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 505.1648 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 505.1648 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
- 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
- 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

UTILITY CONTACTS:

LOCATION MAP

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

LOWER SAUCON TOWNSHIP - PUBLIC 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

SCALE: 1'' = 2,000'

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:

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 RÈALIGNMENT 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

SITE Nazareth, PA Quad Hellertown, PA Quad

LOWER SAUCON TWP.

OWNER / APPLICANT

BETHLEHEM LANDFILL COMPANY 2335 APPLEBUTTER ROAD BETHLEHEM, PA 18015

OWNER / APPLICANT

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

PREPARED BY:

Martin and martin, Inc.

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

NORTHAMPTON COUNTY

TABLE OF CONTENTS

PROPOSED PROPERTY BOUNDARY WITH EXISTING EASEMENTS / RESTRICTIVE COVENANTS AND RIGHTS-OF-WAY

OVERALL EXISTING CONDITIONS / APPROVED DEVELOPMENT PLANS EXISTING CONDITIONS - APPLEBUTTER ROAD / SKYLINE DRIVE

EXISTING CONDITIONS - APPLEBUTTER ROAD

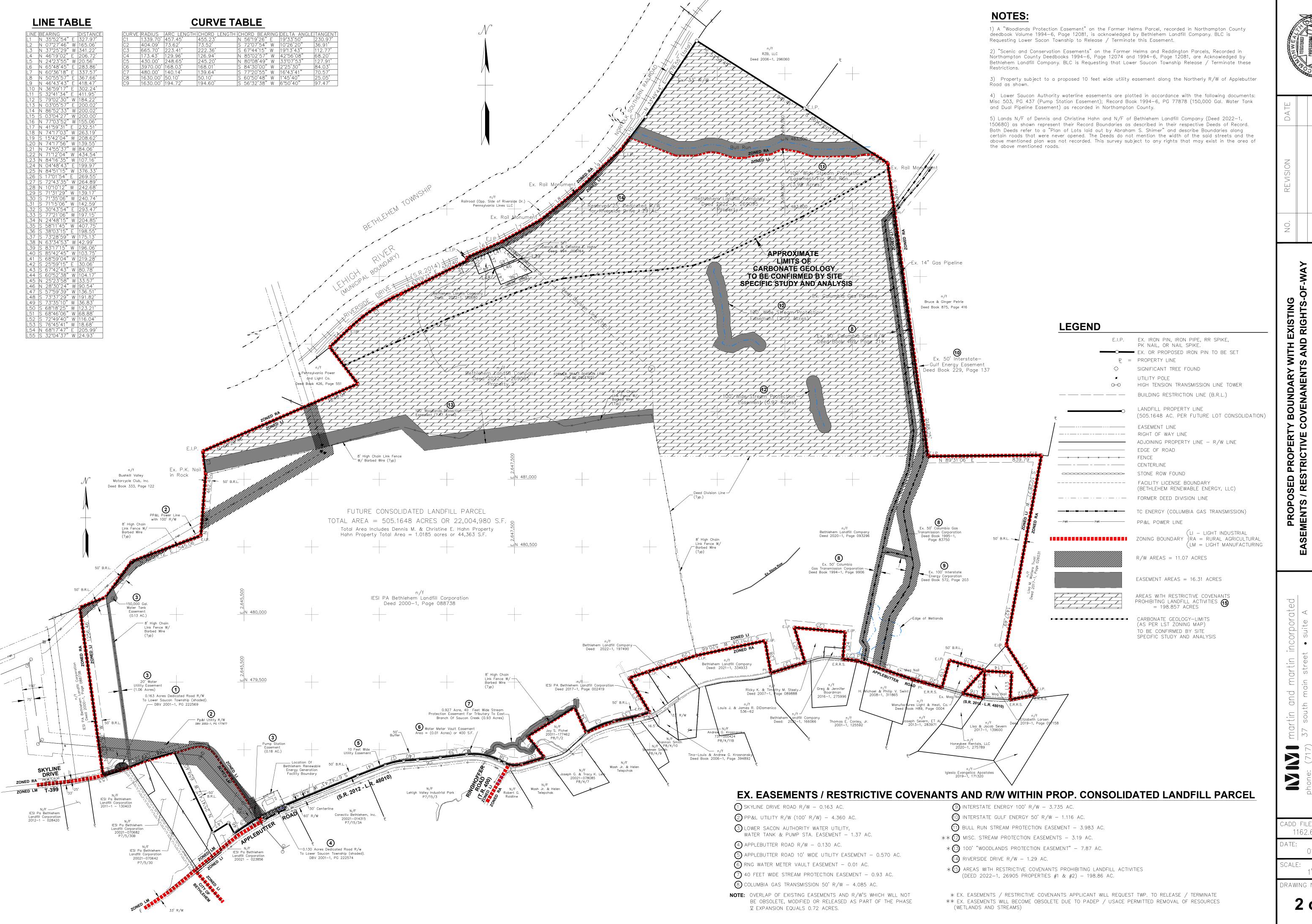
EXISTING CONDITIONS - APPLEBUTTER ROAD

EXISTING NATURAL RESOURCES PLAN WOODLAND NATURAL RESOURCES PLAN

STEEP SLOPE NATURAL RESOURCES PLAN CONDITIONAL USE DEVELOPMENT PLAN

ACCESS ROAD DETAILS

NEIGHBORHOOD PROTECTION ANALYSIS



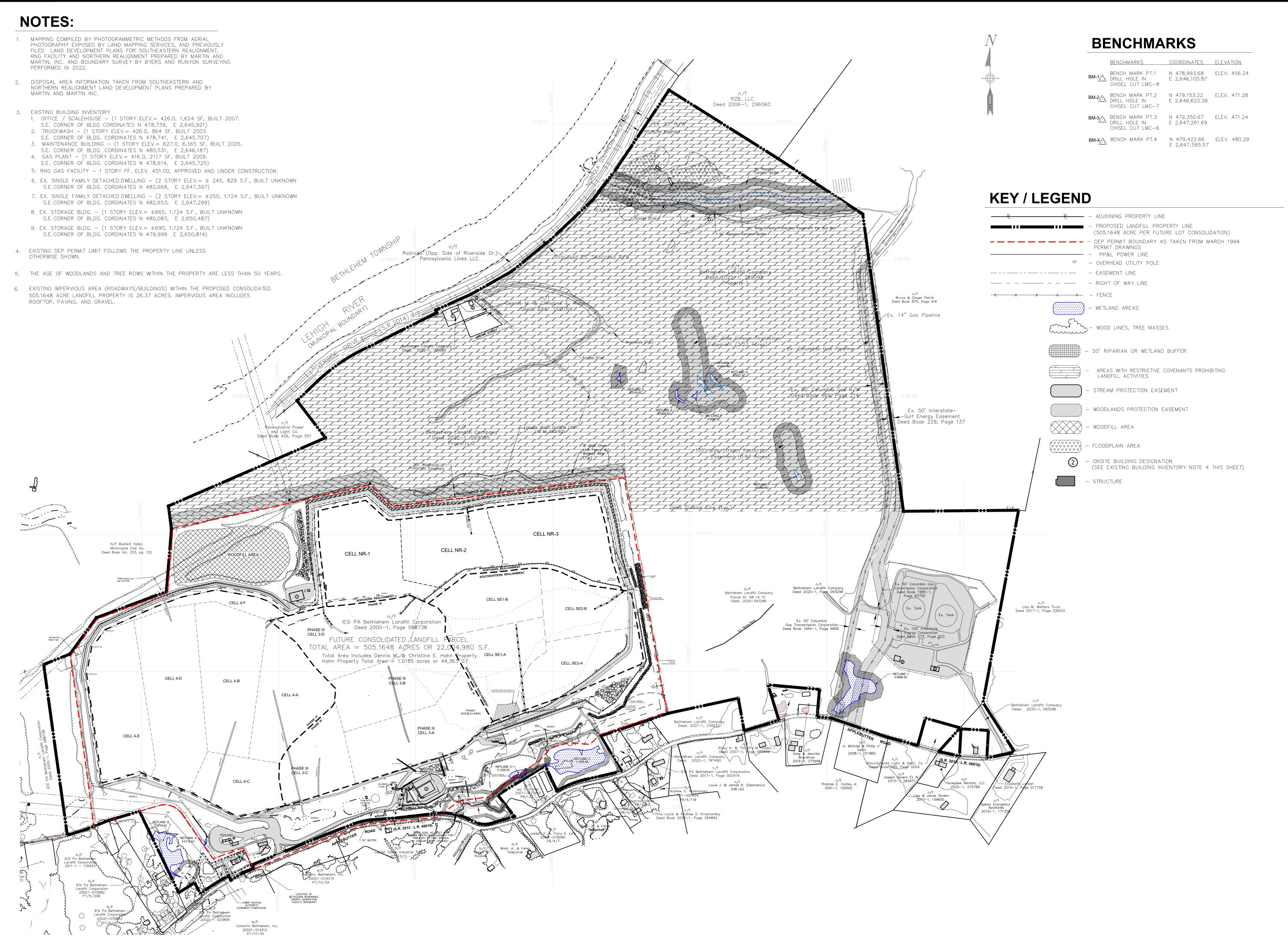
DATE				
REVISION				
O Z				
		<u>.</u>		

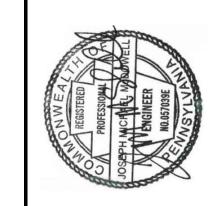
j M

1162.6-ZP-02.dw 01/06/23

1" = 300'

DRAWING NO.





DATE

L EXISTING CONDITIONS / APPROVED DEVELOPMENT PLANS

TWP.

