes with trucks delivering wastes about 9:10 to 9:25 AM

(2) Traffic noise from I-78 also audible at this location

(3) This point was across bench in slope so line of sight to working face no longer available; Working face noise not evident over other background noise (I-78 traffic in particular) except for scattered impact sounds and back-up alarms. (4) Since dBA is a logarithmic scale, values are averaged using this column which is the Antilog (dBA/20).

(5) This high value caused by haul truck passing about 10' from meter. EQUIPMENT USED - SPER SCIENTIFIC DIGITAL SOUND METER 840029 PERSONS PRESENT - Chuck Blough and Karen Christman - IESI, Allen O'Dell - Martin & Martin

AS PREVIOUSLY STATED THERE ARE NO NEARBY (WITHIN 100 FEET) RESIDENTIAL PROPERTY BOUNDARIES TO THE PHASE V EXPANSION DEVELOPMENT AREA. SINCE THE WORKING FACE IS THE ONLY SIGNIFICANT CONTINUOUS NOISE SOURCE, DISTANCES FROM RESIDENTIAL PROPERTY LINES TO THE NEAREST WORKING FACE FOR THE PHASE V EXPANSION ARE THE APPLICABLE SEPARATION DISTANCES TO CONSIDER. THE NEAREST RESIDENTIAL PROPERTY LINE WITH AN ASSOCIATED OCCUPIED DWELLING NOT OWNED BY BETHLEHEM LANDFILL COMPANY IS TO THE EAST (PETRIE PROPERTY) APPROXIMATELY 400' FROM THE NEAREST PHASE V WORKING FACE AREA. THE NEAREST OCCUPIED DWELLING NOT OWNED BY BETHLEHEM LANDFILL COMPANY IS TO THE SOUTH (STEELY) APPROXIMATELY 600'FROM THE NEAREST PHASE V WORKING FACE. NOISE LEVELS AT THESE GREATER DISTANCES WERE NOT AVAILABLE FROM THE MANUFACTURE. BLC CONDUCTED NOISE LEVEL MEASUREMENTS AS LISTED ON TABLE 1 ON JANUARY 8, 2001 IN ORDER TO OBTAIN ACTUAL NOISE LEVELS AT THE DISTANCES FROM THE WORKING FACE EQUIPMENT, AT AN ACCESS ROAD AND ALONG APPLEBUTTER ROAD AT THE ENTRANCE.

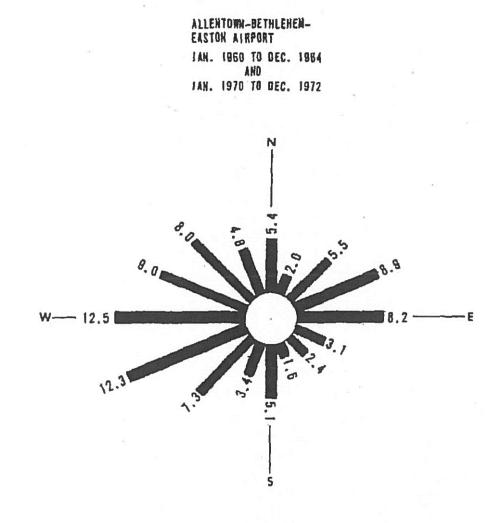
DATA SET (A) ON TABLE 1 GIVES THE TYPICAL SOUND PRESSURE LEVELS AT VARIOUS DISTANCES FROM THE WORKING FACE. AT 400', THE NEAREST RESIDENTIAL USE PROPERTY BOUNDARY, THE NOISE LEVEL WAS 54.0 dBA AT THE WORKING FACE LOWER THAN THE REQUIRED 60 dBA. THE NOISE LEVEL RECEPTER (DWELLING) FOR THIS PROPERTY IS OVER 2000 FEET FROM THE PROPERTY LINE WHERE NOISE LEVELS WILL CONTINUE TO BE LOWER THAN REQUIRED BY ORDINANCE. THE CLOSEST WORKING FACE OPERATIONS WILL BE ABOUT 600' FROM THE NEAREST OCCUPIED DWELLING. THE NOISE LEVEL AT THIS DISTANCE FROM THE WORKING FACE WAS LESS THAN 51.5 dBA WHICH IS LESS THAN THE ORDINANCE'S LIMIT OF 60 dBA.