BETHLEHEM LANDFILL PHASE V EXPANSION CONDITIONAL USE APPLICATION PLAN

Bethlehem Landfill Company

chambersburg, pennsylvania . 172C

phone: (717) 264-6759 0

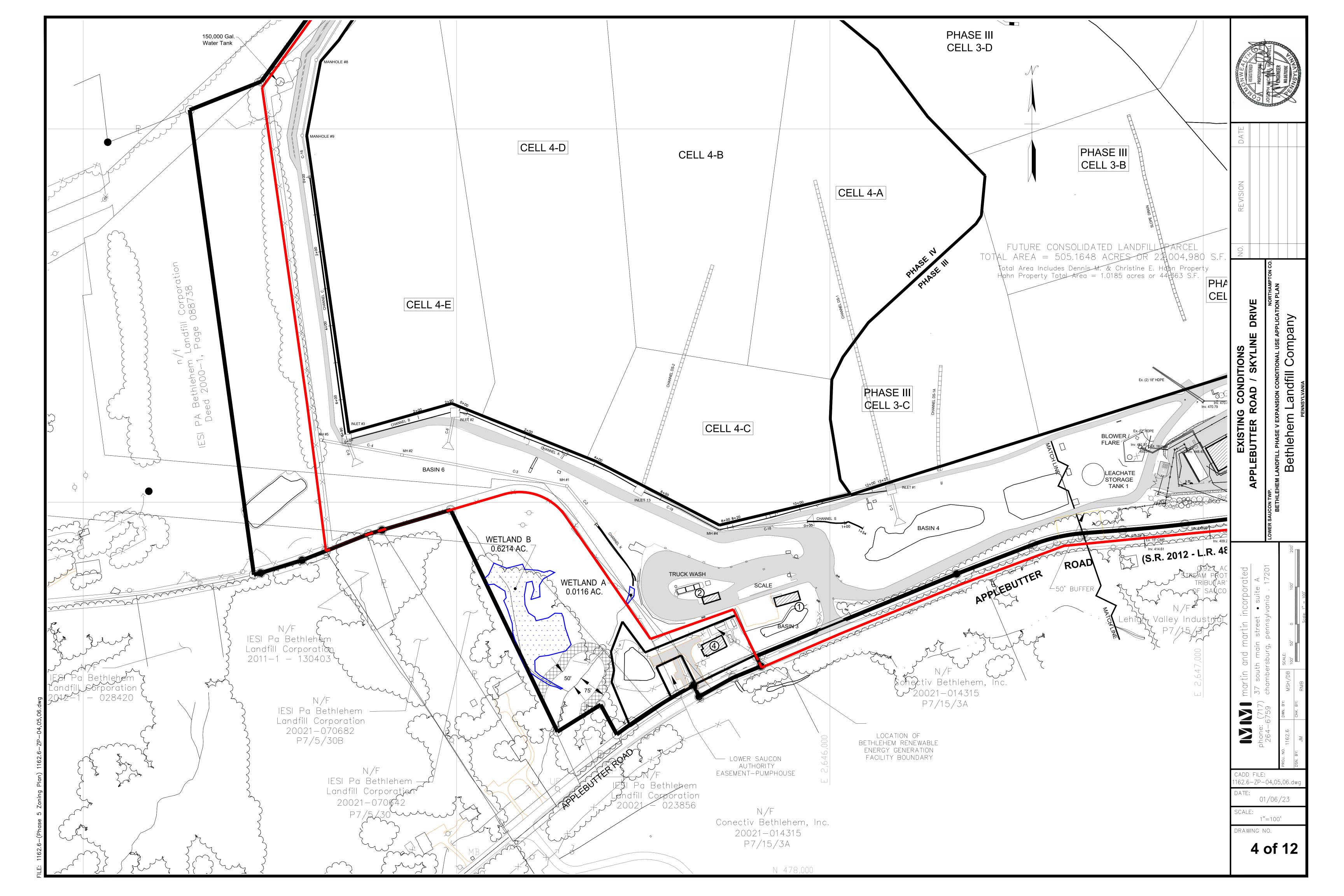
ADD FILE: 1162.6-ZP-03.dw

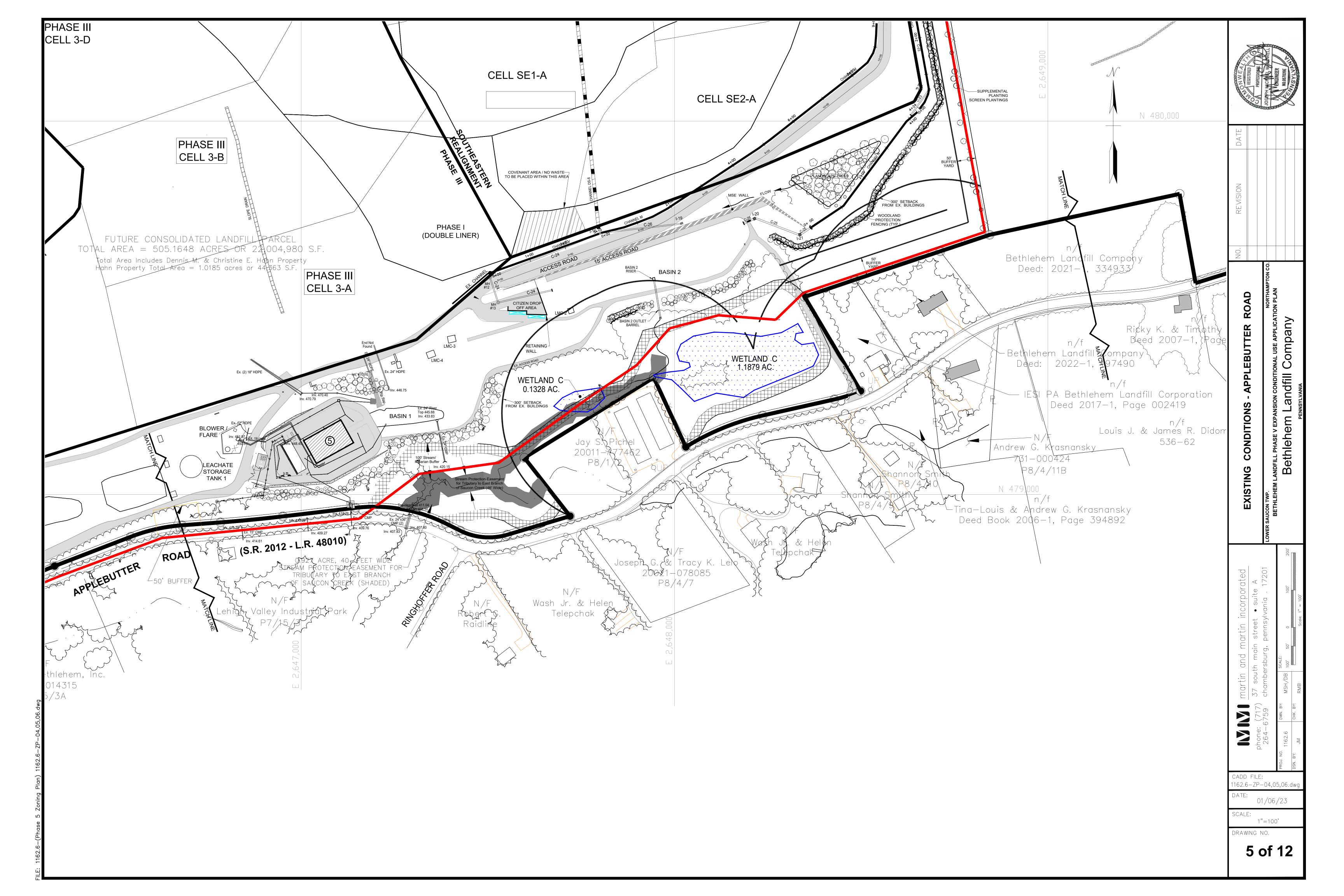
01/06/23

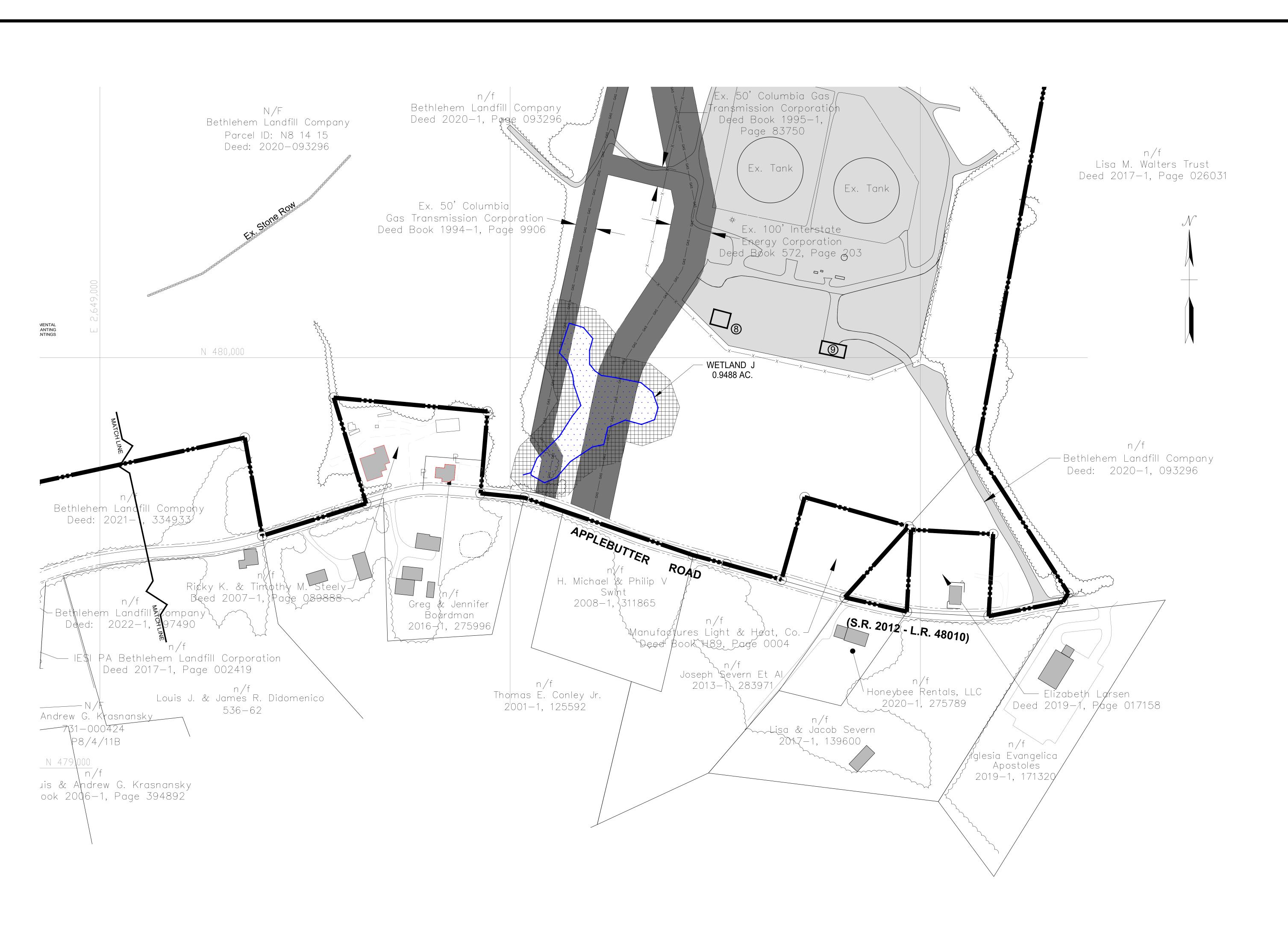
DRAWING NO.