DATA SET (B) GIVES THE NOISE LEVEL AT A LOCATION 50' FROM THE MAIN ACCESS ROAD OFF APPLEBUTTER ROAD TO THE WORKING FACE WHERE TRUCKS ARE GOING UP OR DOWN A SIGNIFICANT GRADE. THESE DATA WERE OBTAINED AT A TIME WHERE DELIVERIES WERE NOT AT A PEAK RATE. HOWEVER THE AVERAGE LEVEL OBTAINED 50' FROM THE ACCESS ROAD (ABOUT 64 dBA) IS FAR LESS THAN THE 50' FROM THE WORKING FACE (ABOUT 87 dBA). THIS SHOWS THAT THE WORKING FACE IS THE MOST SIGNIFICANT SOURCE OF NOISE RATHER THAN THE ACCESS ROADS. FURTHER THE PHASE V EXPANSION PROPOSES NO MODIFICATION OR CHANGE TO THE EXISTING APPLEBUTTER ROAD ACCESS.

DATA SET (C) AND (D) GIVE NOISE LEVELS ALONG APPLEBUTTER ROAD, BOTH INCLUDING AND EXCLUDING LANDFILL RELATED TRAFFIC. THE AVERAGE NOISE LEVELS (57-58 DBA) WERE COMPARABLE TO NOISE LEVELS 300' FROM THE WORKING FACE AND EASILY EXCEEDED NOISE LEVEL 400' FROM THE WORKING FACE. THIS SHOWS MID-MORNING BACKGROUND NOISE LEVELS ALONG APPLEBUTTER ROAD ARE HIGHER THAN THE OFF-SITE NOISE LEVEL CAUSED BY WORKING FACE OPERATIONS.

- E. SMOKE, DUST, ETC. THE PROCEDURES USED TO CONTROL ODORS, METHANE GAS, DUST AND LITTER ARE DESCRIBED IN THE CURRENTLY APPROVED PLAN OF OPERATIONS AND NUISSANCE MINIMIZATION AND CONTROL PLAN FOR THE SITE. THE PHASE V EXPANSION PROPOSES TO CONTINUE OPERATIONS CONSISTENT WITH THESE APPROVED PLANS. PREVAILING WIND DIRECTIONS ARE FROM THE SOUTHWEST, WEST AND NORTHWEST AS INDICATED IN FIGURE 1 WHICH IS A WIND ROSE FOR THE LEHIGH VALLEY AREA. THIS WOULD TEND TO CARRY DUST AND LITTER TO THE NORTHEAST, EAST AND SOUTHEAST OF THE SITE. IN THESE DIRECTIONS THE NEAREST PROPERTY LINE IS AT LEAST 250' FROM ANY PHASE V DISPOSAL AREA WITH THE NEAREST RESIDENTIAL DWELLING OVER 1000' AWAY (WALTERS).
- F. VIBRATIONS THE LANDFILL UTILIZES A VIBRATORY COMPACTOR WHEN NEEDED. THIS UNIT DOES NOT PRODUCE VIBRATIONS WHICH CAN BE FELT MORE THAN 100-200' AWAY. OPERATION OF THIS EQUIPMENT IN THE PAST HAS NOT CAUSED ANY CONCERNS. BLASTING IS NEEDED ON OCCASIONS TO FACILITATE ROCK REMOVAL FOR CONSTRUCTION OF LANDFILL CELLS. WHEN UTILIZED, AN OUTSIDE CONTRACTOR IS USED TO DO PRE- AND POST- BLAST SURVEYS, RECORD SEISMIC IMPACTS FROM THE BLAST AROUND THE BLAST ZONE AND MEASURE VIBRATIONS OFF THE SITE. THIS IS A NORMAL LANDFILL CONSTRUCTION ACTIVITY. IT IS ANTICIPATED TO BE USED IN THE PHASE V EXPANSION.
- G. STORAGE OF HAZARDOUS AND TOXIC SUBSTANCES THE LANDFILL DOES NOT STORE ANY OF THE SUBSTANCES LISTED IN SECTION 180-96G OF THE ZONING ORDINANCE OR SIMILAR HAZARDOUS AND TOXIC SUBSTANCES EXCEPT FOR HEATING OIL AND DIESEL FUEL. HEATING OIL TANKS ARE LOCATED IN AND AROUND THE OFFICE AND MAINTENANCE BUILDING. PROCEDURES FOR PREVENTION OF AND RESPONSE TO POTENTIAL SPILLS ARE DESCRIBED IN THE PPC PLAN FOR BETHLEHEM LANDFILL.
- H. STORAGE OF CHEMICALS THERE IS NO UNDERGROUND STORAGE OF CHEMICALS. WASTE OIL AND ANTI-FREEZE IS STORED IN 55 GALLON DRUMS IN THE MAINTENANCE BUILDING UNTIL THEY ARE TAKEN OFF-SITE FOR RECYCLING. THESE ITEMS, SHOP CHEMICALS, CLEANING CHEMICALS, AND 5-GALLON CONTAINERS OF GASOLINE FOR SMALL POWER EQUIPMENT ARE STORED IN THE EXISTING OFFICE AND MAINTENANCE BUILDINGS. ALL OF THESE BUILDINGS ARE LOCATED MORE THAN 300' AWAY FROM ANY RESIDENTIAL DWELLING OR RESIDENTIAL DISTRICT BOUNDARY. SPILL PREVENTION AND RESPONSE PROCEDURES ARE DESCRIBED IN THE PPC PLAN FOR BETHLEHEM LANDFILL.
- STORAGE OF WASTES WASTES DELIVERED TO THE SITE FOR DISPOSAL ARE COMPACTED DAILY. ROLLOFF CONTAINERS SHALL BE PROVIDED AT THE EXISTING "DROP-OFF" AREA FOR THE RECYCLABLES AND SOLID WASTE FROM SMALL VEHICLES. THE RECYCLABLES ARE HAULED OFF-SITE FOR RECYCLING AS NEEDED, THE WASTE CONTAINERS ARE HAULED TO THE WORKING FACE AS NEEDED WHICH IS USUALLY EVERY 1-2 DAYS.
- OTHER OTHER ENVIRONMENTAL IMPACTS AND CONTROL MEASURES ARE DESCRIBED IN OTHER SECTIONS OF THE PERMIT APPLICATION.