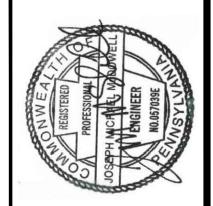
3 of 12

1" = 300'









NO. REVISION DAT					
AACA GATTIIGA ABBI EBITTED BOAD	EXISTING CONDITIONS - AFFLEBOTTEN NOAD	LOWER SAUCON TWP. NORTHAMPTON CO.	\circ	Bethlehem Landfill Company	PENNSYLVANIA
and martin incorporated	main street • suite A	sburg, pennsylvania . 17201	JALE:	10° 50° 0 100° 200° 200° 30° 30° 30° 30° 30° 30° 30° 30° 30°	Scale: 1" = 100'

martin and 37 south n chambersbu >

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

01/06/23

SCALE: 1"=100'

DRAWING NO.

The Bethlehem Landfill site is an existing permitted landfill proposing a Phase V Expansion on a to be consolidated parcel containing 505.1648 acres. As shown on the existing Natural Resources Delineation Plan and per historical discussions with Township staff and consultants in connection with and approvals regarding prior expansions, the landfill disposal footprint area as of 2015 was deemed not to contain any existing natural

The Landfill Development Application for the Southeastern Realignment was the first Environmental Protection Analysis performed for Bethlehem Landfill. Subsequently in 2019, a second analysis was performed for the development of a recycled natural gas facility and, in 2020, a third analysis was performed for the Northern Realignment. Those previously impacted areas are identified hereon as previously approved areas. The Phase V Expansion proposes further impacts to environmental features including Woodlands, Wetlands, Steep Slopes, etc. as shown hereon.

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 development approval.

BASE SITE AREA

In accordance with the Zoning Ordinance, the base site area is calculated by taking the gross property area from survey minus those rights-of-way and easements within the property 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:

(14.88 ac.) (1,2,4,8,9,10,14 See Sheet 2 of 12) Existing Rights-of-Way: Easement & Rights-of-Way Overlap: 0.72 ac. Base Site Area:

RESOURCE PROTECTION

As calculated above, the Base Site Area is 480.23 acros. Within this base area the resources described in the table below have been defineated along with the required resource protection area for each. As required where two (2) or more resources overlap, 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%	2.71 ac.	2.71 ac.
Waters of the Commonwealth	100%	10.66 ac.	10.66 ac.
Env. Sensitive Woodlands	85%	251.21 ac.	213.53 ac.
Woodlands	85%	13.79 ac.	11.72 ac.
Steep Slopes >25%	80%	21.57 ac.	17.26 ac.
Steep Slopes (15% to 25%)	70%	9.68 ac.	6.78 ac.
Steep Slopes (8% to 15%)	60%	6.26 ac.	3.76 ac.
	TOTALS	318.14 ac.	268.68 ac.

*WATERS OF THE COMMONWEALTH INCLUDE WETLAND BUFFERS AND RIPARIAN BUFFERS

BUILDABLE AREA

Utilizing the base site area and the total resource protected land the net buildable

as Tollows.	
Base Site Area:	480.23 ac.
Req'd. Resource Protection Area:	268.68 ac.
Buildable Site Area:	211.55 ac.

Upon development of the Phase V Expansion, the total area of development including the Landfill Disposal Area, defined as the limit of disposal, will be 257.43 acres, which is 45.88 acres more than the Buildable Site Area of 211.55 acres. Thus, Bethlehem Landfill proposes to utilize 45.88 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 45.88 acres to the Township for preservation or, if it demonstrates to the tion of the Township Council, that it was unable to obtain any or enoug property for said dedication, pay a fee in lieu of dedication on that acreage.

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 subject property is located in three (3) zoning districts. Those districts are Light Industrial (LI), Light Manufacturing (LM) and Rural Agricultural (RA). The LI and LM districts have an allowable impervious ratio of 60% while the RA district maximum impervious ratio is 20%.

Given the low intensity of impervious surface associated with this development, and to be very conservative, the 20% 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 is calculated as

Buildable Site Area (488.23 ac.) x 0.20 = 96.05 ac.

The proposed impervious area onsite, upon development of the Phase V Expansion, is 33.12 acres. This includes 26.37 acres of existing impervious shown on the Existing Conditions Plan which includes all existing and approved paved or gravel surfaces on the 505.1648 acre lot. Thus, the maximum allowable impervious surface area is not exceeded with the proposed Phase V Expansion.

SITE CAPACITY CALCULATION SUMMARY

Base Site Area = 480.23 ac. Allowable Buildable Site Area = 211.55 ac.

Pro. Buildable Site Area = 257.43 ac.

Max. Permitted Number of DU's = N/A

Max. Permitted Impervious Surfaces = 96.05 ac. Pro. Impervious Surfaces = 33.12 ac.

As outlined above, Bethlehem Landfill proposes to utilize more projected 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 45.88

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 45.88 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 acreage.

WETLANDS AND WETLAND BUFFERS

Based upon wetland determination and study performed onsite, ten (10) wetlands (A thru J) exist within the consolidated lot having a total acreage of 2.71 acres. Wetlands will be impacted as a result of the Phase V Expansion. Wetlands D thru I are proposed to be removed by fill placement. 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 consolidated 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	2.71 ac.	0.27 ac.	100%	90%
Wetland Buffer	4.18 ac.	1.48 ac.	85%	65%

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 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

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 current Phase V Expansion and previous landfill development (Southeastern Realignment, RNG Facility, and Northern Realignment). Refer to Exhibit #3 (on

Steep Slope	Resource Total Area	Utilized Area	Req. Protection Rate	Pro. Protection Rate	
8% to 15%	95.6 ac.	58.1 ac.	60%	39%	
15% to 25%	112.2 ac.	74.6 ac.	70%	34%	
Greater than 25%	105.8 ac.	55.9 ac.	85%	47%	

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 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

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 2013 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 current Phase V Expansion and the previous Landfill Development (Southeastern Realignment, RNG Facility, and Northern

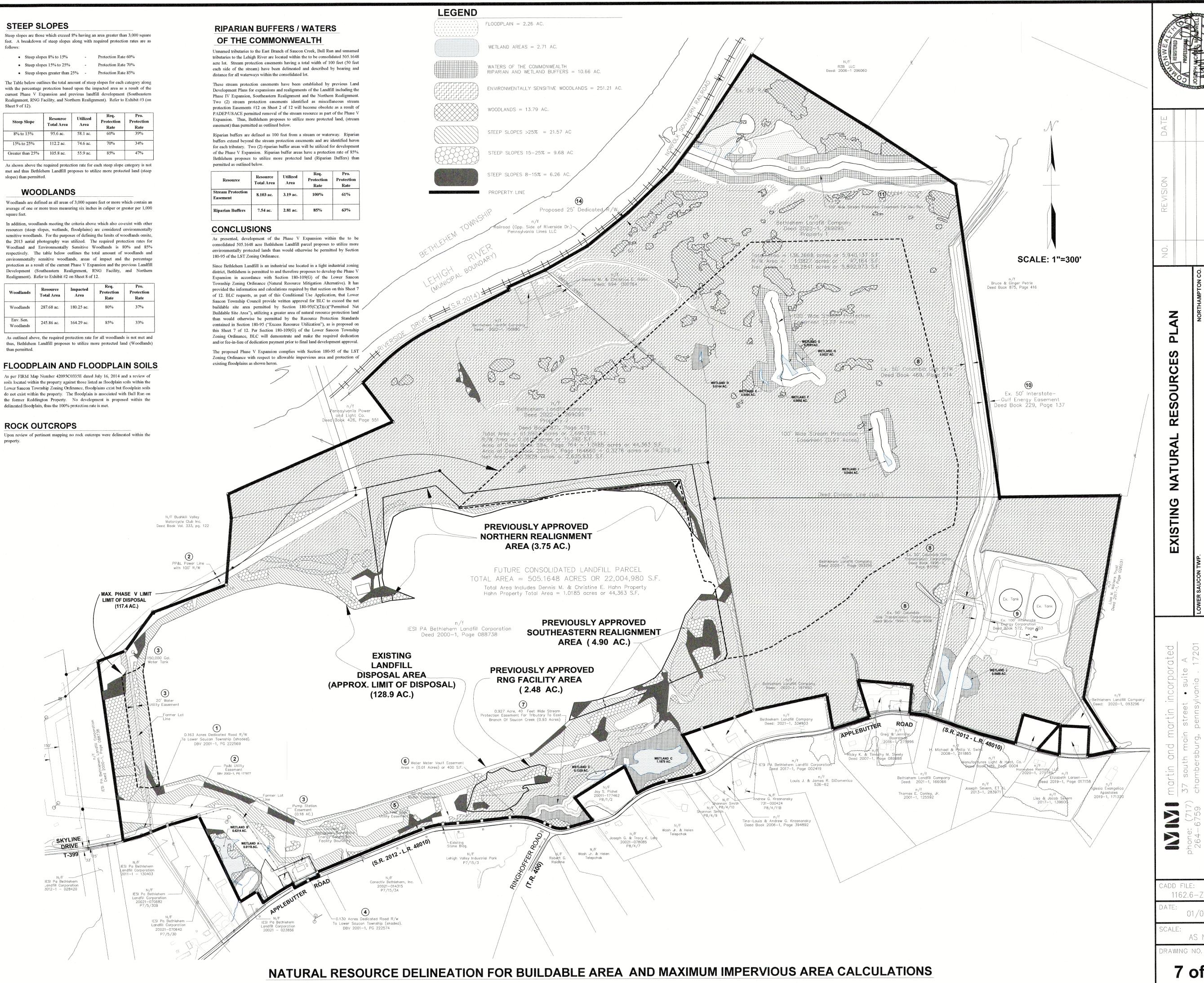
Woodlands	Resource Total Area	Impacted Area	Req. Protection Rate	Pro. Protection Rate
Woodlands	287.68 ac.	180.25 ac.	80%	37%
Env. Sen. Woodlands	245.86 ac.	164.29 ac.	85%	33%

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.