WIND ROSE FOR THE LEHIGH VALLEY REGION



NOISE LEVEL SUPPLEMENT **FEBRUARY 15, 2023**

OF DCCURRENCE IN PERCENT.

NOTE: HUMBERS EXPRESS FREQUENCY

The Phase V Expansion proposes no operational changes with respect to equipment, equipment usage and delivery methods for waste handling and disposal as compared to previous expansions for which the noise level analysis in 2001 was conducted. Therefore, the noise level analysis initially provided in 2001 as part of the Phase IV expansion and subsequently provided as part of the Southeastern and Northern Realignments remains valid.

In response to concerns raised by the Township and its consultants related to the time elapsed from the 2001 study to 2023, Martin & Martin, Inc. on February 15, 2023 took noise level readings at the current working face at Bethlehem Landfill. Readings were taken at the working face since the 2001 analysis clearly identified that the most significant source of noise is generated at the working face and this will remain true as part of the Phase V Expansion. The current working face is located within the southeastern area of the landfill within the Southeastern Realignment Phase. Except for the location where readings were taken on the landfill, the new readings were taken and are presented consistent with the 2001 study. These consistencies include the sound level metering device (Sper Scientific Digital Sound Meter Model 840029), distance from working face, equipment on the working face, time of day, and weather conditions. With regard to the equipment on the working face at the time of the readings, the 2001 study included one bulldozer and one compactor. During readings taken in this supplemental analysis, one compactor and one dozer were operating consistent with the 2001 analysis. However, additional equipment was present and operating to include one additional bulldozer and a waste trailer tipper. Further, as consistent with the 2001 analysis offsets from the working face moved to the south at distances of 50 feet, 100 feet, 200 feet, 400 feet and 550 feet. Offsets to the south were performed since the majority of residential noise receptors are located to the south toward Applebutter Road from the working face. Table 2 below presents the results of the February 15, 2023 readings obtained at various distances established by the 2001 analysis and the 2001 results so a direct comparison can be made.

	Table #2						
Noise Levels Measured at Bethlehem Landfill – February 15, 2023							
Distance from Working Face	2023 Typical Sound Pressure Level (dBA)	2001 Typical Sound Pressure Level (dBA)					
50'	69.9	87.0					
100'	67.1	70.5					
200'	62.8	64.0					
400°	59.4	54.0					
550'	55.9	51.5					

Analysis of the results above yield consistency with the 2001 analysis such that noise level readings diminish with distance from the working face and at a distance of 400 feet sound pressure levels drop below 60 dBA. This consistency enables conclusions to be made with regard to the Phase V Expansion as follows.

- 1. The nearest residential dwelling or noise receptor to the proposed Phase V Expansion working face is 600 feet being the Steely Property along Applebutter Road. Both analyses (2001 & 2023) conclude noise levels at this distance from the working face are less than those required by Ordinance (60 dBA).
- 2. The nearest residential property boundary to the proposed Phase V working face is 400 feet. Both analyses conclude noise level readings at this distance are less than 60 dBA as required by the Ordinance.

Thus, we conclude the newly obtained sound level measurements confirm and validate the 2001 study accepted under previous approved expansions and realignments and, therefore, is valid for the Phase V Expansion.



DATE	02/23/23			
REVISION	AS PER 01/24/23 HANOVER LETTER 02/23/23			
NO.	~			
	•	0		

CTION PROTE ORHOOD \mathbf{m} **NEIGH** \mathbf{m}

(717)

phone: 264-6	PROJ. NO. 1162.6
CADD FILE: 1162.6-ZP	-12.d

01/06/23

AS NOTED

RAWING NO.