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

ROCK OUTCROPS

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



duo

3ethleher

1162.6-ZP-07.dw

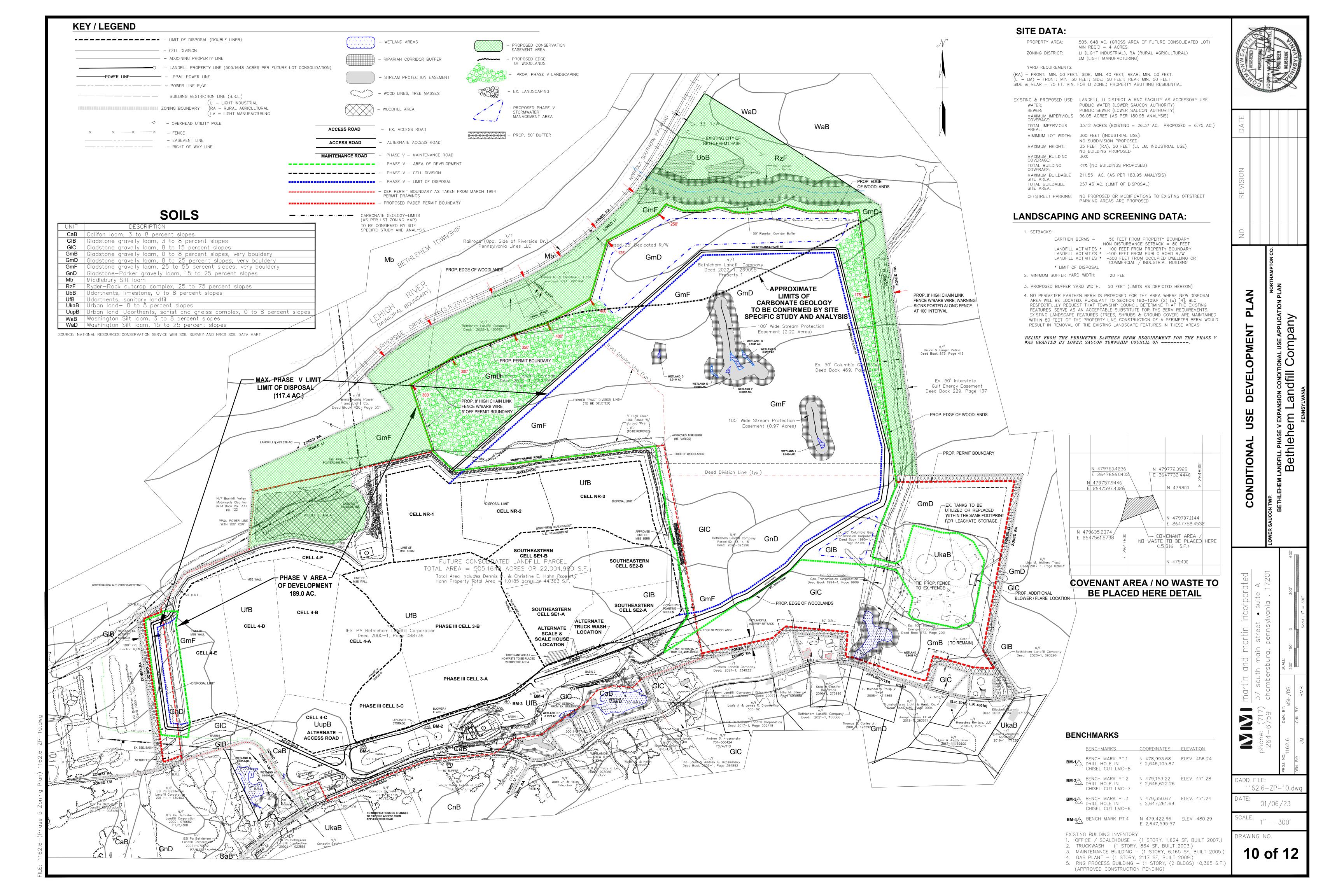
01/06/23

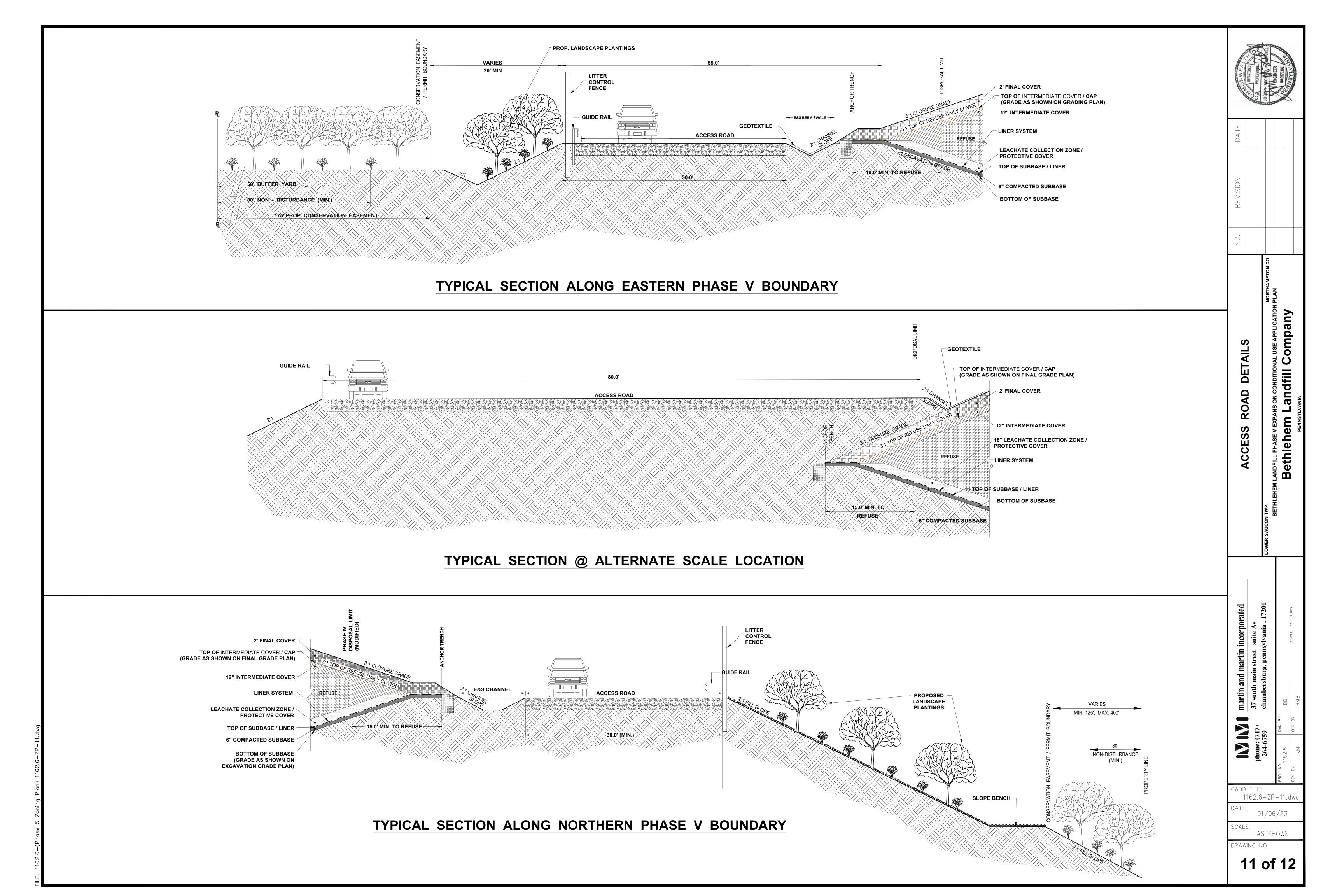
AS NOTED





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





NEIGHBORHOOD PROTECTION ANALYSIS

(required per Zoning Ordinance Section 180-96)

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 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, LANDFILL 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 Local from Main Acce	15 sec, ation 50' ess Road to	Noise Levels at Intervals at Side Applebutter Rd a	15 sec. of at Landfill	Same as Previ Except Excludi Points Affected	ng 3 data d by Vehicles
	483	Working Face -	Start 9:35 AM	Entrance - Start	9:50 AM	Entering Landf	al)
	(A)	SOUND	20 20 20 20 L	SOUND		SOUND	
DISTANCE	TYPICAL	PRESSURE	SOUND	PRESSURE	SOUND	PRESSURE	SOUND
FROM	SOUND	LEVEL	PRESSURE	LEVEL	PRESSURE	LEVEL	PRESSURE
WORKING	PRESSURE	(dBA)	(4)	(dBA)	(4)	(dBA)	(4)
FACE (1)	LEVEL				50. 10.000 (10.000 (10.000)		
	(dBA)	54.0	501.19	50.9	350.75	50.9	350,75
An expression		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	660.69	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
500		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	2	. N
		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)				
		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 (1-78 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 250' 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.

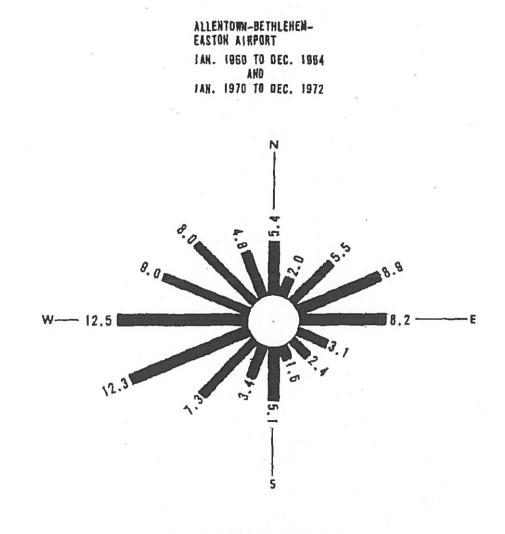
DATA SET (A) ON TABLE 1 GIVES THE TYPICAL SOUND PRESSURE LEVELS AT VARIOUS DISTANCES FROM THE WORKING FACE. AT 250' THE INTERPOLATED NOISE LEVEL WAS 62 dBA AT THE WORKING FACE. OPERATIONS FROM THE PHASE V EXPANSION ARE 250' TO A RESIDENTIAL PROPERTY LINE. HOWEVER THE NOISE LEVEL RECEPTER (DWELLING) FOR THIS PROPERTY IS OVER 2000 FEET FROM THE PROPERTY LINE WHERE NOISE LEVELS WILL 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.

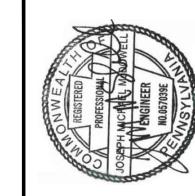
- E. SMOKE, DUST, ETC. THE PROCEDURES USED TO CONTROL ODORS, METHANE GAS, DUST AND LITTER ARE DESCRIBED IN THE CURRENTLY APPROVED PLAN OF OPERATIONS AND NUISSANCE MINIMIZATION AND CONTROL PLAN FOR THE SITE. THE PHASE V EXPANSION PROPOSES TO CONTINUE OPERATIONS CONSISTENT WITH THESE APPROVED PLANS. PREVAILING 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



NOTE: HUMBERS EXPRESS FREQUENCY

OF DCCURRENCE IN PERCENT



NOIL 0

(717)

CADD FILE: 1162.6-ZP-12.dw

01/06/23 AS NOTED

RAWING NO.